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SEEKING THE PRIZE OF ERADICATION

A social history of tuberculosis in New Zealand from World War Two to the 1970s

Deborah Ann Dunsford

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in History

The University of Auckland
2008
ABSTRACT

Between World War Two and the 1970s, the danger of TB disappeared for most New Zealanders. Conducted against a background of rising living standards, the anti-TB campaign saw dramatic declines in TB mortality and incidence. But tuberculosis proved far more opportunistic than expected. Its continued entrenchment at low levels among New Zealand’s poor frustrated the campaign’s ultimate goal of eradication.

In the 1940s, the Health Department’s total commitment to the anti-TB campaign indicated the danger TB represented across society. The nationwide mass X-ray programme reflected the confidence in technology and medical science of the day. It operated for nearly 30 years but its value was largely symbolic. It was a costly means of identifying cases and a more targeted scheme may well have sufficed. BCG vaccination was introduced as the final block in a wall of anti-TB measures and the mass vaccination of school children sought to protect an entire at-risk age group.

The timeframe of the anti-TB campaign witnessed the final years of sanatorium treatment. In spite of the isolation and uncertain outcome, these institutions offered many patients a positive experience, safe from the stigmatising attitudes common in society. The drug revolution allowed treatment at home and a reliable cure that, nevertheless, brought its own problems of compliance.

The decline in TB was not shared equally. High Maori TB rates fell, but still lagged European rates and, from the 1960s, a growing Pacific Island immigrant population also challenged the goal of eradication. Attempts to control TB at the border reflected racist attitudes of the time. The Health Department grappled with the ethnic diversity of TB incidence and different cultural attitudes to the disease. Now curable, TB’s potential for stigmatisation faded, yet also persisted for those high-risk groups exposed to poverty. By the late 1970s, mainstream society was beginning to stigmatise ethnic minorities and immigrants as ‘responsible’ for TB.

This thesis contributes to the history of tuberculosis and public health in New Zealand and internationally. It reveals the shifting ground beneath a public health campaign, not just in medical developments, but in the diversity of the targeted population. The thesis highlights the need for a dynamic and layered approach to public health that anticipates change and diversity and continually adjusts its activities and messages to meet them.
ACKNOWLEDGEMENTS

My deepest thanks go to my primary supervisor, Associate-Professor Linda Bryder. Her insight, guidance, enthusiasm and friendship have given me the confidence to take on and complete this thesis. My thanks also go to Derek Dow for his interest throughout, but particularly for his incisive comments on the text at a critical time. My co-supervisors from the Health Research Council of New Zealand/University of Auckland TB Project, Associate-Professor Julie Park and Dr Judith Littleton from the Anthropology Department, have given critical feedback and encouragement in so many ways.

I have received generous scholarship and conference travel funding. The Health Research Council/University of Auckland TB Scholarship and a University of Auckland Doctoral Scholarship made the project possible. Travel funding has been received from a number of sources and I extend my thanks to the University of Auckland Graduate Research Fund, the Health Research Council/University of Auckland TB Project, the University of Auckland History Department Performance Based Research Fund, the University of Toronto, the Australia and New Zealand Society for the History of Medicine and The Centre for the Social History of Health and Healthcare, Glasgow.

I appreciated the helpful efforts of staff at the archives and libraries I have visited; special thanks go to Philip Abela at Auckland University Library. Interviews from the Alexander Turnbull Library Oral Archive, especially Sue McCauley’s series of interviews on TB, formed a vital contribution to primary sources. The former TB patients and health professionals interviewed for this project were all generous and open in speaking to me about their lives. Thanks also to Anne Foley, Chris Gulley, Shona Guy and Tony Kember for their contributions. Visits to the sites of New Zealand’s sanatoria were evocative experiences and the current owners have graciously shared information and photographs. I am very grateful to Ruth and Mike Houghton of Pleasant Valley, Max Annabell and Kate Norman of Pukeora, and also to Margaret Long and Jan Harris of the Otaki Historical Society.
It has been a pleasure to work with the diverse group of social scientists from the TB project. My eyes have been opened to the possibilities of their disciplines and this has influenced my own work. Staff and post-graduate students in the History Department have provided a very sociable support network. Of special importance, the medical history group commented on and challenged my work, providing valuable feedback, an incentive for improvement, but also sympathetic collegiality. My friendship with Jennifer Ashton grew out of the shared experience of earlier theses and she generously put her expert eye to this one. Barbara Batt, Gay Fortune, Debbie Jowitt and Nisha Saheed helped me stay connected to life beyond the thesis.

Many thanks also go to my family and friends, who have remained interested and supportive, while no doubt wondering if the project would ever finish. Anne Foley deserves special thanks for providing a home away from home, and a hectic social life, in Wellington. My love and gratitude go to my husband, Kevin, who has been endlessly supportive and always reassuringly confident of a good result.
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<table>
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<th>Full Name</th>
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<tr>
<td>Alexander Turnbull Library, Wellington</td>
<td>ATL</td>
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<tr>
<td>Appendices to the Journals of the House of Representatives</td>
<td>AJHR</td>
</tr>
<tr>
<td>Archives New Zealand Head Office (Wellington)</td>
<td>ANZW</td>
</tr>
<tr>
<td>Archives New Zealand (Auckland)</td>
<td>ANZA</td>
</tr>
<tr>
<td>Archives New Zealand (Christchurch)</td>
<td>ANZC</td>
</tr>
<tr>
<td>Archives New Zealand (Dunedin)</td>
<td>ANZD</td>
</tr>
<tr>
<td>Auckland Hospital Board</td>
<td>AHB</td>
</tr>
<tr>
<td>Auckland Star</td>
<td>Star</td>
</tr>
<tr>
<td>Bacillus Calmette Guerin vaccination</td>
<td>BCG</td>
</tr>
<tr>
<td>Christchurch Press</td>
<td>Press</td>
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<td>DH</td>
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<td>DDT</td>
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<td>Division of Tuberculosis</td>
<td>DT</td>
</tr>
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<td>Hocken Library, Dunedin</td>
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<td>MOH</td>
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<td>New Zealand Herald</td>
<td>NZH</td>
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<td>New Zealand Parliamentary Debates</td>
<td>NZPD</td>
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<td>Taranaki Research Centre, New Plymouth</td>
<td>TRC</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>TB</td>
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FIGURE 1: Cities, Towns and Sanatoria in New Zealand

Source: Julius Petro Terrain Map of New Zealand, Land Information New Zealand.  
Layout: desuza.communications (www.desuza.com)
Layout: desuza.communications (www.desuza.com)
INTRODUCTION

‘Tuberculosis, like the poor, is always with us, or, at all events, has been in the past.’

This contribution to the parliamentary debate on the 1948 Tuberculosis Bill by Labour Member of Parliament Dr Martyn Finlay conveyed how common-place tuberculosis (TB) was at that time but also hinted at the growing hope this would cease to be so in the future. It was indeed the cusp of a new era in tuberculosis treatment, one that would witness significant decline in TB incidence and death rates. Yet over the following decades, Finlay’s linking of poverty and the resilience of tuberculosis would prove disappointingly perceptive. So, too, his remark ‘that our familiarity with tuberculosis has bred, if not contempt for the disease, at least complacency’ was an apt concept for TB in future decades. The complacency was no longer related to familiarity with the disease because of the lack of a medical cure but to unfamiliarity because of TB’s virtual invisibility, in spite of the continuing pool of tuberculosis among society’s poorest and most disadvantaged groups.

This social history of tuberculosis in New Zealand from World War Two to the 1970s explores the anti-tuberculosis public health campaigns that were significant both for the breadth of their approach and their stated goal of

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1 Dr Martyn Finlay, New Zealand Parliamentary Debates (NZPD), Vol. 281, 22 July 1948, p.852.
2 ibid.
eradicating the disease. The use of mass screening technology provided the
impetus for and confidence in the campaign, even before effective drug therapy
was available, and was indicative of the high level of confidence in medical
science and new technology in the mid-twentieth century. For part of New
Zealand’s population, the promise of eradication was as good as fulfilled, and
this can be seen in changing attitudes to the disease as well as its declining
incidence; yet the link between tuberculosis and the poor had always been strong
and became more so. Social deprivation and ethnic disparity remained persistent
and confounding hallmarks of residual TB incidence in New Zealand, reflecting
the long-standing trend of high incidence among the indigenous Maori people, as
well as changing ethnic patterns of immigration. This study examines a public
health campaign based on the promise of modern medicine and technology and
reinforced by political commitment, social reform and a buoyant economy. The
campaign’s goal was to eradicate the most significant of infectious diseases.
There were elements of great success but the campaign’s ultimate failure fortifies
the piercing truth of the link between tuberculosis and poverty.

Tuberculosis in New Zealand
Tuberculosis is an infectious disease caused by the mycobacterium tuberculosis
(M. tuberculosis) bacillus. M. tuberculosis can reside in and infect any part of the
human body but pulmonary (tuberculosis of the lung) is by far the most common
form. Humans can also be infected by the animal form, mycobacterium bovis,
through the consumption of infected meat and milk, resulting in extra-pulmonary
forms of the disease. Prior to the discovery of M. tuberculosis by Robert Koch in
1882, TB was not known as contagious and was thought to be a wasting disease
arising from a person’s constitutional weakness, hence the name of consumption. This thesis is concerned mostly with pulmonary tuberculosis, the dominant form of the disease in humans and the focus of twentieth-century public health campaigns. Pulmonary TB holds the greatest risk of contagion, being passed between humans by droplets from coughing and spitting, and direct contact with infected persons, their belongings or environment. Disease follows infection when an exposed person has poor immune function or if a healthy person receives frequent exposure to infection. It is important to note that contact with the bacillus does not necessarily lead to TB disease, for a healthy person’s immune system will ward off casual exposure to the infection with ease. However the nature of the bacillus means it is able to remain within the body as latent tuberculosis infection (LTBI) with the potential to develop into TB at a later time if the person’s immune system becomes damaged or stressed.

Tuberculosis came to New Zealand with European settlement, affecting colonists and to an even greater extent Maori. In 1901, the New Zealand Health Department instigated compulsory notification of pulmonary (but not other forms) of tuberculosis. The accurate recording of tuberculosis deaths for European New Zealanders also occurred from this time and showed a steady decline, in common with wider trends in the Western world. The decline that occurred before the 1950s in the absence of an effective drug treatment has been attributed to improvements in living standards from the mid-nineteenth century.³

Figure 3 shows the decline in tuberculosis deaths in New Zealand for Europeans from 1877, and for Maori from 1926. Statistics for Maori before that date either do not exist or are extremely inaccurate. As death rates fell to extremely low levels from the 1950s, death from tuberculosis ceased to be meaningful measure of the amount of disease in the community (for actual figures, see Appendix I).4

Figure 3. New Zealand Tuberculosis Death Rates 1872-1961


Compulsory notification of all forms of TB was introduced in 1940. Figure 4 shows the notification rate per 100,000 of mean population of all forms of TB from 1940 to 1980. The rate peaked in 1943 and, the occasional spike apart, trended steadily down to a low level by 1980.

It is difficult to produce continual series of statistical measures for the period from 1940 to 1980. The notification rates in Figure 4 do not show the differences in ethnic or racial rates that were a continuing feature of tuberculosis in New Zealand. Figure 5 shows the fluctuating and much higher rate of new notifications of respiratory tuberculosis for Maori from 1945 to 1978, together with its continued elevation relative to the European rate (see also Appendix VII).
In addition, as Figure 6 below shows, the 1979 rates show new cases of tuberculosis among Pacific Islanders being reported at rates substantially above the rest of the population including Maori.

<table>
<thead>
<tr>
<th></th>
<th>Other*</th>
<th>Maori</th>
<th>Pacific Islander†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of new cases (all forms)</td>
<td>294</td>
<td>171</td>
<td>77</td>
</tr>
<tr>
<td>Rate</td>
<td>1.05</td>
<td>5.97</td>
<td>10.47</td>
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</tbody>
</table>

Figure 6. New Cases of Tuberculosis, Number and Rate per 10,000 Population, 1979.
Source: AJHR, 1980, E-10, p.84.

* Includes Europeans and others not included elsewhere.
† Pacific Islanders included: Samoan, Cook Island Maori, Niuean, Tokelauan, Tongan, Fijian.
The dramatic falling away of tuberculosis deaths and notifications is the simple statistical backdrop to this study of the anti-TB public health campaigns of the mid-twentieth century. As Figures 5 and 6 indicate, that steady downward trend was experienced unequally across New Zealand society, perplexing public health professionals and their hopes for eradication, and is a major theme throughout this thesis.

**Historiography**

Tuberculosis was of minor interest to historians and social scientists before the late decades of the twentieth century, medical history until that time being written mostly by scientists, medical researchers and practitioners. Physician Henry Sigerist’s *Civilisation and Disease* in 1942 discussed disease including tuberculosis in relation to society’s ideas, institutions and structures. While he was speaking before the discovery of streptomycin, he conveyed the progressive view of medical science of the time saying that ‘the day is not so far distant when tuberculosis will also be a disease of the past’. Sigerist’s confidence was representative of the medical profession as a whole, and increasingly the public as well; it dominated public health efforts against tuberculosis throughout the timeframe of this thesis.5 In 1952, microbiologists and environmentalists René and Jean Dubos published their classic study, *The White Plague: Tuberculosis, Man, and Society*. A refined account of the rise and decline of tuberculosis in Western industrial society during the nineteenth and first half of the twentieth centuries, it focused on the scientific and medical courses of cause, diagnosis, treatment and prevention. Insightfully and memorably, however, the Duboses

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also identified tuberculosis as a social disease; they pointed to the ‘great outburst of disease’ during the industrial revolution and the decrease in infection and mortality rates through the web of improvements in living standards, hygiene and labour conditions, together with societal assumption of responsibility for public health. *The White Plague* was published at a time of exciting medical developments, when public health authorities in the developed world anticipated that tuberculosis could shortly be eradicated entirely through chemotherapy. Importantly for this thesis, the Duboses instead predicted eradication would not be achieved simply through medical technology but would entail prevention through public health programmes and continued human resistance to the disease through a high standard of living for all.  

Since the late 1980s, social historians have recognised tuberculosis as a rich seam and mined it intensively. Pioneering analyses of tuberculosis within a wider social context in Britain and the United States were published in 1988 by Linda Bryder, F. B. Smith and Michael E. Teller.  

Bryder and Smith scrutinised the first half of the twentieth century especially. This was a period that saw bursts of intense political and public health activity, heightened public awareness and, eventually, medical developments that combined to overcome tuberculosis in Britain. Their studies revealed, however, just what a small part most anti-TB activities and especially the institutional solution of the sanatorium played. 

Bryder linked motivations for the anti-tuberculosis campaign directly to the

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7 ibid.

wider concerns of the day about ‘national efficiency’ and the survival of the European race and British Empire and concluded that the therapeutic and preventive measures of the period made very little contribution to the decline of the disease.\(^9\) She illustrated that, although tuberculosis was recognised as a disease of poverty with its roots in poor nutrition, poor housing and poor living standards, the middle-class members of the National Association for the Prevention of Tuberculosis could not conceive that social reform might be the answer to their problem and instead concentrated on the education of the poor.\(^{10}\) Smith similarly found that, despite growing evidence that the value of the sanatorium was uncertain, the alternative of social reform was politically unacceptable. He too argued that the decline of tuberculosis up to 1950 was not so much due to medical and public health initiatives as to the slowly increasing standard of living that allowed the development of increased individual resistance to the tubercle bacillus.\(^{11}\) In his book on TB in early twentieth-century America, Teller identified the limited effectiveness of sanatoria and most other therapeutic and preventive efforts in the decline of tuberculosis. His analysis placed the individual lay anti-tuberculosis associations that sprang up across the country as a refinement of the concept of public health in the United States, and he linked the traditional tension-laden model of charity and self-help to a more modern model of government responsibility for public health.\(^{12}\)

From the 1990s, further monographs extended the social historiography of tuberculosis; accounts of the decline of the disease in France, Ireland, Canada,

\(^{10}\) ibid, pp.19-20.  
\(^{11}\) Smith, 1988.  
Japan and the United States were published, confirming trends but also identifying international diversity in time and ideology.\(^\text{13}\) David Barnes’s study of tuberculosis in France ended at the First World War as the newspapers shouted, ‘[i]t is not enough to defend our borders / We must defend our race / It is threatened by tuberculosis, by slums, and by alcoholism’.\(^\text{14}\) Like Bryder, he placed the motivation for the turn of the century campaign against tuberculosis firmly within the eugenic fears of the day and showed that the major remedies of education and self-help largely mirrored those of England and the United States, although France was later in legislating for dispensaries and sanatoria. Greta Jones’s study of tuberculosis in Ireland provides further evidence about the ineffectiveness of turn-of-the-century public health campaigns and institutional solutions but also offers a point of contrast in the epidemic’s timeframe. Ireland’s late urbanisation meant its TB rates did not peak until 1904, whereas the earlier industrialised and urbanised countries had declining rates from the mid-1800s. In line with others, Jones also argued that TB was already declining at the time of effective chemotherapy, as a result of better standards of living, improved public health services and greater government willingness to improve social conditions.\(^\text{15}\)

In emphasising the role of improved living standards in the decline of tuberculosis, many studies of TB supported Thomas McKeown’s thesis that the


\(^{15}\) ibid, pp.232-5.
improved health of industrialised populations came about through better nutrition rather than sanitary and medical interventions such as vaccination and drug treatment. However, nutrition is just one aspect of socio-economic status and challenges to McKeown by Simon Szreter and Anne Hardy have since reasserted the importance of public health initiatives, especially in housing and hygiene.

A common feature of the earlier studies of tuberculosis has been the intense interest in the early twentieth-century campaigns and institutional solution of the sanatorium; the treatment of the post-chemotherapy period is often regarded as an epilogue to the main narrative. In taking up the story from the earlier point of conclusion, this thesis examines those mass public health campaigns, the closing of the specialist TB institutions, and changes to the demography of TB incidence and to patient experience of the disease under chemotherapy. It explores the importance of socio-economic improvements and public health measures in the presence of effective chemotherapy as an example of what historian Anthony Brundage has called the ‘open-ended’ nature of history.

When the first social histories of tuberculosis were published in 1988, the disease had declined to the point where it was invisible in the affluent sectors of most developed societies and its importance seemed to be mainly historical. However, the New York epidemic from the late 1980s and elevated associations of the

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disease — especially drug resistant strains — with HIV-AIDs, intravenous drug use, alcoholism and homelessness suddenly made TB alarmingly visible again. This new public awareness of TB in developed countries including New Zealand was translated into a feeling that the disease had ‘returned’; the hopes for eradication of half a century before were now seen as unfulfilled and raised pertinent questions about what had been achieved by the post-war anti-tuberculosis public health campaigns when the ‘problem’ of TB in New Zealand appeared to have been solved through an effective drug cure. As this thesis will show, the ‘problem’ had waned and changed faces but it had not gone away.

In 1991, Linda Bryder contributed to the historiography of tuberculosis in New Zealand with essays in two distinct books. In *A Healthy Country: Essays on the Social History of Medicine*, social historians discussed aspects of medicine and health in the context of New Zealand’s social, economic and political development. In contrast, in A. J. Proust’s edited collection, *History of Tuberculosis in Australia, New Zealand and Papua New Guinea*, most of the contributors had practised medicine in the field of tuberculosis; their essays were valuable for being informed by their professional experience, although their perspectives were often dominated by medical rather than social concerns.

Bryder’s succinct essay on tuberculosis in New Zealand confirmed the same issues seen in other Western countries: the anti-tuberculosis campaigns of the early twentieth century fuelled by fears around the health and strength of the nation; the setting up of public health departments and lay anti-tuberculosis

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associations; the emphasis on institutional care rather than social reform. It was also notable for looking beyond the arrival of chemotherapy in the 1950s and identifying the continuation of elevated TB rates among Maori and Pacific Island people.\textsuperscript{21} This difficult feature of New Zealand’s post-war TB experience is a recurring theme that is expanded on throughout this thesis.

Elevated TB rates among indigenous people and migrant or impoverished ethnic groups are a major theme in the history of tuberculosis worldwide in the twentieth century, and the experience of individual countries reflects the position of ethnic groups within the structure of each society. American historian Randall Packard’s 1989 book on TB in South Africa positioned that country as an outstanding example of the failure of twentieth-century TB drug treatment, in the absence of social programmes to improve living standards. Black migrant mine workers were at the centre of Packard’s analysis, and he concluded that their lack of political power and poor living standards under the apartheid political structure lay beneath their continued high TB rates.\textsuperscript{22} Fiona Kilpatrick’s 2002 thesis was a case study of the anti-tuberculosis work of one Cape Town City Council TB clinic from the 1940s to the 1960s. She concluded that, although the clinic provided a worthwhile medical service, the accompanying social reform was rhetorical rather than real, contributing to the city’s failure to reap the full advantage of drug treatment from mid-century.\textsuperscript{23} Although focused mainly on an earlier time-period in the United States, Peggy Jane Hardman’s 1997 PhD thesis showed a situation comparable to South Africa; in Texas, segregation

meant that, for social and political reasons, tuberculosis in the African-American population was under-funded in terms both of treatment and social reform. Geographer Laura Kaye Moorehead’s PhD thesis analysed African-American TB mortality in mid-twentieth-century Los Angeles and found it correlated to poverty and, more specifically, lowest average incomes, oldest housing and very high rates of residential segregation. Clinical psychologist Pat Sandiford Grygier has documented the removal of Inuit in Canada, especially children, to sanatoria far from their homes and former public health officer Robert Fortuine has similarly examined the devastating effect of the tuberculosis epidemic on the indigenous people of Alaska. Such studies provide important resonances with New Zealand’s ongoing high rates of tuberculosis among its indigenous Maori people and post-war Pacific Island immigrants. Maori dislike of distant institutional treatment was a factor public health authorities had to address, especially prior to effective drug treatment. The impact of living standards and overcrowded housing on TB incidence, especially for Maori and immigrants from the Pacific Islands during the post-war years, are themes which will be developed throughout the thesis.

Australian historians have examined public health and social aspects of tuberculosis from the perspective of individual states; the similarity of Australia’s colonial cultural origins and close relationship to New Zealand make for useful comparison. Criena Fitzgerald’s study confirmed both public and medical confusion about the nature of the disease, as well as the ineffectiveness of treatments and control initiatives before 1940. Fitzgerald’s 1900-1960 timeframe highlights the role of mass X-ray and the reframing of tuberculosis as a disease whose prevention required the vigilance and compliance of everyone to ensure the whole community was safe. Her argument that TB was consciously made ‘everyone’s business’ at this time was echoed in the propaganda accompanying New Zealand’s own mass X-ray campaign and is discussed in this thesis.

The adoption of the Bacillus Calmette-Guérin vaccine (BCG) as a preventive strategy against tuberculosis has been compared along national lines. Georgina Feldberg’s study on TB in America focused on BCG in the United States context, with comparison to Canada. She demonstrated that United States reluctance to use BCG was based on the firmly held belief that the cause of tuberculosis was both bacteriological and sociological — not just the seed but the soil — and she argued this widespread understanding by physicians and researchers blinded them to the potential of BCG vaccination. In dealing with the ‘seed’, it was believed that vaccination would potentially inhibit improvements to the ‘soil’. Feldberg also argued that middle-class institutions such as the medical

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profession, voluntary organisations and public health authorities heavily
influenced the campaign to control and prevent TB, but she only obliquely
analysed BCG in terms of those middle-class values and institutions when she
concluded that the United States concern with the ‘soil’ was academic and futile
as long as they maintained their aversion to social and economic reform.30 It was
left for Bryder to draw a wider conclusion in her 1999 paper which examined
BCG in the context of contrasting responses in Scandinavia, Britain and the
United States. She argued that while, on the surface, the various debates over
BCG use were based on science, differences in the adoption of BCG were more
closely related to where on the political spectrum each society’s beliefs about the
provision of health services and welfare lay.31 This thesis examines New
Zealand’s post-war adoption of BCG as part of its broader social policy and
builds on Bryder’s analysis. The life of the mass secondary schools campaign
also indicates the breadth of New Zealand’s public health campaign against TB
and the changing nature of TB incidence.

The patient experience of tuberculosis, especially before drug treatment, has been
of special interest to social historians, who have drawn on the social sciences and
other humanities to explain responses to the disease and its treatments. There has
been increasing recognition that the experience of tuberculosis has differed
according to individual and group social conditions, cultural beliefs, knowledge,
prejudices and traditions. Sheila Rothman’s 1994 monograph borrowed from
psychiatry and anthropology and drew individual narratives of illness from

30 Georgina D. Feldberg, Disease and Class: Tuberculosis and the Shaping of Modern North
31 Linda Bryder, “We shall not find salvation in inoculation”: BCG vaccination in Scandinavia,
personal letters and manuscripts. She traced the reactions and experiences of individuals in the United States as they tried to regain their health and identified the differences in response according to time, geography, class and gender.32 Katherine Ott also explored the experience of illness in the United States from the 1870s to the current day. In tracing the changing notions about TB, its treatment and the way patients dealt with the disease, she argued that the definition of tuberculosis is not fixed but shifts according to time, society and culture.33 Charles Rosenberg, in his introduction to Framing Disease: Studies in Cultural History, also emphasised the influence of the wider social context on patient experience of chronic disease.34 This history contributes to that historiography, especially in relation to the changing ethnic composition of TB incidence and the shifting stigmatisation of the disease.

Judith Walzer Leavitt in her exploration of Mary Mallon’s incarceration as a healthy carrier of typhoid in the United States in the early twentieth century discussed an extreme example of the way in which personal liberty is balanced against the wider public health.35 In New Zealand, the post-war period saw voluntary screening by mass X-ray defined for the entire population as a personal and public duty, although it was never made compulsory. On an individual basis, infectious patients who refused to comply with the new drug treatments and, like Mary Mallon, were perceived also as unco-operative, were threatened and very

35 Judith Walzer Leavitt, Typhoid Mary: Captive to the Public’s Health, Boston, 1996.
occasionally incarcerated in the name of public health. Drawing directly on the example of tuberculosis and exploring the tension between individual rights and public health, Barron Lerner’s sensitive and engaging study of patient confinement in Seattle’s Firland Sanatorium after World War Two was published in 1998. Lerner showed public health authorities’ eagerness to contain the infectious, especially those who were also unco-operative, that is, usually vagrant and/or alcoholic. At Firland, what had been intended as an exceptional measure became routine. 36 As will be shown in this thesis, the ‘recalcitrant’ patient was an issue also in post-war New Zealand, though it had only mild echoes of the Seattle example.

Within the New Zealand historiography of TB, Linda Bryder has been a significant contributor and has provided the basis on which this study is built. The major position of tuberculosis on the scale of menaces to public health was also made clear in Derek A. Dow’s history of the New Zealand Department of Health and its particular toll on Maori was considered in his Maori Health & Government Policy, 1840-1940.37 Histories of many of the country’s hospitals and hospital boards illustrate differences in the extent and type of tuberculosis service provided from board to board. John Angus’s 1984 history of the Otago Hospital Board shows the early reluctance with which some hospital boards, each with its own political and fiscal agenda, took on the care of ‘consumptives’. This was largely overcome from the 1940s when TB services were co-ordinated under the direction of the Health Department’s Division of Tuberculosis; previously

36 Barron H. Lerner, Contagion and Confinement: Controlling Tuberculosis along the Skid Road, Baltimore, 1998.
reluctant boards also reaped the cost-benefits of domiciliary drug treatment and the rapid closing of TB wards and sanatoria. Dr John McKenzie’s *A History of Timaru Hospital* explains how the serendipitous residence in the district of one thoracic surgeon led to the development of an unexpectedly high level of expertise in tuberculosis surgery at this minor hospital. *Up the Hill: Cashmere Sanatorium and Coronation Hospital, 1910 to 1991*, by chest physician, Dr Tom Enticott, is representative of the practitioner-led institutional history. *Up the Hill* officially commemorates the life of this sanatorium on the hill near Christchurch but, more importantly, provides a collection of memories of the patients and staff that give insight into the highs and lows of day-to-day sanatorium life.

Patient accounts are intrinsic to the experience of being stigmatised by having tuberculosis. There has been a long history of fear of the contagion and incurability of TB; patients with the disease found themselves, in Erving Goffman’s analysis, discredited and shamed in the eyes of others. Susan Sontag has explained further the stereotypes behind such stigmatisation, referring to the ‘lurid metaphors’ that make up the ‘landscape’ of tuberculosis. In the timeframe of this study, the sense of stigma attached to tuberculosis was in a state of change, yet the equation of TB to such abstractions as an infectious menace, a mysterious and insidious plague, a death sentence, the theft of life or years or a

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moral contagion lasted beyond the arrival of chemotherapy. Gussow and Tracy have extended our understanding of stigma by emphasising diversity of experience over time, place, ethnicity, society and culture and, importantly, the manner in which stigma could be removed, denied or managed. Stigmatisation has been recognised as fluid rather than fixed and as in Ilse J. Volinn’s words a process ‘of social interaction leading to rejection of persons with certain “objectionable” characteristics’. In their work on HIV-AIDS, Richard Parker and Peter Aggleton have extended the concept further to show how ‘stigma feeds upon, strengthens and reproduces existing inequalities of class, race, gender and sexuality’. These are all useful guiding points for an examination of the public health campaign to overcome stigma in New Zealand in the post-war period, and are explored in this thesis.

Also linked to the discussion of stigma, immigration has moved from being a minor consideration in studies of TB in the first half of the twentieth century to a defining aspect of tuberculosis in the developed world post-World War Two. Alan Kraut’s work focuses on the United States in the earlier time-period of the turn of the twentieth century. It still offers compelling insight into the recurring ways in which disease has been the medium through which immigrants have been identified and condemned as ‘undesirable’ by a host population. Kraut

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observes ‘the double helix of health and fear’ that stigmatises and excludes immigrants on the basis of what is claimed to be the danger of contagion but is really a rejection of difference. 46  Bryder’s 1996 article on changing attitudes towards British immigrants with tuberculosis arriving in New Zealand at the turn of the twentieth century shows early moves to exclude the ‘unhealthy’ and ‘diseased’. 47  Alison Bashford has explored the role of hygiene and public health in the development of national identities, and in particular as a tool in the immigration process for the exclusion of those groups (races) deemed unfit or merely undesirable. 48  The development of intensive screening of immigrants for TB is a continuing feature of the New Zealand experience after 1939; in the social and political context, the discussion of TB among immigrants also illustrates the unofficially racist policies of the time, the changing ethnic make-up of New Zealand’s immigrant population and the fading of tuberculosis as an important public health priority within the host society.

Thesis sources, themes and structure

This study of the anti-tuberculosis public health campaigns from World War Two to the 1970s is based primarily on an examination of Health Department files relating to tuberculosis held by Archives New Zealand in Wellington, Auckland, Christchurch and Dunedin. Further Archives New Zealand files used were those of the Auckland Hospital Board and other government departments where relevant. Other primary sources consulted were the Department of

Health’s Annual Reports, the New Zealand Parliamentary Debates and the New Zealand Gazette. I consulted journals published during the period, the *New Zealand Medical Journal* in particular. Daily newspapers were viewed to ascertain press coverage of tuberculosis across the period.

Two small regional collections of papers related specifically to mass X-ray were the Taranaki Mobile X-ray Unit papers at the Taranaki Research Centre – Puke Ariki, New Plymouth, and the Louise Croot papers at the Hocken Library, Dunedin. A valuable primary source was the collection of Preventive Medicine Dissertations of the Otago Medical School from the 1930s to the 1960s. Published memoirs and personal papers, such as the Eric Lee-Johnson papers at the Alexander Turnbull Library, were also used.

Thirteen oral interviews of medical practitioners, nurses, public health professionals, a politician and patients were conducted to support archival sources and provide an individual and human perspective. Most interviewees were obtained through the snowball method, generated by personal referral, responses to a paper presented at the Auckland Medical History Society and through the public health nurses of the Auckland District Health Board. Ethics approval was gained from the Auckland District Health Board Ethics Committee as part of the approval given to the Health Research Council of New Zealand / University of Auckland ‘Political Ecology of Tuberculosis in Auckland’ project. I was also fortunate to access the Alexander Turnbull Library Oral History Archive, in particular, the outstanding interview series conducted by Sue McCauley on tuberculosis and the sanatorium experience.
As Anna Green has written, oral history allows ‘access to the world of the
majority who do not leave written accounts of their lives’.\textsuperscript{49} Of special
relevance, Roy Porter’s view that ‘it takes two to make a medical encounter’
highlights the dangers of overlooking the patient experience in the writing of
medical history.\textsuperscript{50} In this study, oral interviews are the major contributor to a
chapter on patient experience and provide vital strands in narrative and analysis
throughout. Such memories give insight into the day-to-day life, the physical,
social and emotional responses of tuberculosis patients to their illness and
treatment, and into the lives, actions and motivations of medical professionals.

The sanatorium life described by many interviewees is made up of ‘hospital
tales’, which have been identified by Alessandro Portelli as ‘a coherent, if largely
unrecognized, narrative genre, found with little variation across national,
cultural, and linguistic boundaries’.\textsuperscript{51} A common aspect to these hospital tales
was the remembering by former patients of their determination to overcome their
illness and be cured. They did not view this as heroic but as a vital part of the
mental and emotional process of cure. The identification of such strong resolve
can also be seen as providing a sense of individual control over their lives at a
time when they were very real captives of their illness, the institution and the
limitations of treatment at the time. The identification of personal agency can
also be interpreted as balancing the feelings of some that the time spent in a

\textsuperscript{49} Anna Green, "‘Unpacking’ the Stories’, Anna Green and Megan Hutching (eds),
\textsuperscript{50} Roy Porter, ‘The Patient’s View: Doing Medical History from below’, \textit{Theory and Society},
\textsuperscript{51} Alessandro Portelli, \textit{The Battle of Valle Giulia: Oral History and the Art of Dialogue}, Madison,
sanatorium were stolen years. The ‘dynamic and constructive dimensions of remembering’ are reflected in subtle differences in the act of remembering by patients and professionals. Former patients interviewed about their experience at sanatoria sometimes expressed ambivalence about their ability to remember the detail of institutional life and concern that the value of their memories was insignificant. Some said they had thought little about the experience since and had got on with their lives, reinforcing the sense that they regarded their time in a sanatorium as an aberration, an interruption, to their real lives.

In contrast, physicians and nurses interviewed about their professional lives, and sometimes their experience as patients also, were more confident of their memories. This may indicate that such professionals’ memories of their working lives were reinforced and structured by their training, day-to-day routines and status. They regarded their professional work as having been significant and worth remembering. As patients too, their greater knowledge of their illness also made the details of any treatment easier to recall. Although former patients maintained they got on with their lives after leaving the sanatorium and thought little of the experience, they nevertheless appeared to have retained a degree of interest in the disease, often expressing their concern at contemporary reports of its resurgence.

The attitudes of public health professionals and the public, the recognition of the importance of socio-economic factors in combating TB, the ethnic diversity of the TB experience including both Maori and later immigrants from the Pacific

Islands and the public responses which includes the stigmatisation of TB patients dominate this thesis. Chapter One describes the initiatives arising out of the onset of World War Two, the X-ray screening of some at-risk groups and resulting optimism about being able to counter TB that culminated in the establishment of a dedicated Division of Tuberculosis. Chapter Two explores the subsequent period of intense activity that saw the promised expansion and coordination of the country’s TB services, an increase in institutional accommodation and the first use of BCG vaccination for at-risk groups. The Tuberculosis Act tightened the Health Department’s ability to require hospital board service provision and the population received the widespread benefits of increased social security, the state housing scheme and full employment.

Chapter Three examines the nationwide mass X-ray scheme, including the pioneering Taranaki Mobile X-ray Unit that served as a pilot, and assesses the impact of mass X-ray on TB notifications. Chapter Four covers the use of BCG vaccination and the targeted mass secondary schools campaign. Both the mass X-ray and BCG campaigns helped to reform attitudes toward tuberculosis during this time, although their effect on TB incidence is questionable. Drawing extensively on conducted and archived oral interviews, together with official and private archival sources, Chapter Five traces the changing patient experience of TB, from uncertain cure and lengthy sanatorium treatment to the confidence of drug therapy and domiciliary treatment. Chapter Six examines the ‘problem’ of immigrants with TB arriving in New Zealand and the ongoing attempts by public health officials and TB physicians to introduce more thorough checks for TB in immigrants and visitors to New Zealand. This intersection between New Zealand’s changing immigrant profile and the overall decline in TB incidence
brought disappointment for TB physicians and changes in those groups regarded as a TB problem in New Zealand. Chapter Seven extends the theme of changing responses and tracks the decline of stigma but also its persistent and evolving nature.

Modern trends and historical experience
The years since 1988 have seen a flood of interest in tuberculosis as monographs, journal articles and post-graduate theses have sought to place the historical experience of the disease within the context of different countries, cultures, social surroundings and timeframes. Since the 1990s, these works have also been written against the perception of a resurgence of the disease in developed countries; there has been an element of public alarm over the spectre of drug-resistant strains of disease especially among those living on the fringes of society with multiple social and health problems, such as homelessness, alcoholism, intravenous-drug use and HIV-AIDS. Yet, globally, TB incidence has tracked a divided course since the 1950s. Effective drug treatment and high standards of living combined to reduce TB deaths and incidence dramatically in the developed world, including New Zealand. This was not the case in the developing world where, in the absence of population-wide public health programmes and the presence of widespread poverty, TB continued to have the highest death rate of the infectious diseases. As TB dropped out of sight in developed countries, it flourished in developing countries; in 1993, the World Health Organization declared TB a global emergency.\(^53\) This significant development recognised the need for international solutions as well as the inter-

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connectedness of the emergency in the developing and the ongoing struggle against the disease in the developed worlds.

Contrary to the general impression in New Zealand and other developed countries that tuberculosis had been eradicated by drug therapy, a residual pool of disease remained in these societies that confounded public health programmes and, increasingly, chemotherapy. Understandably, social historians concentrated first on the energetic period of the early twentieth century, followed by the mid-century technological and medical climaxes of effective diagnosis, drug treatment and available vaccine. The post-war period was often treated as little more than an epilogue to the main story. This study of New Zealand’s anti-tuberculosis campaigns from World War Two to the 1970s extends the exploration of the influence of social factors on tuberculosis incidence in a way that earlier studies concentrating on the rise and fall of sanatorium treatment did not. This provides a longer view of the place of low socio-economic status in the ongoing incidence of tuberculosis in New Zealand, together with its greater concentration among at-risk ethnic and new immigrant groups. Poverty was always an important factor in TB incidence but, between World War Two and the 1970s, it became a crucial element in the continuing high rates of TB among the traditional at-risk group of Maori and new groups such as immigrants from high-incidence countries of origin. Evidence of declining disease rates and huge confidence in medical science and technology led to the expectation that TB would be eradicated. This led in turn to the virtual invisibility of the disease and a sense of complacency as public health efforts moved on to other projects. This thesis examines an important and apparently successful public health campaign
in a time of action and confidence; it also reveals the limitations of that success
and the continuing role of poverty as critical to tuberculosis incidence.
World War Two saw the instigation of a determined anti-tuberculosis campaign that was in marked contrast to the gloomier mood that had prevailed in the 1920s and 1930s. During this time, difficulties in diagnosis and mounting medical doubts about the effectiveness of sanatorium treatment had inhibited broad-based public health initiatives, although the Department of Health put great store in New Zealand’s ‘lowest rate of tuberculosis in the world’ as evidence that its anti-TB work was effective. Surveys in the 1930s confirmed that European New Zealanders (or Pakeha) continued to experience an ongoing decline in tuberculosis death rates but, in contrast, Maori TB rates were shockingly high.²

In 1939, the Director-General of Health Dr Michael Watt, fresh from an overseas study trip, advocated a more energetic anti-TB campaign.³ The declaration of war later that year accelerated and influenced the instigation of that campaign; the protection of the country’s fighting forces from TB was a powerful motivation that was translated into the decision to screen all recruits by Mantoux

¹ Christchurch Press (Press), 9 September 1942.
² Appendices to the Journals of the House of Representatives (AJHR), 1937-38, H-31, p.60; AJHR, 1939, H-31, pp.7, 10. Statistics collected during the 1930s showed the slow decline of New Zealand’s European TB death rate. In 1930, it was 4.55 per 10,000 of mean population. By 1938, it had dropped to 3.93 per 10,000. However, in contrast and due largely to more emphasis on systematic notification and the collection of separate statistics, the Maori death rates had increased over the same years from 34.03 to 42.11 per 10,000 of mean population.
(tuberculin) test and X-ray. In response to the troubling results of this screening, the Health Department seized the opportunity to launch a systematic public health assault on TB. From 1943, Health Department and hospital board anti-tuberculosis control was administered by a new, specialist Division of Tuberculosis. The war on TB was the major public health topic of the day, reflecting the threat the disease still presented across all strata of New Zealand society. The period also saw growing public awareness of the seriousness of Maori TB rates and of the social influences on TB incidence.

**X-ray screening of armed forces recruits**

Tuberculosis among soldiers had been a major problem during World War One, and New Zealand officials were determined that lessons from the earlier experience would not go unheeded. Dramatic increases in TB notifications and deaths during and after the 1914-18 war were especially pronounced in those European countries engaged in and adjacent to the hostilities, but New Zealand too had suffered an increased incidence of tuberculosis, both in recruits diagnosed on enlistment and soldiers who developed the disease during service.

The World War One spike in New Zealand’s TB figures had not been as dramatic as in Great Britain; however, it was high enough for New Zealand authorities to provide special facilities for returned soldier TB patients and for there to be some public concern over the heightened rates. The Otaki sanatorium in the lower North Island had been open since 1909 but three public sanatoria were built specifically to deal with the influx of TB cases during and after World War One.

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4 ‘Tuberculosis in Wartime’, *New Zealand Medical Journal* (NZMJ), 222, April 1942, pp.49-50; Linda Bryder, *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century*
In 1919, the New Zealand Army established two permanent military sanatoria: Pukeora (‘hill of health’) at Waipukurau and the ‘Soldiers’ San’, later the Upper Sanatorium, as part of the Cashmere Sanatorium at Christchurch. In the South Island, most returned soldiers went to Cashmere, but some also stayed at the Otago Hospital Board’s Pleasant Valley Sanatorium in Palmerston. Another eight South Island hospital boards combined to purchase a sanatorium at Waipiata, Central Otago, in 1922.5

![Figure 7. Pleasant Valley Sanatorium, Palmerston, Otago, c1919. Source: Hocken Library 88.00844 C/NE3555/42](image)

The intensity and immediacy of the World War One experience had a direct effect on the way military and civilian authorities organised health aspects of the World War Two effort. The opening chapters of Dr Duncan Stout’s official account of New Zealand Medical Services in World War Two relate the

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military’s pre-war attempts to implement efficient and effective systems for the prevention and treatment of venereal disease and tuberculosis in particular, indicating the serious threat to military efficiency they were still believed to represent.  

Military medical authorities also focused on a more uniform and thorough system of medical examination of recruits than that of the previous war, with a view to excluding those whose health might fail and render them a future liability. In 1938, the National Medical Committee, a sub-committee of the Organisation for National Security, formulated detailed instructions for medical board examination of recruits, with a standard questionnaire about previous illness and disease and a series of routine tests.

The international co-operation that had been a feature of anti-TB work since the beginning of the twentieth century was also evident among military medical authorities. New Zealand’s Director-General Medical Services had attended the 1937 Australasian Congress, where discussion was focused on the failure of most military medical examinations to identify the borderline or latent TB case. Such recruits were viewed as patently undesirable and to be excluded from service. The World War One experience had shown they were likely to break down with infectious tuberculosis under the strain of active service and become a danger to themselves and other soldiers, and that their pensions would be a drain on military expenses, often for many years. The prevailing view at the Congress

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was that X-ray was the only effective way to identify such cases and eliminate them from the services.\textsuperscript{7}

Both World War One and contemporary public health thinking led New Zealand’s military and health authorities to regard an increased rate of tuberculosis as a highly probable health consequence of the new conflict that needed to be managed. Historian Derek Dow has identified the determination of Dr Michael Watt, Director-General of Health from 1930 to 1947, to bring ‘increased vigour’ to the fight against tuberculosis; in September 1939, with volunteers presenting themselves at recruiting stations, action was taken to prevent high TB rates in the armed forces. Watt advised Health Minister Peter Fraser that those who were suffering from tuberculosis should not be accepted into the forces. Tuberculosis and mental illness were the only conditions to receive such swift and blanket exclusions, based on the Director-General’s concern that both could be concealed by over-eager volunteers. In order to identify TB cases, he instructed that each recruit receive a Mantoux (tuberculin) test to identify those who had been exposed to the tubercle bacillus. Positive reactors would be further screened by X-ray and specialist medical examination.\textsuperscript{8}

In December 1939, this screening process was intensified to include the X-ray of all soldiers proceeding overseas on active service.\textsuperscript{9} Unfortunately, it took some time to obtain sufficient X-ray equipment and staff. The First Echelon left before

\textsuperscript{7} Stout, \textit{New Zealand Medical Services in the Middle East and Italy}, 1956, pp.10-13, 30-31.
\textsuperscript{8} Director-General of Health (DGH) to Minister of Health (MH), 12 September 1939. H 1 300 8186, Archives New Zealand Head Office (Wellington) (ANZW); Dow, 1995, p.133.
\textsuperscript{9} DGH to Radiologists, Auckland, Wellington, Christchurch Public Hospitals, 20 December 1939. H 1 300 8186, ANZW.
these checks were in place, and many in the Second Echelon were not X-rayed either. It was decided that X-ray checks should be performed before recruits left their homes for training, and hospital board radiology departments were given responsibility for the work.\textsuperscript{10} On 23 April 1940, 120 recruits were X-rayed in two hours at Auckland Hospital ‘at the rate of one a minute’ using ‘nearly 150 square feet of film’.\textsuperscript{11} From late 1940 all recruits were X-rayed, and after the war, statistics indicated that those recruits who had been X-rayed had much lower rates of TB than those early recruits who missed out.\textsuperscript{12}

Nevertheless, it seems that some recruits with suspicious X-rays slipped through and there was no guarantee of the quality of the film or the reading. ‘Alfred Murray’ was called up in 1942 and his medical examination was conducted at the Drill Hall in Wakefield Street, Auckland, where a miniature X-ray film was taken. He was passed as fit and enlisted; 12 months later, on final furlough before departing for overseas, he was called for further examination, diagnosed with non-infectious pulmonary TB and discharged. ‘Murray’ had previously had chest problems, and his own doctor, surprised at his acceptance, raised the matter with the authorities, prompting the late examination.\textsuperscript{13}

X-ray had been acknowledged for some years as the most effective way of identifying suspect or latent TB cases. Yet prior to World War Two, this technology had been used sparingly, since it was expensive and available only in

\textsuperscript{11} Cutting, \textit{Dominion}, 24 April 1940, H 1 300 8186, ANZW.
the hospitals of cities and larger towns. Irrespective of past judgments about the expense of X-ray screening, it was now regarded as both essential and logistically possible to X-ray all recruits. A medical conference late in 1940 confirmed the importance of tuberculosis control in the military and also recommended extending the use of micro-photography for wider survey or group examinations to establish the true incidence of the disease in New Zealand and to seek out active cases. In fact, shortages of equipment, radiographic technicians and radiologists meant staff worked long hours throughout the war years, and the same shortages restrained the extension of mass mobile radiographic services throughout New Zealand until 1952.

Mass miniature X-ray was a significant development; in particular, its cost-effectiveness meant it was now considered for more widespread use and would become the basis of population-screening for TB in the decades ahead. First developed in the late 1920s, mass miniature X-ray allowed the rapid, low-cost X-ray of large numbers of people on 35 or 40 millimetre film. In January 1940, a report on its preliminary use in the screening of 6622 men from the 16th Brigade of the 2nd Australian Infantry Force was enthusiastically received and recommended to the Director-General of Health by radiologist Dr Francis Gwynne of the New Zealand Army Medical Service. A June 1940 British Medical Journal article reinforced Gwynne’s view; he again approached Watt, arguing there was ‘as much of the taxpayer as of the radiologist’ in his support

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15 Director, Division of Tuberculosis (DDT) to MH, 29 April 1946. H 1 240/3/1 20048, ANZW.
and the ‘wide difference in cost is what makes the technique so appealing just
now’.

In October 1940 Treasury advised the Minister of Finance to approve a
trial and the purchase of miniature radiography equipment and in March 1941
Watt recommended to all hospital boards that they consider miniature technology
as part of their X-ray services.

The New Zealand Government’s rapid decision
to X-ray all recruits was in step with strategies already in place in Australia,
Canada and Germany.

In New Zealand, the concerns driving the X-ray screening of recruits were the
inefficiency of sending such men overseas, the danger an undiagnosed case posed
to himself and his fellow soldiers, and the potential for substantial costs in the
form of pensions and institutional care in future years. Stout’s analysis further
argued that mass X-ray removed the doubt from TB diagnosis. This had been a
problem during World War One when soldiers who displayed neurosis and signs
of chest disease were often cautiously diagnosed as ‘chronic pulmonary disease
indeterminate’ and sent to sanatoria for treatment. Stout argued that sanatorium
treatment made many of these soldiers, who did not actually have TB, into
invalids over many years, at huge physical cost to themselves and financial cost
to the New Zealand Government. The promise of X-ray diagnosis in World War
Two was that such patients could be correctly diagnosed and treated. Accurate
diagnosis of those who presented with latent TB infection or chest abnormalities
but not active tuberculosis often enabled them to serve overseas or at home

16 F. J. Gwynne to DGH, undated. H 1 242/1 11587, ANZW. See also Anne Hardy, ‘Reframing
disease: changing perceptions of tuberculosis in England and Wales, 1938-70’, in Historical
17 F. J. Gwynne to DGH, 22 July 1940. H 1 242/2 11587, ANZW.
18 Treasury Secretary to Minister of Finance, 9 October 1940, & DGH to Secretaries of Hospital
Boards, 7 March 1941. H 1 242/1 11587, ANZW.
without ill effect.\textsuperscript{19} The Department of Health’s 1942 Annual Report expressed confidence that the recruitment X-ray programme would eliminate tubercular men from the forces.\textsuperscript{20}

The screening of recruits quickly confirmed the potential for mass X-ray screening as a broader public health tool, since the percentage of recruits identified with TB was considerably higher than the civilian incidence rate. By 1942, New Zealand’s rising TB notification rates were attracting comment. The New Zealand Medical Journal’s editorial ‘Tuberculosis in Wartime’ referred to the well-documented experience of World War One and cited New Zealand’s recent rise in notifications from 989 in 1939 to 1197 in 1941. This increase was not blamed on war-time conditions but was linked to improved diagnosis; it was recognised that the X-ray of recruits and some civilian groups ‘have brought to light cases of early tuberculosis which would not otherwise have been detected’. This claim was supported by the fact that the increase in notifications was limited almost entirely to men in the recruiting age group (15-45 years) with no parallel increase in female TB notifications.\textsuperscript{21}

The jump in notifications set alarm bells ringing; if a survey of one sector of society found levels of TB so much higher than previously thought, then a closer examination of other groups in the population would no doubt reveal a similar situation. There was at least the consolation that this rise in New Zealand’s TB numbers had been brought about as a result of a technological improvement that

\textsuperscript{19} Stout, War Surgery and Medicine, 1954, pp.588-9.
\textsuperscript{20} AJHR, 1942, H-31, p.3.
more effectively and cheaply identified dangerous, undiagnosed cases. From the standpoint of a wider anti-tuberculosis campaign, X-ray clearly provided a cost-effective means of mass diagnosis. With armed forces recruits being systematically screened and referred for treatment, attention now turned to conducting limited X-ray surveys of civilian groups deemed to be ‘at-risk’ of TB.\textsuperscript{22}

The Department’s decision-making was informed, as in the past, by anti-TB activities in other countries. At the end of 1940, details of a survey into TB incidence in Adelaide, South Australia were circulated to all school medical officers. This survey had examined 3000 young women, aged between 15 and 30 years, working in a number of at-risk occupational groups, including nursing. A Mantoux test was applied to all and positive reactors were X-rayed. Of the 3000, there were 110 positive reactors and 61 cases of ‘active or probably active’ pulmonary tuberculosis. This was of special concern since all the young women had appeared outwardly to be in good health. The report also highlighted the cost-effectiveness of mass miniature X-ray and reinforced the case for widespread X-ray screening of the population to detect early TB cases.\textsuperscript{23}

At this time, New Zealand’s public health professionals were increasingly optimistic that tackling TB was now possible, as least as far as early detection was concerned. This new confidence was behind the November 1941

\textsuperscript{23} ‘TB Survey, Adelaide, South Australia’, Extract from Annual Report of Central Board of Health, year ended 31 December 1939. BAAK 25/40 A49/64c, Archives New Zealand (Auckland) (ANZA); DGH to School Medical Officers, 18 December 1940. H 1 130 16350, ANZW.
announcement of a project to X-ray a cross-section of industrial and clerical workers in Wellington using miniature technology. In addition, those in their last year of school were to be X-rayed so ‘that a record of their chest health should be obtained before the strain of wage-earning became manifest’. With statistics showing that workers between the ages of 14 and 35 years were at greatest risk of dying of TB, checking and protecting the health of children was an important point of reference in the country’s fight against the disease. This focus on the health of school children and school leavers also represented a continuation of the preceding strategy of tuberculosis prevention. The comments of Health Minister Arnold Nordmeyer reflected continued uncertainty about the effectiveness of TB treatment when he declared the 1941 survey to be an ‘earnest attempt’ to ‘grapple’ with the problem of early-stage disease and prevent a dramatic increase among civilian workers, as seen in England during World War One. Mass X-ray may have been the exciting new plank in the Department’s anti-TB work but, in the continued absence of a definitive cure, its only realistic promise was of earlier and easier identification of TB cases.

A comprehensive plan to control tuberculosis

The concept of a ‘campaign’ against tuberculosis had been part of government policy and rhetoric since the global wave of anti-TB campaigns at the beginning

24 Cutting, New Zealand Herald (NZH), 18 November 1941. BAAK 25/40 A49/64c, ANZA.
26 Cutting, NZH, 18 November 1941. BAAK 25/40 A49/64c, ANZA.
of the twentieth century.\footnote{Dow, 1995, p.133.} The practical realities of these campaigns had always been a good deal less than the name implied but, in 1940, officials announced ‘comprehensive’ new moves to control tuberculosis in New Zealand. Initially, this comprehensiveness referred mostly to changes in notification requirements, but it was evidence of the new energy in the fight against TB. Previously, pulmonary tuberculosis (but not other forms of the disease) had been included on the Notifiable Infectious Diseases list of the Health Act 1920.\footnote{Cutting, NZH, 13 September 1940, BAAK 25/49 A49/64b, ANZA; New Zealand Statutes, II Geo V, Health Act, 1920, No. 45, p.216.} The Health Amendment Act 1940 specifically removed pulmonary tuberculosis as an infectious disease under the principal Act and a new regulation separately classified all forms of TB as notifiable directly to the Department of Health.\footnote{New Zealand Statutes, 4 Geo VI, Health Amendment Act, 1940, No. 17, p.203; Statutory Regulations, 1940, p.742.} District health nurses became the front-line departmental agents for investigating TB cases, a role often carried out in the past by sanitary inspectors, although there was still active liaison between them. Nurses were charged with making first visits to notified cases, as well as tracing and testing contacts and supervising patient treatment. The definition of ‘contacts’ was widened beyond family members of patients being treated through a hospital or dispensary to include all household members and even associates of anyone diagnosed with tuberculosis.\footnote{40}

The Health Department’s decision to treat tuberculosis as a special case provided the foundation for what would become a truly broad-based campaign over the next decade. The move also reinforced the concept of tuberculosis as a complex
health problem rather than a simple infectious disease. Unlike sanitary inspectors, district nurses were regular and accepted visitors to many homes, able to observe and advise on a broad range of health and hygiene matters. The Department believed district nurse visits did not hold the potential for shame that a visit by a sanitary inspector might. It was hoped the change would encourage some who preferred to remain undiagnosed because of the stigma of the disease to come forward for treatment instead.  

The changing nature of stigma in relation to tuberculosis throughout the timeframe is discussed separately in Chapter Seven.

One perceived difficulty for some Department of Health and hospital board officers as a result of the removal of pulmonary tuberculosis from the Infectious Notifiable Diseases list was an inability to compel patients to enter a hospital or sanatorium. Section 84 of the Health Act 1920 allowed a medical officer of health (MOH) or any inspector of health, ‘where in the interests of public health he thinks it expedient so to do, [to] make an order for the removal of any person suffering from an infectious disease to a hospital or other place where such person may be effectually isolated’. Such an order could be executed by force if required. Some believed that having pulmonary tuberculosis separately regulated and not on the Infectious Notifiable Diseases list would result in the loss of these simple powers to direct infectious patients. In June 1941 a Dunedin MOH wrote to the Director-General asking what to do about two pulmonary TB cases that had refused his requests to enter an institution for treatment. The

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30 Circular Memo, DGH to all General Practitioners, 13 September 1940, & DGH to Medical Officer of Health (MOH), Auckland, 4 October 1940. BAAK 25/49 A49/64b, ANZA.
31 DGH to MOH, Auckland, 4 October 1940. BAAK 25/49 A49/64b, ANZA.
32 New Zealand Statutes, II Geo V, Health Act, 1920, Section 84, p.200.
Director-General admitted they had realised this would be a problem when the disease was removed from the list and suggested the MOH try ‘persuasion’.  

The problem of infectious patients who refused to accept segregation or treatment and remained a danger to their families and the public was in no way new. There had always been a proportion of TB patients who did not want to cooperate with medical advice for reasons ranging from the threat of economic hardship for a breadwinner patient, to the widespread Maori dislike of Pakeha institutions far from whanau (family), and the inability of alcoholic patients to conform to hospital discipline. Dr Rodney Francis, at that time a tuberculosis specialist with Hawera Hospital, was never hesitant to offer his opinions and advice to the Department. On 23 September 1941 he identified the problems encountered in treating TB in Taranaki in a letter to the Minister of Health. Aside from the high numbers of TB cases, especially among Maori, and the shortage of hospital accommodation and medical staff, he also raised the issue of the loss of patient control:

A heavily positive case left this hospital recently and has gone to an inaccessible part where she is living in a whare [house] with three small children. This is really to my mind criminal and we can only look on with sad hearts because our hands are tied — and the Maoris know it and call our bluff if we try to force them into hospital. I see many tragedies unless Tuberculosis is put back into the Notifiable Infectious Diseases List as indisputably it should be.  

33 MOH, Dunedin, to DGH, 3 June 1941, & DGH to MOH, Dunedin, 10 June 1941. H 1 130 16350, ANZW.
34 R. S. R. Francis to MH, 23 September 1941. H 1 130 16350, ANZW.
Francis’s letter highlights the frustration felt by some medical staff at the loss of an essential element of control of the disease. Correspondence between hospital boards and local and head office departmental staff on the difficulties of dealing with individual ‘recalcitrants’ recurred during the 1940s, with some boards claiming tougher legislation was required to give them the power to detain such patients securely. For their part, the Minister and Department referred responsibility for accommodating such patients back to the hospital boards. Director-General Watt put this view firmly when he wrote to the Wellington MOH that:

Hospital Boards should face up to their own responsibilities and exercise the necessary supervision of recalcitrant cases. There is no doubt that by firm and sympathetic methods most cases can be prevailed upon to see reason and to remain under institutional care. In the few cases where the Hospital Authorities have no option but to discharge a patient, the facts should be reported to the Medical Officer of Health who can arrange for his staff to carry out at any rate a measure of supervision of the patient’s living and working conditions.

It was no doubt easier for the Director-General to urge the use of reason than it was for individual doctors to modify the behaviour of a recalcitrant patient. Those hospital boards and local departmental officials annoyed by the loss of Section 84 hoped to convince the Department to reintroduce

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35 I. C. McIntyre, Medical Director, Cashmere Sanatorium, to MOH, Christchurch, 25 January 1945, & MOH, Christchurch, to DDT, 27 February 1945, & DDT to MOH, Christchurch, 8 March 1945, & Opotiki Hospital Board to MH, 8 February 1946, & Tauranga Hospital Board to MH, 4 March 1946, & Hawera Hospital Board to MH, 19 February 1946, & Kaipara Hospital Board to MH, 18 February 1946, & Bay of Plenty Hospital Board to MH, 19 February 1946, & Taranaki Hospital Board to MH, 22 February 1946, & Dannevirke Hospital Board to MH, 21 January 1946, & South Canterbury Hospital Board to MH, 25 February 1946, & Cutting, Waikato Times, 7 October 1949. H 1 246/41/8 25772, ANZW.
regulations to detain unco-operative patients and provide secure accommodation for them. The Department continued to insist it was the hospital boards’ responsibility to accommodate all infectious patients, even the difficult ones.

It was understood that Maori avoided Pakeha-style hospital treatment if they could and government-funded single person huts (known as hutments) had been provided for Maori TB patients since 1937 as a realistic compromise; the provision of hutments may have had a flow-on effect on levels of Maori recalcitrance for, in spite of their over-representation in the TB statistics, Maori do not figure strongly in correspondence about recalcitrant patients during the 1940s. This changed in the 1950s when Maori formed an increasing proportion of a declining number of TB patients. Effective drug treatment also resulted in a decline in sanatorium and hospital waiting lists and reluctant patients with active disease found it more difficult to avoid institutional treatment.

The extension of the rules surrounding notification and contacts indicated government willingness to accept the true costs of tuberculosis care. The Auckland Hospital Board’s consultant tuberculosis physician, Dr Chisholm McDowell, reported at a board meeting on 9 June 1940 that the previously limited nature of notification meant his tuberculosis department had been ‘restricted to the fringes of the problem’. McDowell welcomed the new move but warned about the inevitability of increased costs. He predicted that the

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36 DGH to MOH, Wellington, 10 March 1943, & DDT to all MOsH, 30 May 1945. H 1 246/41/8 25672, ANZW.
37 DGH to Public Works Department, 20 April 1937. H 1 194/27 (B.126), ANZW.
38 See correspondence 1943-1955. H 1 246/41/8 25672, ANZW.
Auckland Hospital Board would need to provide up to 300 additional tuberculosis beds, together with a surgically equipped chest hospital, and that more medical men would have to be trained in tuberculosis to meet the increased demand. The same night, McDowell also addressed a joint meeting of the Auckland Institute and British Medical Association, and spoke of the benefit to be gained from spending more money and the possibility of eradicating tuberculosis through public health efforts. McDowell was an outspoken personality with strong views; he was no doubt also softening up public and political opinion in favour of an expansion of Auckland’s TB services, which were his own domain. In this way, alarm at higher than expected TB rates and increasing costs was consciously shaped into support for greater TB services through optimism about the improvements in diagnosis and the possibility of the greatest prize of all, eradication.

Although there was no reliable treatment for TB prior to the 1950s, the spontaneously reducing rates of TB over a number of decades had allowed the Health Department to regularly reassure New Zealanders that they enjoyed the ‘lowest death rate of tuberculosis in the world’. The X-ray screening of recruits and civilian surveys now provided dismal evidence that those reassurances had been overstated. In 1942 there was a marked increase in reported TB cases. New notifications rose from 178 to 256, up 43 per cent. Officials reassured the public that this was a natural consequence of the war and warned that further increases would occur when soldiers with TB returned from overseas. In those all-important international comparisons, the 1942 statistics showed New

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39 NZH, 10 June 1940.
Zealand’s European-only TB death rate of 3.9 per 10,000 was still one of the lowest in the world. However, the Maori figure of 42.2 per 10,000 was one of the highest. These results revealed that, while Maori remained by far the most vulnerable group, the rest of the population was also more at risk from TB than had been thought.

After many years largely out of the public eye, the rise in the number of notified tuberculosis cases raised public anxiety. In September 1942 the New Zealand Herald conveyed the sense of tuberculosis being rediscovered: ‘The common idea that the White Plague has been defeated is mistaken. Except it be fought relentlessly, it will intensify its insidious attack on the health of mankind’. The old enemy had stepped back into the limelight and was patently still a substantial threat to human health. Fighting metaphors were not uncommon in relation to TB; Director-General Michael Watt’s 1934 image of ‘one great army’ fighting disease indicated how readily such terms had always been used to symbolise efforts against infectious disease, and tuberculosis in particular. During World War Two, the country’s focus was on the war effort, and battle language was used with particular relish. New Zealanders at home, far from the frontline, were encouraged to regard the anti-TB campaign as a significant battle against an old enemy being fought on their own soil.

41 Cuttings, NZH, 19 June 1942, 9 September 1942, 15 September 1942. BAAK 25/40 A49/64c, ANZA; AJHR, 1942, H-31, p.3; AJHR, 1943, H-31, p.5.
42 Cited in Dow, 1995, p.126. For similar examples, see NZH, 23 November 1943; NZH, 24 November 1943; NZH, 26 November 1943; Auckland Star; (Star), 4 December 1943; NZH, 26 April 1944; NZH, 5 December 1944; NZH, 14 July 1954.
A Division of Tuberculosis

Following the initial changes to notification, evidence of the Government’s determination to attack tuberculosis came with Health Minister Nordmeyer’s announcement on 9 September 1942 that a specialist Division of Tuberculosis would be set up. This had been a recommendation of the 1928 Royal Commission of Inquiry. Nordmeyer declared that the Division of Tuberculosis would ‘give additional impetus’ to ‘an intensive drive against tuberculosis’. This was further clear acknowledgement that the disease remained an important problem. The creation of a specialist Division to intensify and standardise TB services across the country was a recognition of ethnic, regional and occupational disparities. The Division of Tuberculosis was an early example of national TB control organisations, to be followed by the United States of America in 1944 and Australia in 1948, and an attempt to establish one in Canada in 1945.

The Division aimed to provide sufficient sanatoria and hospital beds for all the early and chronic cases revealed by the full use of X-ray diagnosis. As a result of such proper care and isolation, relatives and contacts of patients would be protected from infection. The difficulty of finding staff for the TB institutions was accepted and a campaign was planned to encourage women and girls into nursing. X-rays were made free of charge as a social security benefit to encourage as many people as possible to take advantage of radiographic

43 Press, 9 September 1942.
45 Press, 9 September 1942.
screening. In announcing the Division and urging public support for its activities, the Minister offered the hope of ‘eradicating tuberculosis from New Zealand’.

Evoking the ultimate prize was an understandable tactic to build the public climate of support necessary for such an intensive campaign. However, the lack of effective drug treatment in 1942 meant this goal was based on faith rather than science.

The Division of Tuberculosis was set up by early 1943 under director Dr Claude Taylor. Taylor had been at New Plymouth Hospital for 13 years and Medical Superintendent for 5 of those. His tuberculosis credentials were cemented when he studied English and Scandinavian TB schemes during a European visit in 1935.

One of Taylor’s first actions, early in 1943, was to visit each Department of Health office and hospital district to assess the facilities of individual boards and to gain an overall view of tuberculosis services throughout the country.

The Division’s task was to co-ordinate methods of prevention, care, treatment and aftercare of all cases of tuberculosis in New Zealand. It set out to tackle the problem in the most comprehensive way possible, starting with an initial survey to establish how many trained personnel, institutions, sanatoria and surgical centres would be needed in the future. Hospital boards were required to provide tuberculosis accommodation and treatment, although their commitment varied according to the needs, funds and political inclination of individual

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37 Press, 9 September 1942.

48 Cutting, Star, 8 September 1942. BAAK 25/40 A49/64c, ANZA.

49 DDT to DGH, 10 May 1944. BAAK 25/40 A49/65a, ANZA.

boards. Taylor’s 1943 review of TB control measures alluded to the poor level of facilities and services in some districts. Some smaller hospitals neither employed their own tuberculosis officers nor conducted tuberculosis clinics. They relied instead on the services of travelling tuberculosis officers, which the Department of Health felt was an inadequate level of control. Through the Division, the Department of Health intended to require hospital boards to provide TB services and accommodation in a more planned and consistent way. The Division’s aim of ‘intelligent planning for the future…’ was also the philosophy of the time, reflecting the Government’s centralised war-time management of so much of the economy.

The new tuberculosis regime demanded increased co-operation and information flow between hospital board officers and the Department’s medical officers of health, district nurses and head office, and this could take some settling in. A confrontation occurred in Christchurch after Dr Iain McIntyre, the Medical Superintendent of North Canterbury Hospital Board’s Cashmere Sanatorium criticised Health Department nursing staff at a lecture presented at Cashmere to both nurses and TB patients. One district nurse complained to the MOH Christchurch that McIntyre ‘tore us to shreds…in front of the very people with whom we had hoped to do good follow up work’. McIntyre was an extremely experienced TB specialist; he had chosen the career after developing pulmonary TB while a medical student and by 1943 had been at North Canterbury Hospital

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31 General Review of Policy and Measures for the Control of Tuberculosis, prepared for Conference, 7 and 8 September 1943, pp.2-4, Table V-B. H 1 130 16350, ANZW.
33 Circular Letter No. 8 Hosp.8/1943 to Secretaries of all Hospital Boards, & Waipiata Sanatorium from DGH, 25 February 1943. YCAS A740/345b, ANZA.
Board TB institutions for 24 years. He had made three overseas study trips and was an enthusiastic advocate of surgical treatment of pulmonary TB.\(^{55}\) His criticism seems to have been a reaction to enforced changes to his self-proclaimed ‘successful’ system of controlling tuberculosis in Christchurch through the inner-city tuberculosis dispensary and Cashmere Sanatorium. At Taylor’s request, McIntyre clarified his criticisms, stating that the Health Department’s district nurses were inquisitorial and lacking in tact in their dealings with patients. He also believed that, because their responsibilities included all aspects of public health, they were not TB specialists on a par with the dispensary and sanatorium nurses, and many were simply not up to TB work. These tensions reflected understandable teething problems in setting up the new systems for TB follow-up by district nurses, as well as an element of professional patch protection and McIntyre’s general disaffection with the Christchurch Health Department office.\(^{56}\)

The Division of Tuberculosis’s preliminary survey work was followed towards the end of 1943 with two-day regional tuberculosis conferences in both Palmerston North and Auckland. Department and hospital board TB personnel were invited to attend. Discussions were frank and constructive, with the Health Department presenting a comprehensive statement of the New Zealand TB situation, together with its plans for the future.\(^{57}\) During the Division’s first nine months, Taylor had formulated an eight-point policy to control TB:

\(^{54}\) D. E. Edwards to MOH, Christchurch, July 1943, & File note, 14 September 1943. H 1 130 16350, ANZW.


\(^{56}\) I. C. McIntyre to Taylor, 24 September 1943. H 1 130 16350, ANZW.

\(^{57}\) Minutes of Proceedings of Tuberculosis Conference, 24 November 1943. YCAS A740/345b, ANZA.
1. Find all cases of tuberculosis that exist in the country.
2. Classify those cases into particularly the communicable cases, non-communicable types and other sub-classifications.
3. Segregate all of the communicable cases.
4. Watch the non-communicable cases for possible re-activation.
5. Educate all tuberculous cases to protect themselves and also the people with whom they may come in close and sustained contact.
6. Treat all cases by providing accommodation for the necessary prolonged rest, ‘collapse’ therapy and occupational therapy.
7. Sponsor any private organisation that will assist in the rehabilitation of the tuberculous patient back into his former type of work or into other more suitable work whether it be in industry or rural employment.
8. Encourage improvements in the home environment and healthy standards of living not only for the Tuberculous patient in the home but for the population generally.  

The comprehensiveness and multiplicity of these goals illustrate the planned intensification of the Department’s efforts. Its objective of establishing systematic and consistent TB services throughout the country was a clear move away from the piecemeal activities of past decades and towards the goal of eradication. The eight-point policy covered all medical aspects of tuberculosis diagnosis and treatment, as well as public health functions for prevention and recovery. This insight had been evident among department staff since the 1930s, especially in regard to Maori. However, the 1943 policy goals also highlighted the limitations of the Health Department’s role in improving the poor social conditions that many TB patients faced. The Department clearly identified the paradox of returning TB patients from institutions to poor housing after so much money had been spent to get them well. To achieve the desired improvements in housing and living standards, the Department hoped that ‘a private organisation may be able to assist by its interest in the individual cases, and by seeing that the

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58 ‘Statement prepared by Department of Health for the Tuberculosis Conference at Palmerston North on 7 and 8 September 1943’, p.1. H 1 130 16350, ANZW.
best possible home conditions are provided for them’. This suggests that such initiatives were beyond the Department of Health’s compass.

Naturally, the war dominated newspaper coverage during these years but tuberculosis was the main health issue regularly reported upon. The press gave whole-hearted support to the new Tuberculosis Division’s plans; the importance of educating the public about how to prevent being infected and infecting others was a recurrent theme. In announcing the Auckland TB conference in November 1943, the *Auckland Star* said that ‘people must be taught how to defend themselves against a menace which can be almost, if not entirely, eliminated by a popular understanding of how it is bred and fought’. While the defeat of TB was of national importance, the fight was still largely viewed as an individual and family responsibility.

The Palmerston North and Auckland conferences were directed by Taylor as part of the TB Division’s marshalling of hospital boards and tuberculosis officers to work together. The split in responsibilities between hospital boards and the Division was clearly established, with the Division taking the co-ordinating role. Between them, the Health Department’s medical officers of health and district nurses were responsible for notification, case finding, referral of patients for medical and X-ray examination, contact tracing, supervision of patients at home and education of both patients and public. Hospital board staff undertook diagnosis and classification, treatment of all TB inpatients and provision of

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60 Cutting, Star, 22 November 1943. BAAK 25/40 A49/64c, ANZA.
hospital outpatient services. The social and economic aspects of TB came to the fore with general recommendations from both conferences for a survey of housing conditions of TB subjects and urgent attention to tuberculosis control amongst Maori.\(^{61}\)

At the conferences, departmental efforts to persuade hospital boards to cooperate regionally to provide sanatorium accommodation enjoyed only partial success. The first meeting in Palmerston North on 8 September 1943 was attended by delegates of hospital boards in the lower half of the North Island. The Department gained agreement from all boards except Wellington that they would combine to control the two existing sanatoria in their region, Pukeora and Otaki. Wellington, with the largest population base in the region, opted out with the intention of providing its own specialist chest hospital.\(^{62}\)

The second conference in Auckland on 23 and 24 November 1943 was attended by representatives from the boards north of a line drawn from Waikato in the west to Opotiki in the east.\(^{63}\) The Department successfully gained agreement for its general TB control and prevention principles. However, the conference made an additional statement that tuberculosis was a national responsibility and central government should be responsible for providing all hospital costs, both capital and maintenance. Significantly, the Health Department failed to win conference support for its recommendation of a joint sanatorium committee formed of all

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\(^{61}\) Minutes of Proceedings of Tuberculosis Conference held at Auckland Hospital Board on 24 November 1943, pp.1-2. YCAS A740/345b 95/1/33 (1), ANZA.

\(^{62}\) Minutes of conference at Palmerston North on 8 September 1943, p.2, & DGH to Secretaries of Hospital Boards, 16 September 1943, pp.1-4. H 1 130/16/6 24379, ANZW.

\(^{63}\) Minutes of Proceedings of Tuberculosis Conference held at Auckland Hospital Board on 24 November 1943, p.1. YCAS A740/345b 95/1/33 (1), ANZA. The hospital boards represented
boards. Instead, the boards split into two groups to conduct further discussions around the possibility of a 150-bed sanatorium for the Auckland, Waikato and Bay of Plenty districts, and separate TB accommodation for the Far North.  

With no gift of existing institutions to match those in the south of the North Island, the northern boards were cautious about committing themselves to such a joint venture. The boards from the Auckland Province eventually agreed to administer a new sanatorium but refused any financial liability. An Auckland Provincial Districts Joint Sanatorium Committee was formed and discussions, site selection and purchase occurred at a snail’s pace over the next six years. With hindsight, their delaying tactics over building new accommodation proved judicious. By late 1952, with the drug treatment revolution effecting rapid changes on TB treatment, the proposed sanatorium had not even reached the working drawing stage and it quietly disappeared from the agenda.

Tuberculosis and Maori

The social and economic factors that intensified tuberculosis incidence were only too apparent in the experience of New Zealand’s indigenous people, the Maori. During the nineteenth century Maori were separated from most of their land through sales to Crown and settlers and confiscations after the wars of the 1860s. With land as the basis of Maori cultural, social and economic prosperity, its loss led to very low standards of living for most Maori. The effect of European
epidemic diseases including tuberculosis was also calamitous, exacerbated by poor living standards, a lack of immunity and Maori traditions of communal living. By 1896, the process of European settlement in New Zealand had reduced the Maori population to 42,113 and, as historian Keith Sorrenson put it, their position was ‘precarious’. However, developing immunity and public health efforts focused directly on Maori early in the twentieth century did help reduce disease and infant mortality and, with a higher birth rate than European New Zealanders, the Maori population climbed slowly but steadily. In 1936, Maori had almost doubled to 82,326, constituting 5 per cent of the total population. Until World War Two the majority of Maori lived a subsistence existence, housed in remote, rural districts, largely invisible to the European population. 66

From the creation of the Department of Public Health in 1900, the improvement of Maori health had been a significant goal, and a range of initiatives achieved some results.67 Specific efforts against TB were modest and, without a cure, minimal in effect. But, during the 1930s, the more systematic collection of statistics and the 1935 Turbott Report confirmed the burden of Maori TB and led to more concerted action.68 Dow’s assessment is that the report led to not much more than further research and talk during the 1930s, but some awareness of the situation may have trickled through to the general public.69 In 1943, the

establishment of the Division of Tuberculosis received wide press support.\textsuperscript{70} In recommending it, the \textit{New Zealand Herald} cited the low Pakeha rate of infection against the much higher Maori rate and the troubling reversal of the long-term downward trend in incidence since the beginning of the war.\textsuperscript{71} The coverage given to the announcement of the Division reinforced the catastrophe that was Maori TB rates. In 1943, TB still represented a problem for the general Pakeha population but it was a problem on a vast scale for Maori. It was clear that Maori were the key to any New Zealand TB solution.

Individual hospital boards grappled with the problem of Maori TB and those with a high proportion of Maori in their district also regarded it as a matter of great financial consequence. Hospital board funds were partly raised through a tax or rate on land owners in their district. Such ratepayers were mostly Pakeha since much Maori land was not subject to rates. There was a common view that the high burden of tuberculosis among Maori should not be borne by those ratepayers but by the country as a whole. Maori were considered by many hospital boards to be lacking in self-help in the area of health; the small hospital boards in the region of the North Island known as the Far North illustrated this thinking most sharply with their recommendation that ongoing Social Security benefit entitlement for Maori be linked to self-improvement in nutrition, housing and hygiene.\textsuperscript{72}

\textsuperscript{70} For examples of press coverage, see \textit{Dominion}, 9 September 1942; \textit{Taranaki Herald}, 9 September 1942; \textit{Evening Post}, 10 September 1942; \textit{Otago Daily Times}, 10 September 1942; \textit{New Zealand Observer}, 23 September 1942.

\textsuperscript{71} NZH, 9 September 1942.

\textsuperscript{72} Cutting, Star, 25 November 1943. BAAK 25/40 A49/64c, ANZA.
Prior to the Division’s November 1943 conference in Auckland, a preliminary meeting was held in Kaikohe in conjunction with a tour of the Far North by Director-General Michael Watt. Representatives from the Hokianga, Bay of Islands and Whangaroa Hospital Boards, native school teachers, and district nurses attended, and the discussions illustrated the problems they believed they faced. Not surprisingly, the Far North’s extensive Maori population experienced high rates of TB although, in contrast, the Pakeha population enjoyed a particularly low rate. The Far North discussions focused almost entirely on tackling Maori TB. Watt agreed with the hospital boards that the problem was as much social and economic as medical, but he also attempted to impress on the local boards their responsibility for providing TB accommodation for the entire Far North population, including Maori. He argued that, while a sanatorium was beyond the means of a single board, the Far North boards combined could and should provide one for the TB patients of their district.

The Far North boards were not supportive, being reluctant to provide accommodation they considered would be used almost exclusively by Maori. They resisted the suggestion vigorously and argued that poor housing and ignorance or irresponsibility regarding hygiene and nutrition were the reasons for high Maori TB, rather than the lack of a sanatorium. Underpinning the Far North boards’ resistance was the long-standing belief that their mostly Pakeha ratepayers should not bear the health costs of a largely Maori population.

Although rates were not paid on Maori lands, Maori as individuals paid Social

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73 Cutting, NZH, 2 November 1943. BAAK 25/40 A49/64c, ANZA.
75 Cutting, Star, 5 November 1943. BAAK 25/40 A49/64c, ANZA.
76 Cutting, NZH, 3 November 1943. BAAK 25/40 A49/64c, ANZA.
Security Tax. The Far North hospital boards believed the Department of Health
was trying to saddle them unfairly with the costs of Maori TB which they
regarded as a central government responsibility by virtue of Maori contributions
to Social Security Tax. 78 Margaret McClure has also shown how, especially in
the years immediately following the 1938 Social Security Act, the broader public
and many officials questioned the capacity of Maori families to use such
payments responsibly. 79

Following the 1943 Auckland conference, the New Zealand Herald took up the
issue of responsibility for providing TB services, but with a more generous slant:

It can be argued that the whole task of fighting disease should be
organised on a national basis… it is perfectly reasonable to insist
that those hospital boards which may have to deal with a large
proportion of Maori sufferers should not be left to do so
unaided. 80

Media reports increasingly linked poor social conditions to tuberculosis, and poor
nutrition, living standards and overcrowded housing, especially among Maori,
were seen as particular barriers to improving infection rates. 81 The Herald also
detected a stirring of ‘the conscience of the public’ over Maori TB and its social
origins, together with a greater willingness to meet the costs of tackling the
disease. 82 A number of factors were at work here. International comparisons
meant high Maori rates of tuberculosis were a shameful reflection of the

78 Cuttings, NZH, 29 October 1943, 2 November 1943. BAAK 25/40 A49/64c, ANZA.
79 Margaret McClure, A Civilised Community, A History of Social Security in New Zealand, 1898-
80 NZH, 26 November 1943.
81 See, for example, NZH, 10 September 1943, 2 November 1943, 25 November 1943, 26
November 1943, 8 May 1944, 23 August 1944; Star, 13 November 1943, 27 November 1943.
country’s overall state of health. Given the stark contrast with Pakeha statistics, Maori rates were an easily identifiable obstacle to lowering New Zealand’s total TB rates, as well as a potential health threat to Pakeha. It could also be seen as an indictment on New Zealand’s treatment of its indigenous people and at odds with the idealism of the Labour Government which, through its political allegiance with Ratana Maori, fully intended Maori to benefit equally from its social programme.83

Conclusion

At the onset of World War Two, tuberculosis had long been regarded as a major threat to New Zealanders. The imperatives of war made prior notions about the costliness of X-ray screening invalid and policy was quickly implemented to X-ray all soldier recruits. By 1941, this screening was indicating much higher levels of TB in the population than previously estimated. Grasping this opportunity, the Health Department launched a comprehensive public health campaign against the disease, complete with a dedicated specialist division. Public concern about the newly revealed TB rates was moderated by the potential for better diagnosis promised by miniature mass X-ray screening, in spite of the fact that there was still no effective drug treatment.

The Division’s anti-tuberculosis plans were part of the overall expansion of social welfare and health services in New Zealand at the time. An important plank in the Department’s war-time response was the raising of public awareness

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82 NZH, 23 November 1943.
about the disease. In particular, the increase in TB rates for all New Zealanders brought the disaster of Maori rates into full view and led to a broader determination to overcome the problem. By 1943, the campaign against tuberculosis was re-energised and intensified, although the full complexity of the task still lay ahead.
Chapter Two

‘THE WHOLE COMPLEX TASK’¹

1943-1953

The years following the establishment of the Division of Tuberculosis were marked by ever greater optimism about tuberculosis control. Politicians, the health bureaucracy and the medical profession slowly took steps toward a comprehensive system of prevention, diagnosis and treatment in the hope this would solve the problem of tuberculosis once and for all. In spite of universal acceptance of the need for action and the implementation of a range of new initiatives, there was still no effective drug cure available and the decline in the TB incidence rate was steady rather than dramatic. The factors long associated with tuberculosis, namely poverty, poor housing and living conditions, shortages of hospital accommodation and staff, occupational risk, stigma and the threat of the immigrant with TB, all featured in public debate during these years; these recurring and tangled issues provided ample evidence that overcoming tuberculosis would be a complex task.

Gathering statistics

The Division of Tuberculosis spent much of its first two years from 1943 assessing the state of the country’s anti-tuberculosis services, fostering the cooperation of the medical profession and formulating a systematic and effective plan for the future. The public profile of the dangers of TB infection and the potential for effective treatment and cure had risen considerably during the war
years, and the Division looked to introduce concrete actions that would start to reduce both TB incidence and death rates. Underpinning the Division’s plans was the new National Tuberculosis Register. Previously, the Health Department annual reports had listed New Zealand’s pulmonary tuberculosis notification and death rates and had started gathering separate Maori statistics from 1932, but rarely provided other more detailed information. The collection of a broader range of statistics in standard form now gave a more accurate picture of TB incidence across New Zealand.2

The first Annual Report of the Division of Tuberculosis to the Director-General of Health in May 1944 noted a total of 6772 cases (new and existing) registered in 1943. This gave a total incidence across the population of 11.8 times the number of registered deaths in the same year (572), a ratio that corresponded reasonably well to the incidence formula used in the United States of 10 cases for every death recorded. In its first year, the Division registered 377 new active cases for treatment and surveillance.3

The following year added to the depth of information and gave a clearer picture of TB among Maori in particular. The notified incidence rates for European New Zealanders were identical in the North and South Islands at 3.47 per 1000 of population; however, Maori rates were about seven times higher than those of Europeans at 23.24 per 1000 of population in the North Island and 25.48 per 1000 of population in the South Island. Under the American incidence formula,

1 NZH, 12 April 1949.  
3 AJHR, 1944, H.31, pp.2-5.
estimated total Maori cases were 3760. Yet, in 1944, there were just 2131 registered Maori cases, with many more clearly needing identification. The Division’s report highlighted the continuing need ‘to find all Maori patients and have them placed under adequate supervision and control’. 4

The new statistics pointed the Division towards the areas of greatest need and highlighted deficiencies in the country’s TB services. Staff investigated more cases and the total number of notifications grew, but it became apparent that the ongoing condition of a large proportion of notified cases was simply not known; at the end of 1944, the progress of 2201 of the 7731 notified cases was stated as ‘unknown’. A lack of appropriate staff and facilities was the reason given for such a substantial shortfall in patient monitoring. It was obvious that there were serious gaps around the country in the way of tuberculosis clinics, laboratories and X-ray facilities, as well as insufficient clinicians, laboratory and X-ray technicians and radiologists. 5 In spite of these shortages, the Division was increasingly confident that it now had the ability to identify specific areas of need and measure the success of its activities.

**TB accommodation**

The provision of accommodation for tuberculosis patients was a long-standing problem that the Division now addressed. Taylor’s 1944 report to the Director-General conceded that the treatment and supervision of TB patients would occur in a variety of places: sanatorium, hospital and home. Overall, the Division considered ‘a combination of hospital treatment and adequate supervision of

4 AJHR, 1945, H-31, p.16. 5 ibid, pp.15-16.
cases in the home will create the happiest solution for the patient and a minimum hazard for others’. It was generally accepted that sanatorium treatment should be reserved for a minority of TB cases, those nearing ‘the “quiescent” or “inactive” state’. Most New Zealand chest physicians already exercised care in referring only those patients close to recovery for sanatorium treatment and continued to follow this dictum. Full hospital care was thought suitable only for diagnosis, surgery and the segregation of those with advanced or chronic disease. ⁶

The provision of more TB accommodation had begun early in the war years when many hospital boards took up the offer of government funding to increase their facilities, especially for Maori TB patients; the Mangonui, Whangaroa, Bay of Islands, Kaipara, Hokianga, Tauranga and Waiapu Hospital Boards all extended existing facilities or erected new TB accommodation. The temporary TB shelters at the Auckland Infirmary (renamed Green Lane Hospital in 1942) were extended and the boards running the country’s two largest sanatoria, Cashmere and Pukeora, both planned additional buildings to cope with the anticipated influx of returning soldiers with TB. ⁷

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The Division wrestled with the challenge of establishing the optimal number of beds for TB patients. The 1928 Committee of Inquiry Report had highlighted the fact that New Zealand’s bed numbers of 17 hospital and sanatorium beds available per 10 TB deaths was better by far than the ratios in Britain, many European countries, the United States and Japan.\(^8\) These had appeared to be excellent statistics for New Zealand but, with Maori TB deaths not included in the 1928 figures, they were a quite unrealistic estimate of the true bed-to-deaths ratio. In 1944, the Department was well aware of the need to apply a greater weighting to the Maori population when calculating TB bed numbers.\(^9\)

Taylor’s first Annual Report (1944) recorded a total of 507 additional hospital or sanatorium tuberculosis beds recently provided or planned throughout the

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\(^9\) Departmental Statement submitted for Conference of Hospital Boards at Hamilton, 7 December 1944. BAAK 25/40 A49/65a, ANZA.
country. This projected 64 per cent increase over the previous number of 790 TB beds indicated the belief that institutional treatment would continue to play a significant part in the treatment of active TB patients in the foreseeable future. 10

Institutional care was important for patients at certain stages of the disease, but the majority of patients remained at home because they were not believed to be infectious or because there were insufficient beds available. As Taylor pointed out, even with the increased number of beds coming on stream, the norm for the majority of tuberculosis patients (5213 of 6772 registered cases in 1944) was to live in the community, in homes, TB hutments and boarding houses. The management of this majority group was a significant part of the Tuberculosis Division’s responsibilities. District nursing staff assessed the suitability of the home environment, provided education to protect patient and family from infection and supervised patients’ ongoing condition, treatment and behaviour. 11

This blend of highly subjective issues illustrates just how complex the treatment of TB remained in the 1940s, with effective drug treatment still just a hope and recovery dependent on a combination of how advanced the disease was and the individual’s own general health, standard of living, behaviour and luck.

The Division regarded visits by district nurses as the lynchpin of successful home treatment. These visits involved supervision of the patient and provided a vital opportunity to monitor the health and living conditions of the family as a whole. Close co-operation with medical instruction was believed to be critical to success


11 AJHR, 1938, H-31, p.26; DDT to DGH, 10 May 1944, pp.2, 7. BAAK 25/40 A49/65a, ANZA.
and a particular problem with Maori patients. It was a widely held view that
Maori ‘lifestyle’ made it difficult to adhere to strict regimes of hygienic living,
especially away from the day-to-day control of a sanatorium or hospital or the
oversight of the district nurse.12 The basis of Maori society was the wider
communal relationship between whanau (extended family), hapu (extended
whanau) and iwi (people of affiliated hapu with a common ancestor). With
shared ownership and occupation of land and dwellings, the close communal
living of Maori society was in sharp contrast to the dominant European model of
nuclear family units. Many Europeans were therefore quick to judge an
apparently social and relaxed ‘Maori lifestyle’ which was believed to work
against the assumption of personal responsibility for matters such as health. In
his 1940s booklet, Dr Rodney Francis listed the particular conditions and
practices he felt underlay high Maori TB. He also suggested that the Maori
attitude to health and day-to-day living needed to change: ‘at the back of any
faults in living is the attitude of mind and spirit which makes these faults
possible. If improvement were really [his emphasis] desired it would come, and
come quickly’.

The problem of poor housing
The number of TB patients living at home opened up the wider social issue of
poor housing conditions.14 The problem of insufficient and decayed housing
stock was widespread throughout New Zealand in the 1940s and the provision of

12 AJHR, 1945, H-31, p.17; Star, 25 September 1946; NZH, 2 November 1943; NZH, 15 July
1948.
13 R. S. R. Francis, The Control and Treatment of Tuberculosis, Pamphlet No. 6, Department of
14 NZH, 27 November 1943; Minutes of Tuberculosis Conference, 2 and 3 August 1944, pp.7-8.
BAAK 25/40 A49/65a, ANZA.
worker housing was a major plank in the first Labour Government’s programme of social development from 1935. Poor housing was one of a number of contributing social factors increasing the likelihood of disease and ill health. It was especially important with TB because inadequate housing not only indicated poverty, which encouraged initial infection and inhibited a patient’s recovery, but also overcrowding, which put everyone in the household at risk of infection. While Maori needs were greatest, the wider problem of poor housing was recognised by public health authorities and the medical profession at the time. Director of Tuberculosis Taylor clearly saw the connection between the need for good housing and a successfully recovered TB patient, Maori or European. Taylor sought priority for TB patients for state rental houses, approaching both the State Advances Corporation, responsible for the new housing schemes, and the Native Department, at that time responsible for most Maori housing. The provision of hutments and the hope that the Native Department would co-operate with a comprehensive policy of providing homes for Maori TB patients was viewed by Taylor as especially important. Health Department experience was that Maori did not like moving away from their family and had a tendency to discharge themselves from distant institutions before properly recovered. Improved housing was therefore judged ‘paramount in causing a reduction in the disease’. Taylor also reasoned that improving housing conditions ‘should be far less costly than the provision of new tuberculosis institutions’. In trying to

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convey to other government departments the true costs of treating tuberculosis, he argued for the long-term public health benefits of inter-departmental co-operation to effect prevention rather than relying on costly and uncertain cure.  

It seems the Minister of Health agreed with Taylor’s analysis. In August 1944, the Division of Tuberculosis hosted another two-day conference of tuberculosis officers, radiologists and departmental officers in Wellington, and Health Minister Arnold Nordmeyer addressed the meeting. His speech was notable for the time spent discussing the need for co-operation on tuberculosis between the various government departments, with special emphasis on housing. He outlined the difficulties the Government faced in its building programme, particularly with war-time shortages of manpower and building materials. Even at the optimistic projection of 15,000 new houses per year, he estimated it would be 10 years before the country had overcome the current shortfall. Nordmeyer had obtained an undertaking that TB cases in bad housing would receive some priority for state house rental allocation, and he also identified the special problems in the parallel case of Maori housing and the Native Department. He called into question ‘the tendency of the Native Department …to make sure the business pays’ and identified the exceedingly stringent security and interest terms that the Native Department exacted from its Maori borrowers. The Minister commented that, even if the housing money loaned by the Department was not returned, ‘in the long run it will pay us even to lose money on the proposition if we can build houses for the Maori people, and prevent that very high rate of tuberculosis among them, which reflects little credit on us as their Trustees’.

18 DDT to DGH, 10 May 1944, pp.7-8, 12. BAAK 25/40 A49/65a, ANZA.
Minister’s concept of inter-departmental co-operation in the prevention and rehabilitation of TB patients extended to the Education and Rehabilitation Departments also.¹⁹

‘At-risk’ groups

Following on from the screening of the armed services, X-ray surveys of at-risk groups were used to ascertain more definitively the extent of their risk and provide a clearer picture of which sectors of the population were in danger. It had been known for many years that young adults were at greater risk of dying of pulmonary TB than the rest of the population, and this underlay the logic behind the preventive work with children from the 1930s. High rates of tuberculosis had also been observed among Maori over many years, and Turbott’s 1935 study of East Coast Maori had better specified the degree of that risk. Contacts of tuberculosis cases were in the high-risk category, and close attention was also paid to certain occupational groups. The increased depth of the New Zealand Health Department’s statistics on TB incidence during the 1940s reflected international developments in the new medical discipline of epidemiology.

British historian Anne Hardy has identified a ‘shift in medical thinking’ about tuberculosis prevention in England and Wales during the 1940s. She reasons that the disease had been fought previously through the identification and treatment of individuals, but the growing epidemiological knowledge about TB incidence within sectors of the population, together with the new technology of mass X-ray and closer organisation of TB services, brought a greater focus on at-risk groups;
TB was coming to be seen as a problem of the population rather than of individuals.\textsuperscript{20} Hardy’s analysis can be applied to the New Zealand experience also. In the 1940s, the Division of Tuberculosis adopted an epidemiological approach to TB prevention. In part, the targeting of those most at-risk was also a way of dealing with the limitations of resources. During and for some years after the war, the Department of Health’s policies and actions were subject to nationwide shortages of manpower, materials and imported equipment, and these shortages placed a brake on the anti-tuberculosis services provided by health authorities.\textsuperscript{21} However, as Hardy has shown for England and Wales, the developing statistical picture of TB within the population and the availability of and faith in new mass X-ray technology to identify cases enabled the Division to develop a plan of reducing TB throughout the entire population by targeting at-risk groups.\textsuperscript{22} The developing epidemiological perspective was best illustrated by the adoption of mass X-ray technology to target Maori, the group most at-risk, but with downstream benefits for the entire population.

\textbf{The campaign takes further shape}

In spite of growing optimism about the efforts of the Division of Tuberculosis, the Annual Report to December 1946 revealed a further rise in raw TB morbidity figures from 9077 to 9617. The report attributed the disappointing figures to an increase in notifications rather than prevalence; however, this reasoning did not impress the \textit{New Zealand Herald}, which expressed distress at the new figures and

\textsuperscript{19} Minutes of Tuberculosis Conference in Wellington, 2 and 3 August 1944, pp.7-8. BAAK 25/40 A49/65a, ANZA.
\textsuperscript{21} DDT to DGH, 10 May 1944, p.9. BAAK 25/40 A65/49a, ANZA; AJHR, 1945, H-31, pp. 15-18.
bewilderment that, for all the Division’s talk of counter-measures to tuberculosis, there had been so little success.\textsuperscript{23} Nevertheless, the Division continued to work slowly towards its TB goals. In November 1947, a long-planned pamphlet on TB was finally circulated to all tuberculosis officers; because of the shortage of paper, it had taken two years to print.\textsuperscript{24} The identified at-risk groups to be surveyed with tuberculin tests and X-ray were slowly tackled.

In Auckland, the local hospital X-ray department refused to undertake this work because of its own lack of resources and existing work-load. This decision created difficulties for local health officials. In March 1948, Dr Herbert King, the Department’s Auckland Tuberculosis Liaison Officer, wrote to Auckland University Council postponing the proposed tuberculin-testing of university students. He explained that it would not be right for the Division to carry out a tuberculin survey since the Auckland Hospital Board would not perform follow-up X-ray work.\textsuperscript{25} King had been assiduous in gaining the co-operation of the necessary organisations for the survey programme, tentatively arranging to tuberculin-test 2800 university students, 600 training college students, up to 400 Air Force staff and 90 staff at John Burns Ltd. Reluctant to abandon this preparatory work, King presented Taylor with a possible solution later in the month. Reiterating that it was unfair to tuberculin-test people if positive reactors could not have a follow-up X-ray, King advised that the Army’s miniature X-ray was available for use but lacked the staff to operate it. He suggested the Health

\textsuperscript{22} DDT to DGH, 10 May 1944, p.7, & Minutes of Tuberculosis Conference in Wellington, 2 and 3 August 1944, pp.7-8, 24-7. BAAK 25/40 A49/65a, ANZA.
\textsuperscript{23} AJHR, 1947, II-31, p.40; NZH, 13 September 1947. BAAK 25/40(5) A358/138a, ANZA.
\textsuperscript{24} File Note, 25 November 1947. BAAK 25/40(5) A358/138a, ANZA.
\textsuperscript{25} C. H. King, Auckland TB Officer, to President, Auckland University Council, 12 March 1948. BAAK 25/40(5) A358/138a, ANZA.
Department take over the machine and employ ex-servicemen as technicians, although it is unclear if this eventuated.\(^{26}\)

Individual cases of TB were occasionally reported in the newspapers, contributing to growing public awareness of occupational and other risks. The case of Joseph Lowe of Kaitaia was reported in the *Auckland Star* on 9 August 1945 following debate in Parliament. Lowe was a teacher at a Native (Maori) school who had contracted tuberculosis and was claiming compensation. In response to the possibility of further claims, Parliament’s Education Committee recommended close health-monitoring of all teachers, nurses and dental nurses in Native schools.\(^{27}\) The recommendation of compensation received support from members on both sides of the House, but the debate also showed some recognition of the depth of Maori tuberculosis risk. The Chairman of the Education Committee and Labour MP for Timaru, Reverend Clyde Carr, supported Lowe’s case because his TB was almost certainly contracted through his close contact with his Maori pupils and their parents. But Carr’s interpretation of a broader responsibility beyond that of the individual teacher reflected the growing epidemiological perspective on TB. He stated ‘it is most important that teachers and nurses should be protected from infection from Maori pupils, but it is far more important that the Maori pupils should be saved from the disease, so that the teachers and nurses will themselves be in no danger’.\(^{28}\) The *Star* ran the ‘tragedy’ of Maori tuberculosis as the headline in the Lowe story, although the *Herald*’s article focused much more on the safeguarding of native school staff.\(^{29}\)

\(^{26}\) C. H. King to DDT, 25 March 1948. BAAK 25/40(5) A358/138a, ANZA.
\(^{27}\) Star, 9 August 1945; NZH, 9 August 1945.
\(^{28}\) NZPD, 8 August 1945, pp.43-48.
\(^{29}\) Star, 9 August 1945; NZH, 9 August 1945.
This press coverage highlighted the risk to a small group of occupations and their intrinsic links to Maori, the group at greatest risk of all. Teachers themselves showed an awareness of the dangers. In March 1950 the Secretary of the Education Board advised that the teachers of the Hokianga had resolved all teachers should be regularly examined for TB, especially in areas where incidence was high.\footnote{Secretary, Education Board, to Department of Health, 23 March 1950. BAAK 25/40(6) A358/138b, ANZA.} The increasing profile of the disease and the action being taken against it encouraged other occupational groups to embrace regular checks and X-rays as part of their occupational health and working conditions. In July 1949 the \textit{Auckland Star} reported that the New Zealand Dairy Employees’ Union would seek a yearly medical and X-rays from their employers.\footnote{Cutting, Star, 18 July 1949. BAAK 25/40(6) A358/138b, ANZA.} In April 1950 the Auckland Waterfront Organisation announced its support for regular X-rays of its members; its president was pictured being X-rayed in the \textit{Star} in early 1953.\footnote{File Note, April 1950. BAAK 25/40(6) A358/138b, ANZA; Star, 27 January 1953.}
The risk to nurses and doctors, especially in training, had been a concern internationally since the 1930s. The Health Department recognised the problem and, in respect of nurses, recommended that hospital boards improve and standardise nursing technique, upgrade working and living conditions and intensify the system of medical examination and supervision during training. However, it took some time for the various hospital boards to respond to these recommendations. In 1940, all 29 general nurse training schools carried out an

34 M. H. Watt to T. W. J. Johnson, 8 June 1938. H 1 21/40/1 22928, ANZW.
initial physical examination of student nurses but only 15 repeated the X-ray examination annually and only 13 performed Mantoux tests. In February 1941 a *New Zealand Nursing Journal* article by Otaki Sanatorium Medical Superintendent Dr Rodney Francis discussed the problem of tuberculosis among nurses, identifying the dangerous role of unknown active cases, especially in general hospital wards.

The Division of Tuberculosis recognised the health of nurses, medical students and other health workers as a high priority from its inception. Variations in practices in hospitals and sanatoria led to the documentation of a standard nursing technique for tuberculosis and other infectious diseases by a special committee of tuberculosis officers and officers of the Health Department’s Nursing Division by 1944. Its major requirements were the wearing by nurses of protective gowns, gloves and masks when dealing with the disposal of any sputum or when handling patient bed linen or giving personal attention to a suspected or known infectious patient. Hospital board medical staff also regarded the nationwide shortage of nurses as a major obstacle to ideal practice. A number of tuberculosis officers at the 1944 conference testified to the difficulty of getting nursing staff. Some blamed the Nursing Division’s training programme for developing a fear of tuberculosis among nurses, and a motion was

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36 DGH to all hospital boards, 16 December 1940. H 1 130/6 16116, ANZW.
38 AJHR, 1944, H-31, p.5.
The number of nurses notified with tuberculosis rose by 58 per cent between March 1942 and March 1946. In the 1945/46 year, out of a total of 4535 nurses (3214 student nurses and 1321 Registered Nurses), seventy-seven took sick leave for TB and three died of the disease.

The supervision of the health of hospital nurses continued to vary, and it sometimes took a serious outbreak of TB for individual hospital boards to introduce more stringent measures. In 1944, 18 nurses contracted TB at Palmerston North Hospital, resulting in an official visit by Director of Tuberculosis Dr Claude Taylor and Director of Nursing Mary Lambie. They found the high incidence was a result of two undiagnosed cases of active TB among the nurses and a ‘far from ideal’ TB nursing technique on the wards. Their report also recommended more vigilance in the initial assessment of nurses’ health and a daily sick parade for nurses. This occurrence may well have stung the Palmerston North Hospital Board into a greater sense of responsibility toward its nurses; theirs was the first hospital to begin X-raying all patients on admission in 1946 and they eagerly offered themselves for a pilot scheme for the introduction of BCG vaccination for nurses in 1948.

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40 Minutes of Conference of Tuberculosis Officers in Wellington, 2 and 3 August 1944, pp.35-36. BAAK 25/40 A49/65a, ANZA.
41 Annual Report of the Division of Tuberculosis, 1945-1946, Appendix 7. BAAK 25/40 A49/65a, ANZA.
42 DDT to DGH, 25 January 1945. H 1 130/6 16116, ANZW.
43 Minutes of Tuberculosis Officers’ Conference, 10 and 11 February 1948, p.2. H 1 130/2 22456, ANZW; Minutes of meeting of Tuberculosis Officers and other Practitioners to consider BCG Vaccination, Mass Radiography and Tuberculin Testing in New Zealand, 1 and 2 September 1948, p.8. H 1 130/2 20270, ANZW.
After thirty Auckland Hospital Board nurses were reported on leave with pulmonary tuberculosis in the six months from 1 October 1948 to 31 March 1949, the Auckland Hospital Board began to X-ray all patients on admission to hospital to identify unknown cases and protect staff. At least eight cases of pulmonary tuberculosis in patients were found in three months as a result of this procedure. The number of nurses on sick leave with TB at Auckland Hospital Board peaked in 1948, with new cases also declining from that year.\textsuperscript{44} The Division of Tuberculosis’s report for 1949 noted ‘an appreciable decrease’ from 112 to 83 nurse cases of tuberculosis. The Division attributed this to more intensive supervision on the part of individual hospital boards rather than the recently introduced BCG vaccination.\textsuperscript{45}

**A string of tuberculosis associations**

Organised public support for the fight against TB was a feature of the Division of Tuberculosis’s plans and included the encouragement of lay ‘TB associations’ up and down the country. The widespread publicity given to high tuberculosis rates during the war years heightened public sentiment, and there was increasing support for private action to supplement or speed up official programmes. The Taranaki region had led the way with the formation of the Taranaki Tuberculosis Association in 1939. The New Plymouth Rotary Club was involved in this initiative, no doubt through the encouragement of one of its members, Dr Claude Taylor, Medical Superintendent of New Plymouth Hospital and later Director of the Division of Tuberculosis.\textsuperscript{46} The Taranaki Association’s initial work

\textsuperscript{44} NZH, 14 June 1949; Dunsford, 1995, p.292. See also Colleen Williams, Susan Hawkswood, Annette Bierre, Interview with D. Dunsford, 4 September 2006.
\textsuperscript{45} AJHR, 1950, H-31, pp.50, 72.
\textsuperscript{46} DDT to B. D. Kayll, 8 February 1942. BAAK 25/40 A49/65a, ANZA.
concentrated on helping individual patients as they received treatment. One form of assistance was to purchase portable huts at £75 each to augment the Department’s hutment scheme. This was intended to allow Maori patients to be ‘happy and settled’ and ‘close to home’ but was also restricted to those who proved their responsibility and were ‘capable of setting an example by carrying out rigidly their treatment’.47

The formation of lay associations was encouraged as Division of Tuberculosis policy from 1943.48 Early in 1944, Miss B. D. Kayll, previously a TB patient at Auckland Hospital and secretary of the Auckland Patients’ Club which provided support, activities and comforts for Auckland TB patients, wrote to Taylor about the possibility of an association in Auckland. Taylor replied enthusiastically, suggesting Kayll follow the Taranaki Association’s lead and approach the Auckland Rotary Club for sponsorship.49 The Auckland Tuberculosis and Chest Association was formed on 7 May 1944 with the support of the Auckland Rotary Club, the medical fraternity and Auckland society generally. As with the Taranaki Association, the Auckland Association offered a mixture of practical, financial and emotional help and education to patients. The social causes of the disease had never been more widely acknowledged, but individual weakness of character was still viewed as a contributing factor, especially seen in a patient’s ability to conform to the discipline of treatment. Dr Chisholm McDowell also hoped that the Auckland Association would be a fearless advocate for TB patients and the services they required:

47 *Taranaki Herald*, 14 August 1942.
48 ‘Statement prepared by Department of Health for the Tuberculosis Conference at Palmerston North on 7 and 8 September 1943’. H 1 130 16350, ANZW.
49 DDT to B. D. Kayll, 8 February 1942. BAAK 25/40 A49/65a, ANZA.
The need is for an association of willing laymen, uninfluenced by the financial capabilities of the ratepayers and taxpayers, uninfluenced by the electors and beyond the restraining influence of Government. There should be an association compelling, insisting, demanding and seeing that the work is done by those whose job it is.\(^{50}\)

Associations were formed throughout the country and, by 1955, there were twelve in operation covering Auckland, Otago, South Canterbury, South Island (Northern Group), Taranaki, Wairoa, Wanganui, Wellington, Northland, Southland, Hutt Valley and Bays.\(^{51}\)

**The Tuberculosis Act 1948**

In July 1948 the Tuberculosis Bill was debated in Parliament and placed tuberculosis firmly before the public. There was widespread support in principle for the passing of the Act, from both major political parties and the press, with the major objection being that ‘it does not go nearly far enough’.\(^{52}\) On 20 July 1948 Health Minister Mabel Howard explained the Bill’s purpose was to consolidate the various Acts and regulations as well as provide uniform standards of TB control throughout the country. The Health Department would have power of compulsion over unco-operative patients and contacts and the authority to compel hospital boards to provide all aspects of diagnosis, care and rehabilitation of tuberculosis patients.\(^{53}\)

\(^{50}\) Cutting, NZH, 8 May 1944. BAAK A49/65a 25140, ANZA; *Taranaki Herald*, 14 August 1942.


The debates on the Bill reflected both a general acceptance of the need to combat the disease comprehensively and the Opposition’s mounting challenges to a Labour Government that had been in power for thirteen years and was nearing the end of its political life. The Opposition’s general claim was that the Bill was inadequate and would be ineffective in practice. The enhanced powers of the Health Department spurred antagonism from a conservative National Party whose political philosophies were based on the principle of free enterprise, and in a pre-election year its supporters took the opportunity to argue against increased state control. Jack Marshall Opposition MP for Mount Victoria claimed the primacy of the doctor-patient relationship would be devalued by greater Health Department powers over TB.54 The Opposition and the press claimed most hospital boards already provided care for TB patients and that compulsion would be useless in the face of the lack of buildings and materials, shortage of nursing staff, and the poor state of housing to which many patients returned.55

The first Labour Government had been in power since 1935 and had introduced radical social legislation to New Zealand, as well as presiding over the economic and consumer restrictions of the war. Opposition Leader Sidney Holland used the Bill to appeal to the conservative electorate on 20 July 1948 when he drew attention to the inconsistency between the position of Maori as ‘the greatest sufferers [of tuberculosis] in the country’ and the blocking of a proposed sanatorium in Levin because the land was in Maori ownership.56 When Prime Minister Fraser remonstrated, Holland responded that ‘it was impossible to refer

54 NZH, 24 July 1948.
in the House to the Maori people without the Prime Minister going up in arms and declaring the Maoris were being unfairly attacked’. In reality, this argument had little to do with tuberculosis but was an attempt to undermine the Government’s credibility by implying Labour’s political alliance with Ratana brought Maori not only favourable treatment but also freedom from criticism.

Analyses of the Bill’s alleged failings highlighted the very complexity of the tuberculosis problem. The long-standing impact of poverty and poor, overcrowded housing on TB rates was again acknowledged, especially for Maori. The New Zealand Herald stated that it would take the ‘complete re-housing of the [Maori] race and years of health education’ to solve the TB problem and the Government could not ‘discharge its responsibility to the Maoris in this matter simply by passing legislation or demanding more of the Hospital Boards’. The shift towards an epidemiological view of tackling TB was seen in the recurring theme of potential eradication, in spite of the fact that the Bill offered largely preventive and administrative measures. The optimism around eradication was based on the expectation that the pool of tuberculosis infection would gradually dwindle to nothing, although the development of streptomycin was also encouraging the feeling that a drug cure was not too far away. In this changing political and social climate, the Tuberculosis Act came into force on 1 April 1949.

57 Ibid., p.760.
58 Ibid., pp.758, 807-8, 810, 821, 852, 855, 858.
59 NZH, 15 July 1948.
Milk pasteurisation

The danger of bovine tuberculosis from infected cow’s milk was only slowly addressed in the 1940s. Pasteurisation of milk had been introduced alongside the Free Milk in Schools scheme from 1937; however, dairy operations varied greatly both in scale and in the use for which the milk was intended and, still being voluntary, pasteurisation was taken up only slowly.\textsuperscript{61} Tuberculin-testing of dairy herds for TB also occurred haphazardly and on a voluntary basis.\textsuperscript{62} The 1944 southern North Island conference of tuberculosis officers recognised the problem and recommended the use of pasteurised milk and tuberculin-testing of cows.\textsuperscript{63} The prime concern of the 1944 Milk Act was the regulation of milk distribution, although it did introduce rules on pasteurisation, TB testing of dairy herds and, significantly, some compensation for infected animals from 1 May 1946.\textsuperscript{64}

The Health Department was intrinsically involved in efforts to introduce both pasteurisation of milk and tuberculin-testing for all herds. The Minister of Health chaired the Central Milk Council, although the dominant player in the milk industry in the 1940s was the Milk Marketing Division, which had commercial rather than health priorities.\textsuperscript{65} Dr Claude Taylor’s 1944 report on tuberculosis

\textsuperscript{60}NZPD, Vol. 280, 1948, pp.745, 765, 769, 824, 827, 865-7.
\textsuperscript{63}Minutes of Conference held at Palmerston North on 8 September 1943, p.1. H 1 130/16/6 24379, ANZW.
\textsuperscript{64}New Zealand Statutes, 1944, Vol. 30, 9 Geo. VI, pp.316-74.
\textsuperscript{65}Soraiya Gilmour, \textit{History of the New Zealand Milk Board, A Study of the Corporatist Alliance between the State and the Domestic Milk Sector, Research Report No. 216, Agribusiness \& Economics Research Unit}, Lincoln University, August 1992, p.31; for an example of the Department of Health’s advertising in support of pasteurised milk, see Department of Health poster 21C, ‘Tuberculous Milk is a Cause of Disease’. H 1 246/63/1 24645, ANZW.
also conveyed an official view that bovine TB ‘does not affect humans to any appreciable extent in this country and the preliminary impression is that it is far less than some quarters would like to think’. The Division of Tuberculosis certainly supported pasteurisation of milk but seems to have been realistic about the slow progress towards its uniform introduction. Dr Muriel Bell, who was on the Central Milk Council as a Department of Welfare representative on behalf of women and children, described the Health Department’s inability to promote pasteurised milk aggressively during the 1940s. With machinery difficult to get and a stainless steel shortage, milk treatment plants could not be upgraded to cope with an increased demand for the pasteurised product. In addition, the Department faced opposition from producers on the basis of inadequate compensation and from some consumers on the basis of taste.

Progressive rationalisation of the milk industry under local milk authorities saw the slow demise of producer-vendors, and pasteurised milk became the norm in most towns and cities; however, in 1954, Muriel Bell estimated that the 38 per cent of the New Zealand population in rural areas would need to home-pasteurise their milk to avoid danger. The 1954 Milk Commission Report recommended compulsory and more regular TB-testing and in 1957 the Government raised compensation for TB-infected herds to a more acceptable level. As late as 1962, however, there were still holes in the TB-testing programme.

66 DDT to DGH, 10 May 1944, p.9. BAAK 25/40 A49/65a, ANZA.
68 J. K. Basham to Department of Health, 27 November 1944. H 1 34/2/4 15381, ANZW.
70 Brown, 1992, p.165.
BCG vaccination

As part of her presentation of the Tuberculosis Bill in July 1948 Health Minister Mabel Howard announced her Government’s intention to offer BCG vaccination to New Zealanders. The Bacillus Calmette-Guérin (BCG) was developed in France between 1908 and 1921 by Leon Calmette and Camille Guérin and was quickly taken up by France and the Scandinavian countries. In contrast, researchers in both the United Kingdom and the United States challenged the safety and effectiveness of BCG. In both countries, there was a strong professional commitment to the institutional treatment of tuberculosis, and this was combined with reservations about the quality of the French pair’s research and the absence of controlled trials. In the United States, there was also widespread concern that BCG vaccination would render tuberculin ineffective as a diagnostic tool. These rejections of BCG were made on scientific grounds, but Bryder has shown that prevalent political ideologies were an important influence on whether a particular country adopted BCG. In the United States, the prevailing ideology of self-help and individual rather than societal responsibility meant that public health programmes such as vaccination with BCG were introduced with difficulty. There was a similar situation in Britain until after World War Two when the Labour Government gained widespread public support for the National Health Service and a fairer provision of health and other social services to the entire population. Twenty years of British opposition to BCG ended in the late 1940s, with vaccination offered first to nursing staff and then the rest of the population.

In one way, New Zealand’s response to BCG followed the political ideology model, with BCG being introduced as part of the Labour Government’s post-war expansion of public health services. However, Australian historian, F. B. Smith has shown how New Zealand and Australian delegates to the 1923 Imperial Tuberculosis Conference in London expressed interest in the new vaccine and took the opportunity to suggest a trial to the British Ministry of Health. Their suggestions were swiftly rebuffed by the fiercely nationalistic British, and the New Zealanders and Australians seem to have simply submitted to the imperial authority. At this time, the medical professions of both countries were still greatly influenced by their British counterparts, and this early BCG experience illustrated the extent of this deference. It took the intensity of the 1940s anti-tuberculosis campaign for New Zealand health authorities to adopt BCG. It is possible that the single-mindedness of the Division of Tuberculosis meant that New Zealand made an independent policy decision on BCG, although it seems more likely that it simply joined the post-war tide of acceptance spearheaded by the World Health Organization.

The Scandinavian countries had provided points of reference and comparison for New Zealand in the past. More specifically, they had been early adopters of BCG and the Danish Red Cross had championed mass BCG vaccination in post-

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72 Linda Bryder, “‘We shall not find salvation in inoculation”: BCG vaccination in Scandinavia, Britain and the USA, 1921-1960’, Social Science and Medicine, 49, 1999, pp.1157-67.
75 Press, 31 August 1949, & Minutes of Tuberculosis Officers’ Conference, 10 and 11 February 1948. H 1 130/2 22456, ANZW. See also Dow, 1995, p.133.
war Europe.\textsuperscript{76} The Scandinavian experience provided practical examples of BCG use and reinforced the New Zealand decision. In 1946, after using the vaccine since 1939, Norway planned to extend its use to all school children in the last year of primary school, all conscripted and other youth, and all groups exposed to TB infection. The New Zealand Health Department was aware of the Norwegian Commission’s Report on the effectiveness of BCG which found the vaccine offered good protective power, was safe to use with no adverse reaction, and was easily administered. The Norwegian Commission predicted that, if the whole population was systematically vaccinated, together with other efforts against the disease, TB would cease to be common.\textsuperscript{77}

In September 1948 the Division of Tuberculosis called a special conference of tuberculosis officers and other practitioners to consider the practicalities of setting up BCG vaccination, tuberculin-testing and mass radiography schemes. There was agreement by all that the vaccine should be introduced and used among at-risk groups. The view was that civilians should be offered vaccination on a voluntary basis but that all nurse trainees be immunised before commencing training. Palmerston North Hospital was ‘anxious’ that the vaccine be introduced and offered to run a pilot BCG programme for its nurses. The committee made the point that BCG should ‘be regarded as an addition to existing control and not in substitution for it’.\textsuperscript{78} Director of Tuberculosis Claude Taylor also delivered a paper to a Conference of Paediatricians and Postgraduates in 1948 which

\textsuperscript{76} Linda Bryder, “”We shall not find salvation in inoculation”: BCG vaccination in Scandinavia, Britain and the USA, 1921-1960”, 1999, p.1158-9.

\textsuperscript{77} Department of Internal Affairs, Precis of Commission Report on BCG use in Norway. BAAK 25/40(5) A358/138a, ANZA.

\textsuperscript{78} Minutes of Conference of Tuberculosis Officers, 1 and 2 September 1948. BAAK 25/40(5) A358/138a, ANZA.
concluded with an extensive discussion of whether immunisation by BCG vaccine should be adopted in New Zealand. Referring to ‘20 years of well tried experience’ with the vaccine, Taylor cited the snowballing trend to its adoption. He confirmed that initially immunisation would be offered only to specific high-risk groups and reiterated the principle that BCG should be regarded as just part of the whole package of tuberculosis prevention.79

The Department’s new policies on BCG were reported in the press, which picked up on the tide of universal acceptance of the vaccination. The Auckland Star reported that all Commonwealth countries including Britain had now agreed on the value of the vaccine and that Australia had approved its use and would manufacture supplies for the South Pacific at the Commonwealth Serum Laboratory in Melbourne. Further confirmation of its widespread acceptance was the World Health Organization’s plan to vaccinate 15 million children and adolescents throughout Europe.80 In July 1949, Health Minister Mabel Howard made the final confirmation that BCG vaccination would be introduced to New Zealand.81 The mass secondary schools BCG campaign began in 1952 and is discussed in Chapter Four.

**Magic bullets**

The perception of technological and medical advances was the driving force behind the intense efforts against tuberculosis in the 1940s. The war-time realisation that mass X-ray could identify such significant numbers of

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79 Paper presented by C. A. Taylor to a Conference of Paediatricians and Postgraduates, Cornwall Hospital, Auckland, 1 October 1948, pp.8-10. H 1 240/3/5 23268, ANZW.

undiagnosed cases stimulated the Government into a comprehensive anti-
tuberculosis plan, while confidence in the potential for drug treatment was also
increasing after a number of discoveries in the previous 50 years had enabled
effective treatment of what had been devastating infectious diseases. Brandt and
Gardner have used the term the ‘golden age of medicine’ to describe the impact
of the medical advances from the end of the nineteenth century. These included
Paul Ehrlich’s finding of Salvarsan’s efficacy against syphilis in 1909 and the
realisation of penicillin’s effectiveness against infection in the 1940s.82

The sense of optimism from these important advances gave impetus to further
research into possible cures for specific bacteria. Health officials and the public
were aware of these successes and news of possible new compounds and drugs
were reported in the press. In June 1944 the Auckland Star reported that
Australian medical authorities were interested in a new drug, ‘diasone’, which
had achieved improvement in 75 of 100 TB patients tested.83 Later that year, the
New Zealand Herald reported the discovery in New York of a green mould from
the penicillin family that inhibited the growth of tuberculosis germs. The article’s
heading asked the critical question ‘Is it a T.B. cure?’84 The Tuberculosis
Division’s Annual Report to the end of March 1944 expressed the hopes of
public health professionals that overseas research workers would be successful

81 NZH, 25 July 1949.
82 Allan M. Brandt and Martha Gardner, ‘The Golden Age of Medicine?’, in Companion to
Medicine in the Twentieth Century, Roger Cooter and John Pickstone (eds), London, 2003, pp.21-
37.
83 Star, 27 June 1944.
84 Cutting, NZH, 11 December 1944. BAAK 25/40 A49/65a, ANZA.
‘in their hunt for a substance that will kill the invading tubercle bacillus without
harming the human organism’.  

In 1943 United States soil biologist Selman Waksman accidentally discovered
streptomycin, a micro-organism effective against tuberculosis, and experiments
on animals quickly followed. Initial reports were enthusiastic, although
problems quickly became evident also. The drug underwent trials in the United
States and was subject to the first ever double-blind clinical trials, conducted in
Britain by the Medical Research Council in 1947.

Both the public and New Zealand’s health authorities were aware of the
possibilities of streptomycin. In the middle of 1946, the Health Department
tried to arrange a small supply of the new drug from the manufacturers in the
United States so Dr Horace Smirk, Professor of Medicine at Otago Medical
School, could conduct a local trial. The Department’s Dr Harold Turbott
happened to be visiting the United States at the time and the Director-General
telegraphed quick approval for him to purchase £100 worth of the drug while he
was there, suggesting Turbott also visit Waksman personally. The Department
was quick off the mark in trying to obtain streptomycin, but early supplies of the
drug were as limited as the demands were great. The United States authorities set
up a strict system of allocating supplies for foreign countries as manufacturing

85 Taylor to DGH, 10 May 1944, p. 12. BAAK 25/40 A49/65a, ANZA.
87 Cutting, Star, 12 January 1948. BAAK 25/40(5) A358/138a, ANZA. See also Linda Bryder,
Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century Britain,
88 Cutting, NZH, 11 December 1944. BAAK 25/40 A49/65a, ANZA; cuttings, Star, 13 January
1947, 12 January 1948. BAAK 25/40(5) A358/138a, ANZA.
89 DGH to Commissioner of Supply, 10 July 1946, & DGH to Turbott, 10 July 1946, & DGH to
MH, 10 July 1946. H 1 240/3/7 20338, ANZW.
volumes were being established. Turbott was unable to purchase supplies on the
spot, and New Zealand’s initial allocation was 50 grams each for October and
November 1946, with the possibility of a 50 per cent increase in December.\textsuperscript{90}

Smirk’s report was released in June 1947 and covered the use of streptomycin for
urinary tract and other infections. These illnesses all involved treatment for up to
twenty-one days. His comments on the special difficulties for its use with
tuberculosis reflected the need for a much more extensive period of treatment.
Smirk discussed the painful nature of streptomycin injections, the variety of
negative reactions to the drug and especially the dangerous likelihood of
incomplete treatments unless it was administered with careful control, preferably
within a hospital or sanatorium.\textsuperscript{91} An editorial in the \textit{New Zealand Medical
Journal} in June 1947 was cautious in its assessment of streptomycin as an agent
against tuberculosis and acknowledged its limitations.\textsuperscript{92}

The Department issued a Circular Letter in 1947 advising that limited stocks of
streptomycin would be distributed to the four main centres for use with certain
types of tuberculosis; hospitals started to use the drug for suitable cases and
reported their results to the Department.\textsuperscript{93} In January 1948 the \textit{Auckland Star}
reported that streptomycin manufacture was due to begin in Britain, and the

\textsuperscript{90} NZ Supply Mission to United States Department of Industries & Commerce, 9 October 1946.
H 1 240/3/7 20338, ANZW.
\textsuperscript{91} Circular Letter No. 46/1947, 16 December 1947; University of Otago Report on Streptomycin,
20 June 1947. H 1 240/3/7 20338, ANZW.
\textsuperscript{92} Editorial, NZMJ, XLVI, 253, pp.167-8.
\textsuperscript{93} Duncan Cook, Acting DGH, to Hospital Boards, 7 May 1947, & Circular Letters, DGH to
Secretaries of all Hospital Boards, 22 Hosp. 22/1947, 21 July 1947, & 46 Hosp. 46/1947, 16
December 1947. H 1 240/3/7 20338, ANZW.
paper expressed cautious optimism that, while it was too soon to say the drug might be a cure, it seemed to offer ‘some dramatic relief’.\textsuperscript{94}

However, as the \textit{New Zealand Medical Journal}’s editorial had intimated, problems with streptomycin were quickly apparent. Severe side effects commonly experienced included permanent hearing loss, irreversible dizziness and skin reactions as well as the problem of rapidly developing resistance to the drug by the tubercle bacillus. As early as November 1947, Dr Taylor returned from an overseas fact-finding tour of England and Scandinavia and told the \textit{New Zealand Herald} that ‘experts are “knocking at the door” in their search for an effective substance to control T.B’ and they hoped to find an advance on streptomycin.\textsuperscript{95} In November 1949 the \textit{New Zealand Herald} reported a call by 25,000 British doctors to end the use of streptomycin because of the associated dangers.\textsuperscript{96} The report on further tests in the United States of 541 patients in September 1951 confirmed the limitations of the drug’s effectiveness; streptomycin was not a cure for tuberculosis, although it did have some effect and delayed patient death.\textsuperscript{97}

The search for effective anti-tuberculosis drugs continued. With nearly one thousand antibiotics and chemicals tested during the second quarter of the twentieth century, a number were now studied with close interest. Streptomycin by itself may not have been the hoped-for ‘magic bullet’ but complementary drugs were revealed that, combined with streptomycin, had a dramatic effect.

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\textsuperscript{94} Cutting, Star, 12 January 1948. BAAK 25/4(5) A358/138a, ANZA.  
\textsuperscript{95} Cutting, NZH, 17 November 1947. YCAS 95/1/133(1) A740/345b, ANZA.  
\textsuperscript{96} Cutting, NZH, 14 November 1949. BAAK 25/40(6) A358/138b, ANZA.  
\textsuperscript{97} Cutting, Star, 8 September 1951. BAAK 25/40(7) A358/138c, ANZA.
The September 1949 *Annals of Western Medicine and Surgery* included an editorial comment on the use of para-amino-salicylic acid (PAS) which complemented streptomycin, especially as a delaying agent in the development of resistance.98 Manufacture of the new drugs was taken up quickly. In December 1948 the Division even received an unsolicited offer for the supply of PAS from a holidaying Australian on behalf of his employer, The Colonial Sugar Refining Company Ltd. This company was actively diversifying its activities during the late 1940s and manufactured PAS for a short time.99

Perhaps the magic bullet in the TB story was isoniazid. This was the closing link in the drug chain that finally set patients free of disease. In June 1952 the *Auckland Star* reported a prediction by the Auckland Hospital Board Superintendent-in-Chief’s that fewer beds would be required for TB within five years. He put this down to mass radiography, BCG vaccination and the use of new drugs, especially iso-nicotinic acid (isoniazid), which was already being tested in some New Zealand hospitals and sanatoria.100 The stirring story of the effectiveness of iso-nicotinic acid was featured in the *Auckland Star*’s ‘The Newest in Science’ column in July that year. It related how the efficacy of the drug became public knowledge in the United States when patients treated with it made such rapid progress that they were returned home with the disease arrested, to the amazement of themselves and their families. As news of the drug’s effectiveness spread, hospitals across the United States quickly used iso-nicotinic

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100 Cuttings, Star, 3 June 1952, 24 June 1952. BAAK 25/40(7) A358/138c, ANZA.
acid in tests with their patients. Other marked benefits were the slower rate at which resistance to the drug was built and the absence of the major side effects of streptomycin.\textsuperscript{101}

The new combination of drugs rendered a high proportion of patients quickly non-infectious, enabling them to undergo a brief stay in hospital and to continue drug treatment at home. This development had major consequences for patients. They could now return quickly to their homes, confident they were neither infectious nor a danger to their families and no longer burdened with the ‘life sentence…of a lengthy stay in hospital’.\textsuperscript{102} The extended period of home drug treatment was not without its hurdles, but triple-drug therapy brought about a revolution in both the method and location of tuberculosis treatment.

\textbf{Medical research in New Zealand}

Although the small New Zealand medical community did not play a part in the search for effective TB drug treatments, research interests reflected the extensive profile of the disease in the 1940s. Tuberculosis was the subject of editorials, major articles and individual case studies in the \textit{New Zealand Medical Journal} throughout the decade.\textsuperscript{103} In April 1944, Health Department paediatrician Dr Marie Buchler published the results of her radiological investigation among office and factory workers and secondary school children in Wellington.\textsuperscript{104} The next year Dr Bernard Dawson, Professor of Obstetrics and Gynaecology at the

\textsuperscript{101} Cutting, Star, 29 July 1952. BAAK 25/40(7) A358/138c, ANZA.
\textsuperscript{102} Physician in Charge of Physical Medicine, Auckland Hospital, to Auckland Hospital Board, 26 November 1953. YCAS 95/3/6 A740/384a, ANZA.
\textsuperscript{103} NZMJ, Vol. XL, June 1941 to Vol. XLIX, October 1949.
Otago Medical School, published the results of a radiological study of patients attending a Dunedin antenatal clinic over three years, and another report assessed the risk of the disease to medical students. The Health Department used the *New Zealand Medical Journal* as a vehicle for disseminating the tuberculosis control work of the Division of Tuberculosis as well as the results of research work by its employees.

Tuberculosis was a recurring topic of choice for University of Otago medical students’ fifth-year Preventive Medicine dissertations into the 1950s. These reflected both the sense of relevance and progress at the time, as well as the complex web of social influences on the disease. A six-year study was commenced in 1945, and medical students conducted successive surveys of entrant nurses to Dunedin Hospital, reflecting contemporary concerns about the threat of TB to nurses’ health and the shortage of hospital nursing staff. A final study by Richard Aldridge and Oliver Bond in 1952 incorporated the previous results into one report. This identified a decrease in nurses with a positive reaction to tuberculin between 1945 and 1952 from 45 to 38 per cent. All negative reactors had been offered BCG from 1950. The writers predicted that, if

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every Mantoux-negative nurse accepted BCG, both sanatorium bed space and nursing manpower would be saved.\textsuperscript{107}

In 1948, three medical students presented dissertations that explored the TB problem among Maori. Dudley Sinclair examined East Cape and Otago Maori communities, Peter Nicholson looked at the Waikato district and Jack Boston’s case study of Bridge Pah, Hawke’s Bay, also discussed the available medical services and Maori psychology relative to tuberculosis and treatment.\textsuperscript{108} Student and supervisor interest in tuberculosis continued between 1950 and 1955 with six regional surveys of tuberculosis, four of which included or were focused on Maori communities.\textsuperscript{109}

\textbf{Conclusion}

The decade from 1943 until 1953 was one of intense activity and excitement about tackling tuberculosis. Paradoxically, at a time of so much endeavour and optimism, there was still no effective cure, and the period therefore serves to

illuminate ‘the whole complex task of [tuberculosis] diagnosis, treatment and control’ in the pre-drug era.\textsuperscript{110}

For the first time, as a result of conscientious recordkeeping, the newly formed Division of Tuberculosis gained an accurate picture of TB incidence throughout the population. In terms of treatment, there was an increase of institutional beds and district nurse services. The identification of at-risk groups led to an epidemiological perspective on ways to counter tuberculosis; early diagnosis through targeted mass X-ray and disease prevention through BCG vaccination of those at risk were both tentatively introduced as a way of reducing TB on a population-wide scale. Incidence was identified by age group and gender, but Maori were clearly those with the greatest risk of all.

The period reveals how intricately social, economic and political issues were entwined with TB incidence and anti-TB activity. From 1935, the first Labour Government had introduced a raft of social legislation in an effort to improve the living standards, health and welfare of the whole population; Maori were seen to be in special need of these policies. The Labour Government’s state housing scheme was a fundamental plank in its programme and the role of inadequate housing and poverty in TB incidence was fully recognised, for European and Maori. The establishment of the Division of Tuberculosis itself was part of the Labour Government’s expansion of a nationwide health service that would extend health benefits to all, regardless of ability to pay.

\textsuperscript{110} NZH, 12 April 1949.
By 1948, however, when the Tuberculosis Bill was being debated, the Labour Government was reaching the end of its life. The Opposition National Party fundamentally supported the Tuberculosis Act but made accusations of an expansion of state control. The Act gave the Health Department the ability to force local authorities to provide TB services, and criticisms of this compulsion were part of National’s wider attack on an ageing Government, contributing to its defeat in the 1949 election. Irrespective of the change in Government, important structures for the ongoing campaign against tuberculosis had been put in place; the position of Maori as the prime sufferers was also clearly recognised and would occupy a central position in efforts over the coming years.
Chapter Three

‘MAKE A DATE FOR MASS X-RAY’¹

The post-war mass miniature X-ray campaign

For over 30 years from the 1950s, a fleet of mobile X-ray units travelled New Zealand’s highways, back roads and suburban streets, the highly visible flagships of the country’s anti-tuberculosis efforts. The post-war mass X-ray campaign was the most intensive and prolonged public health promotion New Zealand had experienced to that time, and its all-out nature illustrates the threat tuberculosis presented to society as a whole. Fear of TB was being countered worldwide by enormous confidence in new technological and medical advances and mass miniature X-ray was regarded as one of the lynchpins in the campaigns of New Zealand and other developed countries to eradicate tuberculosis. In conjunction with effective drug treatment, targeted BCG vaccination and rising living standards, the nationwide New Zealand mass X-ray scheme launched in 1952 saw tuberculosis move from being a threat to all New Zealanders to one that affected a much smaller group of people, with the Maori and Pacific Island communities dominating those for whom the disease remained a problem. Although serious questions were being asked about the cost-effectiveness of mass X-ray by the late 1960s, the capital organisational and symbolic investments in the programme meant it continued to target the whole population for another decade before being wound back to focus on at-risk groups.

¹ Make a date for Mass X-ray, Health Department, 1950s. Colour lithograph 760 x 505 mm, ANZW.
The possibilities of mass X-ray

There was a sense of excitement during the 1940s in New Zealand and other developed countries about the prospects for dealing with tuberculosis.² As discussed in Chapters One and Two, the demands of war and new mass radiographic technology led to the decision to screen enlisting servicemen and women by X-ray. The results were unequivocal, and health authorities quickly recognised the benefits the technology could bring if extended for use among the civilian population.

In New Zealand, a school medical officer Dr Marie Buchler proposed the first civilian radiographic survey of Wellington secondary school children and factory and clerical workers in September 1941. The Medical Research Council (MRC) had been set up by New Zealand’s Board of Health in 1937 under the direction of the Director-General of Health. Committees to direct research were established in the areas of nutrition, goitre, hydatid disease, dental caries and tuberculosis, and funding for Buchler’s survey was obtained from the MRC’s Tuberculosis Research Committee.³ Buchler originally proposed the project as a counterpart to a study of pulmonary tuberculosis in 15 to 30 year old Adelaide women

conducted by South Australian chest physician (and later Federal Director of Tuberculosis) Dr Harry Wunderly.⁴ When it became apparent that Buchler’s project could be expanded to take in a broader age group and include men as well as women, the opportunity was taken. The survey offered a base against which to monitor an individual worker’s health but also provided valuable preliminary statistics about New Zealand’s true rate of tuberculosis infection.⁵

Buchler’s survey, which X-rayed 2204 office and factory workers and school children, confirmed other studies and the commonly-held view that men and women in the 25-29 age group were most at risk of tuberculosis. It also highlighted changing incidence profiles according to age. Both male and female factory workers had higher incidence than clerical workers in the 20-24 and 25-29 age groups. However, in the over-30-years category, female clerical workers had a substantially higher incidence and male clerical workers had a marginally higher incidence than factory workers. This shift in incidence between age groups led Buchler to emphasise the importance ‘of re-X-raying the negative-reactors again after a period of two years of stress and strain of wartime conditions’.⁶

The Taranaki Mobile X-ray Unit

Prior to the Division of Tuberculosis’s establishment in 1943, the rural, dairy-farming district of Taranaki was shown to have a high level of TB among its

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⁵ NZH, 18 November 1941.

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entire population, and particularly Maori. In recognition of the district’s high rates, the local Health Department office, Taranaki hospital boards and New Plymouth Hospital, under Dr Claude Taylor, had made special efforts to identify TB cases and to follow up contacts. In the short term, this vigilance increased the already alarming figures further.  

In 1941, as part of the response to high TB rates, members of the Hawera Hospital Board visited the Taranaki Maori Trust Board to promote the possibility of urgent and co-operative action on the matter of Maori TB. The deputation suggested the district obtain a mobile X-ray unit that would allow the examination of Maori at their own homes. The elders of the Taranaki Maori Trust Board, eager to improve their people’s health and needing little convincing of the gravity of the situation, promised a grant of $2,200 for what would be the first mobile power X-ray unit in the country. The Taranaki, Hawera, Stratford and Patea Hospital Boards were the other partners in this venture. A delighted Director-General Michael Watt praised its co-operative character and promised that, when requests for additional buildings were made as a result of the additional cases that would be found, the boards would receive ‘a sympathetic hearing’. The Taranaki moves were commended as ‘worthy of emulation in other districts’ in the Department’s 1943 Annual Report and received coverage in the press. The Taranaki Herald summed up the prevailing mood of determination in

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7 AJHR, 1945, H-31, p.17. This shows a Maori TB incidence rate for the west coast of the North Island of 59.88 per 1,000. The next highest rates were Metropolitan Wellington (44.3 per 1,000) and Metropolitan Auckland (30.35 per 1,000). The report also indicates the western area had already been the subject of intensive case finding activity in response to knowledge of high rates.
August 1942 when it hailed the Taranaki project as ‘striking at the roots’ of the
‘tuberculosis menace’.9

The Taranaki Mobile X-ray Unit was a co-operative undertaking and everyone
involved was enthusiastic about the project, but it was almost five years before
the first X-ray was taken. Delays occurred while the Native Affairs Department
approved the Trust Board’s accounts. The order for the X-ray machine was
placed at the end of 1942 through the United States Lend Lease Mission to New
Zealand. The slow reality of such a project in wartime was illustrated by a
Health Department memo in June 1944 advising the equipment was still in New
York and the paperwork had to be approved by 23 separate committees in the
United States before it could be shipped to New Zealand.10 The Westinghouse X-
ray generator and tube finally arrived in September 1945 but had been damaged
in transit. The Ministry of Supply had ‘fortunately taken the precaution of
ordering two units’. Both units were damaged but, in the spirit of making do, the
‘undamaged portions’ were pooled to make one working instrument. Still to be
obtained were a camera, the chassis and body for the truck and a car for the
technician in a country under rationing and where the Army had first priority for
vehicles and equipment. Between 1941 and 1945, costs had escalated to £4,710.
This was funded by the Taranaki Maori Trust Board’s £2,200 grant and a
Department of Health grant of £2,230. The four Taranaki hospital boards made

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8 Minutes of Meeting regarding Treatment of Maori Tubercular Patients, 25 July 1941, &
Minutes of Meeting, 10 November 1941. ARC 2002 – 549 Box R4/4/4, Taranaki Research
Centre (TRC).
9 Minutes of Meeting, 3 September 1941. ARC 2002 – 549 Box R4/4/4, TRC; AJHR, 1943, H-
31, p.3; Taranaki Herald, 14 August 1942. TRC.
10 Memo, 8 June 1944. H 1 130/13/4 17780, ANZW.
up the balance of £280 and assumed responsibility for the operating costs over and above the Social Security subsidy of two shillings per micro X-ray.\textsuperscript{11}

The primary objective of the project was to reduce Maori TB. It was agreed that ‘Maori would have first call’ on the Unit’s services, although the Taranaki Maori Trust Board donation was made ‘without “tags” of any description’ and the Unit was to be used for \textit{all} the people of Taranaki, irrespective of race.\textsuperscript{12} Determined to get widespread Maori support for the project, the Taranaki Mobile X-ray Unit Executive Committee ensured that Maori protocol and sensitivities were recognised. It was agreed the X-ray technician should be Maori or, if not, ‘he must know the Maori mind’.\textsuperscript{13} The recruitment process took most of 1943, with behind-the-scenes representations in support of one candidate, who eventually refused the job on the basis of insufficient pay. Eventually, Hapi Love was appointed in December 1943 and undertook training at Wellington Hospital and locally.\textsuperscript{14}

Mass X-ray was new technology but, in reality, it was also rudimentary and hardly high-precision work. The photographs taken on 35 millimetre film were very small and hard to read. They merely alerted physicians that the patient might have an abnormality and should be referred for a tuberculin test and large

\textsuperscript{11} Taranaki Mobile X-ray Unit Medical Director’s Report, 6 May 1947, p.11. ARC 2002 – 549 Box R4/4/4, TRC.

\textsuperscript{12} Minutes of the Taranaki Mobile X-ray Unit Executive Committee Meeting, 10 November 1941. ARC 2002 – 549 Box R4/4/4, TRC; Hawera Hospital Board to DGH, 24 November 1941. H 1 130/13/4 17750, ANZW.

\textsuperscript{13} Minutes of the Taranaki Mobile X-ray Unit Executive Committee Meeting, 3 June 1943, p.2. ARC 2002-549 Box R4/4/4, TRC.

\textsuperscript{14} Minutes of the Taranaki Mobile X-ray Unit Executive Committee Meetings, 26 March 1943, 3 June 1943, 3 August 1943, 13 September 1943, 7 February 1944, 23 March 1945; Minutes of a Meeting of Members of the Executive Committee and the Taranaki Maori Trust Board, 16 June 1943. ARC 2002 – 549 Box R4/4/4, TRC.
X-ray, which would then be read by a specialist. As a result, the qualities looked for in the X-ray technician were of a practical nature. It was apparently not necessary for him to know much about radiography as such, but ‘he MUST be completely at home with the apparatus itself, able to change tubes etc. He MUST know the local power supply.’ He also had to ‘be able to carry out ordinary running repairs to [the vehicle’s] electrical system, tyres, etc’. The Unit’s Technical Committee hoped for ‘someone who is prepared to “rough it” on occasion, though naturally this sort of assignment could not be insisted upon’.15

The Taranaki Mobile X-ray Unit was an unusual example of bi-cultural co-operation which others sought to emulate. In 1944, the Rotorua Maori Trust Board offered to purchase a mobile unit for use in its own district.16 Apart from the difficulties of importing equipment during war-time, the Department of Health regarded the yet-to-arrive Taranaki Unit very much as a pilot scheme for the whole country.17 Taylor and the Medical Superintendent of Rotorua Hospital agreed that any Rotorua project would have to wait until Taranaki had proved its worth but that local Maori interest in such a project should be kept alive in the meantime.18 The Hawke’s Bay Education Board wrote to the Department in praise of the scheme and urged the Government to provide mobile X-ray clinics for country districts, although it omitted to offer any financial assistance itself. The Department referred the board back to its local hospital board and pointed

15 Report by the Technical Committee on the use of the Mobile Photofluorographic Unit, p.4. H 1 130/13/4 17780, ANZW.
16 DDT to Dr Hugh Short, Tuberculosis Officer, Napier Hospital, 10 January 1944. H 1 130/3 15266, ANZW.
17 DDT to Dr Hugh Short, Tuberculosis Officer, Napier Hospital, 10 January 1944, & MH to J. Brackenridge, 12 November 1945, & DDT to Sydney Day, Chairman, Canterbury University College, 18 December 1945. H 1 130/3 15266, ANZW.
18 DDT to Dr E. Bridgman, Medical Superintendent, Rotorua Public Hospital, 10 January 1944, & E. Bridgman to DDT, 12 January 1944. H 1 130/3 15266, ANZW.
out that Taranaki was getting a mobile unit because its hospital boards had accepted their responsibilities and taken the initiative.\(^{19}\)

Mass X-ray was on the agenda at the August 1944 tuberculosis conference, where it was accepted that it could be applied to the general population. Support was overwhelmingly for a nationally organised scheme funded by central government rather than hospital boards. Some at the meeting argued that undertaking a population-wide survey was far too costly and burdensome and that at-risk groups only should be targeted. Radiologist Dr R. N. Hill ‘thought it would be wiser to confine [mass X-ray] to a few people rather than to embark on it on a grandiose scale and then to find that the facilities available could not cope with it’. The argument that it was unfair to diagnose people with the disease if there were no beds available for their treatment recurred later in the 1940s. In closing the discussion, Dr Taylor indicated that policy was still being developed and would not be rushed, although two things seemed clear: there was a case for a mass survey of Maori; and a need for more radiological technicians and radiologists.\(^{20}\)

The Taranaki Mobile X-ray Unit’s early work from 1946 highlighted the complex social influences on tuberculosis incidence and public health campaigns. The Unit’s first aim was to identify and, over time, reduce the very high number of Maori TB cases in the province. The perceived need to engage Maori with the project was reflected in the publicity employed. The Unit

\(^{19}\) Hawke’s Bay Education Board to DGH, 30 June 1943, & T. R. Ritchie, Acting DGH, to Hawke’s Bay Education Board, 6 July 1943. H 1 130/3 15266, ANZW.

\(^{20}\) Minutes of Tuberculosis Conference, 2 and 3 August 1944, pp.8-13. BAAK 25/40 A49/65a, ANZA.
Executive planned a campaign of press articles, advertising, pamphlets, talks and films; the suggestion of a special ‘Maori propaganda film’ about TB came out of its publicity planning.\(^{21}\) In exploring the most effective promotion to ensure Maori support for the project, the Executive realised that nearly all discussions with Maori about tuberculosis quickly reverted to the central issue of housing. Although it had no direct influence over Maori housing conditions, the Executive used this concern to build support for the X-ray programme. It was decided to conduct a ‘full survey of the social and economic environment’ of Taranaki Maori in conjunction with the Unit’s radiographic survey. The publicity pamphlet issued in Maori and English stressed the fact that the Unit was ‘primarily a Maori Unit’ and highlighted the hopes for the social and economic survey. It asserted that ‘valuable information will be obtained about Maori housing and the Government will be able to be approached so that these conditions may be improved’.\(^{22}\) The Executive strove to link Maori tuberculosis and poor housing in its communications with the Government and the public.

The Taranaki Hospital Board and Unit Executive Chairman and accountant, Percy Stainton, wrote to Prime Minister Peter Fraser on 5 November 1945 on behalf of the Unit partners, inviting him to visit the district to discuss the Maori housing problem. In describing the efforts to establish the Unit and overcome Maori TB, he linked poor housing and living conditions to the incidence of the disease and warned that ‘unless we can tackle and eradicate the cause we will fail in our objective’.\(^{23}\) The Prime Minister did not visit, although a deputation from

\(^{21}\) E. P. Allen to DDT, 18 December 1945. H 130/13/4 17750, ANZW. The Department did commission such a film, *Tuberculosis and the Maori People of the Wairoa District*, released in 1952. The work of the Taranaki Mobile X-ray Unit featured in the film.

\(^{22}\) Taranaki Mobile X-ray Unit Medical Director’s Report, 6 May 1947, pp.26, 32. ARC 2002 – 549 Box R4/4/4, TRC.

\(^{23}\) P. E. Stainton to Peter Fraser, 5 November 1945. H 1 130/13/4 17750, ANZW.
Taranaki met Acting Prime Minister Walter Nash, a personal friend of Stainton, in January 1946.\textsuperscript{24}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image126x454to493x714.png}
\caption{Welcoming Taranaki Mobile X-ray Unit bus onto marae.}
\label{fig:10}
\end{figure}


The ceremonial dedication of the Unit vehicle at Manukorihi Pa, Waitara, on 4 May 1946 followed tribal protocol and vested the project and its work with the mana vital for success. Lady Pomare, the widow of former Health Minister Sir Maui Pomare, was a symbolic presence of past Maori health advances, and Hemi Taitoko-Ki-Nga-Motu Bailey of Te Atiawa told the gathering that they were ‘witnessing the inauguration of a new era in the welfare of the Maoris’.\textsuperscript{25}

Figure 11. Lady Pomare at dedication of Taranaki Mobile X-ray Unit.

The Government was represented by Health Minister Arnold Nordmeyer, Native Affairs Under-secretary George Shepherd, local MP (and a future Minister of Maori Affairs) Ernest Corbett and the Director of the Division of Tuberculosis, Dr Claude Taylor, who had also worked for many years at New Plymouth Hospital. While the day was undoubtedly one of celebration, Unit Chairman Percy Stainton did not shy away from voicing concerns about inferior Maori housing. In reply Nordmeyer chided some hospital boards for having done little to combat the disease amongst Maori or to provide accommodation for
treatment.\textsuperscript{26} Maori representatives responded that the X-ray scheme would be ‘useless if people, after treatment, were to be permitted to return to the squalid housing which caused the disease’.\textsuperscript{27} There was an uncomfortable truth in both positions.

The social and economic survey conducted by the Taranaki Mobile X-ray Unit in 1946 gathered information from 2530 Maori about their housing and living standards. In spite of weaknesses in the planning and collection of the data, the survey largely confirmed the poor quality and overcrowded housing of many Maori families. Houses were scored for amenities, with points given for ventilation, weatherproof roof, privy or WC, and general cleanliness. Forty per cent of Maori surveyed occupied houses judged ‘Bad’ or ‘Fair’, 29 per cent slept three or more to a room and 32 per cent were in houses which had floor space of 100 square feet per person or less. Children were especially likely to live in houses with high numbers per room or a small amount of floor space per person.

Radiologist and Medical Director of the Unit, Dr Peter Allen, stated that these categories were ‘impressive evidence of the deplorable conditions in which the majority of the native people are living’.\textsuperscript{28} The findings of the survey echoed other contemporary observations on the general state of Maori housing, especially overcrowding.\textsuperscript{29}


\textsuperscript{27} \textit{Taranaki Herald}, 6 May 1946, p.3.


As the Taranaki Mobile X-ray Unit began its work in 1946, newspapers like the *Auckland Star* commented on the ‘ravages of T.B. in the Dominion’ and declared that ‘counter measures’ to the disease were required. The *Star* argued for a comprehensive plan that would include further mobile X-ray units.30 In the same year, the X-ray programme for medical examinations of Army personnel came to an end, with Dr Hardie Neil hailing its advantages in both preventing infection and bringing about early detection and treatment, which had saved both lives and money.31

The Taranaki Mobile X-ray Unit’s first photographs were taken in June 1946 and it began to systematically visit Maori settlements and pa in northern Taranaki. The ‘deep cream and “wendy” blue’ bus contained X-ray apparatus, three curtained changing compartments and a dark-room for developing both large and 35 millimetre films.32 Staff travelled to locations separately in an ex-Army car that was still painted in battle camouflage.33 There was pride in the Unit’s pioneering status as well as a sense of responsibility for the development of an efficient operational model for the broader scheme to follow.

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30 Cutting, Star, 6 September 1946. BAAK 25/40(5) A358/138a, ANZA.
31 Cutting, NZH, 1 November 1946. BAAK 25/40(5) A358/138a, ANZA.
32 Medical Director’s Report, Taranaki Mobile X-ray Unit Executive, 6 May 1947, pp.15-20. ARC 2002-549, R4/4/4, TRC.
33 E. M. Ingle papers, ARC 2002-872, MS1089, TRC.
Within two months, the Medical Director and radiologist Dr Peter Allen and his staff believed changes were necessary to the Unit’s itinerary if progress was to be as rapid as planned. The examination of Maori was taking longer than envisaged, and the Unit Executive suggested diverting from the original intention of first X-raying all Taranaki Maori before moving on to Pakeha. Maori kaumatua (elders) had advised technician Hapi Love that they would prefer the Unit to visit at weekends when people were not away at work, meaning the Unit would be effectively idle during the week. The Unit Executive calculated that it would be two years before all Taranaki Maori were examined on that basis and suggested that Pakeha in the Taranaki towns could be X-rayed on weekdays. Maori were not offended by the suggested change in priorities; on the contrary, there had been some Maori complaints that they were being prioritised in a negative and discriminatory way. Examinations of both Maori and Pakeha proceeded in tandem throughout the district, it being ‘impracticable and uneconomic’ to do otherwise.34

34 Taranaki Herald, 1 August 1946, p.3.
In the first 12 months of the Unit’s operation, 6180 people in Taranaki were X-rayed, including 2514 Maori. From June to December 1946, the Unit visited 26 Taranaki pa [settlements], New Plymouth Hospital, and the New Plymouth Boys’ and Girls' High Schools, spending 55 days in the field and photographing 4382 people, an average of 118.4 per day.\textsuperscript{35} In the 11 months to 31 March 1948, there were 11,847 examinations, including initial X-rays of Maori in southern Taranaki and Pakeha in the borough and county districts, as well as the first resurvey of northern Taranaki Maori.\textsuperscript{36}

\textbf{Figure 13. Taranaki Mobile X-ray Unit at Kaipo Pa, Waitotara, 1946.}
Source: Puke Ariki - Taranaki Research Centre, PHO2006-123.
Consent to use photograph from trustees of Kaipo Marae 2008.

In later years, and in addition to its continuing work in Taranaki, the Unit visited other districts of the North Island up to 200 kilometres from New Plymouth. A request came to examine Air Force staff at Ohakea, and a visit to the Pahiatua Displaced Persons Camp became an annual event. In 1950, at the request of the

\textsuperscript{35} Taranaki Mobile X-ray Unit Technician’s Report year ended March 1947. ARC 2002-549, Box R4/4/4, TRC.
Division of Mental Health, the Unit visited Tokanui Mental Hospital and X-rayed 800 patients and 200 staff. In 1951, it travelled to the Waikato and was asked to visit the mining areas of Huntly and Rotorua.\footnote{Minutes of Executive Meeting, Taranaki Mobile X-ray Unit, 13 November 1947, 28 September 1951, & Taranaki Mobile X-ray Unit Annual Report, 11 months to 31 March 1948. ARC 2002-549, Box R4/4/4, TRC.}

Difficulties and disappointment at what was perceived to be an inadequate response by the public, both Maori and European, began to emerge during the Unit’s second year. While the Maori response during the first year had been acceptable, with 49 to 65 per cent of north Taranaki Maori presenting for X-ray, Unit staff were frustrated with the poor response to the resurvey. Just 183 Maori over 15 years of age came for re-examination, with many apparently believing that ‘an X-ray was good reason not to be X-rayed again. In several instances dramatic proof of a previous examination was produced in the form of a carefully preserved report 18 months old.’\footnote{Taranaki Mobile X-ray Unit Annual Report, 11 months to 31 March 1948. ARC 2002-549, Box R4/4/4, TRC.}

Staff speculated that a lack of personal contact was a reason for these poor results; in contrast, the Unit had achieved a much higher response when it travelled to Wanganui, where the ‘survey was organised by the Maori themselves’.\footnote{Minutes of Executive Meeting, Taranaki Mobile X-ray Unit, 13 November 1947, 28 September 1951, & Taranaki Mobile X-ray Unit Annual Report, 11 months to 31 March 1948. ARC 2002-549, Box R4/4/4, TRC.} Another unsatisfactory statistic that was felt to negate the value of the miniature technology was the high proportion (23.4 per cent) of full-size X-rays of Maori. The number of obese Maori adults and the difficulty of X-raying them using miniature technology was one reason advanced for the large number of full-size X-rays. However, other explanations indicated differences between
the expectations of the Unit Executive and practices in the field. District nurses were said to be unnecessarily referring some Maori contacts of patients for large films. Some Maori parents wanted reassurance that their (symptomless) children did not have TB and persuaded the technician to take large films as a precaution. One practical factor was that a number of tuberculosis cases naturally found it more convenient to have follow-up X-rays at the Unit, rather than travel to hospital.40

In 1950, concern shifted to the age of Maori respondents. The Unit estimated that 77.5 per cent of Maori examined were under 16 years old but only 16.6 per cent came from the most important 16-39 age group. In contrast, just 17 per cent of Europeans examined were under 16 and 67.5 per cent came from the desired 16-39 age group. The Maori figures seemed to suggest that parents were eager to have their children examined but were less likely to present themselves for X-ray. Europeans, while still presenting in lower numbers than desired, seemed to have taken up the message about which age group was at greatest risk. Dr Peter Allen expressed his feeling that Maori as a group had no real conception of the problem of early detection. It seems that Unit staff made specific efforts to educate Maori about the importance of X-ray for the middle age groups and the message was at least partially taken on board. During the 1951 year, the

38 Minutes of Executive Meeting, Taranaki Mobile X-ray Unit, 12 December 1950. ARC 2002-549, Box R4/4/4, TRC.
39 W. A. Priest, TB Officer, Wanganui, to DDT, 20 April 1948. H 1 246/34/6 24689, ANZW.
40 Taranaki Mobile X-ray Unit Medical Director’s Report, 6 May 1947. ARC 2002-549, Box R4/4/4, TRC.
proportion of Maori volunteering for X-ray in the 16-35 age group more than
doubled to 38.6 per cent of those examined.41

The Pakeha response was also disappointing. Between 5.8 and 17.5 per cent of
Europeans in the borough and county districts volunteered for X-ray; New
Plymouth had the highest response rate at 17.5 per cent, believed to be the result
of outstanding publicity by the Taranaki Tuberculosis Association.42 In an effort
to explain the poor response in New Plymouth in 1949, Unit Organiser Fred Parr
conducted a house-to-house survey of 40 houses. He determined that 95 of 120
people living in those houses were eligible for X-ray but only 16 had
volunteered. Nearly all households had received a pamphlet advising of the
Unit’s visit and thought the mobile X-ray service was a good idea but most of
those who had not gone for an X-ray offered no reason; they apparently believed
the service was just not applicable to them individually. The Unit’s annual report
crystallised the apparent indifference of most people, Maori and Pakeha, to the
health protection message, stating that ‘unless a personal and individual approach
is made to them, most people are largely uninterested and sublimely confident of
their physical well-being’.43

An incident in 1951 vividly demonstrated the limitations of public understanding
of preventive health principles and just how erratic the public’s response could
be. After a Unit visit to Opunake which enjoyed the ‘usual rather indifferent

41 Taranaki Mobile X-ray Unit Annual Report to 31 March 1950, p.2, & Annual Report to 31
March 1951, p.2. ARC 2002-549, Box R4/4/4, TRC.
42 Taranaki Mobile X-ray Unit Medical Director’s Report, 6 May 1947. ARC 2002-549, Box
R4/4/4, TRC; Minutes of Tuberculosis Officers’ Conference, 10 and 11 February 1948, p.2. H 1
130/2.22456, ANZW.
response’, a herd of cows there was discovered to be infected with bovine tuberculosis. The Unit was quickly recalled and overwhelmed by the public response. As the Unit report commented, it took a ‘manifest or dramatic source of danger’ to produce an intense public response while, as long as people did ‘not feel themselves to be personally concerned, apathy and ignorance is the general rule’.

This behavioural obstacle to the best public health efforts continued to frustrate the Unit and was a disappointment throughout the Health Department’s nationwide mass X-ray campaign. Until the Health Department assumed control of all mobile X-ray services in 1954, the Taranaki Unit performed between 11,000 and 18,000 examinations each year and found one to two cases of active tuberculosis per 1000 examinations. This yield was clearly regarded as sufficient for the Health Department to expand the volume and scope of mass miniature X-ray throughout New Zealand.

The Taranaki Mobile X-ray Unit was an outstanding example of local initiative and bi-cultural co-operation that was brought to fruition against the odds. It demonstrates the awareness in both Pakeha and Maori leadership of the gravity of the problem of TB in Maori, and a shared determination to tackle this. As a pilot scheme for a nationwide mass mobile X-ray campaign, it was a symbol of

43 Taranaki Mobile X-ray Unit Annual Report to 31 March 1950, pp.2-3. ARC 2002-549, Box R4/4/4, TRC.
44 Taranaki Mobile X-ray Unit Annual Report to 31 March 1951, pp.2-3. ARC 2002-549, Box R4/4/4, TRC.
confidence in the power of mass X-ray technology in the post-war campaign against tuberculosis.

**A nationwide mass miniature X-ray campaign begins quietly**

During the hiatus as the Taranaki Unit pilot scheme was being planned, the enormous potential of mass X-ray was nevertheless embraced by those working in the areas of TB and public health. Mass surveys gave an opportunity for constructive, even heroic, work that could help prevent TB or at least identify it at a much earlier and treatable stage. Its place at the intersection of technology, medicine and public health work produced zealous support from practitioners eager to apply its benefits to their local situation. In 1944 Pukeora Sanatorium at Waipukurau was one of the few hospitals with an X-ray Department that was not ‘grossly overtaxed’, and the Acting Superintendent Dr Robert de Lambert jumped at the chance to survey all primary and secondary school children in his district. 46 Within nine months, he reported that 1100 children had received miniature X-rays. Of 62 subsequent large films, 15 were abnormal and one active case was identified. De Lambert was disappointed that the conclusion drawn by the MRC Tuberculosis Research Committee from his initial results was that X-raying children below school leaving age was unwarranted.47

Departmental public health officers were also eager to tackle the tuberculosis problem in their locality. In early 1944, Gisborne MOH Dr Thomas Lonie organised an X-ray survey of all children over 15 years at Gisborne High School. The Gisborne district had a high Maori population and correspondingly high

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46 DDT to Dr T. W. Johnson, MRC, 17 June 1943. H 1 240/3/1 20048, ANZW.
tuberculosis rates. Lonie reported ‘extremely satisfactory’ results; of 378 pupils, including 43 Maori, only one showed any signs of TB. From Lonie’s point of view, ‘even the finding of one unsuspected case can probably be held to justify the time and labour involved’.48 He continued to push enthusiastically for the use of X-ray surveys in his district, but the Division advised him that the results did not ‘warrant another full examination in 1945’. The Division’s view was that it was more effective for secondary school pupils to be tuberculin-tested, with positive-reactors only being X-rayed.49

However, the potential of mass X-ray as an effective diagnostic and preventive tool was permeating public consciousness and can be seen in unsolicited suggestions made by lay organisations to the Department and Minister of Health. In March 1944 the Manawatu District Trades Council proposed that all primary school children have a compulsory annual chest X-ray. The Minister replied that it was ‘not really practical at this time’ and, from the results of the surveys already carried out, such a programme would not have been especially useful either.50 The Hillmorton branch of the Labour Party wrote to the Minister of Social Security in September 1945 recommending a yearly examination of all workers, a suggestion more in line with the Labour Government’s philosophy of universality and comprehensiveness; Health Minister Arnold Nordmeyer advised

47 R. M. de Lambert, Acting MS, Pukeora Sanatorium, to DDT, 6 March 1944, & DGH to de Lambert, 21 March 1944, & de Lambert to DGH, 28 March 1944. H 1 240/3/1 20048, ANZW.
48 MOH, Gisborne, to DGH, 14 February 1944, 27 April 1944, 13 October 1944. H 1 240/3/1 20048, ANZW.
49 DDT to MOH, Gisborne, 30 May 1945. H 1 240/3/1 20048, ANZW.
50 Manawatu District Trades Council to MH, 29 March 1944, & reply, 18 April 1944, & R. M. de Lambert, Acting MS, Pukeora Sanatorium, to DDT, 6 March 1944, & DGH to de Lambert, 21 March 1944, & MOH, Gisborne, to DGH, 14 February 1944, 27 April 1944, 13 October 1944. H 1 240/3/1 20048, ANZW.
that ultimately they hoped to provide annual X-rays to all adults. The Canterbury University College Student Health Committee requested an X-ray for all first-year students in December 1945, and the Division of Tuberculosis replied that its desire and intention was to do just that. When the North Canterbury Hospital Board’s X-ray unit commenced work in 1949, students made up a large part of its non-contact work.

In replying to these suggestions, the Division showed itself to be realistic about its plans for a nationwide scheme. The optimism of Dr Claude Taylor about the role of mass X-ray can be seen in his involvement at the concept stage of the Taranaki Mobile X-ray Unit. However, his proposal to Health Minister Arnold Nordmeyer on 29 April 1946 also reflected the difficulties preventing the immediate introduction of a mass scheme. Taylor’s memo frankly advised that to introduce:

a Mass X-ray service or even a Group X-ray service into New Zealand on a national basis is certain to embarrass still further our existing overtaxed Hospital and Sanatorium accommodation available for diagnosis and treatment of tuberculous patients so discovered in the course of X-ray surveys.

Taylor therefore recommended that no general mass X-ray service be introduced in the short term but that at-risk groups, especially those with occupational risk

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51 H. Mead, Hillmorton Labour Party (Christchurch), to Minister of Social Security, 3 September 1945, & MH to H. Mead, 7 September 1945. H 1 240/3/1 20048, ANZW.
52 Sydney Davy, Canterbury University College Student Health Committee, to DT, 13 December 1945, & reply, 18 December 1945. H 1 240/3/1 20048, ANZW.
54 Minutes of the meeting of representatives of the Taranaki, Hawera, Stratford and Patea Hospital Boards, 3 September 1941, & Minutes of the meeting of representatives of the Taranaki, Hawera, Stratford and Patea Hospital Boards and the Taranaki Maori Trust Board, 3 June 1943. ARC 2002-549, Box R4/4/4, TRC; E.M. Ingle papers, ARC 2002-872, MS 1089, TRC.
factors, could be surveyed and offered an annual follow-up X-ray. Hospital X-ray departments already provided regular diagnostic services for such people: family and other direct contacts of TB patients, together with health workers including nurses (hospital and district), doctors, laboratory workers, medical students, physiotherapists, occupational therapists, laundry workers and domestic staff. Further at-risk groups identified for mobile or transportable X-ray unit survey coverage comprised adolescents aged over 15 in schools, universities and training colleges, school teachers in Native schools, Maori in communities where high incidence was known, workers in offices and factories, members of the Civil Service where a high incidence was known, and members of the Armed Forces and Police living in barracks. Taylor recommended that four mobile and three transportable units be purchased (in addition to the Taranaki Mobile X-ray Unit) to cover the provincial and metropolitan areas. A ‘mobile’ X-ray unit was permanently installed in a motor vehicle or caravan equipped with dressing and film processing rooms. ‘Transportable’ units were easily dismantled into boxes and re-assembled for operation at schools or halls, for example. As a rule, mobile units were stationed in rural or provincial areas and transportable units in metropolitan areas. 56

Taylor emphasised the drag the country’s shortage of TB beds placed on its overall TB-control programme. Nevertheless, the Department was pragmatic in its management of these limitations and planned to press ahead with X-ray surveys of at-risk groups until the situation was resolved. The proposal advanced the ongoing debate between hospital boards and Government over the provision

55 DDT to MH, 29 April 1946. H 1 240/3/1 20048, ANZW.
56 ibid.
of X-ray services; Taylor’s view was that the hospital boards in Taranaki had
provided a model potentially acceptable to other hospital boards, whereby
Government provided X-ray plant and equipment and hospital boards combined
to operate and maintain X-ray services under the direction of the Department.\textsuperscript{57}
He obtained preliminary approval for his proposals from nearly all of the
country’s hospital boards.\textsuperscript{58}

In 1947, a year after the Taranaki Mobile X-ray Unit had started work, the
Government announced it would establish a similar unit to survey at-risk groups;
the list was extensive and included hospital employees, district health nurses,
school children in their final years at secondary school, adolescents in pre-
employment and training, training college pupil entrants, university students,
teachers in primary and secondary schools, armed forces personnel, police, the
crews of ships on the New Zealand Shipping Register, together with Māori in
districts with high TB incidence and anyone working in offices and factories with
high TB incidence. The first mobile X-ray unit, purchased by the Government
but to be run by hospital boards under Department supervision, was to be based
in Auckland but would also serve Whangarei and Hamilton.\textsuperscript{59}

After the issuing to hospital boards of Circular 11/1947 on 22 April 1947, the
Health Department built steadily towards the day when a nationwide mobile
mass X-ray campaign became a reality. The same year, Director of Tuberculosis
Claude Taylor visited Britain and Scandinavia to view their tuberculosis services.

\textsuperscript{57} DDT to MH, 29 April 1946. H 1 240/3/1 20048, ANZW.
\textsuperscript{58} Draft Circular Letter to Secretaries all Hospital Boards and Hospital Board, & replies to Circ.
No.11/1947. H 1 240/3/1 20048, ANZW.
\textsuperscript{59} Cutting, NZH, 13 May 1947. BAAK 25/40(50) A358/138a, ANZA.
On his return, he made an urgent recommendation to Health Minister Nordmeyer for a unit to recruit and train staff for the planned X-ray, tuberculin-testing and BCG vaccination programmes. The Department wanted the director of the new unit to take a strong role in administering tuberculosis services nationwide. It had pinpointed as a suitable candidate the former Medical Superintendent of Pukeora Sanatorium, Dr Robert de Lambert, who was Medical Officer in charge of the New South Wales Anti-Tuberculosis Association’s two mobile X-ray units and had been on a recent tour of mass X-ray activities in America, England and Europe. The Department was keen to attract de Lambert back to New Zealand and feared he might take up a position with the Australian Federal Tuberculosis Service.\(^{60}\) In fact, he resigned from the New South Wales Anti-Tuberculosis Association under a cloud after his comprehensive criticism of the ‘trial and error’ manner of its early mass X-ray work offended the Association’s directors. Rural surveys were conducted without ensuring the existence of adequate local TB diagnostic and treatment services, and the absence of proper promotional and educational activities resulted in woeful turnouts. De Lambert clearly wished to establish a mass X-ray service of the highest standards, and it is telling that he retained the confidence of the New South Wales Association’s honorary medical staff throughout. However, the affront caused to the Board left him no option but resignation.\(^{61}\)

\(^{60}\) DGH to MH, 19 January 1948. H 1 240/3/1 24333, ANZW.

\(^{61}\) Tyler, 2003, p.145; Report on first Twelve Months’ Operation of Anti-Tuberculosis Association of N.S.W. to 9 February 1948, & R. M. de Lambert to Chairman, Mobile Unit Sub-Committee, Anti-Tuberculosis Association of N.S.W., Sydney, 7 June 1948, & Minutes of the Board, Anti-Tuberculosis Association of N.S.W., 12 July 1948. The writer thanks Peter Tyler for his generous research and provision of these documents.
De Lambert arrived in New Zealand in 1948 and plunged into his work. He undertook a detailed exploration of hospital board facilities at the planned centres for mass chest radiography. At Auckland and Hamilton he found insufficient or unsuitable accommodation and poor radiographic equipment giving results of erratic quality. However, de Lambert and the local medical officers explored ways of rectifying these problems, which included obtaining a new building. De Lambert also spoke to tuberculosis and radiological specialists and staff to ascertain their willingness to undertake interpretation of films, and reported a positive response.\(^{62}\) Later, in September, he travelled to Christchurch and assessed the potential for the Canterbury Hospital Board’s Armagh Street tuberculosis chest clinic to be used for mass chest radiography. The site was satisfactory but modern X-ray equipment needed to be purchased.\(^{63}\)

The expansion of radiography in New Zealand was marked by the holding of the first annual meeting of the New Zealand Branch of the Society of Radiographers in November 1948 at Auckland Hospital. De Lambert’s address to the radiographers was mainly concerned with technical aspects of miniature radiography. However, he took pains to point out the public health aspect of identifying and removing infectious cases from circulation and emphasised the relatively straight-forward nature of radiography, in comparison to the organisational tasks of selecting target groups and following up those with suspicious X-rays.\(^{64}\) As in New South Wales, de Lambert’s appointment was not

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\(^{62}\) R. M. de Lambert to DGH, 20 September 1948. H 1 240/3/1 24333, ANZW.
\(^{63}\) R. M. de Lambert to DGH, 30 September 1948. H 1 240/3/1 24333, ANZW. The Marinoto building in Symonds Street was subsequently used for many years by the Department as a Child Development Centre.
\(^{64}\) R. M. de Lambert, Text of talk at meeting of New Zealand Branch of the Society of Radiographers, 19 and 20 November 1948. H 1 240/3/1 24333, ANZW.
entirely successful. Just a year later, before any staff had been trained at the Personnel Training Unit, Taylor reported that de Lambert was on leave in Australia. He did not return to his position; the reason for his departure is unknown. An enthusiast for mass X-ray, during his time in New Zealand de Lambert carried out the early planning and practical work necessary to establish mass X-ray facilities.  

The first mass miniature machine in the Department’s ‘nationwide’ scheme began operating in a very low-key way in Christchurch from September 1949; the transportable unit was a joint venture by the North Canterbury Hospital Board and the Health Department. Initial surveys of industrial staff came up against an unexpected impediment late in 1950 when the largest factory in the city, the Addington railway workshops, refused to release its staff for X-ray at the Armagh Street Chest Clinic. The problem was sufficiently important to trigger ministerial correspondence, which revealed the sometimes tetchy nature of inter-departmental relationships. The Minister of Railways’ pleaded staff shortages and the potential loss of productivity and pledged co-operation in the future, but his statement that they had been unaware of the ‘national nature’ of the project underlines the low key nature of the scheme’s introduction.  

An Auckland unit also started work quietly early in 1951 under the direction of Dr Herbert King. King had run a private sanatorium in Morrinsville until 1944 when he became a part-time travelling tuberculosis officer for the Health

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65 DDT to MH, 21 July 1949. H 1 240/3/1 24333, ANZW.
66 MH to Minister of Railways, 24 January 1951, & reply, 7 February 1951. H 1 240/3/1 24333, ANZW.
Department in the Waikato district. In 1950, he was offered a full-time appointment in the Department directing Auckland’s mass miniature radiography service.67

The *Auckland Star* reported in September 1951 on the unit’s early achievements. Operating well below its predicted capacity of 25,000 - 30,000 X-rays per year, the Auckland unit had initially concentrated on surveying government department and industrial workers, 5000 in total. It was detecting about four active cases per 3000 X-rays, which was a similar detection rate to the Christchurch unit. The emphasis was on screening at government departments, since workers could readily have time off for an X-ray, something which was more difficult to arrange in industry workplaces. Other groups tested had been Training College entrants, Auckland’s St Helens Hospital, Plunket and school dental nurses, children at the Blind Institute and School for the Deaf and some secondary school children. Pupils and boarders at Maori schools and hostels had been X-rayed because of the higher Maori prevalence of TB.68 Some of these groups were well known to be at risk, and others seem to have been selected for convenience and the likelihood of their co-operation. In February 1952 the *New Zealand Herald* reported that the X-ray unit was visiting companies such as the Farmers Trading Company and the *Herald* itself.69

Progress toward a nationwide scheme was slow: in 1951 the only operational units were transportables in Auckland and Christchurch and the Taranaki Mobile

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67 Note, November 1944. H 1 130/13/1 24396, ANZW; A. W. S. Thompson, MOH, Auckland, to DGH, 25 August 1950. H 1 240/3/1 24333, ANZW.
68 Cutting, Star, 12 September 1951. BAAK 25/40(7) A348/138c, ANZA.
69 Cutting, NZH, 29 February 1952. BAAK 25/40(7) A348/138c, ANZA.
X-ray Unit. A three-way squabble in Christchurch that year highlighted the potential disjunction between heightened public expectations of the Department’s stated ‘nationwide’ scheme and the reality of what could be achieved, given the still limited resources. Unlike the Auckland operation, Christchurch relied on the North Canterbury Hospital Board to deliver all tuberculosis services, including the initial mass radiographic survey. With the Department still maintaining that tuberculosis services were the responsibility of hospital boards, the North Canterbury model was probably one seen as the way forward. The new X-ray machine was installed in the board’s Armagh Street Chest Clinic (the name changed from Tuberculosis Dispensary to reflect its new and wider role) under the board’s Director of Tuberculosis and Cashmere Sanatorium Medical Superintendent, Dr Iain McIntyre. Clinic staff carried out the full range of tuberculosis work including out-patient clinics, X-ray of contacts, BCG vaccination, and up to 10 hours a week of mass X-ray work. Groups surveyed under the scheme had to visit Armagh Street for X-ray, and the machine was only occasionally transported for use at very large employers, such as the Addington railway workshops.  

A public squabble in 1951 illustrated the advisability of the Department’s gradual introduction of mass X-ray. The Department had always recognised that the sudden identification of large numbers of TB patients through mass surveys would expose the country’s severe shortage of accommodation and resources for treatment. Similarly, the long lead-in time for establishing mass X-ray equipment and personnel showed how easily public expectations could be built up only to

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70 R. M. de Lambert, Assistant Director, DT, to DGH, 30 September 1948, & DDT to Secretary, North Canterbury Hospital Board, 27 April 1951. H 1 240/3/1 24333, ANZW.
be frustrated through a lack of X-ray resources. The Canterbury Manufacturers’ Association wrote to Health Minister Jack Watts on 20 March 1951 in support of the mass X-ray scheme but complaining that the North Canterbury Hospital Board’s facilities were ‘totally inadequate’ for the job. Stating that 30,000 people needed to be X-rayed annually, but that less than 3000 had been processed to date, the Association urged the Department to follow the Auckland example and install its own plant dedicated to mass X-ray. The Department ascertained that staffing problems were being resolved and the clinic should soon be able to X-ray the predicted 30,000 per year. Watts’s reply, on the Division’s advice, attempted to meet the Association’s concerns but inadvertently fuelled others. It stated:

Although Mass Radiography as a means of finding unknown cases of active tuberculosis was hailed with great enthusiasm in many countries, it is now realised that the results obtained have not always justified the immense amount of work and high cost which has been necessary. This is especially apparent in any country in which the incidence of the disease is low and many people must be X-rayed before a previously unknown active case is found.71

This apparent questioning of the value of mass X-ray reached the press, along with comments from business people that the Minister’s letter indicated the survey was of little use and therefore did not justify business support. Watts quickly revised his position, explaining that countries such as New Zealand could make cost-effective use of mass radiography through the pre-selection of target

71 DDT to Secretary, North Canterbury Hospital Board, 27 April 1951, & MH to Secretary, Canterbury Manufacturers’ Association (Inc.), 30 April 1951, & Chairman, Canterbury Manufacturers’ Association (Inc.), to MH, 20 March 1951. H 1 240/3/1 24333, ANZW.
groups according to their susceptibility to the disease.\textsuperscript{72} It seems from these statements that the Health Department was aware even before the mass X-ray campaign started that an at-risk rather than population-wide focus was likely to produce the most efficient results.

**The Department of Health takes responsibility**

In 1952, the Health Department reviewed the progress of the mass miniature radiography scheme approved in principle nearly six years previously. The original plan had envisaged three transportable and six mobile units; by 1952 there were transportable units at Auckland, Wellington and Christchurch, and a soon-to-be-delivered transportable unit for Dunedin, but only one mobile unit (Taranaki). Apart from Taranaki, only the four main cities had any real mass X-ray capability. Dr Jack Wogan, himself a former tuberculosis case, had succeeded Taylor as Director of Tuberculosis in 1950 and was a wholehearted supporter of mass X-ray.\textsuperscript{73} He recommended the establishment of three further mobile units: one to cover the South Island and two for the predominantly Maori districts of the Far North and East Coast of the North Island. The move signified the Department’s assumption of responsibility for mass X-ray, bypassing the mostly reluctant hospital boards. Between 1946 and 1952, the expansion of mass X-ray services by hospital boards had been limited to just two: North Canterbury and Otago. Now, the Department’s desire for an economically efficient and fully

\textsuperscript{72} Cutting, Press, 17 May 1951, & MH to Canterbury Manufacturers’ Association (Inc.), 16 June 1951. H 1 240/3/1 24333, ANZW.

co-ordinated service for tuberculin-testing, BCG vaccination, mass X-ray and contact control led it to assume responsibility for mass X-ray services.\textsuperscript{74}

Treasury supported the Health Department in its anti-TB measures. Tuberculosis was estimated to cost the nation £3.5 million per year and the recommendation to spend £37,500 on the three mobile units assumed their use would rapidly extend the downward trends in tuberculosis infection, disease and death. Treasury also recognised the special nature of tuberculosis in seriously affecting people of working rather than old age; the disease was therefore more costly to the country than many others.\textsuperscript{75} The ‘comprehensive’ campaign against tuberculosis first proposed in September 1940 was at last becoming a reality.\textsuperscript{76}

Statistics relating to the work of the Division of Tuberculosis were very favourable and tuberculosis came to be celebrated as an impressive Health Department success story. Health Minister Jack Marshall advised Federated Farmers on 21 August 1952 that the death rate from tuberculosis had almost halved from 54.2 per 100,000 estimated mean population in 1945 to 28.3 per 100,000 in 1951. New cases notified had dropped from 132 per 100,000 estimated mean population in 1945 to 95.1 in 1951.\textsuperscript{77} In September 1952, Marshall announced that tuberculin-testing had shown a remarkable decrease in TB incidence in the younger age groups and the total number of new cases had dropped from 1820 in 1946 to 1375 in 1951. Maori cases were also declining, although they were still ‘distressingly high’. X-ray was identified as a modern

\textsuperscript{74} DGH to MH, 29 July 1952. H 1 240/3/1 24333, ANZW.
\textsuperscript{75} Secretary, Treasury, to Minister of Finance, 13 October 1952. H 1 240/3/1 24333, ANZW.
\textsuperscript{76} Cutting, NZH, 13 September 1940. BAAK 25/49 A49/64b, ANZA.
\textsuperscript{77} MH to Federated Farmers of NZ (Inc.), 21 August 1952. H 1 246/41 25695, ANZW.
and powerful technology that had contributed to this good news. As the Minister looked to the future, he identified the extension of mass X-ray to catch undiagnosed cases and BCG vaccination to build adolescent resistance. The Department’s self-congratulation extended to reasserting the country’s 1930s claim of the lowest tuberculosis death rate in the world, which was now not just the lowest, but the lowest by a ‘wide margin’. The growing sense of success in the fight against tuberculosis was shown in the Auckland Star’s declaration that further progress against the disease would be through ‘preventative rather than remedial measures’. During the summer of 1953, the Auckland press reported on TB developments in an extremely positive way. The mass X-ray of watersiders showed that the incidence of TB on the wharves was lower than expected; BCG vaccination in Hawke’s Bay schools was reducing TB rates; the need for a TB sanatorium at Hamilton was no longer urgent. The Herald’s January 1953 heading ‘TB retreating before control system’ seemed to sum it up.  

So, in the 1950s and 1960s, the visit of the mobile chest X-ray unit became a feature of New Zealand life. At first, the units continued to concentrate on industrial workers and those in educational institutions; in Auckland over a fortnight in April 1953, 2200 workers from Westfield freezing works, the Dominion Brewery and New Zealand Forest Products were X-rayed. The Department was sensitive to possible objections by employers on the grounds of lost time, but Wogan was also confident that they would soon discover that the

79 Cutting, NZH, 28 April 1953. BAAK 25/40(7) A358/138c, ANZA.
X-ray of workers took little time. Tuberculosis control was discussed at length at the conference of Medical Officers of Health in September 1953. At this time, the South Island and Taranaki mobile units were operating, the establishment of the northern North Island and East Cape mobile units was anticipated, and two further mobile units planned for delivery by the end of 1954.

In 1953 early results from the post-primary pupils BCG vaccination programme confirmed to the Department the wisdom of both the mass X-ray and BCG campaigns. In Auckland’s three largest schools (Seddon Memorial Technical College, Auckland Grammar and Auckland Girls’ Grammar) between 14 and 17 per cent of tested children reacted positively to tuberculin. This was good news in some ways; it meant that over four-fifths of the children had had no exposure to TB and those who had been were sufficiently healthy for the disease not to have developed. However, the Department regarded the percentage of positive exposures as still rather high and as justification for its overall campaign. By the end of 1953 just three active cases had been found in Auckland’s post-primary schools. A similarly positive result had come from the X-ray and vaccination of Auckland University College students. No infection was found among 565 full-time students examined. With 50,000 X-rays taken in the two-and-a-half years since mass X-ray had started tentatively in Auckland, only two in 1000 people had required treatment. Both Auckland and Christchurch were judged by the New Zealand Herald as ‘hearteningly free from tuberculosis’ and it was ‘hoped’ that Wellington and Dunedin would be the same. The New Zealand-wide

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80 DDT to C. H. King, TB Officer, Auckland, 30 June 1953. BAAK 25/40(7) A358/138c, ANZA.
81 Notes on discussion of Tuberculosis Control, Medical Officers of Health Conference, 30 September 1953, p.5. H 1 246/41 25695, ANZW.
figures were similar: of 70,000 miniature X-rays taken in 1953, one or two cases
were found from every 1000 pictures, and the threat of TB was shifting from one
of immediate to potential danger. 82

In mid-1954, Health Minister Jack Marshall announced that, in view of the great
success of the mass X-ray programme so far, two more mobile X-ray units would
be purchased to extend coverage into the more remote areas of the country. This
would create a total of four transportable and six mobile units based in Auckland,
Hamilton, Gisborne, Palmerston North, Wellington, Christchurch and Dunedin;
for the first time, a truly nationwide mass X-ray campaign was a realistic goal.
As the investment in new X-ray units proceeded, the 1950s witnessed a huge
increase in the number of miniature photographs being taken around the country.
The figure rose from around 40,000 per year in 1951 to over 250,000 per year in
1959 (see Appendix II) and, in its 1958 Annual Report, the Department
congratulated itself for its efficiency.83

The itinerant nature of mobile mass miniature radiography (MMR) units meant
that each was largely self-sufficient in terms of its day-to-day organisation. Units
required up to four radiographic and clerical staff each as well as a secretary-
organiser. The Otago-Southland MMR unit’s secretary-organiser, Mr L Bolton,
recorded his duties during the 1967 winter itinerary. Bolton planned the unit’s
time in a locality, often with the help of the local tuberculosis association. He
visited in advance to organise the power supply and inform businesses, unions,

82 Cuttings, Star, 1 July 1953, 1 November 1954, NZH, 21 October 1953. BAAK 25/40(8)
A358/139a, ANZA.
83 Cutting, Star, 25 May 1954. BAAK 25/40(8) A358/139a, ANZA; AJHR, 1959, H-31, pp.101-
102.
local councils, doctors and other organisations about the benefits of MMR. Promotion was crucial to a successful turnout, and Bolton seems to have been well organised, with a flair for obtaining publicity at no cost. Individual notices to householders were distributed with weekly grocery orders and through the schools. Free radio time was given daily on the Women’s Hour in suburban areas and on the Farmers’ Session in rural districts. Cinemas showed slides announcing the visit and all the papers in North Otago, Otago, Southland and Central Otago advertised MMR unit visits at no charge. Bolton’s unit took over 40,000 X-rays per year, and the unit’s itinerary for a typical week in North Otago saw it constantly on the move from post office to school hall to general store before returning to Dunedin on Friday afternoon.84

![Flying the Flag at Hawke's Bay Spring Show, 1958](image)

**Figure 14. Mobile X-ray Unit at Hawke's Bay Spring Show, 1958**


MMR units regularly set up at agricultural & pastoral summer and winter shows around the country.85 In February 1957 a unit spent four days at the Auckland Birthday Carnival. The *Auckland Star* reported the record number of 905 chests X-rayed on the second day by the four-woman team of a radiographer, her

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assistant, a typist and a receptionist. The *Star* quoted Mr Gil Cook, the Health Department liaison officer, as saying the record ‘was the result of three years’ work on the “easiest selling line I know”. The *Star* continued:

‘Easy’ is the operative word. The patient simply hands his candy floss and pamphlets to a friend, gives his name, age and address to Miss Hendrikson, and stands fully-dressed in front of the formidable grey machine. One of the attractive Miss MacDonalds asks him to hunch his shoulders, take a deep breath, hold it – and it’s over. He goes on to another sideshow.  

For every 1000 X-rays, one case of TB was detected. The van was back at the carnival in 1958 and X-rayed 4802 people, finding three active cases and over 350 with minor abnormalities.

Education was an essential ingredient in the MMR campaign. The Department tried to convince people to be X-rayed through the public health messages of prevention and early diagnosis, and the promise of rapid cure. The recovery that had previously been so uncertain was now identified as a point of reassurance for those nervous about going for X-ray. The wider message was that it was the responsibility of all New Zealanders to ensure they as individuals were free of TB, for the good of the country as a whole. The first edition of the Department’s free quarterly magazine, *Health*, appeared in 1948 and referred regularly to tuberculosis during the 1940s and 1950s. In December 1955, as the mobile mass miniature campaign was steaming ahead, an article entitled ‘X-

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85 Otago Health District, Annual Report, 1960. DAAZ 26/1 Acc D444, ANZ (Dunedin) (ANZD).
86 Star, 7 February 1957.
87 Star, 21 May 1958.
88 Otago Daily Times (ODT), 19 October 1959; John Halifax, ‘Look at it this way: Complacency is the Trouble’, *Evening Star*, 30 May 1968.
Ray is One Answer’ conveyed much of the character and intent of the Department’s overall message. The tone was reassuring in every way; X-ray was free, quick and painless. Most people’s miniature chest X-rays were quite clear and the majority of those who required follow-up X-rays did not have tuberculosis. Most who did have tuberculosis could now expect a timely cure. Again, the article emphasised the responsibility of individuals to the wider New Zealand community, although it personalised its final call to action by emphasising readers’ responsibility to themselves, their family and workmates.90

![Image of a poster encouraging mass X-ray]

**Figure 15. Make a date for mass X-ray.**
Source: Health Department, 1950s. Colour lithograph 760 x 505 mm, ANZW.

The sense of national responsibility can also be seen in the role of the press as willing aides to the Department’s public relations machine, happy to turn a unit visit into an upbeat story of encouragement.91 Small-town newspapers, especially, supported visits by a mobile unit, often photographing the mayor and

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91 Star, 7 February 1957.
leading citizens having the first X-rays. Articles emphasised how fast and easy the process was and ‘record’ numbers of X-rays were proclaimed in headlines. The partisan loyalty of citizens to their city or town and the collective urge to break a record once set often proved a perfect fit for the Department’s public health goals. In Dunedin on 25 September 1959, the Evening Star reported the MMR unit at The Octagon had examined 1016 people in seven hours, a New Zealand daily record. The staff had ‘abandoned even their usual lunch break to cope with the never-ending line of citizens’. The previous record was believed to have been 800 in a day at Gisborne, and the Evening Star advised the next day would be the unit’s last in Dunedin for 12 months. This combination of incentives worked together for another great result. The next day the MMR unit broke its own record. It processed 1544 people and the team worked non-stop for 12 hours and did not close until 9 pm.

The Department’s attempts to take mass X-ray to all Maori communities often presented obstacles of access and demanded a different cultural approach. The original Taranaki mobile unit continued to cover its region, and two units based at Whangarei from 1955 and Gisborne from 1957 covered the large and dispersed Maori populations of the Far North and East Coast. In 1960 Health published a promotional account of a mobile X-ray unit visit to the Far North. X-

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93 See, for example, Nelson Evening Mail, 4 February 1956; Southland Daily News, 13 April 1960, 23 April 1960; ODT, 21 September 1960; Southland Times, 23 April 1960. Louise Croot papers 95-108, Box 1, Hocken (Dunedin).


ray technician F. G. Aicken described the elements of a ‘typical’ journey into the remote Maori hinterland: difficult access, adherence to protocol, the generous hospitality and social nature of the visits, and the wider health promotion activities. It could be very difficult getting the heavy unit to some settlements and took over three hours to travel six miles in the instance described. At times the terrain was just too difficult and people had to be transported to the unit instead.

From Aicken’s account, it seems staff realised that, to be successful, they had to visit Maori settlements on largely Maori terms. Aicken acknowledged the need to be able to ‘carry on a reasonable conversation in Maori’, although it seems that he had only a little of the language himself. The visits appear to have been memorable events in the life of these distant marae, with overnight stays required, speeches in the whare nui (large communal and ceremonial building) and the sharing of food. The Northland unit staff encouraged singing to help break the ice; songs were recorded on tape and played back the next day as a lure to ensure a good turnout for the X-rays. During the evening, staff explained the importance of X-rays and showed films about tuberculosis, other health issues or Maori activities. 96

Aicken’s article conveys an atmosphere of rapport-building social activity between the unit’s staff and these communities which reflected the Department’s genuine determination to tackle the high rates of Maori tuberculosis in the most effective way possible. Yet, within the entertaining public relations mode, the

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patronising paternalism of the day is also clear. The belief that Maori needed to be enticed back for X-ray through the promise of hearing themselves sing on tape, rather than for their own health, was perhaps built on the view of Taranaki unit staff a decade before that Maori did not fully understand public health concepts. However, this simple enticement was not so very different from appeals to the competitive instinct of the broader population to break an X-ray record or win a spot prize of a three and a half pound box of chocolates. The Department’s promotion of mass X-ray to the public, both Pakeha and Maori, attempted to merge complex information with a simple public health message; predictably, it often became simplistic in the telling. But it seems that the visits of te pahi nui o te eki rei (the big bus of the X-ray) into the ‘sparsely populated and seldom visited parts’ of Maori New Zealand were conducted and received with a spirit of goodwill that delivered mutual benefits.

The dilemma of Auckland

Nationwide, there was a steady downward trend in new notifications of tuberculosis during the 1950s. However, there was dissatisfaction in the early 1960s about the pace at which rates were decreasing and questions arose about New Zealand’s progress towards eradication. Auckland faced a particular set of problems and tuberculosis staff in the Department of Health and the Auckland Hospital Board identified the complacency of a public which thought that tuberculosis had ceased to be a danger as the major obstacle to any solution. In spite of excellent progress, medical and public health staff were still involved in

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97 Taranaki Mobile X-ray Unit Annual Report to 31 March 1950, p.2. ARC 2002-549, Box R4/4/4, TRC.
98 Oamaru Mail, 2 November 1959. Louise Croot papers 95-108, Box 1, Hocken (Dunedin).
a demanding fight and felt frustrated that, when they at last had the ability to cure the disease, progress was not swifter. Their focus now shifted to specific high-incidence groups in the community, the recalcitrant patient who refused to complete treatment satisfactorily and the significant proportion of the population who did not present for X-ray.

Some complacency about TB on the part of the public seemed to be signified as early as 1956. A lack of community enthusiasm for the Wellington Tuberculosis Association’s annual Christmas Seals campaign led their Publicity Officer to warn of a false sense of security about TB. Christmas Seals were promotional stamps placed on the envelopes of Christmas cards; this method of anti-tuberculosis fundraising was initiated in Denmark in 1904 and adopted by many anti-tuberculosis organisations internationally, including those in New Zealand.101 Acting Director of Tuberculosis Dr Mabel Laing joined this debate, stating that the numbers of notified cases had actually increased between 1951 and 1955 through better diagnosis. She warned that the disease could be eradicated in 10 years, but only if the country continued ‘unremitting efforts’ to discover new cases and cure them in the early stages.102

102 Cuttings, NZH, 21 November 1956, & Star, 21 November 1956. BAAK 25/40(9) A358/139b, ANZA.
Auckland became the locus of a heightened anti-tuberculosis effort that continued to emphasise treatment for some groups, as well as prevention for the greater population. The New Zealand Herald pointed out in September 1957 that, while deaths across the whole country were decreasing, in Auckland they had increased, probably because of the number of Maori who had moved to the city. As TB among Pakeha was increasingly becoming a disease of older men, Maori still had high rates among the young. An alarming number of children with TB had already led to a special TB unit at Auckland Hospital, and a TB outpatient clinic for children began in central Auckland in 1958. Auckland Hospital Board staff regarded the need for the follow-up outpatient clinic as urgent and in April 1959 Auckland Hospital paediatrician Dr Grahame Fox submitted a report on the overall situation of child TB in Auckland.103

Fox calculated that the TB incidence of Auckland’s Maori children in 1958 was 16 times that of European children, an improvement over the 1952 figure of 30 times but still alarmingly high. This rate also compared unfavourably with the
wider situation; Maori as a whole were 7.2 times more likely than Europeans to have respiratory tuberculosis and 9.2 times more likely to have the non-respiratory disease.\textsuperscript{104} However, the ethnic breakdown of the statistics was confused to say the least. Separate figures were not being kept for Auckland’s increasing Pacific Island population. The ‘Maori’ figures included ‘full’ to ‘half’ Maori and all Pacific Island people, while the ‘non-Maori’ figures contained all others, including those ‘with some Maori blood’.

Fox’s report identified a litany of problems surrounding the treatment and convalescence of Maori and Pacific Island children. He identified social obstacles to their recovery, notably, their community-based lifestyles and, especially for new arrivals from the Pacific Islands and rural New Zealand, poor and crowded housing. Behaviour which made monitoring and control by health authorities especially difficult included fluid family and living arrangements which led to changes of names and frequent Maori migrations to rural districts during the summer. Fox also identified a ‘nonchalant attitude to the disease’ and ‘a policy of lease lend as far as the children are concerned’ among Maori and Pacific Island parents. These and language difficulties for Pacific Island people meant there was a high appointment failure rate. His recommendation for another children’s TB ward at Auckland Hospital was based on his belief that, for many, recovery could only be guaranteed within the discipline of a hospital ward.\textsuperscript{105} This was in contrast to the confidence expressed in 1952 that the success of the Division of Tuberculosis since 1943 meant anti-tuberculosis

\textsuperscript{103} Cuttings, NZH, 26 July 1957, 2 November 1957, 25 November 1957, & Star, 24 April 1959. BAAK 25/40(9) A358/139b, ANZA.
\textsuperscript{104} AJHR, 1959, H-31, p.104.
efforts now lay with preventive work alone.\textsuperscript{106} In Auckland at least, it seemed substantial resources were still needed for TB treatment. By 1961, Fox estimated Maori and Pacific Island children were a ‘considerable proportion of the patients attending’ the central Auckland TB clinic at Marinoto, and he identified particular logistical problems for their parents. Clinics were held at Marinoto but drugs had to be collected separately at either Auckland or Green Lane Hospitals on a monthly basis. This inconvenience sometimes led to missed collections, meaning children’s treatment regimes were broken. To counter this, TB drugs were supplied direct from Marinoto.\textsuperscript{107}

Juxtaposed against these professional concerns about TB rates in Auckland and the warnings of complacency, the Green Lane chest annex was closed in 1959. There were still two TB wards at Green Lane but effective drug therapy meant most people were being treated at home rather than in hospital.\textsuperscript{108} Even with Auckland’s negative prominence in the TB statistics, when planning ahead for Dr Herbert King’s retirement in 1962, the Department felt confident enough about its overall progress on tuberculosis not to appoint a replacement TB Officer. Instead it began negotiations with the Auckland Hospital Board to take over responsibility for more TB work.\textsuperscript{109}

The inconsistency between the encouraging news on TB nationwide and the alarmingly high incidence among certain groups led the Auckland District Health

\textsuperscript{105} T. G. Fox, Children’s Tuberculosis Clinic, to Superintendent-in-Chief, Auckland Hospital Board, 17 April 1959. BAAK 25/40(9) A358/139b, ANZA.
\textsuperscript{106} Cutting, Star, 26 November 1952. BAAK 25/40(7) A358/138c, ANZA.
\textsuperscript{107} T. G. Fox, Children’s Tuberculosis Clinic, to Superintendent-in-Chief, Auckland Hospital Board, 17 April 1959, 6 June 1961, 15 June 1961. BAAK 25/40(10) A358/139c, ANZA.
\textsuperscript{108} Cutting, Star, 22 April 1959. BAAK 25/40(9) A358/139b, ANZA.
\textsuperscript{109}
Office to propose a co-ordinated priority programme for 1963/64. Reasons stated for the campaign were the high incidence of cases, with tuberculosis recorded as Auckland’s most common infectious disease, together with the rate of 13 Maori and Pacific Island cases to every one European and high rates among young people and children generally. The first phases of the programme returned to the TB traditions of identification and surveillance of household, occupational and other contacts. Phase Three was to be a mass miniature X-ray campaign, some tuberculin-testing and health education. As in the other main centres, Auckland’s mass X-ray was based on the use of transportable units; however, the scale of the 1964 campaign meant Auckland would have a fully mobile mass miniature X-ray machine for the first time.

The Department announced its Auckland X-ray campaign in the *New Zealand Herald* on 8 January 1964 in conjunction with the World Health Organization’s Tuberculosis promotion. The 1964 Auckland campaign was modelled on earlier mass campaigns in Edinburgh and Glasgow but was far more humble in its accomplishment. The 1958 Edinburgh operation was planned over the long term with extensive community participation and had the benefit of a ‘blitz’ in the month of March when 27 units were available across the city. At the end of Glasgow’s month-long 1957 campaign, 714,915 people had been X-rayed and

\[109\] Notes of meeting between Department of Health and Auckland Hospital Board, 12 September 1962. BAAK 25/40(10) A358/139c, ANZA.


\[111\] C. H. King, TB Officer, to W. H. McDonald, Deputy MOH, 10 October 1963, & C. H. King, TB Officer, to Medical Superintendent-in-Chief, Auckland Hospital Board, & Note, 22 November 1963. BAAK 25/40(11) A358/140a, ANZA.

\[112\] Cutting, NZH, 8 January 1964. BAAK 25/40(11) A358/140a, ANZA.
the response rate was calculated at 76 per cent.\(^{114}\) By comparison, the Auckland campaign was minimalist in effort and achievement. By 1963, too, times had changed. King acknowledged that ‘the large-scale expensive surveys as conducted in Edinburgh and Glasgow … are no longer justified in view of the decreasing incidence of the disease’. However, as Auckland had at last acquired a fully mobile unit, Health Department officials felt justified in proceeding with the campaign as a one-off. They reasoned that Auckland had never had a large X-ray survey, it would provide information on the geographic spread of the disease and it was the only way to reach the elderly, a high-incidence group that had remained impervious to previous campaigns.\(^{115}\)

The campaign started in February 1964 and aimed to X-ray 200,000 Aucklanders over 15 years of age. The new mobile unit would travel to the people, visiting workplaces, and shopping and community centres. The *New Zealand Herald* weighed in behind the campaign; it reminded Aucklanders of the improved prospects for people with TB who could now be cured easily by modern drugs, often without hospital treatment. Confidence in the potential for drugs to overcome infectious disease was demonstrated in the *Herald*’s assumptions that the country was aiming for the major prize of eradication, not the consolation of control. The individual’s role in assuring the nation’s health was evoked by


reference to the successful and ‘co-operative spirit of the [recent] poliomyelitis campaign’.  

As in the provincial towns, Auckland’s leading citizens showed the way. City Mayor, Dove Myer Robinson, opened the campaign and the Chairman of the Auckland Hospital Board, Dr Harcourt Caughey, and the Chairman of the Auckland Tuberculosis Association, Frank Reynolds, were photographed having the first promotional X-rays. The Tuberculosis Programme Liaison Committee was pleased with the support received from television, press, radio, the Education Department and the Auckland Hospital Board. The press clearly played an important part in promoting the campaign, with reporters from the Herald and the Auckland Star attending a meeting at the Auckland Health Department offices to discuss progress after the first month. The Department suggested having a unit at the Easter Show and also hoped to be able to offer a donated gift to the 50,000th person to be X-rayed. The surgical supply company Smith and Nephew Ltd eventually offered two return tickets to any place in New Zealand to the 100,000th person to have an X-ray in the campaign.

The total number X-rayed during the 1964 Auckland campaign was 137,352. Of these, 89,678 were resident in the Auckland Health District, and the Department estimated the response to be approximately 50 per cent of the district’s population over 15 years of age. Just 1.5 per cent of miniature films were

116 Cutting, NZH, 8 January 1964. BAAK 25/40(11) A358/140a, ANZA.
117 Cutting, NZH, 7 February 1964. BAAK 25/40(11) A358/140a, ANZA.
referred for a large photo, which was much lower than the 3.5 per cent recorded in Edinburgh. King’s campaign report put the discouraging 50 per cent response down to the short timeframe for publicity and campaign preparation, the absence of a door-to-door canvas to encourage non-attenders and insufficient mobile mass X-ray units to mount a blitz period. One of the justifications for the survey, the opportunity to increase the previously poor response from the elderly, was particularly disappointing. Just 21.4 per cent of the resident population over 60 years old was examined. Positive results were that more detailed geographic information about case distribution was obtained and that fact that the cost per case detected was ‘considerably less than expected’ at £278. At 0.33 per 1,000 X-rays, the final yield of active cases was judged to be low.

The campaign report conceded that it was probably appropriate to review the entire mass X-ray programme and that the very low yield of active cases was further rebuttal of those arguing in favour of the Australian example of compulsory X-rays. The experience of the 1964 Auckland survey was reflected in the text of a 1965 Health Department lecture which stated that in future the mass X-ray campaign would rebalance its efforts toward selected groups of workers, with less emphasis on the general population.

120 Department of Health, Lecture on Tuberculosis, 6 July 1965. BAAK 25/40(11) A358/140a, ANZA.
Voluntary or compulsory?

Whether X-ray should be voluntary or compulsory was an issue which played occasionally in the press. From the late 1940s, regular clear X-rays were made a condition of employment for a number of occupations, including nurses and medical students in public hospitals, other hospital workers and some food handlers. As information about the effectiveness of X-ray surveys became widespread, some organisations actively supported X-ray as a way of protecting the health of their members and the community as a whole. Some also felt offended that New Zealanders evaded their duty to themselves and the country by not presenting themselves for X-ray and concluded that an element of compulsion was required. The New Zealand Federation of Labour wrote to the Health Department in 1957 suggesting that X-ray examinations of industrial workers be made compulsory. In 1955, the Patea Freezing Workers Union voted unanimously for compulsory X-ray as a condition of its membership and in 1959 supported compulsory X-ray for all.

New Zealand supporters of compulsory X-ray looked to the Australian example. From 1948, the Commonwealth Government there funded state governments to provide tuberculosis diagnostic and treatment services. Individually, states introduced voluntary mass X-ray campaigns and most eventually legislated to enable compulsion, accepting it was necessary for a ‘successful anti-tuberculosis

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121 Hillmorton Branch of Labour Party to Minister of Social Security, 3 September 1945. H 1 240/31/ 20048, ANZW.
122 MH to New Zealand Federation of Labour, 30 April 1957. H 1 246/34 27683, ANZW. See also West Coast Trades Council to MH, 11 October 1955, & reply, 26 October 1955, & Westport Branch of Federated Farmers of New Zealand (Inc.) to DGH, 31 October 1955. AAFB 246/34/10 Series 632 Acc W3464/108 26470, ANZW.
123 Cutting, NZH, 2 March 1955. BAAK 25/40(8) A358/190a; Health, September 1955, p.11. See also Secretary, Canterbury, Westland, Nelson and Marlborough Clothing Trades Industrial
campaign’. In Australia, it was reasoned that a chest X-ray was purely diagnostic and the arguments about personal choice used to deny compulsory vaccination did not apply. Compulsion was also felt to ensure ‘the fulfilment of every individual’s obligation not to spread this infectious disease’.

In 1960s New Zealand, with impressive results being achieved in the ‘war’ against tuberculosis and a diminishing pool of actively-infectious people, those who refused to take part voluntarily in New Zealand’s mass X-ray programme were perceived by anti-tuberculosis advocates to be specific obstacles to the goal of eradication. The New Zealand Federation of Tuberculosis Associations, established in 1948 to co-ordinate and represent the regional tuberculosis associations, identified ‘a hard core of our citizens who will not present themselves’ for X-ray, irrespective of the Department’s efforts to convince them of the need to do so; it advocated compulsion if the disease was to be eradicated. The Federation lobbied the Health Minister Donald MacKay in September 1964 to no avail. The Minister replied that the substantial improvements already made in tuberculosis rates meant that it would be hard to justify such a ‘restrictive measure’. As in the past, the Department preferred to rely on health education and persuasion rather than compulsion.

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124 Fitzgerald, 2006, p.176; Tyler, 2003, pp.62-64, 69, 71; Press statement, Canberra, 21 June 1957, received by Department of Health, 8 July 1957. H 1 246/34 27683, ANZW.

125 Press statement, Canberra, 21 June 1957, received by Department of Health, 8 July 1957. H 1 246/34 27683, ANZW.


127 Honorary Secretary, New Zealand Federation of Tuberculosis Associations (Inc.), to MH, 22 September 1964, & reply, 6 October 1964. H 1 246/34 2093 32053, ANZW.
The Wanganui Hospital Board took up the cause of compulsory X-rays in March 1966. The Board cited the Australian example and asserted that New Zealand’s TB rates could improve further. Compulsion was believed necessary to make those who, through ‘apathy and fear that the X-ray would confirm the patient’s suspicions’ of tuberculosis, refused to attend a unit.128 Comments by Taranaki MOH Dr Adrian Cox seem to indicate an element of sympathy for compulsion by some departmental staff. Cox supported the compulsory X-ray of some groups of at-risk workers, such as freezing workers and food handlers. He also acknowledged that, with hindsight, compulsory X-rays should have been introduced earlier when TB rates were higher, but acknowledged such a law would now be far too hot politically.129 Later, Hamilton MOH Dr John Dawson also supported the call for compulsion, citing the Australian example, where an annual X-ray was required in order to gain a job.130

The Department held firmly to its view that the decreasing TB rates meant it could not justify compulsion.131 A highly critical Wanganui Hospital Board accused the Department of complacency and ineffectiveness and claimed its health education programme was ‘just not getting to the people’. The Wanganui Branch of the British Medical Association supported the Board as far as the compulsory chest X-ray of all food handlers was concerned, and the Board’s later arguments focused on this occupational group. It kept the pressure on the Department and gained the support of the 1967 conference of the Hospital

130 J. F. Dawson, MOH, Hamilton, to DGH, 16 October 1967. H 1 264/34 2268 33118, ANZW.
131 Wanganui Hospital Board to DGH, 1 April 1966, & reply, 22 April 1966. H 1 246/34 2093 32053, ANZW.
Boards’ Association of New Zealand.\textsuperscript{132} The New Zealand Federation of Tuberculosis Associations continued to promote the ‘compulsory X-ray of the entire adult population’.\textsuperscript{133}

The Health Department discouraged calls for compulsory X-ray from the start. It always advanced the argument that, as far as health was concerned, it preferred to keep away from the heat of debate about personal choice that compulsion would bring. Instead, it preferred to educate the public about the wisdom of voluntarily having an X-ray. Early discussions about mass X-ray show that it also feared being exposed by its lack of resources. New Zealand’s shortage of TB accommodation and the time it took to establish sufficient radiographic staff and equipment meant, realistically, it could only cope with a voluntary scheme, and the Department recognised this.\textsuperscript{134} The rationale of limited resources was not usually disseminated publicly, and the Department relied on the principle of freedom of choice when replying to organisations suggesting compulsion.\textsuperscript{135}

Once resources were in place, the low number of cases revealed per 1000 X-rays meant the chance of compulsion had passed. Opinion moved away from


\textsuperscript{133} New Zealand Federation of Tuberculosis Associations (Inc.) to DGH, 3 October 1966. H 1 264/34 2268 33118, ANZW.

\textsuperscript{134} DDT to MH, 10 September 1946. H 1 240/3/1 24333, ANZW; J. M. Wogan, for DGH, to Executive Committee, Taranaki Mobile X-ray Unit, 20 December 1950. H 1 246/34/6 24689, ANZW.

\textsuperscript{135} DGH to President, Catholic Social Guild, 13 October 1941. H 1 240/3/1 20048, ANZW; J. R. Hanan, MFI, to Secretary, New Zealand Federation of Labour, 30 April 1957. H 1 246/34 27683, ANZW; MH to New Zealand Federation of Tuberculosis Associations (Inc.), 6 October 1964, \& MH to Wanganui Hospital Board, 30 May 1966, \& MH to R. E. Jack, Member of Parliament, 8 June 1966, \& Director, Division of Public Health, to New Zealand Federation of Tuberculosis Associations (Inc.), 13 October 1966, \& Cutting, \textit{Wanganui Herald}, 29 July 1966. H 1 246/34 2093 32053, ANZW.
examining the whole population in favour of a far more tightly-targeted approach.

**Questioning the economics of mass miniature radiography**

In 1967, 15 years after the launch of the nationwide MMR campaign, the Department set out to review the scheme. Reports were requested from each district, and the Christchurch District Health Office’s report was one that hinted at the questionable economics. Its two units had taken 54,000 X-rays in the previous year and found just 15 active pulmonary tuberculosis cases (0.27 per 1000). Christchurch Medical Officer of Health Dr Leslie Jepson felt that although the surveys might seem ‘unworthy of the effort required … the highly infectious nature of this disease cannot be overlooked in any decision to curtail the [MMR] programme’. Jepson remained concerned that, if MMR was cut back too far, the disease might ‘re-establish itself’; he did concede that it could be more cost-efficient to reduce from two to one MMR unit.¹³⁶ Public health staff in the TB field generally remained guarded about reducing MMR activities. Their careers had been built on fighting the most serious and difficult to treat of infectious diseases and eradication had not been achieved. Any marked reduction in the intensity of the effort at this point must have seemed a risky a path to contemplate.

Dr Mabel Laing prepared a summary of MMR in New Zealand for the Division of Public Hygiene in 1967. With nine mobile units operating throughout the

¹³⁶ D. M. Meredith to Dr Bourke, Christchurch District Health Office, 12 April 1967, & L. F. Jepson, MOH, Christchurch, 9 October 1967. H 1 264/34 2268 33118, ANZW.
country and 0.39 active cases found per 1000 X-rayed in 1966, Laing commented that MMR was playing a disappointing role in finding the desired ‘early’ cases. She stated strongly that ‘we have reached the stage where only selected groups should be directed towards Mass Miniature Radiography’. She suggested these include Maori, Pacific Island people, tuberculin-positive reactors, and other high-yield groups, identified district by district. The extent to which the threat of tuberculosis was declining in the general population can also be seen in Laing’s stance on the long-standing problem of non-tuberculosis lung abnormalities, such as cancer. These abnormalities had always been detected through the MMR campaign but were seen as outside the scheme’s brief, with patients being referred on to their own doctors. Laing’s report suggested the introduction of a more comprehensive educational and preventive approach to chest health. She believed that people at risk of cardiac disease and lung cancer should be referred for regular X-rays and that units should schedule specific days each month at certain places so that doctors could easily refer them for an X-ray.137 Dunedin Medical Officer of Health Dr Francis de Hamel added his voice to a shift in emphasis from tuberculosis detection to general chest health. As de Hamel pointed out, ‘gone are the days of a few years ago when the miniature-film readers were looking for large areas of tuberculous infiltration and very often with big cavities’. MMR readers now had to be able to identify minimal tuberculosis and early signs of cancer as well. De Hamel suggested that the time had come for the Department to transfer MMR units to the hospital boards as part of their out-patient services.138 There seems to have been a growing realisation

137 M. C. Laing to Director, Division of Public Health, 22 November 1967. H 1 264/34 2268 33118, ANZW.
138 F. A. de Hamel, MOH, Dunedin, to DGH, 20 December 1967. H 1 264/34 2268 33118, ANZW.
that MMR technology was an overly expensive and blunt instrument that failed
to address other increasingly significant chest health concerns.

The Department’s policy shifted in 1969 to a greater concentration on high-risk
groups: these included Maori, Pacific Island people, freezing workers, itinerant
workers, the elderly and psychiatric patients, as well as other selected
occupational groups according to the make-up of each district. The mobile units
would now focus on high-density cities and towns with populations over 1000
and six-monthly unit visits would be made to all towns with populations over
10,000. Tuberculin-testing was seen as a more economic and accurate method of
detection for school children and for the rural districts, which would now be
visited every three years. However, the shift towards at-risk groups seems to
have been in policy rather than practice; the units continued to target all-comers
and the general population was still encouraged to have routine X-ray
examinations.

An issue that quietly gained greater prominence over this period was that of X-
ray safety. As early as 1958, the Department issued a Circular Memorandum to
Medical Officers of Health acknowledging some concern about ‘the amount of
X-Radiation received by the public and in particular with radiation to the gonad
area’. As a result, the Department advised that mass X-ray of children should not
be carried out and that individual children should be X-rayed only if

139 Circular Memorandum 1969/189 to MOsH, 26 August 1969. BAAK 25/40(11) A358/140c,
ANZA.
140 ‘How long since you last had an X-ray?’, Health Department advertisement, Southland Times,
17 July 1969.
warranted. Further concerns were raised by a radiologist reading the Hamilton unit’s films in 1963. MOH Dr John Dawson wrote to Head Office asking for clarification on whether expectant mothers should be warned not to have an X-ray during the first three months of pregnancy. Dr Gordon Dempster, Director of the Division of Tuberculosis, replied citing a 1957 statement by the New Zealand Branch of the College of Radiologists of Australasia that public apprehension about the safety of X-rays was out of proportion to the actual risks. The Department’s advertising continued to recommend all adults have an annual chest X-ray throughout the 1960s.

In 1974, Dr Ken Mayo, head radiologist at Middlemore Hospital, publicly questioned the continuing place of the mass X-ray programme and objected to the exposure of the public to ‘unnecessary radiation’. Mayo asserted that mass radiography was no longer effective against tuberculosis and had been discarded in the United States and Britain; it was ‘an idea whose time has gone’. Mayo’s comments on the dubious economics of mass X-ray were not so very far from the Department’s own thinking. Its 1968 review of the MMR scheme had revised the emphasis from the whole population to high-risk groups and high-density population areas, although this does not seem to have been immediately translated into a reduction in services. The number of X-rays taken annually continued to rise and peaked at 400,576 in 1972; the purchase of five new vehicles in the 1973/74 year also indicated that the Department was not planning

141 Circular Memorandum 1958/132 to MOsH, 11 June 1958. H 1 246/34 27683, ANZW.
142 MOH, Hamilton, to Department of Health, Head Office, 16 April 1963, & Director, Division of Hospitals, to MOH, Hamilton, 26 April 1963. H 1 246/34 2093 32053, ANZW.
144 NZH, 27 August 1974.
major cutbacks in MMR services.\textsuperscript{146} X-ray numbers declined slowly from 1972 and dramatically in 1977 after a cost-cutting exercise early in the term of the new National Government identified the MMR programme as a target. Government spending was being hauled in to counter the effects of inflation and the 1970s oil shocks on the New Zealand economy.

Dr Neil Solomon’s evaluation of Auckland’s Mass Miniature X-ray Unit’s activities in 1976, as part of his Diploma in Health Administration, was damning in its judgement. Calling the Auckland unit an ‘anachronism’, he roundly challenged its effectiveness in either defining or attracting at-risk groups for X-ray. The Department and members of the Tuberculosis Advisory Committee were highly critical of many aspects of Solomon’s paper, and permission to publish was declined.\textsuperscript{147} However, the shift away from mass X-ray was already in train. Three MMR units at Gisborne, Palmerston North and Dunedin were dis-established and 90,000 fewer X-rays were taken in 1977 than in 1976. The rapid decline continued, to 168,689 in 1979 and 98,897 in 1985.\textsuperscript{148}

**Assessing the value of the mass X-ray campaign**

New Zealand had a nationwide mass X-ray campaign from 1955, the first year that over 100,000 miniature X-rays were taken. Before that, increasing numbers

\textsuperscript{148} AJHR, 1980, E-10, p.83; AJHR, 1986-87, E-10, p.80.
of X-rays were being taken but were surveys of at-risk groups only. The number
of screening X-rays grew to 270,000 per annum in 1963 and stayed above
250,000 per annum until 1976 (see Appendix III). The Department of Health
stated its intention to refocus on at-risk groups from 1967, but it seems from the
continuing high numbers of X-rays taken during the following decade and the
steadily dropping yield of active cases per 1000 X-rays that a mass scheme was
still being conducted. It was only after the fiscal stringency of 1976 reduced the
programme and the accompanying rise in the yield of active cases that the
Department returned to anything approaching a targeted programme.149

The statistics from the mass X-ray years question the whole value of the
campaign. New Zealand’s low-key targeted survey work from the war years to
the mid-1950s were accompanied by a steady fall in new notifications from 2603
in 1943 to 1917 in 1955. This trend was already established at the time the mass
X-ray campaign started and continued steadily to 611 new notifications in 1976.
The massive increase in X-rays taken annually between 1955 and 1976 did not
produce a marked increase in new notifications and the already established trend
continued steadily (see Figure 17. over).

The tumbling yield of active cases from 2.04 per 1000 X-rays in 1955 to 0.49 in 1964 and to 0.15 in 1976 also indicated that the mass scheme quickly became economically ineffective (see Appendix II). New Zealand adopted the new technology of mass X-ray campaign as part of a world wide trend and its own plan to eradicate tuberculosis; in so doing, it seems to have ignored its own understanding of the limited value of a mass scheme over a targeted one. It is apparent that the Health Department was aware as early as 1951 that mass X-ray of the general population was dubious economically; discussions around the 1964 Auckland mass survey and the 1968 review reconfirmed this thinking also.\textsuperscript{150} The mass campaign seems to have been an unnecessary expansion of X-

ray technology, and the same results could probably have been achieved through the continuation of a more intensive targeted campaign.

Yet the campaign was influential from social and public health perspectives. The mobile mass X-ray units were the highly visible symbols of the post-war anti-tuberculosis campaign. This was part of a total response to a disease that had destroyed families for generations. In taking X-rays around the country, the Health Department made it easy for people to do their duty to themselves, their families and the community. As departmental Liaison Officer Gil Cook said in 1957, the message was an easy sell to a population familiar with the threat of TB and eager to stamp it out; however, the Health Department was never satisfied with the turnout for X-ray and never close to achieving its stated goal of an annual X-ray for every adult. The Department combined technology and the tools of health promotion into a major health-screening campaign that would be followed by many others. The public health message that TB could now be cured and need no longer be feared played a part in easing the sense of stigma associated with the disease, and this will be discussed in Chapter Seven.

**Conclusion**

During the immediate post-war decades, New Zealanders saw tuberculosis death rates and notifications fall so significantly that the 1964 Health Department Annual Report described the disease as ‘no longer a significant cause of death’ for either Maori or Pakeha. This decline was the continuation of a long-term reduction in TB rates, accelerated by significant social and economic influences;

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151 Star, 7 February 1957.
152 AJHR, 1964, H-31, p.56.
living standards rose post-war, especially for Maori and the poor, through the full employment of the post-war economic boom and the expansion of the welfare state, including state housing provision.

The initial mass X-ray surveys of at-risk groups were undoubtedly helpful in identifying undiagnosed cases of TB and the Taranaki Mobile X-ray Unit was an outstanding example of the determination to tackle high Maori TB rates; however, the extension of these surveys to a population-wide mass miniature X-ray campaign can be seen as part of worldwide confidence in new medical technology. The Department understood the limitations of a population-wide scheme from the start but its introduction was easily justified as part of the ultimate goal of the total eradication of TB. Once the scheme had been established as the symbol of anti-tuberculosis work, the Department struggled to wind it down to an at-risk basis. It was not the Department that initiated deep cuts to the mass X-ray service but a blanket Government cost-cutting exercise at a time of financial stringency. Left to its own devices, it seems likely the Department would have dismantled the capital investment in equipment and personnel over a much longer timeframe. Although its contribution may have been limited after the initial survey years, mass X-ray endured as the post-war anti-tuberculosis campaign’s most significant symbol.
In a turnaround from the Health Department’s previous doubts about BCG, the Division of Tuberculosis embraced the vaccination’s potential in the decades after World War Two, viewing it as the preventive element in a slate of scientific measures that would eradicate tuberculosis from New Zealand. The Division carefully built support among the medical profession for vaccination of individual TB contacts and some at-risk groups and, most visibly and controversially, for a mass campaign among secondary-school-age children. From the outset, the Division regarded the mass aspect of the BCG programme as a public health campaign that would be required for a limited duration only. As TB incidence fell rapidly away in the general population, the mass school programme was progressively wound back until, by the 1980s, BCG was offered only to those at risk.

As discussed briefly in Chapter Two, the Department’s hesitation about BCG use before 1948 echoed negative attitudes about the vaccine in many countries, including Britain and the United States. New Zealand’s early reluctance was part of this international caution and was sharpened by the New Zealand medical profession’s close links to Britain. After World War Two, there was a wider international consensus on BCG, led by the use of the vaccine among children in war-affected Europe, first by the Danish Red Cross and then the World Health
Organization (WHO). New Zealand revised its thinking on BCG as part of this wider trend and as its broad post-war campaign against TB moved forward. Any lingering doubts about the mass use of BCG were overridden by the Department’s view that the vaccine had a precise preventive role in the full range of anti-tuberculosis measures it was now planning. Apart from contributing to the overall goal of eliminating the disease, BCG occupied a significant niche in the years of the mass campaign against TB, by giving protection to a new generation of young people who no longer gained immunity naturally through close contact with tuberculosis.

The Health Department, with its public health culture and general support for immunisation, adopted a nationwide BCG campaign enthusiastically from the early 1950s, although support among the medical profession and the public was still not universal. There were a few strongly held opinions that tuberculin-testing of young children was a more effective preventive measure than BCG vaccination at secondary school age. With tuberculosis treatment, incidence and death rates all in a state of change, the science to settle this argument was still being established. A number of doctors continued to hold to the view prevalent in the United States that the use of BCG targeted the seed (the tubercle bacillus) instead of the soil (the health and living conditions of the individual and wider society), as well as nullifying the effectiveness of tuberculin-testing in isolating

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1 Linda Bryder, “‘We shall not find salvation in inoculation’: BCG vaccination in Scandinavia, Britain and the USA, 1921-1960’ in Social Science and Medicine, 49, 1999, pp.1158-9;
3 For the Department of Health’s general support for immunisation at this time, see Alison Day, ‘Child Immunisation: Reactions and Responses to New Zealand Government Policy, 1920-1990’, PhD thesis in preparation (History), University of Auckland.
the source of infection. These arguments had their equivalent also in a sector of
the public who opposed vaccination in principle. They argued that it was better to
employ ‘natural’ health methods, an early negative reaction to the growing
medicalisation of health.4 Still others had doubts about its large-scale use in the
secondary schools programme. While most medical professionals supported the
introduction of the mass schools campaign in 1951, the manner in which it was
terminated district by district from the 1960s indicates it was always viewed by
departmental officers as a medium-term strategy, to be terminated as the wider
anti-tuberculosis campaign succeeded in achieving extremely low incidence rates
on the way to eradication.

The mass schools’ programme ran nationwide for just under 15 years and was
then progressively ended throughout the country. The decisions to end the
scheme in each district were based on medical science, although public attitudes
and lay opinion impacted on the decision-making process and forced
reconsideration at least once. Later debates over vaccination policy also highlight
the fading of the 1950s goal to eradicate tuberculosis and even a sense of alarm
on the part of Auckland physicians as the reality of this failure became clear.
After the mass programme concluded, BCG remained an unobtrusive tool in the
anti-tuberculosis armoury. Individual district health offices still had the
discretion to offer BCG in schools, and the targeted use of BCG for contacts and
those identified as at particular risk remained essential anti-tuberculosis policy.

4 Allan M. Brandt and Martha Gardner, ‘The Golden Age of Medicine?’, in Roger Cooter and
BCG is introduced to New Zealand at last

By 1949, those members of New Zealand’s medical profession with an interest in tuberculosis mostly agreed it was time for the preventive tool of BCG to accompany early diagnosis and treatment. The director of the Division of Tuberculosis clearly identified the public health viewpoint in a paper to paediatricians and postgraduate students in October 1948. The vaccine was thought suitable for use in two sets of people: those at risk of infection through direct contact or known high occupational or group risk, and the 15-20 age group who were felt to need special protection against the disease. It was known that, as the overall incidence rate declined, fewer adolescents were gaining natural immunity to TB through family and community contact. However, there were fears that when they started work among the older adult population (who would continue to have a higher rate of TB infection in spite of the overall decline) their lack of protection would expose them to potential infection.5

The introduction of BCG, initially from 1949 for those considered at high risk, and from 1953 for the 15-20 age group, was a medical and political addition to the Division of Tuberculosis’s campaign to control and eventually eliminate TB. In 1949 a joint report by Taylor and Palmerston North Hospital pathologist Dr Thomas Pullar in the *New Zealand Medical Journal* supported the vaccine’s introduction and received wide publicity. It argued that, should at-risk groups not receive artificial protection by vaccination, they would instead be reliant on the protection ‘conferred by the haphazard and uncontrollable natural tuberculosis infection which in massive doses is known in many cases to produce progressive

The introduction of BCG vaccination therefore enabled the Division to be seen to be actively and systematically protecting those at risk and also reflected the ever-increasing confidence that medical science and technology would overcome the problem of tuberculosis.

Taylor and Pullar’s article pointed to the split focus of the forthcoming BCG campaign. For the general population, vaccination was to be offered only on a limited scale; the Scandinavian model of compulsory vaccination of the population was rejected, partly because of the logistics of vaccine supply and its limited lifespan (at least in the short term), but also because of the resources that would be required to mount such an exercise. As in the case of the mass X-ray campaign, the New Zealand Health Department’s stated preference for persuasion and informed consent was shaped by a lack of resources and the resulting caution about launching a full-scale or compulsory programme that could not be delivered.7

The Division’s endorsement of BCG at this time, and the mass secondary schools programme in particular, were important planks in the whole anti-TB campaign. Support was built on the first-hand accounts of Taylor and Pullar, who had travelled to Europe in 1947 to study BCG use. As New Zealand moved towards formal adoption of the vaccine in 1949, the *New Zealand Medical Journal* featured an editorial on the subject in addition to Taylor and Pullar’s article. The editorial surveyed the conflicting opinions that had undermined the standing of

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6 Cutting, ODT, 5 July 1949. H 1 240/3/5 23268, ANZW.
BCG for nearly 20 years and admitted that the difficulty of obtaining control
groups meant many BCG trial results were indicative rather than totally proven.
Putting that aside, the editorial considered the New Zealand context with its at-
risk groups of young adults and Maori and endorsed the introduction of BCG to
minimise the possibility of infection among tuberculin-negative reactors.\(^8\) While
the introduction of the vaccine was therefore based on faith rather than
conclusive evidence, it was an important symbol of the preventive component in
the Division’s campaign.

In the first instance, at-risk groups were to be closely targeted and only
tuberculin-negative volunteers vaccinated; direct contacts were an important
category because of their proximity to TB cases in families or the community.
Members of the health occupations and those living, working or studying among
large groups of people where infection might quickly spread were also classified
as at risk. The large-scale vaccination of infants was not proposed; the Division
believed infant risk was associated with individual family risk and BCG would
be offered as part of routine contact management. In contrast, adolescents as a
group were identified as susceptible and became the targets of a voluntary mass
vaccination programme delivered through the secondary schools.\(^9\)

Tuberculosis Division support for BCG was encouraged further through the
report of Wellington Hospital Board pathologist Dr John Mercer, who visited

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\(^9\) Taylor and Pullar, 1949, pp.264-73. The at-risk groups (mostly occupational) to be vaccinated
were: nurses, junior medical staff in hospitals, hospital technicians in laboratories or X-ray
departments, contacts of patients with ‘open’ tuberculosis, armed forces and merchant seamen in
home trade ships, groups in Maori communities where incidence was high, Education Training
College entrants and pupils, secondary school pupils in leaving years and university students.
Saskatchewan, Canada, in 1949 and met Dr R. G. Ferguson, whose anti-tuberculosis work had emphasised BCG. In fact, the total anti-tuberculosis approach of Ferguson and the Saskatchewan health authorities had been more intense than those in the other Canadian provinces and had reaped the reward of a dramatic reduction in the incidence of TB between 1942 and 1947, especially among the European population. Mercer made no specific recommendation on BCG for New Zealand but his report was extremely positive and admiring in tone of Ferguson and his efforts.10

Support for BCG was not unanimous. Objections were raised by the Legislative Council Member for Auckland, William Grounds, who drew on the authority of The Lancet to back his fear that the vaccine’s very short eight-day life meant it could be unsafe or ineffective by the time it was flown from the laboratory in Melbourne to New Zealand and used. Grounds’s real objection to BCG seems to have been that, in adopting it, New Zealand was being ‘roped into’ an international movement when it should have been looking to itself for the answer. He contended that New Zealand had the means to overcome tuberculosis in the population through proper nutrition rather than adopting ‘artificial procedures, which in the end would be found unsatisfactory’.11 With over 20 years of opposition behind them, arguments against BCG had been well-rehearsed overseas. Grounds was tapping into the ‘seed and soil’ argument and the ideology of self-responsibility dominant in the United States and also in pre-World War Two Britain. This asserted that tuberculosis was caused not just by the bacillus but also by the health, living conditions and behaviour of both the

10 J. O. Mercer to DT, 25 August 1949. H 1 240/3/5 23268, ANZW.
11 Cutting, Evening Post, 24 September 1949. H 1 240/3/5 23268, ANZW.
individual and society as a whole. It was therefore thought pointless to concentrate on eliminating the seed without improvements to social conditions and individual conduct to make the soil less receptive.\textsuperscript{12} Health Minister Mabel Howard simply ignored this aspect of Grounds’ objection and responded to the issues of safety and inefficacy. She stated to the press that BCG ‘may well be one of the greatest blessings that medical science has bestowed on mankind’.\textsuperscript{13} The chairman of the Wairoa Hospital Board, M. G. M. Williams, was reported to be keenly supportive of efforts to make great use of what he inaccurately labelled ‘the wonder drug’; he even credited it with reducing TB by 85 per cent.\textsuperscript{14} Such over-confidence about the vaccine’s value reflected the extent to which tuberculosis still formed part of the national experience in the 1950s and, on a broader level, mid-century confidence in the powers of medical science.

In 1950, Dr Jack Wogan succeeded Taylor as Director of the Division of Tuberculosis and, in November, he signed a formal proposal to the Minister of Health to introduce a nationwide vaccination scheme for secondary school children, adolescents and other young adults. Cabinet approved the first year of the programme’s expenditure of £8,000 on 22 February 1951. In making the decision to introduce a nationwide age-group BCG programme, the Division of Tuberculosis aimed to spread a wider protective net than just immediate family and hospital TB contacts. In doing this, the New Zealanders were striking a balance between the extremely limited BCG programme of the United States and the universal and sometimes compulsory programmes adopted in the

\textsuperscript{12} Linda Bryder, ‘We shall not find salvation in inoculation’, 1999, p.1161; Feldberg, 1995, pp.45, 56, 126, 208-14.
\textsuperscript{13} Draft press statement. H 1 240/3/5 23268, ANZW; \textit{Evening Post}, 29 September 1949.
\textsuperscript{14} Cutting, \textit{Napier Daily Telegraph}, 13 October 1950. H 1 240/3/5 23423, ANZW.
Scandinavian countries. In his formal memorandum to the Minister, Wogan did not mention the early vaccination trials for British school children, but he was clear that such a programme in New Zealand would ‘contribute to an appreciable reduction of cases developing in the young adult’. In spite of the universal nature of the secondary school scheme, in reality it was closely targeted. No more than 50,000 people were estimated to be eligible for vaccination in the first year. The Division believed that BCG would complement and not duplicate its existing tuberculin-testing, X-ray and contact-tracing activities and that its introduction should not be delayed.  

**Medical support for BCG**

BCG was greeted by most in the medical profession as a welcome public health move. Hospital boards quickly offered BCG to their nursing and then other staff. As with the initial introduction of mass X-ray, some public health and medical professionals were impatient to use the new vaccine among the at risk under their jurisdiction. Dr Rodney Francis planned to vaccinate the contacts of some of the families worst affected with TB in the Wairoa district early in 1950, and the Taranaki Mobile X-ray Unit Executive suggested that, with its third survey of the Maori population about to commence, it would be opportune to conduct Mantoux (tuberculin) testing at the same time in preparation for BCG. Dr Thomas Lonie at Palmerston North planned to Mantoux test and X-ray girls at Turakina Maori Girls’ School and give BCG to negative reactors. At least one group perceived itself to be at possible risk and asked about the protection BCG promised.

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15 DDT to MH, 16 November 1950, & Cabinet approval, 22 February 1951. H 1 240/3/5 23423, ANZW; See also Linda Bryder, ‘We shall not find salvation in inoculation’, 1999, p.1161.
16 Report of Travelling Tuberculosis Officer, 6 March 1950, & Medical Director, Taranaki Mobile X-Ray Unit, to DGH, 31 March 1950. H 1 240/3/5 23268, ANZW.
17 MOH, Palmerston North, to DDT, 22 June 1950. H 1 240/3/5 23423, ANZW.
Archibald Douglas of the Medical School Clinic in Dunedin advised that dental students had asked about BCG and wanted to know if it should be offered to them as well as to medical students. On the East Cape, a remote area with a predominantly Maori population and a high incidence of TB, the Te Araroa special area doctor (and later a professor of epidemiology) Dr Kenneth Newell rushed into discussions with local tribal committees. Newell was actively planning a widespread and immediate vaccination programme in his area before Dr Wogan restrained his enthusiasm by insisting that he wait for the Division’s planned programme of preliminary publicity and obtain individual consents for each child.

As expected, the start of the secondary school scheme brought out BCG’s opponents, notably E. B. MacGregor Walmsley, who voiced his concerns to the Minister of Health, and cited a 25 per cent refusal of consents by parents to their daughters being vaccinated as evidence of wider public opposition. Consents for vaccination at Wellington College, Wellington Girls’ College and Wellington East Girls’ College ran at 80.3 per cent for boys and 74 per cent for girls, so Walmsley’s figures seem reasonably accurate. They were also typical of ongoing acceptance levels but it is unclear whether they represented a significant degree of public opposition as Walmsley claimed or simply indifference. Brochures opposing BCG that ‘cut right across Health Department recommendations’ were also distributed to Wellington suburban homes. These had been produced by

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18 A. M. Douglas to DDT, 4 May 1950. H 1 240/3/5 23423, ANZW.
overseas anti-vivisection societies, giving some insight into the principles behind at least one section of the lay opposition to BCG.20

The Division paid little attention to the objections of what it viewed as a few ill-informed zealots. But when objections from voices highly placed in the medical profession also reached the public, it was another matter. Both Sir Charles Hercus, Dean of the Otago Medical School, and Dr Arthur Moody, chairman of the Otago Hospital Board, were quoted in the media as opposing the Department’s plans for BCG. At the end of 1951, Moody had just returned from a visit to Britain and the United States and stated these countries were far more cautious about BCG than New Zealand’s public health authorities. Moody’s opposition seemed based on the premise that it was wrong to commit resources to immunisation against TB when so many people with the disease were unable to get the hospital accommodation and treatment they needed to cure it. He cited BCG as unproven, with possibly only a short-term effect, and advocated the current United States and earlier British approaches. These encouraged personal responsibility and the orthodox methods of controlling TB: hygiene, sanitation, housing, nutrition, early diagnosis, contact-tracing and the segregation of open cases.21 Moody’s opposition was probably based in part on his position as the head of a hospital board that was not only trying to resource additional tuberculosis beds but was also used to viewing solutions through the prism of hospital-based rather than public health initiatives.

20 File note, 25 October 1951. H I 240/3/5 23423, ANZW.
A couple of months later, when Sir Charles Hercus confirmed his opposition to BCG to the Otago Hospital Board, the Division of Tuberculosis attempted to quash the possibility of widespread opposition. It restated the evidence for BCG’s effectiveness, as well as emphasising its place as just one of a number of measures contributing to tuberculosis control. Hercus was apparently still convinced by the pre-war arguments against BCG. He cited the uncertain research results on the efficacy of BCG but also claimed that the Division’s plans did not target the greatest at-risk group (25-35 years) and the results would not justify the cost of the adolescent school programme. Wogan challenged both these arguments head on; he questioned Hercus’s use of the death rates as an indication of age at infection and maintained that the projected costs were actually extremely modest and would decrease in time. Like Moody, Hercus argued that the decreasing rates of tuberculosis indicated that traditional treatments and controls were already working effectively and the BCG programme could result in a shift of resources away from new hospital TB accommodation and mass X-ray. Wogan was plainly annoyed by this criticism and rejected it totally; the Division had consistently put resources into increased TB bed numbers and its plans for the mass X-ray campaign were well advanced.22

The comments of Moody and Hercus helped bolster the determination of the Division, its district officers and many working in the tuberculosis field to ensure the scheme proceeded. Dr Peter Allen, radiologist with the New Plymouth Hospital and Medical Director of the Taranaki Mobile X-ray Unit, wrote to

Wogan deploring the public statements by the two men as serving no useful purpose and simply helping to confuse the public.23 The Division did not appear to have been influenced by these criticisms from Dunedin, viewing them as largely uninformed and even illogical. It held firm to its conviction that a BCG programme covering school leavers and other selected groups was an effective supplement to its existing and planned measures and would help to bring rapid control of the disease, with the aim of removing it ‘from the list of significant diseases in this country, within a period of ten to twenty years’.24

**The secondary school BCG programme**

A pilot scheme for the secondary schools BCG programme was conducted in 1951, with all eight of the Wellington and Upper Hutt secondary schools approached taking part.25 The Division’s desire for a ‘more positive method’ of tuberculosis prevention and control must have seemed even more necessary after the pilot. Over five-sixths of the 1,572 children tested were tuberculin-negative, with just 250 having gained immunity to TB from community contacts.26 The tuberculin-testing as part of the BCG adolescent programme showed actual levels of TB infection. The Department was surprised in 1953 to find that the percentages of Maori and European children who were tuberculin-positive were very similar and that the degree of infection among young Maori appeared to have declined quite substantially from previous years. The Department looked optimistically to the future as it projected these reduced levels of adolescent infection through to lower levels of disease in young adults. The similarity

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23 E. P. Allen to DDT, 4 February 1952. H 1 240/3/5 23423, ANZW.
24 DDT to MH, 28 May 1952. H 1 246/64 26841, ANZW.
25 DGH to school principals, 6 June 1951. H 1 240/3/5 23423, ANZW.
between Maori and European of the early Mantoux test results was shown to be aberrant. In the 1960s, the Department increased its Mantoux testing efforts to ascertain the most accurate reliable indication of infection in the community and increased its emphasis on Maori health. The results of the intensified Mantoux programme were more in line with the higher Maori rates of infection and during the 1960s Maori children were twice as likely as European children to be tuberculin-positive.27

![Image of Dr Mabel Laing demonstrating BCG injection technique](Health, June 1952. Health Department)

Figure 18. Dr Mabel Laing, School Medical Officer, Wellington, demonstrates BCG injection technique.

The secondary schools vaccination programme was up and running in most districts by 1953; the speed of implementation illustrated the importance placed

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on protecting this age group and on the anti-TB campaign as a whole by the Health Department.28 The programme was well under way in 1954, and in 1955 nearly 20,000 pupils were tested and the tuberculin-negative vaccinated. In 1960, this had risen to 30,000 and in 1965 to just under 40,000. The rate of tuberculin-positive tests varied with occasional spikes but the overall trend was firmly down (see Appendix IV). With effective diagnostic technology, vaccination, available drug treatment and evidence of decreasing rates of new cases and increasing numbers who had never been exposed to the disease during childhood, the Department was able to view the country’s TB situation as one that was becoming more straight-forward in terms of the mix of strategies necessary to reduce incidence. The positive protection of adolescents seemed to be one discrete area that needed to and could be addressed, and this underpinned the Department’s commitment to the secondary school BCG programme.29

Most health districts planned their BCG campaign early in the school year and had an efficient system in place. Departmental clerks visited each school to do the clerical work and obtain consents and worked with the teachers to promote vaccination to parents. Tuberculin tests were then performed by Health Department nurses (by Mantoux injection in the early years, then with the Heaf gun) and lastly the medical officers visited to read the test and vaccinate negative reactors.30 BCG vaccination was absorbed into the routine of the school year and became a rite of passage for pupils; the three-step procedure of consent, Heaf (tuberculin) test and eventual BCG vaccination encouraged a sense of uneasiness in some pupils, often egged on by lurid and colourfully embroidered tales of the

28 DDT to Gavin G. Liddell, Medical School, Otago, 27 July 1953. H 1 246/64 26841, ANZW.
29 AJHR, 1955, H-31, p.73.
30 Shirley Tonkin, Interview with D. Dunsford, 10 February 2006.
six-needle Heaf gun by those who had received it the year before. At least one private Auckland girls’ school asked for the vaccination to be administered on the thigh (probably to avoid a lasting scar on the upper arm), which the Department refused because of the possibility of infection and more severe reactions. The decision was probably also for reasons of efficiency; it was much quicker to have pupils file past with their sleeves rolled up, conveyer-belt style. Dr Shirley Tonkin, an Auckland medical officer during the 1960s, recalled that there were usually a handful of positive reactors in each school but did not remember notable differences between schools in spite of differences in socio-economic status. Nevertheless, it seems that those ‘few’ could feel different although not stigmatised. The word ‘tuberculosis’ still represented an element of potential danger in the late 1960s, even among those who had had no first-hand experience of the disease.

Once the scheme started, parental opposition was barely vocalised but the absence of consents indicated a degree of silent refusal or disinterest. The Department sometimes expressed disappointment at these refusals. It maintained that its goal was the protection of 100 per cent of secondary school children, but it was also pragmatic about actual vaccination rates and opposed any suggestion of a compulsory scheme. Instead, the Department tried to convince the public that vaccination was the modern, safe and responsible way to protect children from tuberculosis. The refusal rate of parental consents is difficult to gauge, but the Auckland Star reported in early 1954 that, on average, 30 per cent of parents

31 Christopher Gulley, personal communication, 28 January 2008.
33 Anne Foley, Email communication, 5 November 2007; Shona Guy, Email communication, 5 November 2007.
were refusing to allow their children to be vaccinated. These were said to be ‘old-fashioned parents’ who did not like the idea. The Department re-affirmed its confidence in BCG with the announcement that its programme would soon be extended to industrial workers and cited the World Health Organization’s vaccination of 17 million children worldwide as international evidence of the vaccine’s safety.\textsuperscript{34}

In May 1954 Dr A S Wallace of the New Plymouth District Health Office commented in the local press on the Taranaki refusal rate of around 30 per cent. Wallace’s approach attributed the non-response of many parents to indifference and talked of the need to persuade and educate. This reflected the current of professional optimism of the day over the role of health education in changing health behaviour.\textsuperscript{35}

By the 1960s it seems that consent rates had increased. The Department’s total TB prevention campaign had been a high-profile one, and the personal memory of tuberculosis was still very recent for most parents. Shirley Tonkin thought people remembered others being in hospital ‘for months and months and months’ and did not want to risk this with their children. She believed it was also a time when people were likely to accept the recommendation of someone in authority whom they respected.\textsuperscript{36}

\textsuperscript{34} Cutting, Star, 28 April 1954. BAAK 25/40 (8) A358/139a, ANZA. 
\textsuperscript{35} Cutting, \textit{Taranaki Herald}, 7 May 1954. H 1 246/64 26841, ANZW. 
\textsuperscript{36} Tonkin.
Cutbacks to BCG programme

While the Health Department and most chest physicians supported the BCG scheme wholeheartedly, some members of the medical profession were never convinced of the mass component of the Department’s approach to BCG. Green Lane chest physicians Dr Chisholm McDowell and Dr John Hinds believed throughout that the use of BCG should be restricted. A meeting in 1959 between McDowell and Auckland MOH Dr Herbert King canvassed the weaknesses of the vaccine, particularly the variability of the conversion rate, and the length of time it remained effective, thought to be from two to four years. McDowell thought that BCG should be confined to specific at-risk groups: Maori and Pacific Island families and tuberculosis contacts, especially infants, hospital nurses and medical staff. Part of McDowell’s opposition to BCG was his belief that tuberculin-testing of primary school children would be a far more useful indicator of tuberculosis infection than vaccination at secondary school.37 Fresh from overseas study leave, John Hinds reported on the use of and attitudes to BCG in the United States and Europe. The continuing dislike of BCG in the United States was based on the belief that the vaccination masked the natural epidemiology of TB infections; opponents preferred the tuberculin test to indicate infection. Hinds also reported that even in Scandinavia, the stronghold of BCG use, the low rates of TB were forcing a rethink about the continued need for vaccination. However, the fear of relaxing the campaign against TB meant the Scandinavians continued to vaccinate in the meantime.38

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37 Minutes of meeting, 23 December 1959. BAAK 25/40(a) A358/139b, ANZA.
In the 1959-60 reorganisation of the Health Department which grouped together the Divisions and units ‘with an affinity of interest and purpose’, the Division of Tuberculosis was placed in the Bureau of Public Health Services. Two years later, it was absorbed into the Division of Hospitals.\(^{39}\) There was continued support for BCG but a growing body of medical opinion questioned the value of the school programme, for European children at least. Two of the three discussion groups at a 1960 seminar on tuberculosis control and BCG supported BCG use in school children and one was opposed. The Christchurch Medical Officers of Health Conference in 1961 ‘agreed in principle to drop the BCG vaccination of adolescents generally’.\(^{40}\)

The Department responded with a review of the BCG scheme and sought the opinions of chest physicians; of those who answered, 11 supported continued BCG vaccination of adolescent European children and six were opposed. However, all supported BCG vaccination of Maori adolescents.\(^{41}\) The 1962 policy memorandum on BCG addressed the basic question of whether it was time to end BCG vaccination in schools. New Zealand’s tuberculosis incidence was falling steadily, as it was in Britain, Canada, the United States, Australia and elsewhere. The memorandum quoted a range of overseas views that BCG should not be discontinued until the positive reactor rate fell to 1 per cent in the 13 year age group or until the overall notification rate for tuberculosis in the region was negligible, around five per 100,000. The general view was that TB incidence in

\(^{39}\) AJHR, 1960, H-31, p.6; AJHR, 1963, H-31, p.3; V. S. Land, Division of Hospitals, to Professor J. W. Crofton, University of Edinburgh, 14 November 1962. H 1 246/64 34419, ANZW.

\(^{40}\) Report to DGH, 12 December 1962, p.2. H 1 246/64 34419, ANZW.

\(^{41}\) V. S. Land to chest physicians, 15 November 1962, & summary of replies. H 1 246/64 34419, ANZW.
the country’s European population was falling steadily to the point where adolescent BCG could be discontinued. However, when New Zealand’s statistics were actually examined, it showed that 7 to 8 per cent in the 10-14 age group were still positive reactors, well above the recommended 1 per cent level for termination. In addition, the incidence in the negative unvaccinated group was in excess of 0.23 per 1,000, also higher than the recommended 0.1 per 1,000 (see Appendix V). What the policy memo also made clear was that the TB situation of Europeans and Maori was still poles apart and, if the adolescent European rates of positive reaction and overall regional incidence were above recommended levels, then Maori rates, known to be 10 times higher than European, would certainly not warrant any reduction in the BCG programme.42 Tuberculosis notifications in the 15-24 age group during the 1960s highlighted the difference between the North and South Islands and the role of the Maori population in keeping North Island figures high (see Appendix VI).43

The disparity between Maori and European TB incidence was at the heart of the decisions made by the policy committee of Drs Harold Turbott, Claude Taylor, Doug Kennedy, Gordon Dempster and Victor Land late in January 1963. While not taking up the recommendation of the Medical Officers of Health 1961 conference to cease the schools programme entirely, the Committee took into account the very low rates in the South Island compared to the North Island, a result of the low numbers of Maori there. The Department decided that the North Island schools programme would continue but the South Island programme would end, to be replaced with an active tuberculin-testing

42 Report to DGH, 12 December 1962. H 1 246/64 34419, ANZW.
43 Table of Tuberculosis Notifications, ages 15-24. H 1 246/64 34419, ANZW.
campaign. The more delicate issue of offering BCG vaccination to all Maori infants and primary school entrants was passed for consideration to the Maori Health Committee of the Board of Health which had been initiated late in 1960. That year had seen the publication of Jack Hunn’s *Report on Department of Maori Affairs* and the Health Department’s *Special Report Series No. 1, Maori-European Standards of Health*, both of which brought the continuing gulf separating Maori and European standards of health to light. In direct response, another conference of Medical Officers of Health recommended the establishment of a separate Maori Health Committee.

The willingness of the Department to start rolling back the mass BCG schools programme after just a decade confirms its status as a medium-term measure from the outset. Tuberculin-testing, an essential part of the BCG programme, had given the Department extremely detailed information about the rates of infection in the school-age community. Officials were aware that the traditional indicators of mortality rate and new notifications were increasingly unreliable guides to the true level of tuberculosis in the community. Drug treatment meant that few people now died of TB, with the decrease being described as ‘phenomenal’ in the Department’s 1963 report. In a change from past practice, children with positive tuberculin tests were now given preventive drug treatment and joined the ranks of new notified cases, making comparison with past statistics troublesome. As tuberculosis became less of a problem in the country overall, it was increasingly important to identify specific groups of people or

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44 Circular Memorandum 1963/26 to MOsH, 4 February 1963. H 1 246/64 34419, ANZW.
46 File note, undated. H 1 29/22 27429, ANZW.
geographic regions where high rates persisted against the trend. The Department also wanted more accurate tracking of changes in the rates of tuberculin- positivity from year to year, district to district and between Maori and European, and so the tuberculin-testing programme was increased, especially among primary school entrants.47

The Department was operating its TB policies at this time in extremely fluid circumstances as a result of changing statistics and scientific knowledge about the effectiveness of both new drugs and BCG vaccine. In 1961, the three Auckland health districts of Auckland, Takapuna and South Auckland had conducted a pilot Heaf-test tuberculin survey of school entrants (aged 5), but this had revealed very few positive reactors and X-rays of the families of the positive reactors had yielded no results; it was therefore thought not worth continuing with such testing.48 This decision contradicted the earlier belief of opponents of mass BCG such as chest physicians McDowell and Hinds. They had asserted that tuberculin-testing in primary schools would be of more value than the BCG programme in secondary schools.49 It was another indicator of how rapidly the intensive use of mass diagnosis, targeted vaccination and new, curative drug treatment was changing medical thinking about tuberculosis control.

The termination of the mass South Island schools scheme did not happen totally unopposed. However, its passing was not really contested until four years later in 1967. In one sense, this illustrates a lack of public interest in anti-TB public

49 Minutes of meeting, 23 December 1959. BAAK 25/40(a) A358/139b, ANZA.
health programmes as the fight against the disease was increasingly thought to be won. However, the rearguard support for the South Island scheme also indicated how the 10-year promotion of the role of BCG in the protection of adolescents had established the vaccine as a solid spoke in the anti-tuberculosis wheel. The Hospital Boards Association of New Zealand resolved at its 1967 conference that BCG be offered to ‘all’ high school entrants. The Minister of Health replied that widespread vaccination was no longer necessary in the South Island, but that it was still available to those at risk. He also explained the continuation of the North Island programme was to ensure that young Maori were vaccinated.\(^\text{50}\) The North Canterbury Hospital Board was unimpressed with the Minister’s response and was outspoken about the need to reintroduce the South Island vaccinations.\(^\text{51}\)

In this instance, the experience of TB was recent enough for the reduction in protective services to trigger a sense of unease in some people and led to demands that their children not be unfairly exposed to the threat. The Hospital Boards Association may also have opposed the proposal for fear of a double impact on themselves; a potential increase in tuberculosis cases from the lack of an active adolescent protection programme and increased costs as the Department withdrew the BCG programme and left discretionary vaccination in the hands of individual boards.

The ending of BCG vaccination of adolescents in the South Island also illustrated the ongoing debate among physicians about the role of BCG. In arguing for the return of the scheme, the North Canterbury Hospital Board went to the core of the matter by referring to the WHO recommendations for continuing BCG until

\(^{50}\) Secretary, Hospital Boards Association of NZ (Inc.), to MH, 31 October 1967, & reply, 16 February 1968. H 1 246/64 34419, ANZW.

\(^{51}\) Cutting, Press, 29 February 1968. H 1 246/64 34419, ANZW.
the prevalence of natural reactors in children was less than 1 per cent. New Zealand’s rate was still far above this level, and the Board could not understand how the BCG adolescent scheme could be terminated in the South Island when the figures clearly failed this important test.\textsuperscript{52} In a revision of their earlier advice, and with the WHO recommendations in mind, the 1966 Chest Physicians’ conference had proposed the Department revisit the question of the South Island BCG programme. The status of the WHO seems to have played an important part in this debate, with the Department giving some ground. It agreed to conduct a tuberculin survey of all third form pupils in the country in 1969 and undertook to consider the reintroduction of the South Island school programme if the rate shown by the survey was over 2 per cent.\textsuperscript{53} The Department’s 1970 Annual Report stated that the average tuberculin-positive rate for secondary school entrants was 2.7 per cent but that the South Island rate had dropped below 1 per cent in 1962; BCG vaccination was therefore not reintroduced in South Island secondary schools.\textsuperscript{54} The Department’s reappraisal of South Island concerns about the termination of BCG was symbolic rather than substantial but did illustrate the continuing uncertainties that surrounded the place and value of BCG at a time when tuberculosis statistics were changing rapidly.

**Against the tide — Maori and Pacific Island TB incidence**

The Health Department’s district offices followed national BCG policy, but each had discretion to tackle at-risk groups and plan programmes to meet their special needs. During the 1960s this usually meant trying to counter high rates of TB

\textsuperscript{52} North Canterbury Hospital Board to Hospital Boards Association of NZ (Inc.), 23 May 1968. H 1 246/64 34419, ANZW.
\textsuperscript{53} MH to Hospital Boards Association of New Zealand (Inc.), 4 October 1968. H 1 246/64 34419, ANZW.
\textsuperscript{54} AJHR, 1970, H-31, pp.22, 117.
among Maori and Pacific Island people. The Lower Hutt office, for example, encouraged all Maori mothers to have their babies vaccinated and held TB clinics throughout the district where the Maori population was high. In Auckland, the worryingly high numbers of TB cases among the Maori and Pacific Island population led to a concentrated tuberculin-testing programme and special BCG clinics in certain suburbs. In contrast to general TB contacts, who were simply referred to Marinoto in central Auckland for tuberculin-testing, home contacts of TB patients in the suburbs of Glen Innes and Point Chevalier were offered a Heaf test in the home and nurses ensured that vaccination was given locally at a special BCG clinic. In May 1963 the level of tuberculosis-related work in Auckland was significant enough for MOH Dr Brian Christmas to suggest ways of streamlining public health nurses’ workload.

Auckland’s special problems as the location of significant TB incidence meant that tuberculosis and public health physicians found themselves in the disquieting position of attempting to deal with a situation that was at odds with the nationwide picture. Auckland’s new notification rate of 40 per 100,000 was still well above the United States target rate of 10 per 100,000. There had also been a recent rise of tuberculin-positive reactors to 8.5 per cent, well above the stated target of 1-2 per cent. Understandably, Auckland TB Officer Dr Herbert King regarded the ongoing BCG post-primary school programme as a vital part of Auckland’s preventive efforts. King was also mindful of the continuing influx of

56 Circular Memorandum to Public Health Nurses, 17 June 1963. BAAK 25/40(11) A358/140a, ANZA.
57 MOH, Auckland, to DGH, 31 May 1963. BAAK 25/40(11) A358/140a, ANZA.
Maori to the city. In 1966 Auckland’s Maori population reached 33,926, representing a 554 per cent increase since 1945.\textsuperscript{58} In 1963 Maori TB incidence was still 6 times that of European in the under-25 age group, and King believed that alone justified the continuation of the schools BCG programme.\textsuperscript{59}

Maori and Pacific Island people tended to be grouped together when their health status was considered, and ‘Polynesian’ tuberculosis became a recurring theme that disturbed the health professionals who treated it. In New Zealand, the word ‘Polynesian’ was used widely from the 1960s to refer to people from the Pacific Islands. Maori, who were of Polynesian ethnicity and origin, were often included in Polynesian groupings. The Paediatric Society of New Zealand believed that BCG vaccination was still necessary, especially among Maori and Pacific Islanders, and in April 1964 asked the Department how it intended to protect that group.\textsuperscript{60} The 1964 Conference of Chest Physicians resolved ‘that all Polynesians be vaccinated at as early an age as practicable’. However, after conferring with the Maori Health Committee, the Director-General of Health did not implement the chest physicians’ resolution. He did not recommend routine vaccination of Maori babies, and it was left to the discretion of individual districts to vaccinate babies at particular risk.\textsuperscript{61}

The Maori Health Committee’s rejection of the suggested mass vaccination of all Maori (and by extension Pacific Islanders) illustrated the sense of stigma felt by

\textsuperscript{59} C. H. King, ‘Tuberculosis in Auckland’, 13 April 1964. BAAK 25/40(11) A358/140a, ANZA.
\textsuperscript{60} J. M. Watt to G. O. L. Dempster (extract), 13 April 1964. H 1 246/64 34419, ANZW.
\textsuperscript{61} Circular Memorandum 1965/11, 13 January 1965. H 1 246/64 34419, ANZW; Minutes of meeting of Maori Health Committee, 2 December 1964, pp.2-3. H 1 29/22 30230, ANZW.
some Maori at being singled out for special health programmes. Their dislike of such attention was identified early in the Taranaki mass X-ray campaign, and both Maori leadership and the Department were sensitive to these feelings.\textsuperscript{62}

The decision was also reflective of wider thinking and policy surrounding the place of Maori in New Zealand society at the time. The principle of integration had dominated the 1961 Hunn Report’s vision of future Maori and New Zealand development, with the economic and social benefits enjoyed by Pakeha New Zealanders flowing through to Maori also. Integration was a conscious attempt to preserve a distinct Maori culture and an active rejection of the pathways of assimilation and segregation.\textsuperscript{63} The ideal of an integrated, cohesive society precluded the singling out of an ethnic group for its failing health status, and the secondary schools BCG programme continued on the basis of a district’s overall TB incidence, rather than focusing on Maori and Pacific Island children only.

The Health Department’s promise to tuberculin-test the secondary school population was partly to allay South Island concerns about the ending of their BCG programme but was also intended to provide firm data about adolescent infection rates. The data collected in 1971 was published as part of the Health Department’s 1973 Annual Report and bore out the earlier decision to end BCG in the South Island. The regional figures also confirmed anecdotal evidence about the regions of continuing concern; Takapuna, South Auckland and Rotorua districts all had tuberculin-positivity rates above 2 per cent and Auckland and Wellington were above 1 per cent. These were all districts with high numbers of

\textsuperscript{62} Taranaki Herald, 1 August 1946, p.3.
\textsuperscript{63} Hunn, 1961, pp.14-16.
Maori and/or Pacific Islanders. However, later data showed that, in spite of fluctuations, the trend was strongly downwards. The 1974 figures were below 1 per cent positivity for all districts and South Island districts were all below 0.12 per cent. The decline in positivity continued and, with these specific adolescent figures substantiating the Department’s direction, routine tuberculin-testing was discontinued in the South Island on 17 March 1976. During 1980, the secondary schools BCG programme ceased in the lower North Island districts of Hutt, New Plymouth, Napier and Palmerston North, although tuberculin-testing continued in Napier.

A greater focus on those ‘at-risk’

The Health Department hedged on the issue of targeting Maori and Pacific Island people for TB vaccination throughout the 1960s, although there is evidence that health districts with large Maori and Pacific Island populations and high incidence of TB did target both groups unofficially. Auckland and Wellington regions saw dramatic increases in the populations and birth rates of both groups during this decade, but it was in Auckland that TB rates among Polynesians created the most concern. Census data recorded an increase in Auckland’s Maori population from 19,847 in 1961 to 33,926 in 1966 and 45,777 in 1971, while the Pacific Island-born population increased from 14,340 to 26,271 to 45,413 over the same period. Policy suggestions that all Polynesian newborns be vaccinated

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routinely were refused during the 1960s, but district discretion allowed BCG to be offered to the at-risk and Maori and Pacific Island people were both in this category. Dr Shirley Tonkin was a child health researcher also working part-time as a departmental medical officer in Auckland during the 1960s. She took full advantage of the discretion allowed and routinely offered BCG vaccinations to Maori and Pacific Island newborns at National Women’s Hospital during this time. She worked closely with a hospital board nurse who was Maori. That nurse systematically approached Maori and Pacific Island parents and recommended vaccination against TB for their newborns. Tonkin recalls that nearly all parents agreed to the vaccination, wanting the best for their baby and not wanting to risk TB meningitis (the common form in babies and usually fatal). The babies were vaccinated before they left hospital.67

It is not known if Tonkin’s systematic offers of BCG to at-risk newborns at National Women’s Hospital were repeated as conscientiously in Auckland’s other obstetric hospitals. Professional alarm about the city’s TB situation built throughout the 1960s, especially as it was in such contrast to the ebbing tide of disease evident in the rest of the country. Auckland’s chest physicians were very anxious, and this led in 1966 to a formal recommendation by the Department’s Auckland staff and Auckland Hospital Board officials that BCG be offered to all Maori and Polynesian infants at National Women’s and St Helens Hospitals; plans were initiated to introduce such a scheme but it did not eventuate at that time.68

67 Tonkin.
68 MOH, Auckland, to DGH, 17 June 1966. H 1 246/64 34419, ANZW.
TB’s decline in importance at this time can be seen in the decision to transfer all tuberculosis treatment from the Health Department to hospital boards from 1972 onwards; the intention was to remove TB’s special status as a ‘Health Department disease’ and make it a disease like any other. This transfer of responsibility prompted further professional discussion of Auckland’s ‘many special problems’ relating to TB, with outspoken responses from those determined to convey the seriousness of the situation.69 Two chest physicians raised their concerns in relation to the Auckland Samoan community in March 1972. They claimed that TB rates among Polynesian children in the city were 14 to 15 times those of Europeans and drew a deliberately shocking comparison with the epidemic state of tuberculosis in the European population earlier in the century. Some claimed that Polynesian TB rates would overturn the ‘good work’ of the previous 25 years and asserted that critical problems were being created in relation to the overall health of the whole community. Underlying these concerns was the belief that, with the transfer of TB work to the hospital boards, the Department would remove its public health nurses from the control and supervision of TB cases and contacts.70 Although the Department reassured Auckland’s hospital boards that they were not withdrawing from TB work, just rationalising their activities, local chest physicians remained uneasy and lobbied the Department to continue its TB control and surveillance of patients in Auckland as a special case.71

69 Deputy, Director of Public Hygiene to MOH, Auckland, 7 February 1972, & file note, Deputy MOH, Auckland, 9 March 1972. BAAK 25/40(12) A358/104d, ANZA.
70 DGH to MOH, Auckland, 30 March 1972. BAAK 25/40(12) A358/140d, ANZA.
Routine BCG vaccination of all Maori and Pacific Island newborns in Auckland’s obstetric hospitals finally became policy in 1976 but not without a few more twists along the way. In February 1973 an alarming rise in TB notifications was reported for the previous year, aggravating worries about the transfer of TB work from the Department to hospital boards. Within the overall increase in notified cases, there had been a rise of 78 notifications in the Auckland and South Auckland districts, with 35 under 10 years of age. Clearly, some new strategy was needed to catch these children who were well below the existing BCG secondary school net; perhaps the time for routine vaccination of Polynesian infants had arrived.

A meeting of regional Medical Officers of Health, Auckland Hospital visiting paediatrician Dr Grahame Fox, Green Lane Hospital chest physician Dr Jim Ryan and University of Auckland Professor of Paediatrics Dr Bob Elliott was held to discuss the rise in notifications and the policy around Polynesian newborns. Most participants believed Auckland’s TB situation was reaching a crisis and took a wide perspective. The meeting refused to approve the Polynesian newborn vaccination policy in isolation, believing it represented a makeshift and inadequate response to a far greater problem. Instead they insisted that routine BCG vaccination of Polynesian infants and pre-school children only be approved as part of an extended programme of TB control that would include compulsory X-ray of immigrants on arrival from high TB risk areas and a compulsory mass X-ray survey of the whole population. Auckland MOH Dr Charles Collins apparently remained pragmatic. He reported his disappointment to Head Office that the meeting had made a scheme targeted at the undoubted
health needs of Polynesian infants and children conditional on the introduction of
two mass X-ray programmes with such extreme organisational and political
ramifications as to be unworkable. The result of this standoff seems to have been
that the whole issue was simply put aside for the time being. Collins also
astutely cautioned against over-reacting to the 1972 figures, which indeed turned
out to be a peak in new notifications that fell away rapidly from 1979.72

In 1974 the policies of Auckland’s public obstetric hospitals (St Helens, National
Women’s and Middlemore) still precluded across-the-board vaccination and
meant that BCG was offered to Maori and Pacific Island newborns only where
there was active TB in the household. The Department appeared to be conscious
of the possible stigmatisation of Polynesians and tried to dispel this by
emphasising that it offered any at-risk newborn BCG regardless of race.73 Their
fears were understandable; heightened public concern about Pacific Island
tuberculosis rates was illustrated by the careless use of the word ‘compulsory’ in
some press reports on the topic. The Auckland Star quoted Deputy MOH Dr
Gabrielle Collison in March 1976 as saying that ‘compulsory vaccination for
Islanders was being considered by the Health Department in Wellington’.
Collison objected to the newspaper that she had not used the word but it had been
assumed by the reporter. The Department’s nervousness about accusations of
racism was borne out in this instance. The views of anti-discrimination
organisations Halt All Racist Tours (HART) and Citizen’s Association for Racial
Equality (CARE) were reported. These two New Zealand civil rights

ABQU 246/64/1 632 W4550/48 52637, ANZW; AJHR, 1975, E-10, p.102.
73 File note regarding Paediatric Tuberculosis, 5 November 1974, & Cutting, NZH, 19 March
1976. BAAK 25/20/4/1(3) A358/131a, ANZA.
organisations had been formed in 1964 (CARE) and 1969 (HART). Mostly known for their campaigns against sporting contact with South Africa’s apartheid regime, they also identified and protested racist practices at home in New Zealand.  

They condemned any suggestion that Polynesians be subject to compulsory vaccination as ‘racial discrimination’ and asserted that ‘it would be preferable to vaccinate all children’. The Health Department was not considering compulsory vaccination at any stage but was moving towards systematic protection of Polynesian infants from TB. Late that year, the Department decided that Maori and Pacific Island children in Auckland constituted an at-risk group and began to offer BCG to all ‘Polynesian’ newborns in St Helens, Auckland and National Women’s Hospitals on a voluntary basis. Apart from the Department stepping on a couple of professional toes within the National Women’s Hospital staff, the programme started almost immediately, and a total of 1282 BCG vaccinations were given between 1 July and 31 December 1976, with five ‘abnormal’ reactions but none requiring anti-tuberculosis therapy.

Policies on BCG use for both adolescents and newborns from the 1950s to the 1970s highlight the contrast between the decline in TB rates among the Pakeha population and continuing high rates among Maori and the growing Pacific

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75 Cutting, Star, 18 March 1976, & MOH, Auckland, to Editor, Auckland Star, 30 March 1976. BAAK 25/20/4/1(3) A358/131a, ANZA.


77 D. Bonham to MOH, 18 June 1976, & MOH to Medical Superintendent, National Women’s Hospital, 22 June 1976, & file note, 2 July 1976, & Deputy MOH to T. G. Fox, Auckland Hospital, 7 June 1977. BAAK 25/20/4/1(3) A358/131a, ANZA.
Island population, especially in Auckland. In an effort to avoid the stigmatisation of Maori and Pacific Island people, the Health Department resisted across-the-board targeting of Polynesian newborns for BCG vaccination. It continued the secondary school mass programme for all adolescents in the north of the country, rather than restrict it to Maori and Pacific Island pupils. But Auckland’s special position as the hub of the Polynesian population and with a TB trend at odds with the nationwide profile eventually forced the Department to target BCG use by ethnicity and age group.

The Auckland and South Auckland districts consistently found tuberculosis cases through the secondary school tuberculin-testing and vaccination programme and other centres experienced occasional outbreaks. The mass secondary school BCG scheme was largely concluded in the early 1980s; it was not officially terminated but quietly redefined as one directed specifically towards those at risk at the discretion of the district MOH. This was in keeping with the Department’s residual BCG policy which focused on TB contacts, Maori, young and recent Pacific Island migrants, and in the late 1970s refugees from South East Asia.

**Conclusion**

BCG vaccination was used in post-war New Zealand as one of a slate of measures that formed a total response to tuberculosis. Previously viewed as a ‘dubious’ vaccine, the widespread adoption of BCG was illustrative of the breadth of the scientific, medical and public health campaign against the most prevalent of all infectious diseases. While some had doubts about the efficacy of

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using BCG for the mass vaccination of adolescents, New Zealand’s Division of Tuberculosis went ahead with this mass campaign, confident it had a place in its overall strategy. This was in contrast to the United States, where faith in the effectiveness of the new anti-TB drugs and the argument about improving the soil rather than attacking the seed continued to limit support for BCG. The theoretical and ideological argument of the soil and the seed held little sway with New Zealand’s public health authorities. Already sensing TB was on the run, the Division of Tuberculosis concentrated on putting together practical building blocks to eradicate the disease, and the mass BCG vaccination of adolescents was one of these. It would protect this vulnerable age group until the overall campaign had reduced the disease to the point where the risk of infection was negligible.

The mass secondary school scheme was always viewed as having a limited time-frame, with the South Island scheme terminated just a decade after it began. Pakeha New Zealand was reaping the full benefits of the anti-TB campaign, to the extent that the disease was becoming a thing of the past; Maori TB rates were reducing but had much further to fall, and the growing Pacific Island population presented a new and rising problem. The Department of Health had eagerly targeted the adolescent age group but was reluctant to target ethnic groups in the same way. Conscious of the potential for stigmatisation, the Department resisted introducing BCG vaccination for all Polynesian newborns for over a decade and, conversely, continued to run the mass secondary schools programme for all pupils in a number of North Island districts, rather than restrict it to the at-risk groups within them. The Department eventually reduced BCG entirely to an at-
risk basis, but the path to these changes and the accompanying debates exposed the ethnic disparities in tuberculosis incidence that confounded the anti-TB campaign.
Chapter Five

THE PATIENT EXPERIENCE: A REVOLUTION?

For the tuberculosis patient, the post-war changes in treatment were radical. After 50 years of being offered the indeterminate therapies of rest and isolation in hospital or sanatorium, the ‘miracle’ of effective drug treatment from the early 1950s was a revolution that rapidly reversed the patient’s infectious status, introduced a regime of drug treatment increasingly administered at home and, most marvellous of all, promised a cure. Although drug treatment was still a lengthy and difficult process in itself, the previous TB sentence of months or years away from home and family, hoping for recovery, vanished almost overnight. However, while the method and location of TB treatment changed radically, medical surveillance remained. Infectious tuberculosis was still a public health threat. As the number of TB patients declined, more intensive surveillance of the smaller number of patients was a logical progression, especially those regarded as recalcitrant. The issue of the stigmatisation of TB patients is an important one that is discussed separately in Chapter Seven.

The shock of diagnosis

Tuberculosis remains difficult to diagnose to this day; the subtle pattern of its development from infection to disease meant ex-patients often recalled being unaware they had the disease. A common description of their pre-diagnosis state was that they had felt tired and run down or had ‘neglected’ a cold or cough. In the mid-1940s Colleen Upton was one who could not shake off a cough, and an
X-ray revealed a spot on her lung. The first indicator could even be the terrifying shock of haemoptysis (coughing blood). Olive Rowley was 24 years old and singing with others around the piano one day in 1946, when she coughed up blood; her TB diagnosis was surprising as she felt well, was a healthy weight and rode her bicycle to work regularly. Sometimes a person’s health had appeared to be slipping but there was no clear indication from which to make a diagnosis. Barrie Ohlson’s doctor advised him to work out-of-doors for his health. Barrie did this for a time and then returned to town. He was with fellow members of his pipe band one Saturday afternoon in 1949 when he ‘coughed up blood. That was my first indication.’ Both Ohlson and Rowley had been exposed to TB within their families with close relatives having died of the disease.

TB diagnosis was problematic in the early or pre-disease stages. The increased emphasis on early diagnosis in the 1940s meant that physicians tried to prevent the development of the disease by prescribing rest for those with suspicious signs. This was also a decade in which hospital board and public health authorities were focused on the problem of TB infection among medical and nursing staff and routine checking and X-ray of staff in training was instigated. In the 1940s some young men and women in medical or nurse training were either diagnosed with TB every year. John Stewart, a medical student at Otago University from 1940 to 1945, recalled about two or three students getting TB

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1 Colleen Upton, Interview with D. Dunsford, 3 August 2004. See also Betty Margaret Reeve, Interview with Sue McCauley, 1 October 2001. OHA 4275, Alexander Turnbull Library (ATL).
2 Olive Joyce Rowley, Interview with Sue McCauley, 11 September 2001, OHA 4277, ATL.
3 Barrie Frederick and Zoe Ohlson, Interview with Sue McCauley, 3 September 2001. OHA 4276, ATL.
4 Rowley; Ohlson.
every year, particularly recent graduates. Fellow student Shirley Tonkin, who graduated in 1946, recalled that medical students carried out their own Mantoux tests as part of their training. Only a few were strongly positive to TB when tested, indicating that most students had not previously been exposed to tuberculosis. To Tonkin’s surprise, her own Mantoux reaction covered almost the whole of her forearm. She surmised that this exposure might have been due to the year she spent as a nurse aid in New Plymouth in 1939, before beginning her medical training.\(^5\) The protective lesson of ‘the seed and the soil’ was vigorously taught to medical students at Otago University. Students were instructed that TB infectivity rates were low but that continued contact with the infectious (the seed) was the main risk factor and, as such, they needed to guard their own health (the soil) and not become run-down.\(^6\)

Advice not to become tired or run-down seems to have been at odds with the standard working practice of medical students and to some extent nurses. As a sixth-year medical student working long hours during a short stint at Rotorua Hospital, John Stewart caused concern when his temperature did not go down after a heavy cold. Stewart returned to Auckland and continued working there as a house surgeon but, less than three months later, he became sick again; tuberculosis was diagnosed. He was sent home to rest but, after six weeks, an X-ray showed an increase in disease and he was admitted to the Green Lane shelters.\(^7\)

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\(^5\) Shirley Tonkin, Interview with D. Dunsford, 10 February 2006.
\(^6\) John Stewart, Interview with D. Dunsford, 22 June 2005.
\(^7\) Stewart.
Edna Sams was a trainee nurse at New Plymouth Hospital in 1945 when routine tests showed her ‘chest was not what it should be’ and she was sent home for three months’ rest. While at home in Wellington, she felt quite well and, at the encouragement of the local chest physician, took up temporary work as a nurse aid at Wellington Hospital. On her return to New Plymouth, an X-ray showed a cavity in one lung, and she was admitted to the chest block and later to Otaki Sanatorium.\footnote{Edna Sams, Interview with D. Dunsford, 21 September 2005.} Sams’s experience of conflicting advice from different chest physicians reinforces the inconsistent nature of early disease diagnosis. As it was commonly known at the time that nurses and doctors in training were at high risk of contracting TB, neither Sams nor Stewart was surprised by the event.
They accepted it was an occupational risk and seemed confident and accepting of the rest treatment prescribed to cure it.\(^9\)

Some people had been in close family or occupational contact with tuberculosis prior to diagnosis.\(^10\) Others, however, had no idea how they had become infected but eventually drew their own conclusions. Colleen Upton assumed infection had occurred as she and her husband were on honeymoon, travelling in crowded post-war trains. Her parents had conscientiously provided their children with a healthy upbringing and were upset at the diagnosis but were probably reassured by their doctor who told them ‘it’s always these well looked after children who get these things’.\(^11\) A diagnosis of tuberculosis came as a shock to many. The Division of Tuberculosis’s emphasis on finding cases and the initial use of mass X-ray increased the likelihood of early diagnosis. New Zealand’s mass mobile X-ray campaign did not commence until the early 1950s, but the early screening of at-risk groups identified additional cases. Clerical worker Zoe Ohlson met her husband, Barrie Ohlson, at Cashmere Sanatorium in the mid 1950s. Diagnosed after a mass X-ray unit visited her employer, she was 27 years old and shocked she had TB. She had no family history of the disease and concluded she had been living too busy a life and ‘got run-down’; she spent a relatively short time at the Cashmere Sanatorium, being regarded by other patients as ‘just a tourist’.\(^12\)

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\(^9\) Sams; Stewart.

\(^10\) For examples of cross-family cases of tuberculosis in hospital or sanatoria, see Upton; Ohlson; Ruahine Elizabeth Crofts, Interview with Sue McCauley, 20 June 2002. OHA 4271, ATL.

\(^11\) Upton.

\(^12\) Ohlson.
Hospital TB wards

The expansion of hospital TB accommodation during the 1940s meant that most New Zealand hospitals post-war had a number of dedicated TB beds. On diagnosis, an acute infectious case would generally be admitted to the chest block of the local hospital. Chronic and acutely ill patients dominated hospital TB wards and, until effective drug treatment in the 1950s, death was a regular feature of life in wards and, to a lesser extent, in sanatoria. Some patients’ disease was very advanced, and some became depressed by their illness and withdrew into themselves; others identified this attitude as one of the reasons for survival or death. Patients were shocked but philosophical when someone died unexpectedly during the night. The starkness between death and life in the TB wards seems to have heightened the determination of many to do as much as they could to recover. As a juvenile, John Oliver spent time at both Dunedin’s Wakari Hospital and Pleasant Valley Sanatorium and described Wakari as ‘a bit like Death Row’. From his point of view, patients who were going to recover moved to the sanatorium whereas those, especially older patients, who remained in Wakari had a poor prognosis.13

Although in the large cities there was still a shortage of TB accommodation in the 1940s, and many patients remained at home while they waited for a bed to become free, this does not seem to have been such a problem in smaller cities and towns.

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Treatment in hospital chest blocks of the pre-drug era generally followed the traditional regime of very strict bed-rest and plenty of fresh air. The Cashmere complex on the outskirts of Christchurch contained both chest hospital and sanatorium as part of the ‘city on the hill’ and provided a useful example of the delineation between hospital and sanatorium treatments. Hospital treatment was very much for the acute, active or chronic case. Coronation Hospital — ‘Corrie’ to the patients — emphasised traditional bed-rest, fresh air and good food for acute patients. Beds were placed on verandahs and open to the weather at all times (unless rain came onto the beds, in which case they were wheeled into the wards). Cold was not a reason to bring beds inside, and some patients remembered waking to frost on the foot of their beds. The same patients did not recall being cold while in bed; they had warm pyjamas and hot-water bottles as well as ‘cuddlies’ (flannelette sheets used between the usual sheets).

All patients were initially prescribed absolute bed-rest — their feet literally not touching the floor — until they were judged well enough to get up for a short period each day. Some might be on bed-rest for 12 months or more, and most had to rebuild muscle strength when finally allowed to walk again. The bed-rest rule was so rigid that patients were wheeled in their beds for X-ray or even, at Cashmere, to see films being screened for all patients. The most hated part of bed-rest was bed-panning. All ablutions from panning to sponge-baths and hair-washing were carried out at the bedside. To ensure that busy nurses were able to get all their duties done, every patient was panned after meals. Patients simply had to ignore the embarrassment of performing this highly personal function with

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14 Rowley.
15 Rowley; Ohlson.
usually inadequate screening. The acknowledgement that all patients were in the same situation was one that pervaded hospital and sanatorium life and, in this instance, enabled people to retain their dignity out of respect for themselves and others. The first level of release from bed-rest, ‘block leave’ as it was known at Cashmere, was welcomed as much for the freedom to visit the toilet block and avoid the hated bed-panning as an indication of the beginnings of recovery.  

Doctors’ rounds were carried out every morning; temperature charts and test results were checked and treatment directions given. Hospital life in the chest blocks for acute patients was strict, and many of the younger people especially found it hard. On the other hand, Colleen Upton recalled that she was not bored during her year at Kew Hospital in Invercargill in spite of the enforced bed-rest and not feeling particularly ill. The hospital routines broke up the days, she had many visitors and established a close relationship with the girl in the neighbouring bed. The system of grading and rewards to mark progress added to the sense of recovery and made the long stay in hospital more bearable. Patients shared a determination to recover, and the incremental granting of privileges that indicated recovery, even if glacially slow, contributed to patient morale. As temperature checks, sputum tests and X-rays revealed gradual improvements, patients were allowed to get out of bed for increasing lengths of time. One patient described his stay in hospital as spent ‘earning time up’. Block leave or half an hour up graduated to one hour, then two hours and four hours. Throughout Cashmere, rest hours of 11 am to noon and 4 to 5 pm meant complete rest, on the bed. Patients could read but there was absolutely no

16 Rowley.  
17 Upton.  
18 Ohlson.
talking, eating or drinking.\textsuperscript{19} By the time patients were up for a half to a full day, they were generally thought to be on the mend and, at Cashmere, they were moved up the hill to a sanatorium environment.

TB wards in general hospitals seemed to receive the greatest attention from the local tuberculosis associations. In 1952, the Auckland Tuberculosis Association spent £172 providing weekly full-length feature films for TB patients at Green Lane Hospital and arranged regular bus trips for patients. Cigarettes were distributed weekly until specifically excluded from food orders in 1962.\textsuperscript{20}

Sanatorium life

In New Zealand medical circles, sanatorium treatment was widely regarded as suitable only for those with very early stage pulmonary tuberculosis or, already well on the road to recovery. Only a minority of TB patients ever went to a sanatorium, although it represented the popular view of the tuberculosis experience until the end of the 1950s. There were four main public sanatoria in post-war New Zealand: Waipiata in Central Otago, Cashmere just outside Christchurch, Pukeora near Waipukurau in Central Hawke’s Bay and Otaki in the west of the lower North Island. In addition, there was another smaller public sanatorium called Pleasant Valley run by the Otago Hospital Board. There were also some small private sanatoria, such as the Morrinsville establishment owned by Dr Herbert King.

\textsuperscript{19} ibid.
\textsuperscript{20} Cutting, NZH, 28 May 1953. BAAK 25/40(8) A358/139a, ANZA; Minutes of Auckland Tuberculosis Association, 21 August 1962. BAAK 25/40(10) A358/139c, ANZA.
Sanatorium treatment was based on the model which originated in Germany in the late nineteenth century; this prescribed rest, good food, plenty of bracing high-altitude air and increasing exercise to bring about a gradual return to health. The sanatorium movement spread throughout the Western world and the concept was adapted to meet each country’s size and geography.21 In New Zealand, Waipiata, Cashmere and Pukeora all shared northern hillside sites with hot summer sunshine and bracing winds in the winter from nearby snow-covered mountains. The Otaki and Pleasant Valley sites were both nestled into their own sunny microclimates and less exposed to wind.

Figure 20. Cashmere Sanatorium & Coronation Hospital, Christchurch, 1952.

Isolation was a characteristic central to the logic behind the sanatorium movement. Their usual placement some distance from city, town or village met therapeutic and wider social needs. The treatment regime required the fresh air of high altitude or an exposed position, normally remote from large cities. However, the separation of the infectious was not simply for treatment but also to segregate them from their families and society. The isolated nature of the sanatoria served two purposes; detaching the patient from society to ensure an extended period of suitable treatment, and protecting society from the danger of infection. In New Zealand, as in other countries, all five institutions were isolated, although less so in the cases of Cashmere and Otaki. While quite close to Christchurch and Otaki respectively, Cashmere was removed by being on the edge of the city and ‘up the hill’ and Otaki was hidden down a long drive. The institutions, staff and patients themselves were dedicated to a singular purpose: that of recovering the tuberculosis patient’s health. The nature of sanatorium therapy involved a way of living as much as treatment and, as such, patients were nominally under the total control of medical and nursing staff’s orders and the institution’s rules.

Sanatorium life was more mobile, optimistic and sociable in nature than the hospital chest wards. While in hospital, patients really only got to know their immediate bed neighbours; at the sanatoria, the recovering patient became mobile and as a result mixed with a wider range of patients. While the traditional institutional treatments for TB up until the 1950s may have been indeterminate in value and result, the measurements and milestones that marked recovery
counterbalanced what was lacking in guaranteed treatment. These measures and markers were an intrinsic part of the system, making the emotional, intellectual and physical process of slow, uncertain recovery more bearable and contributing to the emotional ability of patients to last the treatment. As in the hospitals, sanatorium routine was strictly maintained. On first arrival, patients were usually confined to bed until medical staff had fully assessed them, after which they hoped for quick advancement to the next stage. At Otaki and Pukeora, a medical parade was held each morning and mobile patients queued to see the doctor, hoping to be graded to the next level of walk.22

![Figure 21. Morning parade at Pukeora, late 1940s.](image)

Source: Lomond Gundry Private Collection.

In most sanatoria the therapeutic emphasis on walking to increase fitness and chest health meant that patients developed a sense of freedom through physical activity and time away from the ward and especially from the bed. A sense of achievement and well being accompanied the literal steps each patient took

22 Lomond Grundy, Interview with D. Dunsford, 21 November 2006; Sams.
towards recovery. At the same time, a sense of community and friendship
developed between many residents who shared the daily walks talking across a
wide range of subjects. Following on from earning time up, patients also earned
distance in their daily walks. Most ‘sans’ had designated walking routes and
distance markers that indicated increasing levels of patient achievement. At
Pukeora, patients first walked 1000 yards (500 yards down the hill to the gate
and back), then progressively 2000, 3000, 4000 and 8000 yards. Distance
markers were set along both the Waipukurau and Taradale roads.23 Patients saw
it as an achievement to make it out onto the main roads or eventually, in the case
of Pleasant Valley Sanatorium, as far as Palmerston.24 Patients who were
making good progress and were regarded as responsible and trustworthy were
even allowed to walk at will, as long as they returned for rest and meal times.
After almost two years at Pukeora in 1941, Eric Lee-Johnson was regarded as
one of these ‘old hand’ residents and was able to ‘come and go as he pleased’.25

In a number of the sanatoria, a patient’s accommodation changed according to
their increasing level of health. As a rule of thumb, the further away from the
close surveillance of the main building, the closer the resident was to being
released. Otaki followed this pattern, and Edna Sams recalled starting on the
central East Deck, then moving to the East Deck extension. From there patients
would shift to the East Deck shacks and, eventually, the most recovered and
trusted might be placed in a house on top of a small hill distant from the rest of
the institution. For Sams, The Mount was ‘the prized place to go — and I got

23 D. Radcliffe, ‘Pukeora San’ in Eric Lee-Johnson Papers. MS 5639-4, ATL.
24 Upton; D. Radcliffe, Annotation in Pukeora Sanatorium photograph album in Eric Lee-Johnson
Papers. MS 5639-4, ATL.
25 Eric Lee-Johnson, No Road to Follow: Autobiography of a New Zealand Artist, Auckland
1994, p.45.
there’. Because of its detachment from the institution, being placed there was a reward in itself, but it was especially prized because it indicated that a return home was imminent.

Figure 22. An aerial view of Otaki Sanatorium and township with Kapiti Island in the background.

At Cashmere, one of the final measures of recovery was the practice of day or weekend leave. Olive Rowley found the fortnightly days out ‘very exciting’. Her husband would collect her at 7.30am and take her home for breakfast. They would meet friends at the Yaldhurst Hotel (trading illegally on a Sunday) and go to her mother’s for dinner, returning to the san by 7.30pm. Betty Reeve

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26 Sams.
27 Rowley.
remembered her first excursion in six months when a group on day-leave hired a car and drove to Akaroa for the day, savouring the opportunity to be ‘out in the world again’.  

Wholesome food was an important element of the sanatorium cure. Weight loss was a symptom of TB, and gaining weight was evidence of improving health. The menus supplied to the Health Department in 1941 by Pukeora, Cashmere and the Auckland Infirmary’s Tuberculosis Shelters reveal that patients were given three substantial meals, with some animal protein at each, and daily servings of milk and cream. At Cashmere, daily quantities of one quart of milk, one ounce of cream, two ounces of butter, one egg and half a pound of bread were consumed per head. The menus describe the meat and three vegetable meals that were common on New Zealand dining tables. Few of those interviewed remember the food in great detail, indicating it must have been of sufficient quality and quantity to escape the complaints that would have occurred in any institution where meals were at the heart of daily routine. Patients did not comment on feeling overfed, although the emphasis on good wholesome food and weight gain as part of any cure was more than evident to some. Ruahine Crofts remarked that, of her three stints at Cashmere Sanatorium in the early 1950s, she ‘ate her way out’ twice, increasing each time from 6 to 10 stone; on the last occasion, surgery cured her.

28 Reeve.
29 Sanatoria menus, 28 May 1941, 2 July 1941. H 1 130/22/1 24371, ANZW.
30 Crofts.
The rural isolation of most New Zealand sanatoria meant that farm produce such as meat, eggs, milk, cream and some fresh vegetables was produced on site.\textsuperscript{31} Once mobile, patients were expected to keep their rooms clean and assist the nurses with small house-keeping jobs. During Green Lane’s acute staff shortage in 1946, patients in the shelters were asked to help with their own and other’s care: ‘(anything which does not involve heavy labour such as scrubbing, etc.,) far from being a handicap could be of benefit both physically and mentally’. Official correspondence indicates this was an entirely voluntary contribution and there is no evidence that New Zealand patients were required to work as a form of graduated therapy, as in many British sanatoria.\textsuperscript{32} The shortage of nurses in the 1940s and early 1950s, the very long recovery period and the attraction of light work in a sympathetic environment meant it was not unusual for recovering or former patients to become TB nurses.\textsuperscript{33}

\textbf{A world apart}

The social nature of sanatorium life was intense. In the pre-drug period up until the mid-1950s, most people referred for sanatorium treatment were likely to be there for a substantial period of time. At the outset six months might have seemed like an eternity, yet many ended up being in sanatoria for between 12 and 24 months and a few even spent 5 or 6 years. Some patients were discharged to

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\textsuperscript{32} Deputy Medical Superintendent, Green Lane Hospital, to Superintendent-In-Chief, AHB, 4 December 1946, & reply, 6 December 1946, & C. H. McDowell to Deputy Medical Superintendent, Green Lane Hospital, 20 December 1946, & Deputy Medical Superintendent, Green Lane Hospital, to Superintendent-in-Chief, AHB, 24 December 1946. YCAS 95/3/1A A740/380d, ANZA. For an account of graduated work therapy in Britain, see Bryder, 1988, pp.46-69.  \\
\textsuperscript{33} Sams; Ewing Stevens, Interview with D. Dunsford, 18 November 2006; Ewing Stevens, \textit{One Man’s Journey}, Auckland, 2000, pp.46-50.
\end{flushright}
resume normal life but then returned when the disease became active again. So, with people resident in an institution for months and years, the san came to feel like home; the physical isolation contributed to a heightened sense of collegiality among residents. An atmosphere of support and encouragement from fellow residents was something that many commented on. Edna Sams recalled that everyone got on well at the female-only Otaki during the 1940s; it was a ‘very happy place [where] we had one thing in common’, the desire to get well. She felt that ‘[p]eople were delighted if you got a progress point and were very concerned if you were put back to bed because your X-ray wasn’t so good’.34

Within the generally supportive atmosphere engendered by sharing a common goal, there was also the time and opportunity to form friendships and romantic relationships with other residents. With every day delineated in the same way by meals, exercise and rest periods, the conversation and shared activities with fellow residents provided diversion. Time was one thing that sanatorium patients had in abundance. In 1939 Eric Lee-Johnson shared a room at Pukeora with a man with whom he had little rapport but later struck it lucky when he and Bill Radcliffe were assigned to the same outer shack. In his memoir Lee-Johnson wrote, ‘mainly I owed a new lease of life, with an acceleration of my healing from this point on, to the congenial companionship of my very active new room mate….’ 35 At a time when there was no drug treatment, and time and healthy living were the only possible healers, an optimistic outlook and the ability to accept and enjoy sanatorium life over the long term was as much a result of the

34 Sams.
35 Lee-Johnson, 1994, p.42.
personal relationships and social atmosphere within the sanatorium as any treatment being administered.

Like Eric Lee-Johnson and Bill Radcliffe, who enjoyed a friendship in spite of different backgrounds, ex-patients often commented on how everyone got on and treated each other the same, irrespective of the diversity of their upbringing. There were a large number of Maori women at Otaki in the 1940s, and Edna Sams recalled everyone getting on well together. 36 On the other side of the coin, and especially because the New Zealand sanatoria served large geographic areas, patients often took a special interest in those who had similar backgrounds or came from the same district. The stern advice given by a Maori nursing sister to Ruahine Crofts helped her develop a more positive attitude towards her illness. She also took pleasure in the company of Maori relatives at Cashmere and the occasional serving of ‘our kai’ (food) by a Maori cook.37

36 Sams.
37 Crofts.
Conversation was probably the greatest morale booster at all stages of the hospital and sanatorium process. Ewing Stevens was a young man who spent from 1947 to 1953 at Waipiata Sanatorium in Central Otago as a patient and then a patient/nurse. Stevens and a group of up to twenty others would gather in an un-used operating theatre and debate issues of philosophy.\textsuperscript{38} Bryder has critiqued Thomas Mann’s depiction of such a contemplative atmosphere as typical of sanatorium life.\textsuperscript{39} Such intellectual discussion was no doubt an aspect of New Zealand sanatoria for some patients. However, social conversation and activity covered the entire spectrum, from the frivolous to the intellectual, and its practical purpose was always to pass the time.

\textsuperscript{38} Stevens, Interview; Stevens, 2000, pp.41-54.
\textsuperscript{39} Bryder, 1988, p.200.
The knowledge that everyone was there for the same reason and had the same goal created a unity of purpose. The disease, treatments and progress of individual patients were major topics of conversation. Patients developed extensive knowledge of the disease from discussions with medical staff, other patients and their own observation and experience. As Dr Gilbert McLean, chest physician at Wellington Hospital, said to Eric Lee-Johnson in 1939, he would find ‘all 250 of my fellow patients at Pukeora to be well-informed chest specialists’. As patients gained progressively more time out of bed, spare time, especially in the evenings, was passed in the low-impact activities that were permitted in the various sanatoria. At Pukeora in the 1940s, the men’s activities included competing for bowls trophies on the outdoor greens and, indoors, playing billiards and cards, singing and reading. The Upper San at Cashmere had a mini-golf course for patients to pass the time without over-exerting themselves.

![Taranaki bowls team at Pukeora, 1940s.](image)

Figure 24. Taranaki bowls team at Pukeora, 1940s.
Source: Max Annabell & Kate Norman Private Collection.

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40 Lee-Johnson, 1994, p.38.
41 D. Radcliffe, ‘Pukeora San’ in Eric Lee-Johnson Papers. MS5639-4, ATL.
42 Ohlson.
Entertainment could be conjured out of the most miniscule events. Most patients used headphones to listen to the radio while in bed. Barrie Ohlson recalled that Cashmere Sanatorium had its own resident bookie, who operated whenever horses were racing. The TB annex at Green Lane had a view of the Alexandra Park trotting track across the road, and patients took a great deal of interest in the race results. At Cashmere, Ohlson believed the routine betting was not true gambling but rather an expression of companionship. There were many gambling games: a bird would land on the flagpole outside and someone would call out ‘a minute’, another ‘two minutes’, another ‘50 seconds’. The person who was nearest to the actual time the bird spent on the pole received a penny from everyone else. Smoking was another form of shared entertainment.  

Cigarettes were frowned on at Cashmere, although many people smoked them on the sly. Ruahine Crofts recalled smoking in the toilet block and, after the night nurse had done her last round at night, ‘out came the fags’. If staff suddenly appeared, cigarettes were put into a baking powder tin and the lid closed. Cigarettes were never wasted; a half-smoked cigarette would be put back into the packet for later, resulting in them being known at Cashmere as ‘doofers’, short for ‘that will do for now’.

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43 Ohlson.
44 Crofts.
Figure 25. Johnny Gordon with radio headphones, Pukeora, late 1940s.
Source: Lomond Gundry Private Collection.

Patients contributed to projects like sanatorium magazines, photography clubs, Esperanto lessons, radio stations at Waipiata and Pukeora, and even theatrical performances. Most sanatoria published occasional patient magazines which were a combination of educational articles, creative writing, poetry, news and gossip; these revealed a humorous irreverence about the institution, staff and themselves as patients. In 1954 Otaki patient Mary Singleton wrote a two-act farce called “Hamlet and Egglet” with apologies to William Shakespeare.

Otaki’s occupational therapist, Joyce Sutherland, encouraged other patients to produce Singleton’s play as a puppet show. This was a major project requiring the making and costuming of puppets, building a miniature stage with scene

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45 *Wairunga Gazette* (Pleasant Valley magazine), 1932, 1940, 1946. McNab Collection, Dunedin Public Library; *Te Kotuku* (Otaki magazine). Otaki Historical Society; Stevens, 2000, p.47.
changes, learning to manipulate the strings, rehearsing and performing the
production itself.46

In the post-war period, occupational therapy was a developing profession which
used guided and supervised activity to help patients recover from either
physiological or psychological illness. In the case of tuberculosis, its role was to
encourage patient morale over the extremely long recovery period and ensure
patients did not fall into a pattern of lazy inactivity. It was also hoped they might
develop skills or interests that could be turned into a suitably restful livelihood
when discharged. Ex-patients commented on enjoying the activities. Bill
Radcliffe’s photograph of handwork created at Pukeora shows a leather wallet, a
crochet beret, leather moccasins, a sponge bag, a writing case, a macramé belt,
and a carved Maori walking stick.47 At Cashmere, they stitched tapestries and
leather overnight bags and stuffed animals made of felt;48 Otaki offered basketry,
weaving, leather-work, fabric-printing, raffia-work, painting, and making soft
toys, gloves, moccasins and rugs.49 Patients who were artistically talented often
excelled at these projects, and Radcliffe recalled taking enormous pleasure from
the crafts that became works of art in the hands of Eric Lee-Johnson.50
Occupational therapy was another marker in the rhythm of the sanatorium, one
that eased boredom and gave patients a sense of creative achievement while
strengthening the social cohesion of the institution.

46 ‘Hamlet and Egglet’ programme & Otaki and District Bulletin. Otaki Historical Society
Collection.
47 D. Radcliffe, ‘Pukeora San’ in Eric Lee-Johnson Papers. MS5639-4, ATL.
48 Ohlson.
50 D. Radcliffe, ‘Pukeora San’ in Eric Lee-Johnson Papers. MS5639-4, ATL.


**Relationships and romance**

Sanatoria had a reputation as places where intense romantic relationships between patients or patients and staff often developed. This was partly a hangover from the Romantic fictional image of the young person with TB as one experiencing heightened senses of emotion, creativity and sexual desire.51 The three South Island sanatoria were open to both sexes although, in the North Island, Pukeora was for men only and Otaki was for women only until the 1950s.

Establishing the extent to which romantic relationships flourished within New Zealand sanatoria is difficult, as individual accounts are as varied as the personalities behind them. Many sanatoria residents were aged in their twenties and thirties, a time when they might ordinarily have expected to embark on marriage and family life. Instead their lives were on hold and they found themselves living in the intensive atmosphere of a world apart, with plenty of time to talk and socialise. This offered both disposition and opportunity for romantic relationships to develop. Barrie Ohlson, who met his wife Zoe at Cashmere Sanatorium in the early 1950s, believed that tuberculosis patients were no more ‘hot-blooded’ than anyone else, ‘except you had the time’. At Cashmere, in spite of the separate sleeping accommodation and the ‘Purity Gate’ that divided them, men and women were able to spend a lot of time together. Some older patients liked to see young lovers forming romantic attachments, referred to as ‘tomtitting’, and there was much speculation about ‘who was stringing along’ whom.52 At Waipiata according to Ewing Stevens, ‘a walk through the pines by a couple near the end of their hospital days usually signified

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32 Ohlson; Rowley; See also Frances Quinlan, Interview with Sue McCauley, 29 April 2001. OHA 4263, ATL.
to those who watched that something was brewing in that relationship!’ His description of his own relationships in the sanatorium are probably representative of many other twenty-somethings and the courtships that occurred were not so different from those that might have happened outside the institution.53

Ohlson observed that there were a lot of romances made and broken in the Cashmere Sanatorium. One of the san sayings was: ‘You come in single and go out married and come in married and go out single’.54 The marriages of some patients did disintegrate, yet others never felt tempted.55 A preoccupation with the opposite sex and the anticipation of sex seems to have been evident among some of the (especially male) residents, although it is hard to distinguish between talk and action. At one stage male patients at Pleasant Valley Sanatorium called the women’s quarters ‘The Zoo’, conveying an image of the men ‘perusing the talent of the day’. Angel’s Rest and the Rat House, the names given to two of the men’s rooms, suggest the humour and possible preoccupation with the opposite sex that enlivened the men’s days.56 Colleen Upton’s experience of Pleasant Valley around 1946 does not convey this image, however. Upton received permission to walk with the male patients as she recovered; she spent a lot of time with them and was unaware of any romances.57

Another Cashmere patient had quite different memories; Peter Chisnall depicts a less obedient regard for the rules of segregation and moderation during the early-

53 Stevens, 2000, pp.52-54.
54 Ohlson.
55 Crofts; Upton.
56 Ruth Houghton, Notes and correspondence on Pleasant Valley Sanatorium. Copies in author’s possession.
57 Upton.
to-mid-1950s. He shared a shack at one stage with an older man whose girlfriend would travel to Cashmere by taxi for sex. The spread-out nature of Cashmere, with the middle san shacks cascading down the hill, meant there was opportunity for seclusion and misbehaviour. Taxi drivers would deliver beer to the shacks, and Chisnall recalled going to drink at the pub and generally drinking ‘a lot of grog up there’. At the upper san he and another patient ran a trolley shop selling things like toothpaste to patients; he also gave out plenty of tots of whiskey.58 Chisnall fell in love with one patient and hoped to marry her but called it off when his parents convinced him that the young woman was going to die. He remembered falling in love with a number of women and assumed that everyone had affairs there, believing they were under a death warrant.59

Incidents of misconduct so unacceptable that sanatorium management felt they had to dismiss patients or undermine the discipline of the whole institution seem to have been occasional rather than regular. At Cashmere, it was common knowledge that crossing Purity Gate was grounds for dismissal. Chisnall admitted to going over with a friend one night. They were each in bed with a girl when his friend was caught by a nurse and was dismissed the next day. However, dismissal could be a soft weapon; Chisnall’s friend had to be readmitted because he was still infectious.60 Getting caught was the most important factor in the equation. While dismissible activities took place on an ongoing basis among a segment of the sanatorium residents, this rarely led to the ultimate punishment. At Waipiata, the ex-servicemen especially would try to bring alcohol in and, occasionally, staged a ‘breakout’, going to the pub and then dodging the doctors

58 Peter Charles Chisnall, Interview with Sue McCauley, 31 October 2001. OHA 4274, ATL.
59 ibid.
60 ibid.
and nurses on the way back. At Otaki, Edna Sams recalled an incident when a large group of high-spirited patients took themselves off into the trees beyond the sanatorium one night for a party. Many of those women were quickly discharged; the staff at Otaki were extremely upset at the breach and saw the rebellion as an indication that many of those involved were indeed recovered.

One category of patient seems to have given the institutions particular offence, their actions going well beyond high-spiritedness. They were usually male, chronic TB cases and alcoholic, and their abusive behaviour was an affront to staff and other patients, as well as to the composure of the institution as a whole. In 1954 the North Canterbury Hospital Board described one recalcitrant patient as ‘a law unto himself. On several occasions he has broken out from the Sanatorium, once stealing and ruining another patient’s clothes to do so…. On these occasions he returns the worse from liquor. He consistently uses offensive language, has a grudge against all and sundry, and has reduced both patients and staff at Coronation Hospital to a state of fear.’

**Education of the patient**

The education of the sanatorium and hospital tuberculosis patient was a major policy requirement of both types of institution. Prior to the TB drug revolution of the 1950s, it was expected that many TB patients would have their disease arrested by institutional treatment but not cured, and they could anticipate managing their own health and protecting that of their family as a long-term

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61 Stevens, Interview.
62 Sams.
63 Secretary, North Canterbury Hospital Board, to MH, 24 March 1954. H 1 246/41/8 25672, ANZW.
64 Statement by Department of Health, September 1943, pp.1, 4. H 1 130/16/6 24379, ANZW.
project. Residence in the sanatorium was a vital opportunity for nursing and medical staff to educate TB patients. Instruction was centred on inculcating them with a set of hygiene standards for life. Examples included the control of potentially infectious droplets, saliva and sputum, keeping personal utensils for exclusive use, advice about damp dusting and the revision of personal habits such as licking the fingers to turn book pages or licking stamps. The measured sanatorium regime of rest, good food and activity was also thought to be educative in its own right. Staff hoped patients would incorporate the moderate habits and knowledge of the disease into their daily lives away from the san. It does seem that patients were intensely interested both in the nature and progress of their disease and the cures available. Eric Lee-Johnson observed that ‘All at Pukeora constantly exchanged information about the peculiarities of the disease, avidly discussing the effectiveness of past and present treatments’. This educational aspect enjoyed some success, although the great importance of training patients in hygiene management would soon be overtaken by the drug revolution.

Maori and tuberculosis institutions

The iconic place of institutional treatment of tuberculosis up until the mid-1950s posed particular problems regarding the treatment of Maori, the group with the greatest incidence of tuberculosis. New Zealand’s medical and public health authorities were well aware of Maori reluctance to enter hospitals or sanatoria for treatment. There was a mix of factors at play here, as historian Raeburn Lange has shown. Earlier Maori experience of Pakeha institutions as places of death

65 Brochure, *Tuberculosis - The Patient’s Responsibility*. H 1 246/63/1 24645, ANZW.
was combined with traditional spiritual notions about the nature of illness that encouraged a fatalistic attitude to disease. Pakeha institutional practices had often been insensitive and intolerant towards the culture and ways of Maori patients, with the result that staff could be deliberately or unintentionally racist. The New Zealand situation of four main centralised sanatoria was a special barrier to Maori participation in sanatorium treatment as an instinct to avoid hospitals as such merged with an antipathy to lengthy separation from whanau. 67 Perhaps, too, many Maori simply were not able to contemplate leaving their family group because of the contribution they made to the family income or workload.

The reluctance to relocate to sanatoria cannot be interpreted as blanket Maori opposition to being treated for TB. On the contrary, Maori were admitted to the four sanatoria and, where the treatment offered was close to their homes, especially if within a predominantly Maori environment, there was an apparent widespread willingness to have treatment. The 1935 Turbott Report on the health of East Coast Maori had highlighted the disparity between Maori and Pakeha tuberculosis rates; district reports prepared for the 1936 Conference on Maori Welfare showed some improvement in hospital board attitudes towards Maori patients, as well as greater receptiveness by Maori to Pakeha TB treatments. 68 New Plymouth MOH Dr Frederick Dawson, who had done his medical training in London, believed that Maori would accept medical services if available, and that objections to hospitals were disappearing as they had done.

68 DGH to MH, 14 February 1936. H 1 194/8 B.125, ANZW.
among ‘the poor in the London slums 25 years ago’. An inspection of Bay of Plenty and East Coast tuberculosis services and accommodation by the inaugural Director of Tuberculosis in 1943 showed Maori were entering hospitals for tuberculosis treatment but still preferred to do this close to home. Patients at the remote Te Puia Springs on the East Cape were overwhelmingly Maori. Their willingness to enter Te Puia Springs Hospital confirms that by this time their renowned objections to entering hospital were based as much on the location and stifling Pakeha nature of the institution as a fatalistic fear of the institution itself. From the 1940s Maori were more prepared to enter hospitals for tuberculosis treatment, especially if close to home. As the Division’s anti-tuberculosis campaign became more widely known and the greater effectiveness of treatments was recognised, Maori also entered the country’s dedicated sanatoria in larger numbers. Otaki, Pukeora and Cashmere sanatoria all had sizeable numbers of Maori patients. Arlene Baldwin nursed in the TB ward at Wanganui Hospital in 1963 and recalled most patients at that time were Maori.

A broad solution to the problem of non-institutional accommodation for Maori TB patients from the 1930s was the provision of individual hutments. During that decade, the East Cape (and later Waikato) MOH Dr Harold Turbott and Ngati Porou leader and Eastern Maori MP Sir Apirana Ngata had supported a Maori tuberculosis farm settlement scheme similar to the famed Papworth village

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71 Report to DGH of East Coast Inspection, 1 April 1943. H 1 130/16 24378, ANZW.
72 Grundy; Sams; Crofts; Paul Potiki, Interview with Patricia Grace and Jonathan Dennis, 20 March 1992, & 1 March 1994. OH Int-0600-06, ATL. See, for example, Ivy B. Pratt (ed.), *The History of Te Kopuru Hospital, 1903-1971*, Te Kopuru, 1992, pp.34-35.
73 Arlene Baldwin, Interview with D. Dunsford, 21 October 2007.
in England. However, with growing optimism about the progress being made among Maori on the educational front and, influenced in part by the Rockefeller Foundation representative Dr Sylvester Lambert, the Health Department increasingly believed it feasible to achieve isolation from other family members with patient hutments. Hutments had first been supplied to Maori patients in the East Cape district in 1933, and this was widened to all districts as the preferred method of segregating Maori TB cases from their families. These 8-by-10 foot single rooms, built of galvanized iron and with a fireplace and chimney, were distributed right around the North Island. Each district applied for the hutments it required and by April 1944 199 had been approved, with 49 in the East Cape, 45 in North Auckland and 35 in South Auckland. By 1949 a total of 297 had been authorised around the North Island.

Figure 15. TB Hutment, 1930s
Source: Harold Bertram Turbott papers. Reference 88-059, ATL.

74 NZPD, Vol. 249, 5 November 1937, p.204.
75 Turbott, MOH, Hamilton, to DGH, 22 March 1937. H 1 194/27 B.126, ANZW.
76 File Note on Hutment Position, April 1944. H 1 194/27 16944, ANZW.
77 File Note, 31 March 1949. H 1 194/27 2628 35351, ANZW.
The Maori hutment scheme was just part of an overall push from the 1930s to improve Maori health standards that also included the provision of privies, early inoculation of children against typhoid and more district health nurses to provide greater health education as well as direct health care. While the Division of Public Hygiene believed that this work was ‘undoubtedly paying dividends in a better state of health of the Maori people’, it also felt by 1949 that the major effort required was now in the form of improvements to housing, which was not in the Health Department’s compass, and health education, which was.\(^78\) For around two decades, the TB hutment was a symbol of anti-TB efforts among Maori; it was a common sense, low-cost response that acknowledged the poor and over-crowded housing stock of so many Maori families, as well as individual preferences to remain close to whanau. There were reports of the huts being used for other purposes and of hutment residents not maintaining strict segregation; in 1953, the Wellington MOH stated that ‘it was not infrequently discovered that the whole family was on occasion found to be living in the hut’ indicating their ‘grossly inadequate housing’.\(^79\) In spite of these flaws, hutments were a practical attempt to solve the problem of infection within the family group.

**Resting at home**

Although sanatoria were the symbols of TB treatment until the 1950s, the majority of TB patients were not institutionalised for treatment but instead rested at home. Auckland Hospital house surgeon Dr John Stewart was diagnosed with

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\(^78\) L. S. Davis for Director, Division Public Hygiene. H 1 194/27 2628 35351, ANZW.
\(^79\) Notes on discussion on tuberculosis control, Medical Officers of Health Conference, 30 September 1953, p.6. CAVX 735 15/3 2, Archives New Zealand (Christchurch) (ANZC).
TB early in 1946 and returned to his parents’ home for six weeks of bed-rest. Stewart enjoyed this time. He reflected that tuberculosis was not painful. He felt well, even slightly euphoric, and enjoyed being pampered in delightful surroundings, with frequent visitors. The visitors kept their distance from him but precautions did not extend to wearing gowns or excessive hand-washing.80

The difficulty of early diagnosis and the demand for TB beds during the 1940s meant it was the norm for those with mild and non-infectious pulmonary TB to remain at home. ‘Alfred Murray’ spent time resting at home with non-infectious TB. He was given little specific advice except to rest, get plenty of fresh air and take malt extract; he read a lot of library books to pass what was a slow time. Sister Miller, the Auckland Hospital Board’s TB district nurse, ‘kept tabs’ on him, calling unannounced to bring another ration of Maltexo and make sure the windows were open. ‘Murray’ did not feel confident that he would recover during this time; his close friend had died of TB at 21 years old and he had known many others with the disease. He recalled a sense of fatalism about which way the pendulum would swing and took each day as it came. ‘Murray’ lived in his parents’ house and had his own room. Others were less fortunate; the father of a neighbouring family, who also had TB, had a room built off the verandah and appeared to live ‘like a pariah from the rest of the family’. After an initial six months at home, he studied and worked part-time and spent around four years as an artificial pneumothorax outpatient at Green Lane Hospital. Throughout his

80 Stewart.
treatment, he was very aware of being restricted and in a ‘regime’ and was anxious for it to end.  

Surgical treatments for tuberculosis

The classical treatment of fresh air and rest was the bedrock of sanatorium, hospital and outpatient treatment in New Zealand prior to effective drug treatment. However, New Zealand also climbed gradually onto the band-wagon of tuberculosis-specific chest surgery that prevailed from the early 1920s through to the 1950s. Historian F. B. Smith has concluded that the rise of tuberculosis surgery from the 1920s in the United Kingdom brought few real benefits to the patient, and Bryder views its significance as being the foundation of the powerful specialties of thoracic and cardiac surgery. A repertoire of surgical and semi-surgical tuberculosis treatments was developed as part of the increasing importance and status of surgery during the inter-war and immediate post-war years.  

New Zealand hospitals began to introduce chest surgery for the treatment of tuberculosis during the 1930s, and it was a standard part of therapy by the 1940s. The theory behind artificial pneumothorax (APT), or ‘air’ as the patients dubbed it, was an extension of the traditional rest therapy. The intent was to cure the infected parts of the lung by enforcing rest upon it. A canulla (flexible tube) was inserted between the ribs into the pleural cavity separating the muscles of the rib cage and the lung; air was pumped into the space, pressing the diseased lung flat. The patient continued to breathe at reduced volume and over the course of a

fortnight the air in the cavity would be absorbed and the affected lung would again inhale normally. Patients were required to return for refills of air on a regular basis. If a patient was found to have too many tuberculous adhesions between the lung wall and the pleural cavity, an alternative procedure was a pneumoperitoneum. Instead of air being injected between the pleura and lung, it was injected into the peritoneal cavity to raise the diaphragm and in this way rest the lungs. This was usually combined with a procedure to crush or paralyse the phrenic nerve, which also had the effect of raising the diaphragm to allow the lungs to rest. The greatest benefit of these air procedures was that the inaction of the lung meant patients were unable to produce sputum and an infectious patient became effectively non-infectious and able to remain in the community without risk of infecting others.83

Prior to the establishment of the Division of Tuberculosis, chest surgery had been performed at the discretion of individual hospital boards according to the abilities and interests of their staff. As part of the new Division’s goal of standardising and rationalising tuberculosis work nationwide, Taylor requested information about the amount and type of surgery being performed. During 1944, 507 artificial pneumothorax patients had regular refills and 93 thorascopic and 147 phrenic paralysis operations were carried out. The number of pneumothoraces and minor procedures represented 43.6 per cent of new TB patients notified in 1944. Taylor was concerned that this proportion was very low compared to countries such as the United States, where such surgery represented 70 per cent of newly notified cases. New Zealand’s low number of surgical interventions

indicated it was lagging behind international trends, which were assumed to be progressive and modern. Although Taylor wanted to encourage greater use of pneumothorax, he also wanted to restrict the performance of major TB surgery to just a few hospitals with properly equipped and trained staff.  

While some patients recall the administration of APT as uncomfortable, most seemed to take it in their stride and found it an undemanding treatment. Edna Sams recalled that sometimes, after her pneumoperitoneum refill, she felt rather bloated. However, Sams was on air for seven years, during which time she was discharged from Otaki as a patient, completed her nurse training and then returned to Otaki as a nurse. Air therefore enabled many TB patients to live close to ordinary lives. Writer Maurice Duggan visited Green Lane Hospital weekly for pneumothorax refills during 1954 and 1955 and would visit and socialise with friends in the central city on the way home. While APT was a relatively comfortable form of treatment that allowed patients to assume some normality of life, its overall effectiveness seems questionable and difficult to assess, given the impending or simultaneous treatment with increasingly effective chemotherapy.

The rising volume of major thoracic surgery for tuberculosis was part of the development of specialist thoracic and cardiac surgery units in New Zealand. These surgical procedures extended well beyond artificial pneumothorax and were much more invasive. Thoracoplasty involved the removal of a number of

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84 DDT to DGH, 10 May 1944. BAAK 25/40 A49/65a, ANZA.
85 Sams.
87 'Alfred Murray'; Alexander Sydney Fry, Interview with Sue McCauley, 21 July 2002. OHA 4265, ATL.
ribs to effect a permanent collapse and resting of the affected lung. Used only when minor forms of collapse therapy had proved unsuccessful, 67 thoracoplasties were carried out in New Zealand during 1944, around half at Auckland, one-third at Wellington and the remainder at Waipukurau and Palmerston North and Dunedin Hospitals, and Cashmere sanatoria.88

Such major surgery was one focus of Health Department efforts from 1945 until the decline of tuberculosis surgery late in the 1950s in the wake of chemotherapy. The Department was concerned that major thoracic surgery should only be carried out at specialist thoracic surgical centres; the rationale behind this was to ensure surgical staff received sufficient cases to foster their training and experience, and that each case could be team reviewed. The Tuberculosis Division planned to restrict major chest surgery to the hospitals in the four major cities, although Waipukurau and Palmerston North Hospitals were permitted to perform major TB surgery until 1954 because of their historical associations with Pukeora and Otaki sanatoria. By that time the back-log of undiagnosed TB cases was declining rapidly. Drug treatment enabled some people, previously not well enough, to undergo surgery and it cured others who then did not need surgery at all. It was obvious that specialist chest surgical units would become increasingly dedicated to more general lung and cardiac surgery. The shifting balance away from tuberculosis to general thoracic surgery can be seen in hospital board responses to the 1945 and 1955 Reports of the Advisory Committee on Thoracic Surgery. In 1945 the Auckland Hospital Board’s submission emphasised the important link between thoracic surgical units and

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88 Treatment of Tuberculous Patients by Collapse Therapy to 31 December 1944. H 1 130/10 17743, ANZW.
their associated chest or tuberculosis departments. Just 10 years later, drug treatment was available and tuberculosis work was a minimal part of modern thoracic and cardiac surgery.\textsuperscript{89} Surgical treatment converged with the new antibiotic treatment of tuberculosis in the 1950s. Two papers on TB surgery given at 1952 and 1953 conferences and reprinted in the \textit{New Zealand Medical Journal} reflected the evolution of treatment. Drug treatment was changing the need for some surgery and making other surgical procedures more effective; drug and surgical treatments were being considered in tandem, and the two researchers acknowledged that this was a time of rapid and progressive change.\textsuperscript{90} Dr Henry Stone was Medical Superintendent at Otaki Sanatorium from 1957; he later recalled that thoracoplasty continued to be used quite extensively at Green Lane in Auckland but that Wellington surgeons preferred resection (removal) of a diseased part of the lung over thoracoplasty. Resection was performed by the more modern, open-chest surgery technique.\textsuperscript{91} The Wellington Hospital preference for resection over thoracoplasty was evidenced in another \textit{New Zealand Medical Journal} article in 1955. Dr James Baird stated the growing preference for dealing with tuberculosis lesions by resection rather than collapse therapy and reported on resections in 127 patients.\textsuperscript{92} Henry Stone did not recall any adverse reactions to surgery or refusals by patients when offered it at Otaki. He believed

\textsuperscript{89} Report of Advisory Committee on Thoracic Surgery, 1955. H 1 246/45/5 2630 35545, ANZW.
\textsuperscript{91} Henry Stone, Interview with D. Dunsford, 13 June 2005.
this was because many were from a young age group and, in a hurry to get well and return to their normal lives, keenly took up any treatment offered.93

In 1953 Timaru Hospital physician Dr Sid Hawes wrote in the *New Zealand Medical Journal* that, following the recommendations of the Veteran’s Administration in the United States, Timaru’s standard treatment for pulmonary tuberculosis was ‘streptomycin intermittently with PAS’. Hawes stated that, while collapse therapy had virtually ceased at this time, major thoracic surgery was carried out for 33 of the 106 cases under discussion.94 Patients treated with both drug therapy and resection often regarded surgery as the final act in their individual tuberculosis story. After years of rest treatment, artificial pneumothorax and initial drug treatments, resection seemed to be the event that allowed them to leave hospital and return to normal life.95

**Drug treatments**

From the late 1940s, rapid developments in drug treatment followed the discovery of streptomycin. In 1948 streptomycin was described in the same sentence as both a ‘prospect’ and ‘the new wonder drug’, a tension that represents well the uncertainty surrounding its efficacy and the hope already attached to it.96 The New Zealand medical profession, the Tuberculosis Division, patients and even the general public were all highly aware of the advances in

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93 Stone.


95 Rowley.

96 D. I. Sinclair, ‘The Problem of Tuberculosis in the Maori – A Survey of Tuberculosis among the Maori people of New Zealand – with particular reference to the conditions obtaining in the East Cape and Otago Health Districts – and a discussion upon certain of the factors leading to the present high mortality rates,’ Preventive Medicine Dissertation, University of Otago, 1948, p.52.
anti-tuberculosis drugs. There was a degree of caution about the early use of streptomycin, especially as the side effects and limitations of its use became known. However, as smaller, safer doses were used in combination with other drugs to counter the problem of side effects and drug resistance, patients increasingly experienced and were eager to receive chemotherapy. For 50 years the outstanding feature of tuberculosis treatment had been a lengthy period of uncertain outcome, and it was understandable that most patients were only too keen to cut it short. This was the promise held out by drug therapy, and patients were as keenly optimistic about trying the new drugs as they had been about having air or surgery.

Patients remembered the early drug treatments, mostly less than affectionately. Alexander Barton was treated with the ‘new’ streptomycin at Waipiata Sanatorium in 1949 but, after an initial improvement, he relapsed. Artificial pneumothorax was tried next but this was also unsuccessful and he was resigned to relying on bed-rest.97 By 1950-51, the two-drug combination of streptomycin and para-aminosalicylic acid was being used in conjunction with bed-rest, still only tentatively offering a ‘promising but not definitive’ cure.98 Streptomycin was delivered daily by a painful injection to the buttock.99 Patients were aware that medical knowledge about dosages and length of treatment was a work in progress. Alexander Fry was admitted in 1951 to Wellington’s Ewart Chest Hospital. This hospital was isolated from the rest of Wellington Hospital, high among pine trees on Mt Victoria. Fry was told that streptomycin might damage

97 Alexander Steven Barton, Interview with Sue McCauley, 20 April 2002. OHA 4273, ATL.
98 Fry.
99 Crofts.
his hearing but recalled that he and others, if faced with a choice of tuberculosis and deafness, would tend to choose the latter.100

PAS brought a different kind of misery to the patient. The ‘great big ugly pills’ resembled a pair of large communion wafers with the liquid Paramisan inside. Being so large, they were difficult to swallow, and patients would soak them in their drinks to make this easier. The taste of the Paramisan liquid was uniformly detested and, if they were left too long to soak, the wafers dissolved and the liquid flooded out.101 One patient at Ewart was reputed to rub it onto his chest rather than swallow it; others simply threw the wafers away.102

As a patient at Ewart in the early 1950s, Alexander Fry saw an article in Time magazine on the development of isonicotinyl hydrazine (Isoniazid or INH). Time showed photographs of people dancing in a tuberculosis ward in the United States; the new drug was being welcomed as the final piece in the jigsaw of a tuberculosis cure. Fry was offered Isoniazid at Ewart not long afterwards, an indication that New Zealand treatments were pretty up-to-date.103 Radiologist John Stewart, who had lived under the cloud of recurring pulmonary tuberculosis for eight years, was given Isoniazid in England in 1954; he called it a ‘miracle’. Without even needing to take bed-rest, Stewart took the pills as instructed and was never again troubled by tuberculosis.104 In 1955 Dr Jack Wogan’s essay on the control of tuberculosis in New Zealand was a good news story of plummeting mortality and decreasing morbidity that saw antibiotic drugs referred to almost in
passing, their effectiveness taken for granted. The Health Department’s confidence in the new drug treatments and its own anti-TB campaign meant it was now looking to the future with the twin goals of prevention and eradication.  

**The decline of the sanatoria**

Tuberculosis hospital wards around the country were still in demand in the 1950s, although patient numbers in the country’s remote sanatoria declined rapidly. The drugs’ revolution in TB treatment was illustrated by the discussions surrounding the long-standing plans for a new sanatorium near Hamilton to serve the Auckland, Waikato and Bay of Plenty districts. The project had been delayed during the 1940s and, as late as September 1951, the *Auckland Star* reported that plans were well advanced. However, early in 1952 the Division of Tuberculosis agreed with the Waikato Hospital Board that there was no urgency in its establishment, apparently confident that this type of TB accommodation was set for a rapid decline.  

In 1954 Dr Jack Wogan announced that future TB accommodation would be concentrated in general hospitals. Pleasant Valley Sanatorium had already closed and there was no need for new sanatoria at either Levin or Waikato. Pukeora had just forty-three patients in its 142 beds and closed in 1956. Otaki continued for the moment but the nature of treatment and Otaki’s patient base had changed. Dr Henry Stone, Medical Superintendent from

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106 Correspondence and minutes of Auckland Provincial District Joint Sanatorium Committee. H 1 130/16/9 20453, ANZW; Cutting, Star, 27 September 1951. BAAK 25/40(7) A358/138c, ANZA; C. A. Taylor to Waikato Hospital Board, 8 December 1952. H 1 130/16/10 24382, ANZW.  
1957, felt that a high proportion of his patients required more long-term care, being chronic cases or having developed some resistance to streptomycin. In addition, Otaki now took in the difficult or recalcitrant patients who would not comply with treatment. Even so, patient stays at Otaki were shorter than previously, maybe a few months rather than two or three years and very few now died. As patients were discharged more quickly and beds were freely available, physicians from anywhere in the country could contact Otaki and request a bed for someone who was not responding to treatment. The last patients left the Middle Sanatorium at Cashmere in 1960. Waipiata in Central Otago closed in 1961 and Otaki in 1964.

**Treatment in the community**

Over a decade, the revolution of tuberculosis drugs had eliminated the sanatorium as a location of TB treatment in favour of the hospital chest ward and the patient’s home. Acute TB patients were still admitted to hospitals but, after a short period, most were no longer infectious, and the lengthy drug treatment was completed at home. Dr Henry Stone recalled that TB treatment had already become largely domiciliary-based by the time he arrived at Otaki. Once non-infectious, patients were quickly sent home to their own district under the care of their local TB specialist.

As discussed in Chapter Two, the shortage of TB beds in the past meant many TB patients had always remained at home and their supervision had been an

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108 Stone.
110 Stone.
essential part of tuberculosis control. Nurse visits to the homes of TB patients had a long tradition; prior to the arrival of drug treatment, nurses had monitored the behaviour of the patients and their home environment, and provided education on how to prevent infection of other family members. Compliance with instructions in the absence of the nurse was hoped for but could not be guaranteed. The introduction of drug therapy perhaps brought about some lessening of surveillance, especially after patients had converted to non-infectious status.

By 1957, the Auckland Hospital Board apparently felt that nurse supervision was no longer so important. In 1949 the Board had appointed Sister Miller as social service sister to TB patients; part of her brief was to carry out social welfare work in co-operation with the preventive and follow-up work of the Health Department’s district health nurses.\(^{111}\) Miller retired in 1957, and the Hospital Board proposed that her social work could be done as well by someone without nurse training. The Health Department still believed strongly that tuberculosis treatment and social work should be combined and responded to the Hospital Board suggestion by absorbing TB welfare work into its public health nurses’ duties.\(^{112}\) However, it took some time for the particular problems associated with a long drug treatment regime to become apparent. In 1959 one Auckland nurse raised the problem of patients forgetting to take drugs at times. Her concerns were based on the waste or accumulation of expensive drugs rather than the development of drug resistance. She suggested that, rather than posting drugs

\(^{111}\) Auckland Tuberculosis Association (Inc.) to Auckland Hospital Board, 25 November 1949. YCAS 62/6/14 A740/533e, ANZA.
\(^{112}\) Note, 6 June 1957, & Department of Health to Superintendent-in-Chief, Auckland Hospital Board, 11 July 1956. YCAS 62/6/14 A740/533e, ANZA.
to her country patients on a monthly basis, she deliver them and check they were being taken as directed. Delivering a patient’s TB drugs, it was argued, also provided an acceptable reason for increasing supervision of some patients. This was thought especially relevant for Pakeha patients who were not so used to repeated visits by departmental nurses. In contrast there was a long history of Health Department nurses providing infant and child care to Maori mothers, a service that Plunket Society nurses provided to Pakeha mothers. Sue Greenstreet was a public health nurse in South Waikato in the 1950s and visiting TB cases was just one of her duties, if an important one. She regularly drove patients and contacts from Putaruru to Hamilton for X-ray and a specialist appointment, an exercise that took all day.

TB patients might no longer spend years in a sanatorium but drug treatment was still a lengthy process of six to nine months or more. Twenty-year-old nurse Arlene Baldwin contracted TB in Wanganui in 1966; after two weeks in hospital to establish she was an inactive case, she stayed at her parents’ home for six months having drug treatment, largely unchanged from the previous decade, of streptomycin injections, Paramisan wafers and INH (Isoniazid) tablets. Baldwin hated the streptomycin and the Paramisan but felt she just had to put up with it to get well. She continued to take INH for two or three years and had routine check-ups for 10 years.

113 Note, 21 August 1959, & Dunmore to MOH, 27 August 1959. BAAK 25/40(9) A358/139b, ANZA.
116 Baldwin. Baldwin contracted TB through a non-hospital contact.
In Auckland the regular hospital clinic visits by outpatients could be burdensome in terms of travel to Green Lane. In March 1960 a meeting of chest physicians and Health Department staff discussed possible improvements to the appointment system and ways to help patients with transport. Director-General of Health Dr Harold Turbott was firm in his recommendation that the Board set up two satellite clinics at Takapuna and South Auckland.117 This was an improvement, although it did not solve the problem of people missing clinic appointments entirely; the large number of ‘no shows’ in South Auckland was commented on in 1963.118

From 1949 to 1964, new TB notifications almost halved from 2,009 to 1,048. The total number of registered TB patients rose at first and peaked in 1957 at 13,518 before falling away.119 Along with this decline, the social profile of TB patients altered as well. The combination of high living standards, roomy housing and effective drug treatment meant that higher socio-economic groups were increasingly absent from the TB clinics, but the disease was much harder to remove from the over-crowded homes of the poor. Maori rates of tuberculosis had declined alongside Pakeha but were still proportionately higher. In 1957 new Maori cases of pulmonary tuberculosis were 36.4 per 10,000 estimated mean population, compared with the Pakeha rate of 4.7.120 TB incidence was made up increasingly of Maori and Pacific Island people, new migrants to Auckland and the major cities from both rural New Zealand and the small, undeveloped South

117 Minutes of meeting, 30 March 1960, & DGH to Auckland Hospital Board, 24 June 1960. BAAK 25/40(9) A358/139b, ANZA.
118 Minutes of meeting at Green Lane Hospital, 15 October 1963. BAAK 25/40(11) A358/140a, ANZA.
Pacific Islands of the Cook Islands, Niue, Samoa and Tonga. The place of immigrants is an important part of the changing face of tuberculosis incidence in New Zealand post-war and is discussed in Chapter Six.

Tuberculosis among Maori and Pacific Island people became the focus of public health efforts, especially in Auckland. By the mid-1960s the disease was becoming identified by the medical profession as primarily a Maori and Pacific Island problem. In running counter to the national trend, the higher TB rates among Polynesians made demands on public health nurse TB services. In 1969 Dr Grahame Fox, Visiting Paediatrician at Auckland Hospital, requested the services of a nurse to visit a Niue Island family twice daily. The family’s situation was extreme: five children aged from 4 months to 5 years were in Auckland Hospital with quite extensive TB. It was acknowledged that in order to return home they would require nursing help to administer streptomycin and oral therapy twice daily. Without this assistance the children would need to remain in hospital at a time when beds were short.

Another aspect to the changed social profile of the disease was that those with advanced, chronic disease now represented an increased proportion of the smaller total of patients. A handful of patients within the chronic group had always been extremely difficult to treat; their tuberculosis was often

121 C. H. King, Note, 13 June 1963. BAAK 25/40(11) A358/140a, ANZA.
122 T. G. Fox to Medical Superintendent, Extramural Hospital, 2 April 1969. YCAS 62/6/14 A740/533e, ANZA.
accompanied by alcoholism and their anti-social behaviour caused much offence especially in the rigidly disciplined world of the hospital.\textsuperscript{123}

Dr Iain McIntyre, Medical Director of Cashmere Sanatorium, advised the MOH Christchurch in January 1945 about such a patient:

This man, as you probably know, has caused us a considerable amount of trouble in the past. This time he was more than usually abusive to the staff, and before speaking to him I had a deputation from the nurses complaining about his language and generally disgusting behaviour. He immediately flew into a rage when I saw him and walked out of the Institution. This man is only fit to be looked after by men. I am afraid that I will have to take a stand this time and refuse to take him back …, no matter what happens.\textsuperscript{124}

The extent to which recalcitrant patients disturbed the disciplined tenor of the hospital and upset staff and compliant patients eventually led to the establishment of a small TB isolation section at the Mt Eden Prison Hospital in 1973.\textsuperscript{125} In 1964 Wellington Hospital Board Superintendent-in-Chief, Dr John North, described the situation in the Ewart wards. The problem patients were ‘almost entirely limited to chronic alcoholics who fail to submit to treatment under ordinary Hospital rules’, he wrote. Intoxication, brawls and even the theft

\textsuperscript{123} MOH, Wellington, to Medical Superintendent, Pukeora Sanatorium, 1 September 1943, & Secretary, North Canterbury Hospital Board, to DGH, 28 December 1944, & I. C. McIntyre, Medical Director, Cashmere Sanatorium, to MOH, Christchurch, 25 January 1945, & Secretary, North Canterbury Hospital Board, to DGH, 20 April 1945, & DDT to all MOsH, 30 May 1945. H 1 246/41/8 25672, ANZW.
\textsuperscript{124} I. C. McIntyre, Medical Director, Cashmere Sanatorium, to MOH, Christchurch, 25 January 1945. H 1 246/41/8 25672, ANZW.
\textsuperscript{125} Department of Justice to Department of Health, 27 November 1973. BAAK 25/40/71(1) A358/142b, ANZA.
of the hospital’s alcohol supplies were evidence of the total unacceptability of their behaviour.126

One extreme example of the recalcitrant patient tested the fortitude of Auckland’s TB professionals to the limit. Over 18 months, he was transferred from Green Lane Hospital to the Mt Eden Prison Hospital and back to Green Lane. His situation epitomised the staff’s worst fears about non-compliance. He had had active TB since 1968 and ‘as a direct consequence of his past failure to take anti-tuberculous medication properly, the organisms developed a resistance to the more effective anti-tubercular drugs’; he was believed to be a severe danger to others. He was held under a detention order for the whole of 1974 at either Mt Eden or Green Lane and his treatment including surgery led him to be non-infectious by February 1975. His behaviour throughout his time at Green Lane was a source of protest by staff. He induced other patients, including a 15-year-old boy, to drinking sessions and made indecent suggestions to the nurses. With his non-infectious status confirmed, he was ‘tossed out’ drunk in March 1975, no doubt to the relief of hospital staff but to the future vexation of their outpatient colleagues.127

Out in the community, the problem of non-compliance was sufficient for the Auckland District Health Office to allow two public health nurses to conduct

126 J. H. North, Superintendent-in-Chief, Wellington Hospital Board, to Secretary of Justice, 23 June 1964. ABRR 7563 W4990, Box 1, ANZW.
special investigations of problem TB families in 1962. One of their patients appears to be representative of many recalcitrants. He was described as a ‘very difficult man’ who drank and did not contribute to his family’s upkeep. He was known to Department of Maori Affairs staff as well as the Health Department. Public health nurse supervision, while probably not welcomed by him, appeared to have been delivered in an acceptable manner. He told the public health nurse that ‘he would sooner have … [her] watching him’ than Maori Affairs and promised to change his ways in future.128

The critical role of public health nurses in the supervision of drug therapy was increasingly accepted, particularly in Auckland. Late in 1970 a Departmental circular memo to all Medical Officers of Health raised the possibility of transferring the surveillance of TB patients from the Health Department to hospital boards. This integration and devolution of services to hospital boards echoed similar moves in the provision of the country’s maternity and psychiatric services around the same time.129 The circular memo prompted an anxious response from Auckland MOH, Dr Norman Barnett, that the role of the public health nurse might be diluted as a result. Auckland public health nurses had been routinely delivering TB drugs directly to patients since the previous July, partly because so many prescriptions had remained uncollected from Green Lane Hospital. Deputy MOH Dr Trevor Bierre calculated that 30 to 40 per cent of people were unreliable when taking drugs for TB. The nurses agreed that the deliveries had greatly improved the supervision of patients; the nurses also got to

128 Notes of meeting, 12 October 1962, & Public Health Nurse to MOH, Auckland, 30 October 1962, & Note, 8 February 1963. BAAK 25/40(10) A358/139c, ANZA.
know the patients and families and were able to help with any bureaucratic, financial or language difficulties. The Health Department regarded this close contact with tuberculosis families as valuable because it provided an avenue for ‘a tremendous amount of health teaching’ to a ‘large cross section of the community’. There were 100 people in the Auckland Health District on TB drug therapy in March 1970. 130 Dr Bierre endorsed the special relationship public health nurses had developed with different groups and individual families. In particular, he praised their ‘tradition’ of contact and ‘excellent rapport’ with Polynesian people, who made up 54 per cent of Auckland’s TB patients but only 9 per cent of the population. 131

Throughout 1972 Auckland’s special problems in connection with TB and its burgeoning Maori and Pacific Island populations were emphasised. The Department’s public health nurses were seen as providing a long-standing and cohesive service that had the trust of its clientele and provided medical and social advice, transport to clinics, supervision of recalcitrant patients and, where necessary, monitoring of drug consumption. 132 In many ways, these services, routinely provided by district and public health nurses in the pre-drug era, were being reinvented in Auckland to suit the new TB therapies and the social and ethnic profiles of TB patients. They can also be seen as a loose forerunner to Directly Observed Therapy (DOT) which was developed in the United States in

131 Bierre to DGH, 12 March 1972. BAAK 25/40(12) A358/140d, ANZA.
the 1990s in response to newly elevated rates of TB in New York City among disadvantaged groups including the homeless, intravenous drug users, alcoholics and people with HIV-AIDS.\textsuperscript{133} These associations with TB had aggravated the problem of treatment non-completion and led to a raised incidence of multi-drug resistant strains of tuberculosis. The United States experience regarding drug resistance raised the compliance bar higher for tuberculosis; the DOT regime of intense public health nurse attendance to monitor patient compliance with drug therapy became standard WHO practice and is currently recommended in New Zealand for those ‘unable or unwilling to self-medicate’.\textsuperscript{134}

Conclusion

Between 1939 and the 1970s, tuberculosis therapy changed dramatically from rest and graduated exercise supplemented by collapse therapy and thoracic surgery to complex drug therapy delivered at home. Previously, hospital and sanatorium stays often involved a long period of institutionalisation under close surveillance where recovery was uncertain and slow. Patient accounts of sanatorium life highlight the success with which so many adapted to the rhythms and social nature of institutional life. They also reveal the deep determination of some patients to regain their health in spite of the uncertainty of recovery and the reality that, for many, the disease would hang over their lives for years. The combined drug therapy of the 1950s that finally set such patients free from tuberculosis was understandably viewed by some as a miracle.


The wonder of effective drug treatment was not a pushover, however. The drugs were difficult to take over an extended period of time and problems emerged in relation to completion of drug therapy. In contrast to the close surveillance in hospital and sanatoria, the early period of drug therapy could be described as slightly less intrusive from the patient’s point of view. However, the problem of non-compliance and increasing drug resistance that arose in the 1970s led to an intensification of the surveillance model that took into account new risks and the altered social profile of most TB patients. The patient experience of tuberculosis from 1939 to the 1970s was transformed by drug therapy. However, the public health imperative of close supervision remained and, for some patients, even grew in its intensity.
The ‘problem’ of the TB immigrant was a recurring and at times prominent aspect of the post-1945 anti-tuberculosis campaign. New Zealand introduced pre-immigration medical and X-ray checks for TB at the port of departure to exclude such unwanted arrivals. These medical checks were inconsistently applied until the late 1970s when they became a uniform requirement for all immigrant applicants.

New Zealand was certainly not unique in perceiving the TB immigrant to be a public health problem. Alan Kraut’s 1994 monograph *Silent Travellers: Germs, Genes, and the ‘Immigrant Menace’* is a powerful exploration of the long relationship between immigration and public health in the United States, and has parallels with the post-1945 New Zealand experience. Kraut’s examination of the repeated branding of immigrants as a health menace identifies the increasing vigilance of public health and immigration policies to exclude the diseased and unhealthy immigrant, using an expanding array of science and technology. He also illustrates how, contrary to native-born prejudice, harsh socio-economic conditions within a new country were often a potent contribution to poor immigrant health.1 Ian Convery, John Welshman and Alison Bashford’s comparative case study ‘Where is the Border?: Screening for Tuberculosis in the

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New Zealand’s medical checks for some and then all immigrants at their port of departure mirrored the Australian model. However, New Zealand later added a loose version of the British port of arrival (local destination) system in its specific attempts to control TB in Pacific Island immigrants.

On the face of it New Zealand’s move to uniform medical checks could be read as a progressive intensification of immigrant entry requirements in response to the wider anti-TB campaign. However, calls from TB and public health physicians for greater health checks of immigrants were not the sole influence on immigration policy, which was agreed in conjunction with the country’s labour, immigration and foreign affairs officials. Immigration policies reflected the need for immigrant labour, the changing racial and ethnic make-up of those immigrants, the discriminatory treatment accorded prospective immigrants based on race and, eventually, the broader realisation that such discrimination was becoming unacceptable internationally; in addition it reflected the fading prominence of tuberculosis as a public health issue.

The early twentieth century debates

Debates in the second half of the twentieth-century about the desirability or undesirability of immigrants with TB had their origins 50 years earlier. Barbara Bates and Sheila Rothman have discussed the position of immigrants as bearers

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of high TB rates in the United States of the 1900s. In the New Zealand context, Linda Bryder has argued that the turn of the twentieth century was a time of changing attitudes toward what constituted a suitably healthy immigrant. From the mid 1800s, promotional immigration material had often endorsed the particular suitability of the New Zealand climate for British immigrants with consumption. This phenomenon was not restricted to New Zealand; nations, states and cities competed to attract the financially self-supporting consumptive immigrant with claims of their particular, healthful environment. Bryder maintained that the slow acceptance of Koch’s 1882 discovery of the bacterial and infectious nature of tuberculosis countered the previous attractiveness of the financially independent consumptive as an immigrant and these conflicting trends overlay one another around 1900.

The early arguments against the suitability of immigrants with TB that accompanied the 1899 Immigration Restriction Act resonated well beyond the turn of the century; they were based on the cost to the New Zealand taxpayer of sick immigrants and their unfair use of New Zealand’s health services at the expense of New Zealanders, together with the general eugenic principle that the country needed strong, healthy migrants not weak, unhealthy ones. Additionally, there was the danger posed to healthy passengers by an infectious immigrant during a long, sea voyage from Britain. In New Zealand, the public health

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concerns rising out of Koch’s discovery led to TB being listed as a contagious or
dangerous disease from 1903, although this did not result in significant changes
to the reality of pre-immigration medical inspections. The fare-paying
passenger probably had little in the way of a formal medical inspection, and even
the assisted immigrant’s medical check was most likely ‘haphazard and
cursory’. In Bryder’s view, the 1903 move did little to reduce the number of
immigrants with TB and anecdotal evidence continued of sickly arrivals; only the
observably sick were likely to receive a full medical examination.

The transitional nature of turn-of-the-century knowledge and opinion about
bacteriology in general and TB infection in particular can be seen in continued
arguments in favour of allowing British migrants with TB to enter the country.
New Zealand’s strong imperial and cultural bonds with Britain encouraged the
view that British migrants with tuberculosis should be able to benefit from New
Zealand’s environment; in eugenic terms, even consumptive British migrants
were better than non-British migrants. The discriminatory application of
immigrant medical checks was one way of applying New Zealand’s preference
for British migrants, and this continued until the 1970s.

6 ibid, pp. 454-68.
The post-1945 TB immigrant

After the end of World War Two, immigration to New Zealand from Britain and Europe surged. With its major anti-tuberculosis campaign under way, the Health Department acted quickly to exclude potential immigrants with TB. The Director of the Tuberculosis Division, Dr Claude Taylor, travelled to Britain in late 1947 and requested that intending migrants to New Zealand be X-rayed before departure. At this time assisted migrants (but not fare-paying migrants) underwent a medical examination in Britain before being accepted; of these, just nursing staff, home aids and those whose health appeared suspicious were required to have an X-ray. However, it was felt that more rigorous use of X-ray technology would ensure unsuitable immigrant applicants with TB were rejected before departure.

The Director-General of Health tried to increase this level of screening when he recommended to the Minister of Health that all immigrants be required to have a ‘normal’ chest X-ray before acceptance. However, the Health Department did not have sole responsibility in the matter; immigration policy was the Department of Labour and Employment’s territory and, at a time of acute labour shortage, the Health Department’s objectives were apparently considered secondary to the Labour Department’s workforce goals. Historian Sean Brawley has shown how New Zealand’s immigration policies during the post-war period preferred British migrants and discriminated informally against Asian and other

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8 Official Secretary, New Zealand Government Offices, London, to Director of Employment, 10 February 1949, & Director of Employment to Minister of Immigration, 26 September 1950. H 1 130/48 23555, ANZW.
9 DGH to MH, 19 November 1947. H 1 130/48 23555, ANZW.
non-European races. In addition, New Zealand was ‘competing with aggressive
Australian and Canadian immigration programmes’ for those same preferred
British migrants and the Department of Labour’s immigration goal was to
‘streamline the system to attract more migrants, not add further impediments’.
The Health Department’s public health goal of preventing the arrival of
immigrants with TB repeatedly came up against the Labour Department’s aim of
attracting as many immigrants as possible. Brawley also argued that New
Zealand immigration officials’ policy of preferring British immigrants of
European descent remained ‘unofficial’ to obscure its racist bias. The result was
that aspects of immigration policy from 1945 to 1978 were formed on an
inconsistent basis that was translated into a pattern of delayed decision-making.10

In 1948 the Director of Employment agreed to the Health Department’s
advocacy of pre-departure medical checks and X-rays for all assisted
immigrants.11 However, a departmental decision in Wellington was not so easily
translated into action in Britain. Indeed, the decision itself appears to have been
somewhat liquid in nature. The Health Department was still investigating the
‘whole question’ in April 1949, and the issue of whether assisted migrants or all
migrants should be X-rayed before acceptance for migration remained before the
Minister of Health in May 1949.12

Some British immigrants with TB had undoubtedly continued to arrive in New
Zealand, although without public comment, since the debates of the early 1900s.

10 Sean Brawley, “‘No ‘White Policy’ in NZ”, Fact and Fiction in New Zealand’s Asian
Immigration Record, 1946-1978”, in New Zealand Journal of History (NZJH), 27, 1, April 1993,
pp.23-27, 36.
11 Director of Employment to DGH, 19 August 1948. H 1 130/48 23555, ANZW.
12 DGH to AHB, 28 April 1949, & DGH to MH, 2 May 1949. H 1 130/48 23555, ANZW.
However, in 1948 the increase in immigrant numbers and the raised profile of TB as a result of the Division of Tuberculosis’s goal of eradication meant reports of immigrants arriving with the disease were greeted with alarm. Later that year after ‘one or two’ new female assisted migrants were found to have tuberculosis — in spite of having had chest X-rays in the UK before departure — a circular memorandum from the Division of Tuberculosis advised that all home-aids working in New Zealand hospitals would be X-rayed. The arrival of immigrants with TB proved to be rather more common than the Division’s memo implied. In March 1949, Auckland Hospital reported that it had admitted twenty immigrant TB cases in the past 27 months and, its board publicly asked for all immigrants be X-rayed to counter the problem.

The Health Department now found itself in an uncomfortable position, with its credibility as the protector of public health under attack. The Department’s instinct had been that all migrants should be X-rayed, but it did not have direct and sole responsibility for instituting such a policy. In attempting to explain the situation to the Auckland Hospital Board, Director-General of Health Dr Thomas Ritchie advised that arrangements to X-ray assisted immigrants from Britain before departure were ‘in hand’, although there were no plans to do the same for fare-paying migrants. Ritchie also explained that, while New Zealand authorities in Britain had been working with the British Government to introduce the X-raying of all migrants, the inception in July 1948 of the British National Health Service had set these discussions back to zero. Early in 1949 the New Zealand

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13 Circular Memo 1948/164 from DDT, 8 November 1948. BAAK 25/40(50) A358/138a, ANZA.
14 Deputy MOH, Auckland, to DGH, 17 March 1949. BAAK 25/40(50) A358/138a, ANZA.
15 DGH to AHB, 22 March 1949. BAAK 25/40(6) A358/138b, ANZA. For an account of the setting up of the National Health Service in Britain, see Charles Webster, *The Health Services*
Representative in London advised that British authorities were now considering the issue more broadly and New Zealand had been asked to back off and ‘leave the matter in their hands’. The Health Department believed the British were underestimating the potential number of TB cases slipping through the existing medical examination process and tried to get the Department of Labour and Employment to press the issue further. However, medical checks were not such a high priority for the country’s immigration officials, and the Health Department found itself wedged between the rising alarm created by one crusading hospital board and the slow processes of international — and inter-departmental — co-operation.

The situation escalated when the Auckland Hospital Board advised on 1 April 1949 that thirty-two immigrants had presented to the Green Lane Chest Clinic in the past 30 months; thirty-one were fare-paying and just one was assisted. Auckland Hospital Board members and staff complained colourfully at a board meeting on 11 April 1949 and received press coverage the next day. The Health Department was criticised for not acting more effectively over a known issue raised at previous tuberculosis conferences. Ringing the familiar alarm bell of the dangerous undiagnosed case, Green Lane Hospital senior chest physician Dr Chisholm McDowell asserted that the immigrants identified with tuberculosis would be only the tip of infectious immigrant cases in the country. His argument echoed those of the early twentieth century; these patients had already

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16 Official Secretary, New Zealand Government Office, London, to Director of Employment, 10 February 1949, & DGH to MH, 2 May 1949. H 1 130/48 23555, ANZW.
17 ibid.
18 Superintendent-in-Chief, AHB, to MOH, Auckland, 1 April 1949, & File Note, 11 April 1949. H 1 130/48 23555, ANZW.

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endangered fellow, healthy migrants, especially babies and adolescents, on the long journey from Britain. There was also the implied injustice that by occupying beds in the country’s overloaded tuberculosis hospitals they were depriving New Zealanders. The chairman of the Auckland Hospital Board’s hospitals committee boosted the credibility of this claim by declaring that ‘about 150 very desperate cases of tuberculosis were waiting to enter hospital in Auckland. More drastic steps must be taken at the other end to stop others coming from overseas.’

McDowell asserted that, in many of the immigrant cases, disease was so bad that the most perfunctory medical examination would have picked it up. The impression given to the public was that sickly immigrants were arriving in such numbers that immediate action was needed to halt the flow. The emotion building around the issue was illustrated by Mr H. T. Morton’s statement that ‘A disgraceful state of affairs has been disclosed… This country could become the happy hunting ground of anyone in England with illness.’ Fanning the flames even further, the Auckland Hospital Board suggested that, in view of the apparent failure of TB checking systems in Britain, the Health Department should immediately introduce medical examination of all immigrants at their New Zealand port of arrival and also explore ways to check tourists and visitors. These proposals were set aside by most as a logistical impossibility; the New Zealand Herald’s editorial on 12 April considered that a port of departure examination of all immigrants was sufficient to solve the current problems, especially since the reported cases appeared to be almost entirely fare-paying.

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19 Press, 12 April 1949; Star, 12 April 1949; NZH, 12 April 1949; ODT, 12 April 1949.
immigrants, which implied the existing examination of assisted immigrants was working effectively. The Board’s provocative suggestion to X-ray all immigrants on arrival may have been a calculated attempt to force a pre-departure X-ray of all immigrants. The Auckland Star concurred with the Herald that to check tourists and visitors was ‘unrealistic’, commenting that New Zealand’s own rate of TB was comparatively high and ‘[i]t cannot be seriously suggested that a few tuberculosis sufferers among tourists would cause anything but an insignificant threat to the general health during their brief stay in the country’.20 In response, the Health Department sought more information on the subject. It issued Circular Memorandum 1949/79 asking all hospital boards to advise the names of any assisted immigrants on their TB registers who had slipped through the net.21

The Auckland Hospital Board’s prominence in this debate reflected the fact that it bore the brunt of the problem. As the largest port of arrival, Auckland accepted the majority of immigrants and, with the largest population in the country, its chest and tuberculosis services were already under pressure without the added burden of new immigrants with TB. The Health Department and the Auckland Hospital Board both wished to see all immigrants whether assisted or fare-paying receive an X-ray examination before departure. However, unlike the Department, the Board was not faced with the difficulties of negotiating this.

It would not be until 1950 that the compulsory X-ray of assisted migrants at port of departure was put into practice in Britain; however, the minimal representation of assisted immigrants in the Auckland Hospital Board’s 1949 TB statistics

20 Star, 12 April 1949; NZH, 12 April 1949.
seems to indicate that the existing medical assessment of assisted migrants — with X-ray of at-risk or suspect applicants only — was actually an effective screening process. On that basis, the compulsory X-ray of all potential migrants was not necessary to prevent those with TB from leaving Britain. The New Zealand Department of Health might therefore have recommended the same form of medical examination — with X-ray referral only where necessary — for all immigrants, fare-paying as well as assisted. X-ray itself was not therefore crucial to the process, but it seems that a medical examination of all applicants was.

The argument continued along the axis of X-ray of all or assisted migrants only. The Health Department’s officials no doubt felt doubly frustrated; not only had their policy preference for the X-ray of all migrants been denied but they were now under public attack for their failure to institute that policy. Forced to defend the status quo, the Department said as little as possible, although it continued to work behind the scenes. Nevertheless, it appeared rather ineffectual and naively optimistic in the face of the Auckland Hospital Board’s rowdy pessimism.

How seriously the general public regarded the issue is difficult to judge. There were short bursts of coverage in the press and elsewhere. Immigration was discussed at the Conference of Associated Chambers of Commerce in May 1949. The main body of resolutions, passed by a gathering of businessmen desperate

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22 Director of Employment to Minister of Immigration, 26 September 1950, & DGH to MH, 2 May 1949. H 1 130/48 23555, ANZW.
23 DGH to MH, 19 November 1947. H 1 130/48 23555, ANZW; Press, 12 April 1949; Star, 12 April 1949; NZH, 12 April 1949; ODT, 12 April 1949.
for workers, was that Government should introduce a less restricted and more imaginative immigration policy. However, delegates qualified this stance by urging that ‘a more thorough health examination, including X-ray, should be instituted for immigrants’.24

The Auckland Hospital Board complained again about the lack of Health Department progress in September 1949. Its concerns were apparently vindicated the very next month when it admitted a TB case, an assisted immigrant from Belfast, who had not been X-rayed before departure. The Board continued to apply pressure in November 1949 and challenged Director-General of Health Ritchie’s assurance that everything possible to introduce safeguards was being done. Auckland Board Chairman John Grierson countered that it was ‘economically unsound to allow immigrants with tuberculosis to become the responsibility of the Dominion’ and again urged compulsory chest X-ray for all immigrants before leaving for New Zealand.25

The press reported the emotional viewpoints but also advanced a more balanced view.26 The Auckland Star displayed a wider understanding of the social complexity of tuberculosis disease. It reacted to the apparent gulf between the Health Department’s confidence about the control of TB and the Auckland Hospital Board’s pessimism by running two feature articles. The editorial on 8 November 1949 explored the complexity of the issue, citing the lack of accommodation and treatment facilities, the shortage of nursing staff, the very

24 Cutting, NZH, 13 May 1949. H 1 130/48 23555, ANZW.
25 AHB to DH, 7 September 1949, & Cutting, Star, 7 November 1949. H 1 130/48 23555, ANZW.
26 Press, 12 April 1949, 13 April 1949; Star, 12 April 1949, 13 April 1949; NZH, 12 April 1949, 13 April 1949; ODT, 12 April 1949, 13 April 1949.
high incidence rates of Maori and the problem of immigrants arriving with the
disease. The editorial concluded that the critical factor was the shortage of
nurses which meant available beds remained frustratingly empty. While
identifying this problem as part of the overall post-war labour shortage, the Star
sheeted general blame on poor decision-making by hospital authorities and the
Health Department in the past. It concluded that the only solution appeared to be
‘to get suitable young women from overseas’ to work as nurses but accused the
Health Department of failing to act decisively to achieve this.27

The shortage of nurses was not just a feature of TB institutions; virtually every
New Zealand hospital struggled to find sufficient nursing staff during the 1940s
and 1950s. The shortage of nurses grew from the major expansion of New
Zealand’s hospital system since 1938 at a time when young middle-class women
enjoyed growing choices of career and the full employment of a boom economy.
Against the backdrop of a universal shortage of nurses, TB nursing, with its
potential risk of infection, often geographical isolation and low status was an
even poorer option than general nursing.28

In the Star’s second article, the question of immigrants with TB overlapped with
the shortage of hospital accommodation. Apart from the inefficiencies and
ongoing cost of admitting immigrants who were not healthy, the most serious
problem was their occupation of desperately needed TB beds. For the first time,

27 Cutting, Star, 8 November 1949, BAAK 25/40(6) A358/138b, ANZA.
28 Deborah A. Dunsford, “‘The privilege to serve others’, The working conditions of general
nurses in Auckland’s public hospitals, 1980-1950’, MA thesis (History), University of Auckland,
1994, pp.134-74. For a discussion of the shortage of nurses in the similarly stigmatised field of
psychiatric nursing, see Catherine M. (Kate) Prebble, ‘Ordinary Men and Uncommon Women: A
History of Psychiatric Nursing in New Zealand Public Mental Hospitals, 1939-1972’, PhD thesis
(History), University of Auckland, 2007, pp.58-95.
Pacific Island immigrants joined British immigrants as a TB threat. In their case, home living conditions were recognised as a particular danger, with one doctor saying, ‘If they haven’t got TB when they arrive, many of them, because of living conditions and associations are infected afterwards and become non-paying guests of the Government’. 29

In policy discussions, the Division of Tuberculosis continued to assert its desire for all immigrants, including the fare-paying, to be X-rayed before departure for New Zealand. However, public health needs remained subordinate to the country’s labour requirements. After the November 1949 election and change to a (conservative) National Government, the Director-General of Health proposed to Health Minister Jack Watts that all immigrants supply a report indicating freedom from TB before arrival. Some negotiation appears to have taken place in the search for a resolution for, in March, the Director-General pared back his recommendation to the compulsory X-ray of all assisted immigrants before departure. This was based on the actual TB rate among fare-paying immigrants of four cases per 1000 which was deemed acceptable. 30 Director of Tuberculosis Dr Claude Taylor agreed with this ‘realistic approach’ and the Minister of Health approved the revised policy the following week. 31

This was not the complete coverage that the Health Department had hoped for, but officials seem to have accepted they could not win any greater concession from the Department of Labour and Employment. The rather tortuous flow of decision-making around the immigrant X-ray programme revealed the Health

29 Cutting, Star, 8 November 1949. BAAK 25/40(6) A358/138b, ANZA.
30 DGH to MH, 26 January 1950, & DGH to MH, 10 March 1950. H 1 130/48 23555, ANZW.
31 DGH to MH, 10 March 1950, & comment, 17 March 1950. H 1 130/48 23555, ANZW.
Department’s lack of influence when operating in another Department’s policy arena; the Labour Department’s dominant goal was to ensure a reliable flow of immigrant labour in the most cost-effective way. The delays in decision-making by Ministers of Health of both political colours suggest they were equivocal about the compulsory X-rays of all immigrants. Both National and Labour Governments allowed the matter to sit unanswered for some time, although Watts approved the lesser policy as soon as Taylor conceded.  

The two Departments had agreed in principle to X-ray assisted migrants in March 1950, yet the Department of Labour and Employment continued to express internal resistance to the policy, accentuating practical difficulties and costs and privately proposing a reversion to the original practice of X-raying nursing staff, home aids and doubtful applicants only.  

Reports continued of immigrants with TB presenting to New Zealand hospitals until the discovery in November 1950 of two cases from the same vessel raised anxieties to a higher level. The press emphasised the irony that one of the Atlantis cases had been discovered when he took employment in the kitchen at Auckland’s Cornwall Park Hospital and a routine X-ray showed him to have infectious pulmonary TB.  

The alarm about these cases led the Director of Employment to review his resistance to the compulsory X-ray policy. He advised the Director-General of Health that ‘the whole matter has been reconsidered and it has now been decided to proceed with the proposal to have all applicants X-rayed prior to selection’.  

On the face of it, this represented a remarkable turnaround. However, in the

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32 Division of Employment to DGH, 19 August 1948. H 1 130/48 23555, ANZW.
33 Director of Employment to Minister of Immigration, 26 September 1950. H 1 130/48 23555, ANZW.
34 Cutting, New Zealand Truth, 22 November 1950, p.3. H 1 130/48 23555, ANZW.
35 Director of Employment to DGH, 9 November 1950. H 1 130/48 23555, ANZW.
continuing absence of any move to X-ray all immigrants, it seems the
Department of Labour and Employment was simply removing its continued
opposition to the X-ray of all assisted migrants only.

The Atlantis embarrassment was accompanied by some sense that control of the
TB immigrant situation was being lost; Dr Jack Wogan, who had succeeded Dr
Claude Taylor in 1950, asked all Medical Officers of Health for the names of
immigrants to their district since 1945 suspected of being on the Tuberculosis
Register.36 The Health Department’s discomfort increased when the tabloid
newspaper New Zealand Truth publicised the discrepancy between the previous
Director-General of Health’s assurances in November 1949 that all assisted
migrants would be X-rayed and the admission of the new Director-General, Dr
John Cairney, that the policy was not yet being carried out.37 The X-ray of
assisted migrants prior to selection in Britain was just beginning in September
1950 and coverage was still inconsistent.38 At last, however, the compulsory X-
ray of all assisted immigrants became normal procedure.

New Zealand was not alone in facing the thorny problem of immigrant health
screening at this time. John Welshman has examined British debates between
1950 and 1965 over whether to examine immigrants by X-ray at port of
departure, port of entry or post arrival (local destination). He compared this to
Australia which, like New Zealand, chose port of departure screening. As in New
Zealand, Britain’s Ministry of Labour objected in principle to blanket medical

36 DDT to Medical Officers of Health, 13 November 1950. H 1 130/48 23555, ANZW.
37 Cutting, New Zealand Truth, 22 November 1950. H 1 130/48 23555, ANZW.
38 Director of Employment to Minister of Immigration, 26 September 1950. H 1 130/48 23555,
ANZW.
screening as it would restrict the flow of labour and harm relations with source countries. Britain was also concerned that the standard of medical examinations in the countries of origin would be substandard and medical personnel would need to be sent from Britain to monitor them.\textsuperscript{39} This was not a problem facing New Zealand or Australia; the long-standing relationship between the medical professions of both countries meant there could be no question mark over the standard of examinations in Britain.

In 1950, \textit{New Zealand Truth} reported the intention of the Hospital Board Association of New Zealand to recommend a comprehensive medical examination of all prospective immigrants, as practised in the United States.\textsuperscript{40} The Minister of Health rejected the Association’s remit on 13 April 1951, explaining that, in the future, assisted immigrants from Britain would be X-rayed and all ‘alien’ immigrants, assisted or unassisted, would continue to need a compulsory, clear X-ray.\textsuperscript{41} The Minister stated that there was little reason to require an X-ray from fare-paying immigrants from Commonwealth countries and supported his case by contrasting New Zealand’s internal TB statistics with those of its immigrant population. The seventy active cases of tuberculosis out of 62,126 immigrants since January 1945 represented a prevalence rate of 11.2 per 10,000. While acknowledging that a direct comparison could not be made, the Minister considered the rate reasonable against New Zealand’s own TB rate of 53.6 per 10,000 or 42.3 per 10,000 if Maori were excluded. Even with the

\textsuperscript{40} Cutting, \textit{New Zealand Truth}, 22 November 1950. H 1 130/48 23555, ANZW.
\textsuperscript{41} ‘Alien’ referred to applicants of non-European ethnic descent.
existing ‘imperfect control’ in place, New Zealand had achieved a prevalence rate among new immigrants only a little higher than the projected optimum.42

These ‘facts’ showing New Zealand was already taking ‘every reasonable measure’ and achieving realistic results were used to counter further protest about immigrants taking hospital beds and state houses.43 In August 1952 the Health Minister announced that, of 2,500 assisted migrants to Auckland in the past three years, only nine had needed urgent state housing as a result of TB.44 Between July 1953 and March 1955 the Auckland Hospital Board treated a total of fifty-seven immigrants with pulmonary TB.45 However, political and press attention to the issue declined after the early 1950s.46 This reflected a reducing interest in TB; the threat of the disease was easing in the face of effective drug treatment and falling incidence. The X-ray examination of all assisted British immigrants and all alien immigrants at port of departure was now established but the suggestion that every prospective migrant be X-rayed did not disappear and became a familiar backstop for lobbyists in the tuberculosis/immigration debate over the next twenty-five years.

**Pacific Island immigrants and tuberculosis**

The post-war policy decisions to X-ray assisted but not fare-paying migrants from Britain was a highly visible part of the TB immigrant picture that would

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42 MH to Hospital Boards Association of NZ (Inc.), 13 April 1951. H 1 130/48 23555, ANZW.
43 Cutting, NZH, 7 March 1951. BAAK 25/40(7) A358/138c, ANZA; Discussion and resolution of Remit 34, Conference of Hospital Boards Association of NZ (Inc.), 24 April 1951. H 1 130/48 23555, ANZW; MH to Town Clerk, City of Auckland, 7 August 1952. H 1 246/41/6 28768, ANZW.
44 Cutting, Star, 15 August 1952. BAAK 25/40(7) A358/138c, ANZA.
45 Auckland Hospital Board to DGH, 20 June 1955. H 1 246/41/6 28768, ANZW.
46 See *New Zealand Truth*, 26 July 1960, for an example of increasingly unusual press coverage of immigrants with tuberculosis after the early 1950s.
soon be overtaken by the declining significance of tuberculosis and the changing ethnic face of New Zealand immigration. During the 1940s and 1950s British migrants were correctly identified as the major importers of TB. However, they were also preferred immigrants and New Zealand authorities gifted them easier access until 1978.\textsuperscript{47} As in the early twentieth century, the preference for British immigrants had its roots in a common imperial past, continued and intense personal links with ‘home’ and the shared racial, professional, social and family connections to Britain of so many decision-making European New Zealanders.

Medical papers were theoretically required of all immigrants to obtain an entry permit to New Zealand but, in practice, ‘no formal examination papers are required for the wholly British, wholly European’, although ‘aliens and British people not of European race, i.e. Chinese, Indians’ were required to undertake a medical examination.\textsuperscript{48} New Zealand’s unofficial immigration policies echoed Australia’s formal ‘White Australia’ immigration policy.\textsuperscript{49} Medical checks therefore played an important if informal role in ensuring that only the best alien immigrants were admitted to New Zealand. These contrasting requirements emphasise the racism underlying New Zealand’s immigration policies during this time.

Another group of immigrants made a significant mark on New Zealand society in the post-war decades. Pacific Island people arrived from the late 1940s to take advantage of the country’s labour shortage and the perceived opportunities of a larger society in a period of economic boom. The number of people in New

\textsuperscript{47} Brawley, 1993, pp.16-36.
\textsuperscript{48} G. O. L. Dempster, DDT, to MOH, Gisborne, 30 May 1958. H 1 130/48 23555, ANZW.
\textsuperscript{49} Convery et al, 2006, pp.103-104.
Zealand of Pacific Island origin or descent rose from 2,159 in 1945 to 65,694 in 1976.50 Tuberculosis was identified at this time as a health problem in most Pacific Islands.51

In keeping with New Zealand’s requirement for medical checks of ‘British people not of European race’ and with the Pacific Islands being regarded as having a high TB risk, the first Pacific Island immigrants to New Zealand in the 1950s were required to provide an X-ray to island administrators before being allowed to depart. In the case of New Zealand’s territorial or protectorate islands, this was a requirement imposed on the initiative of the colonial administrators in New Zealand’s Department of Island Territories. The Cook Islands and Niue Island were New Zealand territories, Western Samoa (now Samoa) was a New Zealand protectorate and Fiji and Tonga were protectorates of Britain.52 Cook and Niue Islanders were therefore not technically immigrating to New Zealand. The Cook Islands Administration’s Chief Medical Officer, Dr Thomas Romans, made this plain to Auckland’s TB Officer, Dr Herbert King, in September 1954:

52 http://www.ck/govt.htm#nz 19/9/2006. From August 1965, the Cook Islands established a form of full self-government in free association with New Zealand. They may at any time in future, if they so desire, move into full independence, or any other status that may become practicable, by a unilateral act, that is, one which New Zealand has denied itself power to countermand.
http://www.indexmundi.com/samoa/background.html 4/2/2008. After occupying the German protectorate of Western Samoa in 1914, New Zealand administered the islands as a mandate and then as a trust territory until Western Samoan’s independence on 1 January 1962.
[no] Cook Islander is an immigrant as they are all legally New Zealand citizens just as much as anyone born in New Zealand. In fact we are not bound to medically check anyone travelling to New Zealand, but it is made a condition of obtaining an exit permit that all Cook Islanders, as far as possible, are examined within a month of sailing, because there have in the past been other complaints from New Zealand of cases [of tuberculosis] getting there …\textsuperscript{53}

Romans was well aware of the high TB rates in the Islands and accepted the need for a medical examination at some point in the immigration process. At the same time, he was sensitive to the inconsistency of requiring medical checks of New Zealand citizens and hoped for an official directive on the matter from New Zealand to back up what was being done in practice.\textsuperscript{54} While such unease was also apparent within the Health Department, pre-departure X-rays of Pacific Island immigrants were deemed necessary because of the known high rates of TB in their communities. The New Zealand citizenship of some Pacific Island people was not regarded as reason to waive medical checks, in contrast to New Zealand’s favoured treatment of fare-paying immigrants from Britain. Pacific Island people clearly fell into the ‘British people not of European race’ category and were required to have X-ray clearance; this would be the focus of the TB immigrant problem in the decades ahead.

On 20 June 1955 the Auckland Hospital Board again voiced its concerns about immigrants arriving with TB and urged the Health Department to institute a full health check of all immigrants, such as happened in the United States. The Board

\textsuperscript{53} T. T. Romans, Chief Medical Officer, Cook Islands Administration, to C. H. King, TB Officer, Auckland, 10 September 1954. H 1 246/41/6 28768, ANZW.
\textsuperscript{54} ibid.
had treated eighty-five immigrant patients with pulmonary or extra-pulmonary TB between July 1953 and March 1955. While 42 per cent of the total and 35 per cent of the hospitalised had come from Britain, the remainder originated from places as diverse as Central Europe, Australia, Holland, Scandinavia, India, Japan, Hong Kong and the Pacific Islands. Pacific Island people were still entering the country in quite small numbers. The 1956 Census counted 4,720 Polynesian (excluding Maori) people in the Auckland urban area out of a total population of 380,412.\(^{55}\) They were still a small number of annual immigrants but accounted for 26 per cent of total immigrants with TB and 35 per cent of the hospitalised.\(^ {56}\) The figures confirmed that concerns about TB would in future revolve around Pacific Island immigrants.

In his response to the Auckland Hospital Board, Deputy Director-General Dr Harold Turbott relayed the Department’s standard position that New Zealand was achieving ‘realistic’ TB control among immigrants. He pointed out that Cook Islanders, Niueans and Samoans should be classed as New Zealanders, not immigrants, and also raised the relevant question of their length of time in New Zealand.\(^ {57}\) Later in October 1955, Auckland District Tuberculosis Officer Dr Herbert King supplied a list of Pacific Island TB cases that indicated just how pertinent length of residence was. Of seventeen cases from Niue, Samoa, the Cook Islands and Fiji, four had been in New Zealand for less than a year, six for two years, five for three years and two for longer than three years. Eight were


\(^{56}\) Auckland Hospital Board to DGH, 20 June 1955. H 1 246/41/6 28768, ANZW.

\(^{57}\) Deputy DGH to Auckland Hospital Board, 27 June 1955. H 1 246/41/6 28768, ANZW.
also judged minimal cases.\textsuperscript{58} It seems likely that over a third had not developed TB disease until some time after their arrival in New Zealand.

Auckland’s TB professionals were the first in the country to recognise and respond to this demographic change in TB incidence. In 1959 Auckland Hospital visiting paediatrician Dr Grahame Fox suggested the re-opening of a second children’s TB ward. Auckland Hospital statistics showed declining numbers of non-Maori children admitted for TB since 1952 while the Maori category (which included Pacific Island children) had increased.\textsuperscript{59} Nationally, tuberculin tests from 1955 to 1958 had shown a steady decrease in positive reactions for the 0 to 14 age group.\textsuperscript{60} The decline in New Zealand’s TB rate meant that fewer and fewer New Zealand children and youth were seriously exposed to TB infection and did not develop the disease, although Maori children’s rates remained elevated in comparison to European children. In contrast to this, children from the Pacific Islands were much more likely to have been exposed to disease, and this factor was affecting Auckland Hospital’s statistics.

On 23 December 1959 King met with chest physician Dr Chisholm McDowell; the first item on the agenda was TB in immigrant Pacific Island people. Much of the discussion echoed that of a decade before. McDowell believed that some cases were infected with TB prior to arrival and requested a review to establish just what the Auckland TB situation was.\textsuperscript{61} The Health Department obliged and introduced a new case form with the object of giving the TB Officer a central

\textsuperscript{58} C. H. King to DDT, 27 October 1955. H 1 246/41/6 28768, ANZW.
\textsuperscript{59} T. G. Fox to H. S. Kenrick, Superintendent-in-Chief, Auckland Hospital, 17 April 1959, & T. G. Fox, paper, ‘Tuberculosis in Children’. BAAK 25/40 (9) A358/139b, ANZA.
\textsuperscript{60} AJHR, 1959, H-31, p.103.
\textsuperscript{61} Minutes of meeting, 23 December 1959. BAAK 25/40(9) A358/139b, ANZA.
record of every TB family notified after 1 January 1960. The intention was to create an extensive dataset including source of infection and overall social and economic condition. The Department again found itself attempting to pacify the Auckland Hospital Board. King advised that only two Pacific Islanders on the TB Register had been notified within two years of arrival in New Zealand and both had been X-rayed before leaving Niue. He also reassured McDowell that an extensive BCG campaign had been carried out in the Pacific Islands. Behind the scenes, assurances were received from the Department of Island Territories that medical examinations and X-rays were being carried out before emigrants left for New Zealand.

These early concerns about Pacific Island immigrant tuberculosis were mainly limited to public health and TB specialists but the influence of TB physicians was waning along with the disease. Between the late 1950s and early 1960s, hospital board tuberculosis and chest departments lost much of their specific identity as new technology transformed thoracic surgery into cardio-thoracic surgical units; TB work now played second string to the glamour of heart and lung surgery. These changes accurately reflected the declining significance of TB as a threat to personal and public health, and the specialism declined numerically and in status. The Health Department’s willingness to relieve itself

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62 Circular Letter Ak60/24, undated. BAAK 25/40(9) A358/139b, ANZA.
63 File note, 20 January 1960. BAAK 25/40(9) A358/139b, ANZA.
64 Resident Commissioner, Niue Island, to Secretary, Department of Island Territories, 29 July 1963, & Resident Commissioner, Cook Islands, to Secretary, Department of Island Territories, 29 July 1963, & Resident Commissioner, Rarotonga, to Secretary, Department of Island Territories, 22 August 1963. BAAK 25/40(11) A358/140a, ANZA.
65 Douglas Robb, Medical Odyssey, Auckland, 1967, pp.113-7. Robb’s detailed account of the 1950s development of the Green Lane Surgical Unit makes no mention of the tuberculosis work being carried out during the period.
of some aspects of TB work was another indication of success in the fight against tuberculosis.66

Although TB was widely acknowledged to be declining as a threat to personal and public health, Auckland and, to a lesser extent, parts of Wellington, confounded this trend. At a time when they had expected to be celebrating the defeat of tuberculosis, Auckland TB professionals instead found themselves fighting a resurgent enemy, which was being fortified by the city’s changing ethnic landscape. In 1960, the Auckland Health District’s total population was 271,000, including 6,676 Maori.67 However, the medical statistics relating to TB in Auckland at this time were confused as the city’s changing make-up tested the two established racial categories of European and Maori. The informal use of the term Polynesian by Auckland TB professionals was an attempt to more accurately reflect the continuing expansion of the Maori category to include more and more Pacific Island people. This loose grouping therefore covered Maori, who had long been known to have higher rates of TB than European New Zealanders, as well as the recent arrivals from the Pacific Islands; initially, this may have obscured the high TB rates among Pacific Islanders or at least kept them in the realm of anecdote rather than the hard evidence of statistics.

The merging of Maori and Pacific Island people in public health terms can also be seen in the response to medical statistician R. J. Rose’s Maori-European Standard of Health (1960) which documented the overwhelming disparity

66 Note for meeting with Officers of Department of Health, 12 September 1962. BAAK 25/40(9) A358/139b, ANZA.
67 Paper, ‘Discussion on Maori Health in the Auckland Urban Area, Medical Officers of Health’s Conference 1960’. BAAK 14(9) A358/87c, ANZA.
between the health status of Maori and European New Zealanders.⁶⁸ Following
Rose’s report, a conference of Medical Officers of Health on the topic of Maori
health was held in October 1960; the particular difficulties of the Auckland urban
area were discussed. The unknown author of the briefing paper, probably an
Auckland MOH, viewed Maori health in the city as indivisible from the health
problems of others with low socio-economic and/or immigrant status. He
stressed that ‘in Auckland the problem is not so much a Maori one as the
problem of a deprived group consisting largely of Maori and Polynesian people
but including Indians, Asians and to some extent European sections’.⁶⁹ A second
report in 1964 revealed that Auckland’s total population had risen to 277,810,
with nearly the entire increase accounted for by ‘Maori’ (including Pacific Island
people) who now numbered 12,000 or 4.6 per cent of the district’s population.
With at least 1000 ‘Maori’ arriving each year and a birth rate double that of
Europeans, the proportion of Maori and Pacific Island people in Auckland was
rising quickly and the issue of tuberculosis with it.

Even in the absence of a clear statistical picture, the Health Department and
Auckland’s TB professionals focused on the high TB incidence among Maori
and Pacific Island people. Dr Gordon Dempster, Director of the Division of
Public Health, wrote to members of the Maori Health Committee in 1965 about
Maori urbanisation, including housing, health and social issues. His optimistic
view was that the urban drift would ultimately bring improved health to Maori as
they accessed the fuller range of treatments and services available in the cities.

⁶⁸ R. J. Rose, Maori-European Standard of Health: Department of Health Special Report No. 1,
⁶⁹ Paper, ‘Discussion on Maori Health in the Auckland Urban Area, Medical Officers of Health’s
Conference 1960’. BAAK 14(9) A358/87c, ANZA.
Attempts were made to improve understanding of Maori and Pacific Island cultures; in 1967 nurse inspectors were sent a copy of a paper entitled ‘For a Better Understanding of the Maori’ and a seminar on Polynesian families was held for nurses. Wider public recognition of the problems faced by Maori and Pacific Island arrivals to Auckland was indicated when the Rotary Club of Auckland South wrote to the Auckland District Health Office advising that they would be calling a meeting of interested people to help solve the particular social problems faced by such newcomers to the city. The Rotary Clubs of New Zealand had maintained a long-term interest in the anti-tuberculosis campaign since the involvement of members in the establishment of the first Tuberculosis Association in New Plymouth.

In 1966 a steep and sudden increase in Auckland-wide TB notifications (up from 231 in 1964 to 309 in 1965) put tuberculosis back in the public eye with a New Zealand Herald report headed ‘TB still a big health problem’. Maori and Cook Island people comprised 118 of the 310 cases in 1965, although readers were reminded that the TB rates of both groups had been seven to nine times higher than European rates in recent years. Cook Island people were not referred to as immigrants at all in the article.

72 TB Officer, Green Lane Hospital, to DOH, 11 February 1966, & Cutting, NZH, 28 May 1966. BAAK 25/40(11) A358/140a, ANZA. At the time, people from the Cook Islands were commonly referred to in New Zealand as ‘Rarotongans’ as in this article. Rarotonga is the main island in the Cook Island group. For consistency, I refer only to Cook Island people.
Although the nationwide trend was of decreasing TB incidence, worrying setbacks such as that experienced in Auckland tested TB physicians’ and public health staff’s perceptions of their success against the disease. Erratic regional variations also made it clear that tuberculosis was not yet fully under control. The 1965 increase in Auckland TB notifications was attributed to better case-finding through the mass X-ray campaign, as well as an increase in Pacific Island immigrants ‘who are susceptible to tuberculosis’. In its efforts to achieve better control, the Department followed international practice, introducing a new centralised case index in 1968 and looking forward to the imminent introduction of data-processing with its promise of enhanced statistical analysis. TB statistics became more relevant from 1971, when a new Case Report Card for the TB Control Central Index extended the race categories to include Maori, European, Islander and Other, and asked for country of birth and length of residence in New Zealand.

Auckland physicians tried to provide more effective TB treatment and other health services for this at-risk group. The Health Department also acknowledged the complexity of the TB situation with the Director-General stating the disease was just one aspect of its overall relationship with ‘the urban Polynesian’; he also admitted to a deeper concern that Polynesian health difficulties were ‘creating very serious problems in relation to the health of the total community particularly in relation to TB’.

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74 AJHR, 1969, H-31, p.16.
76 DGH to MOH, Auckland, 30 April 1972. BAAK25/40(12) A358/140d, ANZA.
If the 1960s were characterised by an understated unease over Maori and Pacific Island tuberculosis in Auckland and modest efforts to improve the problem, the early 1970s delivered another jolt to public health confidence. In 1972 Auckland physicians registered their alarm over ‘florid pulmonary TB in recent arrivals’ from Samoa.\footnote{DGH to MOH, Auckland, 30 March 1972. BAAK 25/40(12) A358/140d, ANZA.} Such advanced cases were at odds with the supposed medical screening undertaken in the Islands pre-departure. Concern was also articulated about the problem of short-term Pacific Island visitors and visits home by New Zealand-resident Pacific Islanders, neither of whom underwent any medical testing. New Zealand health officials increasingly expressed the view that existing TB checks in the Islands were ineffective and began to advocate more intensive screening. There were suggestions that, instead of one chest X-ray, a series of compulsory chest X-rays were required: before departure, on arrival and three months after arrival. Language difficulties and immigrant isolation from mainstream New Zealand society and culture were seen to be complicating disease detection and contact-tracing, completing a gloomy picture.\footnote{ibid. For a rare first-hand account of the difficulties for a Samoan immigrant family negotiating New Zealand’s health system in the late 1970s, see Ta’afuli Andrew Fiu, \textit{Purple Heart}, Auckland, 2006.} The \textit{New Zealand Herald} acknowledged the broader statistical evidence that TB was ‘a vanishing disease’, but argued that the increase in notifications that threatened this position was directly related to Pacific Island immigration; the paper advocated medical checks for Pacific Islanders at the port of entry to New Zealand as a sensible move.\footnote{Cutting, NZH, 29 September 1972. AAFB 632 W3463/122 48400 246/1, ANZW.}

The 1972 setback was more than just an Auckland phenomenon. The Health Department’s 1973 Annual Report confirmed the first across-the-board rise in...
pulmonary TB notifications in twenty years. In spite of the decline in incidence and death rates that the Department itself had called ‘phenomenal’, here was an unwelcome reminder that there was no room for complacency.  

The Department noted that the upturn was nationwide and applied in varying degrees to all age groups, all races and all but five health districts. The most serious increases were in Auckland, where TB was notably concentrated among Pacific Island people; the immigrant was therefore brought back into the TB spotlight. Dr John Mackay of the Wellington Hospital Chest Department had pointed up the greater likelihood of Pacific Islanders acquiring TB disease in New Zealand in 1972 and there was evidence of a growing appreciation of the complexity of immigrant health problems. Nevertheless, the Department’s 1973 report focused on the problem of the border and identified the lack of immigration control over Pacific Islanders who arrived in New Zealand on three-month visitor permits as a factor in the TB increase. Attempts by the medical professionals working with TB to widen the medical examination requirements to include these and even all visitors from the Pacific Islands became a point of contention for the next decade.

Throughout 1972 the Health Department focused on its plans to transfer all TB control and treatment work, except for the BCG and mass X-ray campaigns, to individual hospital boards. There was some hospital board resistance to these proposed changes and fears that the possible loss of the Department’s public health nurses in TB outpatient treatment and surveillance would result in a lower

80 AJHR, 1964, H-31, p.32.
standard of patient care (and surveillance). The 1972 upturn in TB cases was advanced as a reason for slowing the pace of change, especially in Auckland where the Auckland Hospital Board calculated that Polynesian and Maori now made up 10 per cent of the population but were 55 per cent of the patients with active TB. Caught in the midst of a contested administrative change, the Health Department made an extremely measured response to the increase in notifications. A meeting in February 1973 of Auckland regional Medical Officers of Health also registered concerns about the increase. Dr Charles Collins (who had taken over departmental responsibility for TB work from the recently retired Dr Mabel Laing) attended the meeting and later advised the Auckland MOH that, although it was important to ‘take proper notice of the 1972 notifications, we have to guard against over-reaction ….’ He counselled that ‘an upswing in a diminishing disease is not unusual and may not be a continuing trend’ while accepting that the 1972 figures were too large to be ignored.

The meeting proposed the compulsory X-ray of the whole New Zealand population or, alternatively, the X-ray on arrival of all immigrants from high-risk tuberculosis areas. The second proposal reflected developments in risk factor epidemiology wherein the designation of at-risk areas was recognised as less provocative than the identification of at-risk ethnic groups. Collins’s response did not discount either suggestion outright, but he identified the practical difficulties of each and alluded to political and economic objections to the X-ray

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82 J. C. Mellor, Whangarei Base Hospital, to C. H. Garlick, Northland Hospital Board, 17 October 1972, & Minutes of Auckland Hospital Board Hospital Services Committee meeting, 6 November 1972, & Cutting, *Evening Post*, 23 November 1972. AAFB 246/1 632 W3463/122 48400, ANZW.
83 Hospital Services Committee Meeting, Auckland Hospital Board, 6 November 1972. AAFB 632 W3463/122 48400 246/1, ANZW.
of all arrivals from high-risk countries; he concluded that, ‘No speedy decision can be expected on such a scheme’. 84

The increase in notifications put tuberculosis on the agenda of the 1973 Hospital Boards Association conference. The Wanganui Hospital Board’s remit that ‘a strict medical examination be undergone at the point of entry into New Zealand by those intending to settle either temporarily or permanently’ was discussed by the Auckland Hospital Board on 1 March 1973. Auckland’s Superintendent-in-Chief, Dr Ron Moody, rejected the medical examination and X-ray of all visitors and all intending migrants, permanent and temporary, as ‘absurd because it would be both unpractical [sic] and almost impossible to implement’. He also asserted that the worth of strict medical examinations was ‘known to be illusory’. 85

On the face of it this damning rejection of the Wanganui proposal as unworkable and of questionable value was in accord with Collins’s luke-warm reaction. The Auckland Hospital Board proposed an alternative remit along the lines of American practice that required a prior medical examination and X-ray for intending permanent migrants only. However, the dominant place of Pacific Island people in the changing TB equation meant they were now regarded as a special case for whom stricter immigration controls did have a place; the Auckland Hospital Board’s revised remit advocated that every Pacific Island arrival, whether a visitor, temporary or permanent migrant, have a chest X-ray

84 C. M. Collins, Head Office, to MOH, Auckland, 27 February 1973. AAFB Series 632 W3463/122 48400 246/1, ANZW.
85 Auckland Hospital Board, Special Meeting Minutes, 1 March 1973. YCAS 88/1/6/3 A740/238e, ANZA.
prior to departure and produce that X-ray to a Health Department inspector on arrival in New Zealand.\textsuperscript{86} This suggestion clearly identified Pacific Island immigrants as major contributors to Auckland’s TB problem but swept all Pacific Island arrivals into the equation in a discriminatory way not proposed for arrivals from other high-risk countries. The Hospital Boards Association conference ‘unanimously agreed that the executive … should make representations to the Immigration Department on the subject’.\textsuperscript{87}

The 1972 rise in notifications proved to be a spike, and notifications dropped the next year to a new record low. However, statistics until the later 1970s brought an apprehension among professionals that the steep decline of the past 30 years had ended. Auckland’s changing ethnic mix contributed to an ongoing level of TB that fell far short of the ultimate goal of eradication and allowed adverse comparison with countries New Zealand had traditionally ranked itself against, such as Australia. In 1975 a further increase in notifications led to the formation of the Tuberculosis Advisory Committee, made up of TB specialists from across the country.\textsuperscript{88}

\textbf{Medical checks on immigrants are tightened}

The problem of high immigrant rates of tuberculosis was not confined to New Zealand, and other countries grappled with the question of screening at the border. A WHO press release in May 1975 recognised and aimed to soothe concerns about migrant TB and establish standard procedures for TB screening. It reported that, while immigrant workers brought the higher risk of TB to their

\begin{itemize}
\item \textsuperscript{86} ibid.
\item \textsuperscript{87} \textit{New Zealand Hospital}, Vol. 25, No. 3, May 1973, p.17.
\item \textsuperscript{88} AJHR, 1975, E-10, p.25.
\end{itemize}
new countries, they actually posed ‘no danger’ to the host country population. Their continued high TB incidence was thought to be due to prior exposure to infection in their country of origin as well as hard living and working conditions in their new country. The WHO set out guidelines for host country action to counter the problem, agreeing that migrants from high-risk countries should be treated as a high-risk group in their host country. Indeed, the WHO believed that medical examinations and chest X-rays should be carried out prior to departure or on arrival, with repeat examinations as immigrants were integrated into the host country’s health service. The WHO release corresponded to the mood in New Zealand, which was heading in the direction of stricter medical checks for high-risk immigrants from the Pacific Islands. These came into effect in 1976; all Fijians, Tongans, Samoans and Cook Islanders over 12 years of age who entered New Zealand for more than two months, even if only on a temporary work permit, needed a clear chest X-ray and to be free of TB. Those whose X-rays were suspicious would be followed up with X-rays at 6 and 12 months. The Director-General’s Circular Memo 1977/17 called this development ‘a notable achievement desired for many years’.

The first 18 months of tighter regulation of Pacific Island immigrants highlighted the extent to which the policy would be an administrative headache for the Health Department. The follow-up system adopted for this high-risk group bore some similarity to the British port of arrival or local destination system of immigrant checking, and the downstream difficulties also echoed the British

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89 WHO Press Release EURO/445, 15 May 1975. AAFB 632 W3463/122 48400 246/1, ANZW.
91 Circular Memo 1977/17 to Medical Officers of Health. AAFB 632 W3463/58 47107 246/41/6, ANZW.
experience. In New Zealand, X-rays were often received by the Health Department after the person’s arrival. If an X-ray was suspicious, follow-up was required, and this could be made difficult by incorrect or stale addresses. No X-ray was required for visitors of less than two months but extensions to these permits were routinely granted; X-rays were supposed to be taken at that point. The Department regarded the lack of checks on these short-term visitors as an issue in itself. Eight people in 1976 and 13 in 1977 were identified with TB from the ‘less than two months’ category.

There were objections from some Health Department staff over the large workload for little result. Late in 1977, Dr Gabrielle Collison, an Auckland Deputy MOH, condemned the ‘disproportionate amount of time’ being spent on following up Pacific Island long-term visitors and migrants for X-ray. Collison considered that the programme ‘has largely been a failure’ and did not warrant ‘such an expenditure of working time and effort’. The frustrations for departmental staff included changes to or the use of several names, changing home and work addresses, and the return to the Islands of people before their X-ray was due, without advising the Department. Those who stayed on in New Zealand illegally after their temporary work permits expired naturally avoided officialdom in any form.

Four years later, the same views were being expressed even more vehemently by members of the Takapuna District Public Health Team, who concluded that the

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93 Meeting paper, ‘Health Requirements for Pacific Island Visitors and Immigrants’, 16 May 1978, & Table 3. ABQU 246/5 632 W4415/515 50106, ANZW.
94 G. Collison to DGH, 23 November 1977. AAFB 632 W3463/89 47757 246/41/6, ANZW.
considerable workload due to the Pacific Island immigrant programme brought little in the way of result, with virtually no cases of tuberculosis being found among the district’s Samoan, Tokelauan, Tongan or Fijian communities in the 1980 year. The Takapuna District was part of the greater Auckland city region, and Dr M. R. Kellett recommended that these four Pacific Island groups should be followed up only if there were abnormalities at the time of entry, although the higher-risk Cook Island Maori and Indo-Asian refugees should continue to be offered X-rays at 6 and 12 months after arrival.95

By the late 1970s notifications of TB cases were modest compared to the past but unevenly shared among the country’s racial groups. In 1979 there were 294 ‘European and Other’ cases, 171 Maori and 77 Pacific Island. This meant that Maori remained 5.6 times more likely to have TB than ‘Europeans and Others’, and Pacific Island people 9.9 times more likely.96 A partial set of figures collated for the Division of Public Health in 1980 revealed that, because the absolute numbers were so small, case numbers and rates could vary wildly between the different Pacific Island groups and over time.97 The known association of Pacific Island people with tuberculosis further influenced the negative attitudes by the general population towards Pacific Island immigrants at this time. The economic boom and labour shortage of the 1950s and 1960s had turned to recession following the ‘oil shocks’ of the 1970s, growing unemployment meant that previously needed unskilled and semi-skilled Pacific

96 AJHR, 1980, E-10, p.84.
97 K. R. Wade to R. C. Begg, 30 July 1980, & attachment. ABQU 246/41 632 W4415/519 51963, ANZW.
Island labour was no longer in such demand and, with many short-term visitors becoming illegal overstayers, there was a common view among the European population that Pacific Island immigration to New Zealand was out of control.  

The problem of ‘Pacific Island immigrant TB’ became another ingredient in popular concerns about the influx of Pacific Island immigrants, irrespective of the actual risk to the existing New Zealand population.

For the Health Department and Auckland’s TB professionals, concerns about TB among immigrants in the 1970s had similarities to the post-war period. The Health Department was again a subsidiary player in terms of immigration policy. As in the 1940s and 1950s, the Labour Department was reluctant to put obstacles in the way of an efficient immigration process. In the broader context of international relations, Brawley has shown how, in the 1970s, as it searched for new markets in the wake of Britain joining the European Economic Community, New Zealand came to comprehend that its reputation, trade and foreign relations were being jeopardised by the racially discriminatory nature of its immigration policies. In 1978 New Zealand came into line with international practice and announced that ‘race would no longer be a determinant for selecting immigrants’. The removal of the long-standing racial bias from New Zealand’s immigration policies led the Labour Department to approach the Health Department with serious reservations about the existing system of requiring visitors from the South Pacific to obtain TB and leprosy clearances before arrival. The linking of these two diseases for immigration purposes bears out Ng Shiu’s observation in 2006 that, in Samoa, tuberculosis and leprosy were

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99 ibid, pp.30-36; For an example of press coverage, see NZH, 6 September 1972.
associated as ‘the only diseases seen as infectious and incurable’. Further parallels between the two diseases have been the ineffectiveness of mono-drug therapy and the development of drug-resistant strains.\textsuperscript{100}

In 1978 the Labour Department objected to the blatantly discriminatory nature of the requirements as well as making the more practical claim that the checks had produced very few cases of either TB or leprosy. Its own representatives in the Islands had raised concerns on the grounds of the policy’s offensiveness to Island people, the lack of result in terms of TB cases identified, the administrative burden and, perhaps most importantly, because ‘the risk to New Zealand’s public health is minimal compared to the damage done to our public relations by the present system’.\textsuperscript{101} The Labour Department’s approach immediately prompted the Director-General of Health to remove the checks for leprosy, which was not judged to be a danger to New Zealand. However, he did not retreat on the issue of the TB clearance, which was instead referred to the Tuberculosis Advisory Committee (TAC) for comment.\textsuperscript{102}

A committee of tuberculosis and chest physicians and public health men, the TAC’s role was to advise but also argue the case for TB control and treatment as strongly as possible.\textsuperscript{103} The Committee met on 30 May 1978, with two representatives from the Immigration Division of the Labour Department putting


\textsuperscript{101} Department of Labour to DGH, 8 February 1978. ABQU 632 W4415/515 50106 246/5, ANZW.

\textsuperscript{102} DGH to Department of Labour, 6 March 1978. ABQU 632 W4415/515 50106 246/5. ANZW.

\textsuperscript{103} Aussie Malcolm, personal communication, 21 September 2006.
the case for the abolition of the current arrangements. Instead of agreeing, the TAC not only upheld the existing scheme but proposed it be tightened to cover all visitors from the Pacific Islands (irrespective of their length of stay). This recommendation was put to the Minister of Health on 28 July 1978. However, with the TAC meeting about once a year, there was no urgency for the Minister to reply. It was just prior to their next meeting that Dr Campbell Begg, Deputy Director of the Division of Public Health, wrote to hospital chest physicians asking about instances of Pacific Islanders in the country for less than two months who had been diagnosed with TB. The replies showed that seven had been diagnosed with TB in 1977 and thirteen in 1978. Of those immigrants and visitors from the South Pacific who had presented a pre-entry X-ray, there had been three cases of TB discovered in 1977, one in 1978 and none so far in 1979.

Irrespective of the Labour Department’s opposition and the small number of TB cases detected, Begg and the TAC members maintained that the current scheme should be extended to cover all Pacific Island visitors. This action and the response to the proposal illustrated how their view of the disease’s significance was increasingly at odds with wider medical opinion and New Zealand society. By 1979 TB had fallen again to a new record low and was viewed by most as no longer a problem. It was certainly not affecting many individuals directly. However, to those whose professional life was dedicated to curing TB, with the

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104 ‘Health Requirements for Pacific Island Visitors and Immigrants’, meeting paper, 16 May 1978, & Minutes of Meeting of Advisory Committee on Tuberculosis, 30 May 1978. ABQU 632 W4415/515 50106 246/5, ANZW.
106 Minutes of meeting, 3 September 1979. ABQU 632 W4415/515 50106 246/5, ANZW.
hope of its eventual eradication, it was still seen as highly dangerous and in need of a vigilant approach.

The Health Department’s proposal to extend medical checks to every arrival from the Pacific Islands was put to a meeting of representatives from the Labour Department and the Ministry of Foreign Affairs on 14 December 1979. They opposed the plan but their response showed how future developments in immigrant health screening would evolve in regard to high-risk countries. The Foreign Affairs representative pointed out the political difficulties of X-raying all Pacific Island visitors. Isolating Pacific Island countries could be seen as a discriminatory attempt to restrict entrants from those countries, as the proposal was not being extended to other countries where TB was also endemic. The Immigration representative suggested that, if there were other countries with high rates of TB, they also should be subject to the same medical and X-ray checks. Responsibility for reducing the problem of Pacific Island TB rates was also referred back to the Health Department, with the suggestion that it assist Island countries with TB programmes and target Pacific Island people in New Zealand to take advantage of mass X-ray. Begg had no alternative but to accept the consensus of the meeting, although he elected to keep the situation under review.¹⁰⁷

¹⁰⁷ Record of Tuberculosis Advisory Committee Meeting, 14 December 1979. ABQU 632 W4415/515 50106 246/5, ANZW.
at Palmerston North Hospital, visited Tonga and Niue to assist with TB and other chest work.\textsuperscript{108} The TAC monitored TB rates in the South Pacific and responded to requests for help, offering MMR units no longer required as New Zealand’s mass X-ray scheme was scaled down. By late 1980 TB in Western Samoa had declined, probably with the help of an MMR unit based at Apia. There was still concern about rates in Tonga, and among Tongans in Auckland, and the TAC recommended New Zealand assist with an MMR visit to the main Tongan islands and the provision of the drugs Rifampicin and Ethambutol to treat resistant cases.\textsuperscript{109}

The Health Department remained displeased with the lack of co-operation by the Cook Islands with X-ray requirements. The New Zealand Representative understood Cook Islanders’ dislike of the regulations, which were seen as a violation of their New Zealand citizenship, and commented that processing these applications ‘is not something into which they [Cook Islanders] have put their heart and soul’.\textsuperscript{110} The Health Department made tentative approaches to persuade them to conform.\textsuperscript{111} By 1979, however, almost all Cook Islands immigrants were entering New Zealand without medical examinations because ‘since the [recent] change of Government in the Cook Islands an exit permit was no longer required’.\textsuperscript{112}

\textsuperscript{108} G. M. Kirk, letter & report, 11 May 1978. ABQU 246/5 632 W4415/515 50106, ANZW.
\textsuperscript{109} R. C. Begg to Secretary, Foreign Affairs (FA), 5 December 1979, & A. J. Sinclair, Principal Medical Officer, International Health, to WHO, Fiji, 14 April 1980. ABQU 246/5 632 W4415/516 52339, ANZW.
\textsuperscript{110} NZ Representative, Rarotonga, to Foreign Affairs (FA), 24 November 1976. AAFB 632 W3463/58 47107 246/41/6, ANZW.
\textsuperscript{111} R. C. Begg to FA, 1 March 1977, & file note, 1 April 1977. AAFB 632 W3463/58 47107 246/41/6, ANZW; Division of Public Health to FA, 15 July 1977, & telex from FA, Rarotonga, 27 July 1977, & response, 8 August 1977. AAFB 632 W3463/89 47757 246/41/6, ANZW.
\textsuperscript{112} R. C. Begg to Secretary, Foreign Affairs, 12 October 1979. ABQU 632 W4415/519 50729 246k/41/6, ANZW.
When representations were made to the Cook Islands Government, in reply
Premier and physician Dr Tom Davis stated that, ‘the number of actual sufferers
from tuberculosis can be counted on one’s hand. Tuberculosis is no longer a
disease of any great consequence. I therefore feel that to impose health checks
for this reason is unnecessary.’\textsuperscript{113} The Health Department was incredulous and
rebutted Davis’s view, but he refused to budge. There was a further attempt to
resolve the issue in September 1981 at a meeting between the Cook Islands
Health Minister, Dr Robati, the New Zealand Minister of Health, George Gair,
and Foreign Affairs and Health Department representatives. It was clear to the
New Zealanders that, in spite of the evident need for medical checks,
reintroduction of the X-ray requirement would be ‘politically awkward’ for the
Cook Islands Government and ‘did not appear likely’. New Zealand’s
acceptance at this stage brought a new interest in tackling TB rates within the
Cook Islands. The possibility of sending one of New Zealand’s MMR units to
the Cook Islands was raised, along with the promise of professional help with
training, laboratory testing and the doctor-exchange scheme.\textsuperscript{114}

During this period the press occasionally took up the TB story, although, there
was little accompanying sense of public disquiet; nevertheless, the message that
TB had become a disease of Maori and Pacific Island immigrants and,
increasingly, refugees was quietly becoming established. With the arrival of
Asian refugee immigrants from the war zone of South East Asia, Vietnamese and
Cambodians started to be represented in the TB statistics. In 1979 there were 32

\textsuperscript{113} NZ Representative, Rarotonga, to T. R. A. H. Davis, 21 April 1980, & reply, 29 April 1980.
ABQU 632 W4415/519 50340 246/41/6, ANZW.
\textsuperscript{114} Notes of visit, 22 September 1981. ABQU 246/41/6 632 W4415 520 503135, ANZW.
cases of TB among 950 South East Asian refugees.\textsuperscript{115} The close monitoring of refugees on arrival at Auckland’s Mangere Refugee Reception Centre and during their first year in New Zealand meant they were not regarded as a concern by public health authorities. This was in contrast to the ‘most inadequate supervision’ of Pacific Island immigrants.\textsuperscript{116} The \textit{Auckland Star} reported after the annual meeting of the Auckland Tuberculosis and Chest Diseases Association in September 1981 that 36 per cent of new tuberculosis cases were found among ‘Indo-Asian refugees’. Of 1,437 refugees passing through the Mangere Centre in 1980, 67 were treated for tuberculosis. The \textit{Auckland Star} article was not alarmist in tone, but the Association chairman, Frank Reynolds, took the opportunity to press the case for compulsory X-ray requirements before entry of all people from high-TB areas, ‘now that the battle is apparently being won in our country’.\textsuperscript{117}

The Government gave its immigration goals clear priority over the claim by TB specialists that the disease posed a public health threat. The suggestion of the TAC that all visitors from the Pacific Islands be X-ray screened was never instituted. Against a background of further falls in TB incidence, the Immigration Department’s opposition to the existing requirements on the grounds of their discriminatory nature and the bureaucracy involved gained leverage. In 1983 the Immigration Department advised the Health Department that it had lengthened the period of stay for which pre-arrival chest X-rays were not required for

\begin{itemize}
\item \textsuperscript{115} File note, undated. ABQU 246k/41/6 632 W4415 519 50729, ANZW; NZH, 13 September 1972; AJHR, 1980, G-1, p.7.
\item \textsuperscript{116} File note, ‘TB in South East Asian Refugees, 1979’, & J. F. Ryan to J. B. Mackay, 30 June 1980. ABQU 246k/41/6 632 W4415 519 50729, ANZW.
\item \textsuperscript{117} Cutting, Star, 1 September 1981. ABQU 246/41/6 632 W4415/520 53135, ANZW.
\end{itemize}
visitors from Fiji, Tonga and Samoa.118  The Department of Health was given no
say in the matter and advised district medical officers of health to monitor the at-
risk groups as best they could.119  The New Zealand Federation for Tuberculosis
and Chest Diseases objected strongly to this relaxation of pre-entry checks. The
Labour Department, it complained, ‘have never been co-operative as regards
health screening’.120  The Health Department’s reply to the Federation was
diplomatic, pointing out that the change was minor and it did not affect
immigrants but only short-stay visitors from Fiji, Samoa and Tonga. Although
the Department did not think the new policy would result in significant changes
in case detection, its own chagrin could be seen in its admission that the change
had ‘been taken completely out of our hands’.121

In 1983 the National Government’s Aussie Malcolm held the portfolios for both
Health and Immigration. While his memo of 25 July acknowledged the ongoing
concern about TB from the Pacific Islands, Malcolm firmly quashed any
remaining hopes of X-raying all visitors from the Pacific pre-departure.
Furthermore, while X-rays would still be required for all permanent entrants to
New Zealand, the requirement was abandoned for short-term visitors from Fiji,
Samoa and Tonga. He also refused to insist on chest X-rays for all Pacific
visitors seeking permit extensions beyond three months on the grounds that this

118 Circular Memo, 11 August 1983. The time period was extended from two to three months. In
addition, if short-term visitors applied to extend their permit to the twelve-month maximum, it
would normally be granted without the need for an X-ray. While those applying for extensions
would be encouraged to have an X-ray, it was anticipated by the Department of Health
anticipated that the numbers doing this would not be great. ABQU 632 W4415/520 57660
264/41/6, ANZW.
119 Circular Memo, 11 August 1983. ABQU 632 W4415/520 57660 264/41/6, ANZW.
120 NZ Federation for Tuberculosis and Chest Diseases Inc. to DH, 30 December 1983. ABQU
632 W4415/520 57660 264/41/6, ANZW.
121 DH to NZ Federation for Tuberculosis and Chest Diseases Inc., 5 January 1984.  ABQU 632
W4415/520 57660 264/41/6, ANZW.
would be discriminatory, unless similar requirements were made for people from the UK, Europe and elsewhere. Malcolm clearly placed responsibility for tackling the higher TB risk among Polynesian people on the shoulders of the Health Department within New Zealand and through the help it could extend as a good neighbour to South Pacific governments. He later commented that the most significant issue for him was the management of New Zealand’s workforce. In contrast, TB was of minor importance; it was a disease that affected only small numbers of people and, when found, it could be cured. Malcolm’s confidence was based on the advice of Director-General of Health and chest physician Dr John Hiddlestone. Even within the Health Department, tuberculosis had lost much of its prior status as the ‘enemy’. Anti-TB lobbyists and those on the front-line in parts of Auckland continued to hope for blanket immigration controls, but the tide of opinion was firmly against them.

Conclusion

The problem of tuberculosis among immigrants in New Zealand was a recurring public health concern post-1945, and the status of an individual’s health became an increasingly important feature of immigration approvals. Medical examinations of intending immigrants went from the haphazard and minimal to standardised but unevenly applied checks from 1950. These operated informally in a racially discriminatory manner until 1978 when a full medical check of all immigrants was established, irrespective of race. However, the special high-risk group of Pacific Island visitors were the subject of special TB checks until 1983 when these too were abandoned as discriminatory.

122 Minister of Immigration to DGH, 25 July 1983. ABQU 632 W4415/520 57660 264/41/6, ANZW.
In a general sense, New Zealand’s problems and responses to TB in immigrants have reflected the experiences of other developed countries; however, they were also specific responses to the New Zealand setting. The threat of the TB immigrant changed as the country’s immigrants became more diverse, shifting from British immigrants to Pacific Island immigrants and refugees. The debate about British immigrants with TB in the 1940s and 1950s was the most publicly trenchant, yet it was focused on the inefficiency of admitting immigrants with tuberculosis, rather than their Britishness. In contrast, the later criticism of Pacific Island immigrants with TB, while superficially more measured in tone, occurred as TB affected fewer and fewer New Zealanders. Pacific Islanders and subsequently South East Asian refugee arrivals were visibly different to European New Zealanders and became identified as a major source of TB. The ongoing decline of TB within New Zealand’s European population compounded the identification of TB as a disease of ‘others’, of non-European immigrants or refugees. This stigmatisation was also casual since the disease itself no longer presented a significant threat; TB was just one of a number of negative factors about certain immigrant groups. The arguments from the early twentieth century debates were no longer aired so keenly in public but remained in the background: immigrants with TB were a drain on New Zealand’s public health system; New Zealand should admit only worthy and ‘healthy’ immigrants; immigrants with TB were a danger to other New Zealanders.

As much as the Health Department might have preferred otherwise, policies around the screening of immigrants with TB after 1945 were not developed
solely in response to public health needs. They were heavily influenced by immigration, labour and economic policies, trade and international relations and, up until 1978, informal racism. International and domestic challenges to that racism from the 1970s led to a more consistent application of medical checks for immigrants, irrespective of race, and the principle of health screening for all immigrants was set. More than anything, the view from the 1970s that TB was a problem of immigrants and refugees was a reflection of the gulf in health status between developing and developed worlds. New Zealand’s plummeting TB rate since effective drug treatment began in the 1950s had made it a member of an exclusive club of nations with low incidence of the disease. In contrast, the developing countries from which New Zealand increasingly drew its immigrant population continued to have high incidence rates of TB. As tuberculosis incidence in New Zealand fell below the horizon, the few times it was mentioned in the press was increasingly in association with immigrants or refugees. Yet, the popular construction of TB from the late 1970s that it was a problem of immigrants and border protection was an over-simplification that obscured the combined impact of elevated exposure to infection in the country of origin and low socio-economic status after arrival in New Zealand.

124 http://www.nzembassy.com/info.cfm?c=38&l=98&CFID=6686&CFTOKEN=52576491&s=go&p=62098. Accessed 20 October 2007. The exclusive nature of the club of low-incidence TB countries remains in 2007. For the purposes of TB testing of immigrants and visitors, the New Zealand Government lists 54 ‘low incidence TB countries’ with less than 20 cases per 100,000 of population. Another 147 countries are listed as having rates above this, including New Zealand’s Pacific neighbours, Fiji, Tonga and Samoa.
Chapter Seven

UNTOUCHABLES NO MORE?

The steep decline in the incidence of tuberculosis post-war was echoed by a shift in social attitudes towards the disease.¹ Broad Health Department attempts to counter the label of ‘untouchable’ that commonly surrounded TB saw some success, but the decline in negative social attitudes was also an automatic response; as the threat of TB faded, public attentiveness to the disease waned also. Yet fear and stigma did not disappear entirely and the post-1945 period highlights the diversity of ways in which different groups experienced this stigma.

The deep social shame that could be attached to an aspect of a person’s social identity — such as having tuberculosis disease — was first articulated in depth by Erving Goffman.² Others have built on Goffman’s insight and have shown that the experience of stigma is fluid rather than fixed and diverse according to time, ethnicity, society and culture; it can be seen as a social process involving the rejection of those with particular ‘undesirable’ characteristics.³ Parker and Aggleton have further extended this understanding by showing how stigma

¹ The 30 years from 1945 to 1975 saw total new cases notified of all forms of tuberculosis fall from 2051 (1945) to 448 (1975), 21.8 per cent of the 1945 total. The fall in Maori new cases notified was also substantial, if not quite as dramatic, from 521 (1945) to 189 (1975), 30.9 per cent of the 1945 total. AJHR, 1946, H-31, p.19; AJHR, 1976, E-10, p.104.
draws on, increases and multiplies existing inequalities and divisions within society. As will be seen in this chapter, the stigmatisation of tuberculosis was a layered experience which cannot be explained simply, for it was derived from the perceptions not just of the individual with TB but of the multiple communities within society. For many in post-war New Zealand, the stigma of TB disappeared as the disease itself vanished from view. Yet Maori and immigrants from the Pacific Islands experienced double stigmatisation as minority ethnic groups branded with high rates of TB. Pacific Island people also brought the intense stigmatisation of TB from their traditional island cultures to their new society. It is no surprise that adverse social effects of stigma were mitigated more effectively by those of higher socio-economic status. Public health and medical professionals played a lead role in efforts to overcome fear of the disease, but also officially stigmatised those who refused to co-operate with treatment.

The ‘romantic’ view of TB
Tuberculosis has had a long presence in Western literature. At the peak of its incidence in the nineteenth century, such a widespread disease could not help but find its way into the lives of real or fictional characters, whether as a convenient plot device or simply a reflection of life in the real world. Regarded as a disease of heredity and constitutional weakness, before it was known as infectious, TB was depicted in fiction as ‘typically’ afflicting those with a sensitive or artistic disposition. Sufferers might be idealistically portrayed as being too good or not strong enough for the hardships of the world, resigned to their short lives and full

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of an urgency to live life to the fullest. Thomas Dormandy interweaves the experience and portrayal of tuberculosis through the lives of artists and their work as the illustrative theme of his medical and social history, *The White Death: A History of Tuberculosis*. By the end of the nineteenth century, however, new knowledge about germ theory and the contagiousness of the tubercle bacillus was stripping away the ‘romanticism’ that had previously surrounded the disease, and tuberculosis was being understood in a more realistic but also stigmatising way. However, those romantic illusions persisted quietly in the background. In the 1950s, New Zealand artist Jacqueline Fahey took her husband’s diagnosis with tuberculosis in her stride and later wrote she felt she was ‘psychologically prepared to fall in love with an idealistic, handsome young man who was dying of tuberculosis’ as a result of her understanding about TB from literature.

Writer Maurice Duggan contracted TB while in Spain in 1952. On hearing this, Auckland friends and fellow writers Frank Sargeson (a non-pulmonary TB patient) and Eric McCormick agreed ‘with a little admitted cynicism, that the illness might be the making of him as an authori, since there had been so many tubercular geniuses’.

The uncertain experience of TB in the pre-chemotherapy era was a notable part of the lives of many New Zealanders; a few memoirs and autobiographies provide brief snap-shots of the variety of that individual experience. There is no hint of romanticism is Sonja Davies’s account of recurring illness and stigma, although others describe surprisingly accepting accounts of sanatorium life, their

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philosophy no doubt softened by the intervening years. That chemotherapy changed the nature of the patient experience of tuberculosis and its potential for stigmatisation is undoubted, although there were continuities also.

The many faces of stigma
The well-documented negative social attitudes and stigma that surrounded tuberculosis during the first half of the twentieth century grew out of the disease’s infectiousness, resulting segregation from family and society, its incurability, and the lingering belief from the nineteenth century that TB was hereditary. To be diagnosed with tuberculosis before the drug treatments of the late 1940s and early 1950s was to receive a life sentence that did not necessarily end in death but could spoil all hope of normal family life. The extent to which TB altered the ordinary expectations of a New Zealand life course can be seen in a 1931 booklet, *Hints for Consumptives*, which specifically warned against marriage for people with TB, except with expert advice. For women, the booklet stressed the dangers of pregnancy and childbirth, whereas men were likely to be compromised as family breadwinners or by the possibility of dying young and leaving a family totally unsupported. TB was categorised as a disease with potentially life-long effects, and people were urged to take their responsibilities seriously. The booklet stated that, where TB was diagnosed, it was probably best

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for both parties ‘to ask to be released from any engagement’. A 1944 sex and marriage manual continued to warn against tuberculosis in a prospective partner:

This disease is not now thought to be transmissible directly to the offspring, though obviously the child of tubercular parents runs a greater risk of infection than if he were removed from all contact with the disease. The excitements of marriage are not likely to be of benefit to a tubercular patient. For the woman the strain of childbirth will be definitely harmful, and the only wise course is to wait for a cure.

Although there was a softening of such warnings against marriage, caution was still recommended. Dr Rodney Francis’s pamphlet on tuberculosis, first published in the late 1940s, stated: ‘Ideally, no tuberculous person should marry until the disease has been really quiet for two years. This is especially true of female patients, who face the stresses of pregnancy, child bearing, and the extra cares and duties of a mother.’

The infectiousness of tuberculosis meant careful hygiene was stressed throughout the 1940s by the Health Department’s Division of Tuberculosis and its pamphlets contained advice for TB patients. Typically, these included instructions that personal cutlery and crockery be kept strictly for patient use, that patients occupy a separate bedroom away from children, and that they should not kiss children or

10 *Hints for Consumptives*, 8 May 1931. H 1 16350 130, ANZW.
11 Joan & Bruce Cochran, *Meeting and Mating: A Treatment of the Mental and Physical Aspects of Love and Marriage*, Wellington, 1944, p.64. The author is grateful to Claire Gooder for providing this reference.
anyone on the mouth;\textsuperscript{13} such restrictions on everyday personal behaviour would have created feelings of isolation and shame in some patients and reciprocal emotions of fear at the thought of even distant contact with TB patients.

Objections to contact with TB patients and fear of the risk of infection were logical, given the Health Department’s warnings about hygiene and the need to isolate.

During the 1940s and into the 1950s, many TB patients experienced some rejection by family, friends or acquaintances. Health Department recommendations to the State Advances Corporation for TB priority housing provide some illustration. As historian Gael Ferguson wrote, the first Labour Government’s public housing strategy from 1936 to 1949 ‘captured the imaginations of most New Zealanders’ with its aim of enabling ordinary families to obtain reasonable housing. Direct housing assistance was aimed consciously at working people and their families, although a few especially needy groups were identified for special housing help.\textsuperscript{14} The commitment during the 1940s to the public health goal of reducing TB and official recognition of the social influences on the disease can be seen in the priority for state rental housing offered to the most serious TB patients. Other groups to receive such targeted assistance were Maori and the elderly. TB priority status was not easy to gain; only infectious cases or quiescent cases where there were children in the family were eligible. Applications came nevertheless from people at various stages of TB disease and recovery, and these were classified by an MOH before referral to

\textsuperscript{13} Tuberculosis, The Patient’s Responsibility, Department of Health pamphlet, 1948.
\textsuperscript{14} Gael Ferguson, Building the New Zealand Dream, Palmerston North, 1994, pp.117-18. See also Ben Schrader, We Call it Home: A History of State Housing in New Zealand, Auckland, 2005, pp.32-41.
the State Advances Corporation. The applications revealed touching instances of stigmatisation as well as descriptions of difficult and inadequate living conditions. The wife of a TB patient was residing with another family while her husband was in hospital. However, this was on the ‘condition that [her husband] did not return there after his discharge from hospital’. He could not even visit the house on day-leave. An applicant with inactive TB was made miserable through being ostracised by the adult members of her household. Another applicant was refused accommodation with his parents-in-law because they had younger children in their household. It is possible that such negative attitudes were emphasised in the applications to make a stronger case, and many other applications indicated family support for the TB patient. Irrespective of how widespread such rejections were, those that occurred would have been distressing for the individual and indicated a continuing atmosphere of stigma around tuberculosis in the 1940s.

Fear of contact with a TB patient and the consequent stigmatisation were particularly hurtful at the hands of close family and household members. However, rejection was more frequently the response of people who were acquaintances rather than close friends and such negative social reactions were often experienced anonymously and at arm’s reach. Members of the public notified the Health Department about individuals they believed were infectious with TB and a danger to others. ‘Public Friend’ wrote to the Auckland District Health Office in October 1943 advising that a friend and patient at the Green

15 Circular Memo to Clerical Officers, State Advances Corporation of New Zealand, March 1948. H 1 130/5 20113, ANZW.
16 Applications for priority for state housing, 14 November 1946, 6 October 1947, 12 December 1947. BAAK 25/40h A49/65c, ANZA.
Lane shelters ‘has been reading and then exchanging his library books to a public library through some of his visitors’. 17 A letter signed ‘Neighbours’ reported an Auckland resident who ‘will not see a doctor not on any account…’. The woman’s symptoms and failure to take treatment were described in detail, and the letter finished emphatically ‘it is plain TB!’. 18 On investigation, the Department’s professional assessment sometimes found that the subject of the complaint was neither infectious nor a danger. In 1945 a Nelson barman, allegedly a TB patient, was reported to the Department. His ‘filthy habit of spitting in the drip cans under the beer pumps and breathing on the beer glasses to polish them’ was evidence of the threat he represented. After investigation, the Minister of Health informed the complainant that the man did have a chronic cough but was not infectious. Nevertheless, bar staff were indeed a high-risk group. 19 A former TB patient was reported to be milking cows in a Birkenhead milking shed. He and his family were investigated in full, and it was eventually established that he was free of infection and the Auckland Infirmary had approved his taking the job. 20 The threat of TB was also extended to children. The Waimiha School Committee in Taranaki wrote in July 1946 stating that certain children who might have TB were attending school and requesting they

17 ‘Public Friend’ to DH, Auckland, received 19 October 1943. BAAK 25/40 A49/64c, ANZA.
18 Letter signed ‘Neighbours’. BAAK 25/40 A49/64c, ANZA.
19 Hartnett to MH, 17 January 1945, & MH to Hartnett, 29 January 1945. H 1 130/1 20023, ANZW; J. R. Hinds to MOH, Auckland, 19 September 1956. BAAK 25/40(9) A358/139b, ANZA; Notes on discussion with four members of the Executive and President of the Hotel and Hospital Workers Union, 8 November 1965, & F. A. de Hamel, MOH, Dunedin, to W. I. Glass, DHO, Auckland, 18 November 1965. BAAK 25/40(11) A358/140a, ANZA.
20 Inspector to MOH, Auckland, 14 May 1942, & School Medical Officer to MOH, Auckland, 4 June 1942, & Assistant TB Officer, Auckland Infirmary, to DOH, undated. BAAK 25/40 A49/64c, ANZA.
be kept at home. The Minister reassured the Committee that all positive TB cases were carefully supervised and would not be allowed to attend school.\textsuperscript{21}

Public concerns went beyond personal contact with the individual and encompassed the health risks of unknowingly touching items or being at a place used by a TB patient. In 1939 a newspaper advertisement by the Warren Lampton Institute for the supply of soft toy-making kits prompted a phone call from a member of the public to the Health Department in Auckland. She was anxious that TB patients might be among those making the toys for sale and this could be ‘a danger to the children who use them’.\textsuperscript{22} Enquiries to Head Office revealed that no other district had raised the issue, but the Auckland Office asked its district health nurses and departmental and local authority inspectors to make discrete enquiries of ‘active TB households’ if soft toys for sale were being made there.\textsuperscript{23} There was on occasion anxiety about the possibility of infection from houses where TB patients had lived. In 1943 an Eketahuna man wrote to the Health Department asking if it was safe to use a hut in which a TB patient had lived; the hut had been unused and its windows open for three years. Dr Claude Taylor cautiously replied that the hut would be all right but thorough scrubbing with soap and water ‘should make it absolutely safe’, thus illustrating the fine line the Department trod between reassuring the public that TB did not have to be dangerous and guaranteeing a safe environment.\textsuperscript{24} As well as specific

\begin{itemize}
\item[21] Waimiha School Committee to MH, 10 July 1946, & MH to Waimiha School Committee, 19 July 1946. H 1 130 22478, ANZW.
\item[22] File note, 9 August 1939. BA\textsuperscript{3} 25/49 A49/64b, ANZA.
\item[23] DH, Head Office, to Auckland District Office, 13 September 1939, & MOH, Auckland, to District Health Nurses, 11 October 1939, & MOH, Auckland, to all Department and Local Authority Inspectors, Central Auckland/Thames/Tauranga, 12 October 1939. BA\textsuperscript{3} 25/49 A49/64B, ANZA.
\item[24] J. G. Hawkins to DH, 27 May 1943, & DDT to Hawkins, 8 June 1943. H 1 130/1 20023, ANZW.
\end{itemize}
complaints about people and places, concerns could be much more general, indicating the broad preventive side of the developing anti-TB campaign. In 1947 a lengthy letter from a Birkenhead man deplored the problem of spitting in public and asserted the general principle that the total removal of TB patients from the home was vital for the safety of their families.25 One correspondent even challenged the right of brothers and sisters of TB patients to work alongside others.26 A National Member of Parliament complained in 1948 about the failure of New Zealand Railways to set a good example; its crockery was broken and chipped and its wooden buildings in Wellington had no ventilation.27

The perception that rules of hygiene were being breached was especially likely to invoke public fear and complaint. At Auckland Hospital throughout the 1940s, the unsupervised or careless washing of TB patients’ infected linen was a repeated concern. Shortage of hospital staff — a fact of life for virtually all hospital boards at the time — meant that the laundry of TB patients was an area of compromise for the Auckland Board; the Board preferred to wash TB linen separately at the hospital laundry but, if impracticable, linen was to be disinfected at the hospital and sent home damp for washing.28 The basis of complaints by observers or relatives related to the fear that infected linen was being handled in the home in a casual, unhygienic way and was a serious risk to the household, as well as being at odds with the Health Department’s public

26 Letter, 17 December 1943. H 1 34/1/1 14210, ANZW.
27 Cutting, Star, 23 July 1948. BAAK 25/40(5) A358/138a, ANZA.
messages. TB patient laundry was still being done by family members in 1949.\textsuperscript{29} Hospital laundry workers reiterated the danger of infection with claims that TB linen was being washed at the hospital but strict separation from general hospital laundry overlooked; the practice of damping down was also identified as potentially harmful.\textsuperscript{30} In 1950 \textit{New Zealand Truth} took up the laundry issue, claiming a ‘breakdown’ in the strict rules governing the removal of soiled personal clothes. A correspondent to the paper asked if ‘knitting and fancywork done by TB patients should not be properly sterilised before the articles were taken from the shelters’.\textsuperscript{31} Dr Claude Taylor tried to contain any public concern by counselling that the Department had provided detailed instructions on how to wash dirty linen safely at home. He also attempted to deflect the argument away from one of hygiene to an accommodation of feminine modesty in his expression of support for the ‘many female patients’ who wished to have their personal laundry done away from the hospital.\textsuperscript{32}

In the era before effective drugs, the separation of ‘actively infectious patients’ in hospitals or sanatoria was the symbol of the country’s TB treatment programme.\textsuperscript{33} This physical seclusion led many patients to regard treatment as a form of exile, although that same isolation in hospitals and sanatoria also

\textsuperscript{29} MOH to Auckland Hospital Board, 27 March 1941, & reply from Acting Medical Superintendent, Auckland Hospital Board, 18 April 1941. BAAK 25/40 A49/64c, ANZA; M. P. Wilson to MOH, Auckland, 21 June 1943, & MOH, Auckland, to Medical Superintendent, Green Lane, 9 July 1943. BAAK 25/40 A49/64c, ANZA; Correspondence, 26 and 29 September 1947. BAAK 25/40 (5) A138a, ANZA; Circular Memo 1949/267, 11 November 1949. BAAK 25/40 (6) A138b, ANZA.

\textsuperscript{30} Secretary, AHB, to Medical Superintendent, Green Lane Hospital, 29 October 1943, & Secretary, AHB, to Medical Superintendent, Green Lane, 27 January 1948. YCAS 82/42/6 A740/183h, ANZA.

\textsuperscript{31} Cutting, \textit{New Zealand Truth}, 24 May 1950. YCAS 82/22/3 A740/179g, ANZA.

\textsuperscript{32} ibid; Memo, Medical Superintendent, Green Lane Hospital, to Secretary, AHB, 6 June 1950. YCAS 82/42/6 A740/183h, ANZA.

\textsuperscript{33} Cutting, Star, 6 September 1946. YCAS 95/1/33 A740/345b, ANZA.
provided the security of a world where tuberculosis was the norm, as seen in Chapter Five. In 1944, Dr Colvin McKenzie of Pukeora men’s sanatorium spoke of the belief among his patients that their disease was regarded by many with suspicion; in being sent away for treatment, they felt outcast from society.\textsuperscript{34} Ex-patients have also referred to the isolation as an exile or as relegation to a type of leper colony; as Susan Sontag has shown, these and other metaphors serve to increase the sense of physical isolation and moral stigma around tuberculosis.\textsuperscript{35}

One unusual case illustrated the degree to which the sanatorium could symbolise banishment and isolation. While the Tuberculosis Bill was going through Parliament in 1948, an Invercargill man described to the Department his mentally ill wife’s ‘dread’ of being forced to undergo a compulsory X-ray. She believed that such an X-ray would certainly reveal some trace of TB and she would be ‘removed from her home and segregated in some lonely place’.\textsuperscript{36} Patient feelings of shame were reinforced by a public dialogue about TB that regularly employed terms like the ‘tuberculosis menace’ and stressed danger and the need for vigilance.\textsuperscript{37} In November 1945 the \textit{Auckland Star} quoted Auckland chest physician Dr Chisholm McDowell saying that of 175 people who had died of TB in the Auckland metropolitan area that year, 91 had died in their own homes and this was ‘a serious health menace’.\textsuperscript{38} McDowell was probably using this information to obtain greater funding for TB hospital beds; any sense of shame felt by TB patients as a result was an unfortunate side effect.

\textsuperscript{34} Minutes of Conference of Tuberculosis Officers and Radiologists with Departmental Officers held on 2 and 3 August 1944, p.29. BAAK 25/40 A49/65a, ANZA.
\textsuperscript{36} A. Kinross to MH, 28 June 1948. ABQU 246/49 632 W4415/521 52637, ANZW.
\textsuperscript{37} Cutting, NZH, 12 July 1948. BAAK 25/40(5) A358/138a, ANZA.
\textsuperscript{38} Cutting, Star, 27 November 1945. BAAK 25/40 A49/65a, ANZA.
Patients often lived with tuberculosis for many years, and the disease could dominate their lives. Tuberculosis patients sometimes used ‘TB’ as a pseudonym in a letter to the newspaper, indicating just how intrinsically their identity had become entwined with and stigmatised by the disease; such feelings often persisted long after they had returned to normal life. They did not just have tuberculosis, they became a ‘TB’ or, in the self-deprecating, male vernacular of the sanatorium, an ‘old bot’ or an ‘old lag’. 39 Naming themselves with their disease or implying that they were ‘doing time’ may have been a pre-emptive strike against potential stigmatisation by others, but was also deeply self-stigmatising in itself.

If being in a sanatorium was a form of exile for the patient, that same segregation reassured the general public they were safe from those infectious individuals. As long as active TB patients were out of the community in a hospital or sanatorium, out of sight and out of mind, there was no reason for others to worry about the danger their disease posed. However, their status as ‘inactive’ or ‘cured’ on release from institutions was less well understood by the public. If the safe place for TB patients was a hospital or sanatorium ward and, if TB as a disease was the focus of more attention than previously, people might reasonably be suspicious of those who appeared to have TB but were not confined. These non-infectious or recovering patients in the community were most likely to be on the receiving end of negative social attitudes. There were complaints about TB patients being allowed out of hospital or travelling on public transport. The St John Ambulance

39 Cutting, NZH, 15 July 1948. BAAK 25/40 (5) A358/138a, ANZA; Bailes to MH, received 29 April 1947, H 1 130/1 20023, ANZW; John Lyall Oliver, Interview with Sue McCauley, OHA 4264, ATL; John Stewart, Interview with D. Dunsford, 22 June 2005.
Association objected to the practice of allowing TB patients to leave hospitals to have milk shakes and drinks at local milk bars, questioning how well glasses would be cleaned in such places.  

It was commonly acknowledged that those who had been treated for or were suspected of having TB could encounter prejudice and difficulty in finding jobs and accommodation in the community. A Palmerston North man wrote to the Health Department about his boarder, whom he now believed ‘had TB’. Evidence of this was his ‘large quantity of medicine, bottles, etc, and his everlasting cough’. In this case, TB could well have been a justification for the complainant’s desire simply to be rid of the man, who apparently had ‘objectionable’ habits, ‘but the risk of TB is the limit’. The complainant clearly believed that TB was ample justification for removal from his household. The Patients’ and Prisoners’ Aid Society put a case to the Health Minister in 1944 for the Department to open a boarding house for discharged but still recuperating TB sanatorium or hospital patients. The Society’s view was that ‘No boarding house will take them in once it is known that they have recently been in a TB sanatorium’. Jack Marshall, in the parliamentary debates over the 1948 Tuberculosis Bill, commented on the prejudice experienced by ex-patients, many of whom ‘had found doors shut against them when it was known they had suffered from tuberculosis’. In 1951 the Auckland Star reported on a discharged TB patient who had been readmitted to Wellington Hospital six times.

40 St John Ambulance Association, Bay of Plenty Branch, to MH, 10 December 1947. H 1 130/1 20023, ANZW.
41 R. A. Holmes to DH, September 1943. H 1 130/1 20023, ANZW.
42 Patients’ and Prisoners’ Aid Society (Incorporated) to MH, 3 May 1944. H 1 130/1 20023, ANZW.
43 Cutting, NZH, 22 July 1948. BAAK 25/40(5) A358/138a, ANZA.
because, when his TB became known, he was turned out of his accommodation.44

The intensification of the anti-TB campaign from 1943 brought more people within the ambit of public health nurse activity as they investigated patients and their contacts. The increased efforts by departmental staff in case-finding and contact-tracing was estimated to have identified an additional 200 cases in 1950.45 Some of this attention was distinctly unwelcome as patients could be defensive about public knowledge of their TB. Official acceptance of the legitimacy of patient sensitivities over privacy developed in response to complaints about heavy-handed dealings with patients and, over time, the Health Department became increasingly circumspect in dealing with TB patients and contacts. One ex-patient complained to the Health Minister in 1947 about departmental nurse visits to him at his work, saying that such visits endangered the rehabilitation gains he had made which could ‘happen very easily once I am revealed as a TB to my fellow workers’. The complainant felt especially aggrieved since he believed himself a reliable patient who maintained regular contact with the local chest clinic.46 In 1949 the Auckland Tuberculosis Association wrote to the Auckland Hospital Board suggesting ‘that in view of the fact that patients are very sensitive to public prejudice, that the label appearing on the car used by Sister Miller [to visit TB patients at home] be removed’. The Association reinforced its request by reminding the Hospital Board that ‘the

44 Cutting, Star, 26 January 1951. BAAK 25/40 (7) A358/138c, ANZA.
45 File note, 30 July 1951. H 1 246/41 25695, ANZW.
46 Bailes to MH, received 29 April 1947. H 1 130/1 20023, ANZW.
Department of Health recognises the patients’ outlook in this respect’. In 1958 one Auckland woman complained of being embarrassed when approached at work by a public health nurse as a possible TB contact, and Auckland tuberculosis officer Dr Herbert King apologised formally to her. A similar situation occurred in April 1959 when a Mt Roskill man was upset that the public health nurse had attempted to get his landlady’s family checked for TB. In this case, King also stepped right back from the confrontation and did not enforce contact-testing of the family. Notes for nurses on ‘Tuberculosis Control’ in 1963 reiterated the need for ‘great tact and care so as not to prejudice the patient’s future in any way’ if approaching a TB case living in a boarding house, and reminded them that letters should be sent to boarding house or work addresses in plain envelopes. A 1966 circular to public health nurses restated that patient permission was required before industrial contacts could be followed up.

As late as 1971, in spite of an effective cure and a substantial decline in the number of New Zealand’s new notifications which had dropped to 668 from 2572 in 1945, patient desire for discretion demonstrated the continuing stigma. A Herne Bay man objected that the public health nurse had visited his employer and said he had TB. Behind the scenes, there was a professional disagreement between the Health Department and the patient’s doctor. The Department

47 Auckland Tuberculosis Association (Inc.) to AHB, 25 November 1949. YCAS 62/6/14 A740/533e, ANZA.
48 File note, 8 September 1958. BAAK 25/40 (9) A358/139b, ANZA.
49 King to Coleman, 3 April 1959. BAAK 25/40 (9) A358/139b, ANZA. See also Canterbury & West Coast Tuberculosis Association (Inc.) to MOH, Christchurch, 30 March 1961, & reply, 6 April 1961. CAVX 588 58/1 328, ANZC.
50 ‘Tuberculosis Control, Notes for nurses’, 8 November 1963. H 1 246/41 32833 2202, ANZW.
51 Circular Memo to Public Health Nurses, 24 August 1966. BAAK 25/40 (11) A358/140c, ANZA.
considered him to be not infectious but active and still a ‘positive’ case, whereas his doctor regarded him as not infectious and therefore no danger. With his TB revealed, the man was apparently at real risk of losing his job, and this was only averted by the intervention of the physician in charge of the Auckland Chest Unit. The patient threatened legal action against the Department, and public health nurses were urged to be ‘discrete, tactful and not overstep [their] authority’ after the Department adjudged they were wrong to inform the employer. The legacy of prejudice and fear of infection clearly lingered on.

Campaigning to overcome stigma

In 1953, Auckland thoracic surgeon Dr Rowan Nicks expressed the view that a society’s development was best judged by its ‘attitude towards those unfortunate enough to contract this deadly disease [tuberculosis]’. Nicks’s comments challenged the old, stigmatising social attitudes towards TB, developed over generations and based on the disease’s infectiousness, prior incurability and reputation as a virtual death sentence. They were also representative of a broader project under way to counter the stigma associated with TB; propaganda to change minds about the disease was an intrinsic part of the post-war anti-TB campaign. As new technology and treatments altered patients’ prospects from the 1940s, the Division of Tuberculosis set out to educate the public and counter the fear and stigma which prevented people from seeking early diagnosis and treatment. TB physician Chisholm McDowell urged the founders of the Auckland Tuberculosis Association to make overcoming fear of the disease,  

54 R. Nicks to Medical Superintendent, Green Lane Hospital, 26 November 1953. YCAS 95/3/6 A740/384a, ANZA.
which put people off going to a physician, one of its goals. An *Auckland Star* report in 1951 conveyed the frustration of Wellington Hospital’s Superintendent-in-Chief at the ‘sheer ignorance’ of some of the public towards TB patients, and the influence of the Division of Tuberculosis can be seen in some press coverage that presented fear of TB patients as wrong and unfair and attempted to introduce a more sympathetic approach. Columnist Jack McNamara, in a long 1952 *Auckland Star* article promoting the mass X-ray campaign, conveyed a compassionate sense of the costs borne by TB patients. He evoked the complex web of negative personal and social effects that contracting TB could have on patients: ‘the crushing feeling of despair, a future of worry’ and the disruption to a person’s life plan. The article emphasised the TB patients’ unfortunate status as outcasts owing to the intense surveillance involved in treatment and the ‘unconscious flinching by healthy people round them’ at every cough.

Early in the 1950s, anti-tuberculosis activity was being extended across all fronts: diagnosis, treatment, prevention and public education. The propaganda around two screening programmes, the national mass X-ray campaign and the smaller-scale school BCG vaccination programme, helped change public attitudes towards TB. Educating the New Zealand public included a conscious attempt to counter the view that only some people or families came into contact with TB; brochures and statements that accompanied the introduction of the BCG vaccine were explicit in their message that ‘[s]ooner or later everybody

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55 Cutting, NZH, 26 April 1944. BAAK 25/40 A49/65a, ANZA.
56 Cutting, Star, 26 November 1951. BAAK 25/40(7) A358/138c, ANZA.
57 Cuttings, Star, 26 November 1951, 7 June 1952. BAAK 25/40(7) A358/138c, ANZA.
comes into contact with the germ which causes tuberculosis’. Making the point that ‘everyone’ was at risk was part of the attempt by the Division of Tuberculosis to share responsibility for the fight against TB across the whole population. The specific goal of the national mobile mass X-ray campaign from 1952 was to identify and treat dangerous undiagnosed cases in the community. But encouraging people to check their own chest health for the wider good of the community was also an intrinsic attempt to change social attitudes towards TB. As Criena Fitzgerald has said of the Western Australian mass X-ray campaigns, the identification of TB cases and the eradication of the disease were deliberately made ‘everyone’s business’. So it was in New Zealand, although the authorities never seriously considered making chest X-rays compulsory. This was in contrast to Australia, where federal authorities believed a compulsory scheme was essential if eradication was to be achieved; individual states varied in their enforcement, although they all fined or prosecuted at least some of the non-compliant. The New Zealand Health Department’s stated preference was persuasion over compulsion, although it was also aware that its resources were stretched and would never cope with the demands of a compulsory scheme.

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58 Department of Health pamphlet, ‘BCG Vaccination Against Tuberculosis’, 20,000/9/50, Appendix 4, Minister of Health press statement, Immunisation against Tuberculosis. H 1 240/3/5 23423, ANZW; Department of Health newspaper ‘pull’ TB2, ‘TB strikes anywhere!’; H 1 246/63/1 24645, ANZW. See also The Argus, 1 September 1955. CAVX 735 15/3 2, ANZC.


61 DDT to MH, 10 September 1946. H 1 240/3/1 24333, ANZW; J. M. Wogan, for DGH, to Executive Committee, Taranaki Mobile X-ray Unit, 20 December 1950. H 1 246/34/6 24689, ANZW; DGH to President, Catholic Social Guild, 13 October 1941. H 1 240/3/1 20048, ANZW; J. R. Hanan, MH, to Secretary, New Zealand Federation of Labour, 30 April 1957. H 1 246/34 27683, ANZW; MH to New Zealand Federation of Tuberculosis Associations (Inc.), 6 October 1964, & MH to Wanganui Hospital Board, 30 May 1966, & MH to R. E. Jack, Member of Parliament, 8 June 1966, & Director, Division of Public Health, to New Zealand Federation of
TB disease was increasingly an uncommon event in the lives of most New Zealanders. Nevertheless, they drew on a recent and vivid collective experience of TB, and most were persuaded of the importance of their personal role in fighting the disease and responded to the mass X-ray message; during 1957, five years after the mass X-ray campaigns began, 242,332 people had chest X-rays at mobile units. The leaders of New Zealand’s towns and cities, who lined up ritually to be first for an X-ray, were the published proof there was now no stigma attached to having a TB check-up; on the contrary, X-ray was promoted as an individual, civic or national duty, and those who refused to have one opened themselves to potential stigmatisation. Such public support of the TB screening campaign showed that leading citizens apparently feared neither the physical diagnosis of TB nor the possibility of being stigmatised by such a diagnosis; their example helped reshape wider public attitudes.

The Division of Tuberculosis, and Director Claude Taylor in particular, encouraged the establishment of new tuberculosis associations around the country as an important part of changing social attitudes. The missions of these associations included offering financial and moral support to TB patients during and after their treatment, as well as countering public ignorance and prejudice...
about the disease. As with the Division of Tuberculosis, their main educational thrust was to overcome the fear of TB which deterred people from going for diagnosis, with an emphasis on the TB patient’s responsibility to the whole community to do so.⁶⁴ The associations were usually made up of ex-TB patients, their families and acquaintances, and medical professionals from the organising middle classes. As such, they were able to attract leading members of society as supporters.⁶⁵ The poor undoubtedly carried the heaviest weight of TB. However, until the 1950s, every stratum of society was affected and nearly everyone, including the well-to-do, knew of someone among family and friends who had contracted TB. That intimate knowledge of the TB experience underpinned the associations’ sympathy for patients and their determination to dispel the shame attached to the disease; they may even have welcomed the TB patient’s enhanced status as a victim, although the same middle-class attitudes limited the extent of that victimisation. The associations’ sympathy and help seem to have been reliant on an obedient and compliant patient who co-operated fully with treatment.⁶⁶

The Division of Tuberculosis welcomed supportive voices in its campaign. The local nature of each TB association and its spokespeople meant that their opinions often had more impact within their communities than general statements from the Division. By 1952 there were eleven separate associations and, together

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⁶⁴ DGH to MH, 25 May 1943. H 1 130/28 20132, ANZW; Cuttings, Star, 24 April 1944, & NZH, 26 April 1944. BAAK 25/40 A49/65a, ANZA.
⁶⁵ For example, the Mayor of Wellington was the President and Dr Claude Taylor, Director of the Division of Tuberculosis, was the Vice-president of the Wellington Tuberculosis Association. See cutting, Evening Post, 13 December 1945. H 1 130 16350, ANZW.
⁶⁶ Taranaki Herald, 14 August 1942.
with the Division, they were conducting ‘a vigorous educational programme’. 67 The associations were quick to speak publicly about stigmatising treatment of TB patients. A 1947 exchange in the New Zealand Herald over the Auckland Transport Board’s refusal of a request for disabled ex-servicemen with TB to receive free tram passes saw the Auckland Tuberculosis Association secretary denouncing the decision as ‘born of ignorance’ and for its inference that such patients were ‘untouchables’. 68 Other organisations with an interest in health sometimes assisted with public education. The New Zealand Red Cross Society planned to offer six public lectures on tuberculosis in 1948. It believed there was ‘considerable apprehension through ignorance in the minds of many people in relation to Tuberculosis and knowledge of the subject would help the Department [of Health] in its propaganda work’. 69

One difficulty in TB’s increased prominence may have been that, as public awareness of the disease became more acute, knowledge of its biological nature remained simplistic or plainly inaccurate. Some medical professionals and TB patients blamed the Health Department’s campaign for publicising the extent and dangers of the disease without acknowledging the intricacies of infectious and non-infectious, active and inactive status. Writer Guy Young was a patient at Cashmere Sanatorium in 1943 and asked the Department to be more discerning in its advertising, which he believed encouraged the public to think that all

67 J. R. Marshall, MH, to General Secretary, Federated Farmers of New Zealand (Inc.), 21 August 1952. H 1 246/41 25695, ANZW.
68 Cuttings, NZH, 12 September 1947, 16 September 1947. BAAK 25/40 (5) A358/138a, ANZA.
69 New Zealand Red Cross Society (Inc.) to Director-General of Medical Services, 13 April 1948, & Minutes of a meeting of the Red Cross Headquarters Professional Committee, 12 April 1948, p.2. H 1 130 22478, ANZW.
tuberculosis patients were infectious.\textsuperscript{70} At their 1944 conference some TB
officers commented that the public had been ‘overeducated’ about TB and most
mistakenly thought the disease acted like scarlet fever or diphtheria in
developing rapidly and being highly contagious. Some of these TB professionals
criticised the Department’s ‘intensive propaganda’, and its cinema advertising
was quoted as a particularly sensationalist culprit.\textsuperscript{71} A letter from ‘T.B.’ to the
\textit{New Zealand Herald} on 15 July 1948 eloquently summed up the problem of
inaccurate public knowledge as well as the role of stigma in discouraging
diagnosis:

Whenever an article on T.B. is published the fact that all sufferers
from the disease are highly infectious is stressed in every paragraph.
This is grossly unfair to those hundreds of patients in sanatoria,
hospitals and in bed at home who are not infectious. The average
person knows nothing more about the disease than what is read in
newspapers and magazines, with the result that T.B. is mentioned in
hushed tones and people suffering from it are regarded as
untouchables. Until the people are educated on this point, there will
be many cases hidden until too late for fear of social disgrace.\textsuperscript{72}

Individually and as a group, medical professionals were fully aware of the
negative social attitudes patients encountered by patients and ex-patients. Many
involved in treating TB took an interest in attempts to destigmatise the disease or
helped patients to alleviate the effects of stigma in their day-to-day lives.\textsuperscript{73} The
wide-ranging discussions at the August 1944 Conference of TB officers in

\textsuperscript{70} G. Le F. Young to DDT, 25 October 1943. H 1 130/1 20023, ANZW.
\textsuperscript{71} Minutes of Conference of Tuberculosis Officers and Radiologists with Departmental Officers
held in British Medical Association Building, Wellington, 2 and 3 August 1944, pp.35-36.
BAAK 25/40 A49/65a, ANZA.
\textsuperscript{72} Cutting, NZH, 15 July 1948. BAAK 25/40 (5) A358/138a, ANZA.
\textsuperscript{73} For a discussion of the way in which health professionals may act as ‘courtesy members’ of a
stigmatised group, see Volinn, 1983, pp.385-93.
Wellington recognised the rebuffs patients encountered when out in the community. There was some public enthusiasm and support from those present for the concept of the working TB colony, epitomised by England’s acclaimed Papworth village; this would protect patients from rejection by continuing their long-term seclusion from wider society.  

Other delegates felt the village colony was an unsuitable model for New Zealand because of the country’s small and scattered population but did support rehabilitation in the form of ‘protected’ conditions such as shorter working hours, suitable occupations and the provision of separate cafeterias to overcome fellow-workers’ dislike of eating food alongside discharged patients.  

Dr Gilbert McLean indicated that he had found most government departments and larger organisations, such as banks, open to providing sheltered work for TB patients. However, the private employer who feared the possibility of a later health breakdown and subsequent claims for compensation ‘was more of a problem’.  

Alongside reassuring statistics and the new mass X-ray screening and BCG school vaccination campaigns, the Department continued to encourage the public to be alert to possible disease so that it could be treated quickly and effectively without shame. However the growing success in the TB fight found the Department treading a fine line between avoiding alarm or stigmatisation and  

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74 DDT to E. A. Barrett, 5 February 1943, & E. A. Barrett to DDT, 9 September 1943, & DDT to MOH, Palmerston North, 22 September 1943. H 1 130/28 20132, ANZW; For an account and analysis of Papworth Village Settlement, see Linda Bryder, ‘Papworth Village Settlement – A unique experiment in the treatment and care of the tuberculous?’, Medical History, 1984, 28, pp.372-90.  

75 Minutes of conference of Tuberculosis Officers on 2 and 3 August 1944, pp.17-18. BAAK 25/40 A49/65a, ANZA; See also DGH to MH, 25 May 1943, & DGH to The Official Secretary, New Zealand Government’s Office, London, 22 March 1945. H 1 130/28 20132, ANZW.  

76 Minutes of conference of Tuberculosis Officers on 2 and 3 August 1944, p.18. BAAK 25/40 A49/65a, ANZA. See also G. Le F. Young to DDT, 25 October 1943. H 1 20023 130/1, ANZW; Barrie Frederick and Zoe Ohlson, Interview with Sue McCauley, 3 September 2001. OHA 4276, ATL.
encouraging complacency. It is notable that anxiety about the danger of TB in the form of public complaints to the Health Department declined to almost nothing in the 1950s. No doubt the public was taking on board the sense of progress and confidence celebrated in the press. In 1954, the *Auckland Star* reported that two more mobile X-ray units were planned as a result of the early success of the TB control programme. It applauded the news that Pleasant Valley Sanatorium would close and one planned for Levin was no longer needed. Later that year the *New Zealand Herald* proclaimed ‘Dramatic Gains in War on TB’ and spoke of an ‘atmosphere of hope and confidence’ in the TB institutions which no longer had waiting lists. Public confidence that TB was on the run was also shown in a decrease in sales of the Auckland TB Association’s Christmas Seals.\(^{77}\) The decision to close Pukeora Sanatorium in 1956 produced a *New Zealand Herald* comment that ‘the dread disease of a generation ago, is now all but conquered’. The editorial eulogised that the disease could now be regarded as ‘just a type of infectious disease without the patients being kept behind a barrier’. It was a ‘triumph of modern medicine’ and a ‘tribute to public co-operation’.\(^{78}\) In contrast, the *Auckland Star* later the same year reported concern by the New Zealand Federation of TB Associations about ‘Health Department propaganda which gave the impression that the battle against tuberculosis was practically won’.\(^{79}\) In 20 years attitudes towards TB had gone from determination to overcome a dreaded, incurable disease to confidence that it was being beaten and even a sense of national failure that it had not been entirely eradicated. As the *New Zealand Herald* put it in 1964, ‘[t]he persistence of

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\(^{78}\) Cutting, NZH, 9 June 1956. YCAS 95/1/33 (1) A740/345b, ANZA.

\(^{79}\) Cutting, Star, 24 September 1956. BAAK 25/40 (9) A358/139b, ANZA.
tuberculosis constitutes a reproach to what ought to be the healthiest of countries’.  

The post-war public health campaigns that included mass X-ray, targeted BCG vaccination and public education placed responsibility for the defeat of tuberculosis on individuals as a national duty; official propaganda played a part in reducing the stigma attached to TB. Yet an even more important influence was at work unseen. As the number of TB deaths plummeted, overall incidence fell and every success was celebrated publicly, the disease naturally lost its stigma of incurability and menace. When the last TB institutions closed in the early 1960s, most New Zealanders understood that TB had ceased to be a major threat and, for most, the disease and the accompanying stigma slipped out of sight.

Stigma and the ethnic and social diversity of the TB experience

Before effective drug treatment, tuberculosis was a common enough disease across all layers of the New Zealand population, yet that did not mean the experience was evenly felt; the heaviest burden of TB always fell on the poorest sectors of society. Maori were the most identifiable group known to have high rates of TB in the middle of the twentieth century and were negatively stereotyped as a result. Derek Dow has highlighted the importance of Dr Harold Turbott’s landmark 1935 study quantifying the difference between Maori and European tuberculosis rates. This showed that Maori TB rates were 10 times Pakeha rates, with housing and diet believed to be the major reasons for the

80 NZH, 8 January 1964.
disparity. The problem of Maori TB rates was therefore well known by the 1940s, and improving it was one of the goals of the Division of Tuberculosis.

Publicity about high Maori TB rates may have brought public support for tackling the problem, but it also meant Maori as a whole could be branded as having tuberculosis. The Bay of Plenty Branch of St John Ambulance wrote to the Minister of Health in 1947. Their concerns about TB were couched in general public health terms, but in reality were focused on the danger of Maori TB patients, who very often returned from hospital to their marae to die, potentially infecting others. Some in the community actively attempted to protect themselves from ‘Maori TB’. At the 1948 Conference of Tuberculosis Officers, Dr Adrian Webb of Northland advised he had been approached by a North Auckland School Committee prepared to purchase a mobile X-ray unit to ensure all European children in contact with Maori children with TB could be X-rayed. A similar instance highlighted the potential for injustice in such group stigmatisation. A May 1950 letter from Federated Farmers of New Zealand raised the (mistaken) concerns of their Waikato branch that school children were being infected with TB and assumed this was a consequence of high Maori infection rates.

82 Cuttings, NZH, 9 September 1942, 27 March 1943, 10 September 1943, 18 September 1943, 29 October 1943, 3 November 1943, 5 November 1943, 23 November 1943, 26 November 1943, 29 November 1943, 7 December 1943, & Cuttings, Star, 22 November 1943, 6 December 1943. BAAK 25/49 A49/64B, ANZA.
83 St John Ambulance Association, Bay of Plenty Branch, to MH, 10 December 1947. H 1 130 22478, ANZW.
84 Notes from Tuberculosis Officers’ Conference, 10 and 11 February 1948. H 1 130/2 22456, ANZW.
85 Federated Farmers of New Zealand (Inc.) to MH, 26 May 1950. H 1 130/18 24375, ANZW.
It seems that Maori were very conscious of being stigmatised as a group having TB. When the Taranaki Mobile X-ray Unit began surveying Maori, some objected that they were being ‘sorted out’. Unit X-ray technician Hapi Love said, ‘The women folk … are rather diffident about their children being picked out from others at school and being X-rayed. Some of the remaining pupils promptly shout “you are a Maori and you have got TB.”’\textsuperscript{86} A 1961 \textit{Nursing Gazette} article identified some Maori men’s feelings of resentment and stigmatisation; they believed they were being ‘sorted out’ by public health nurses for health checks at work, while European men were not.\textsuperscript{87}

The blame for their high TB rates was often laid on Maori themselves, increasing the potential for stigmatisation. The \textit{Christchurch Press}, acknowledging the role of overcrowding in Maori TB rates, asserted that Maori ‘with their communal type of life, lack what seems to Europeans an adequate sense of hygiene, and responsibility in health matters’.\textsuperscript{88} The 1955 Health Department booklet, \textit{The Control and Treatment of Tuberculosis}, written by East Coast TB officer, Rodney Francis, emphasised careful and hygienic living and adherence to modern, medical treatments to prevent or overcome tuberculosis. The booklet was directed at all New Zealanders, but a special section for Maori went beyond the need for education, self improvement and responsible behaviour and called for Maori to change their attitude to health and living.\textsuperscript{89} Such views reflected genuine frustration at the perceived failure to educate Maori on health matters.

\textsuperscript{86} \textit{Taranaki Herald}, 1 August 1946, p.3. \\
\textsuperscript{88} \textit{Press}, 23 April 1949. \\
\textsuperscript{89} R. S. R. Francis, \textit{The Control and Treatment of Tuberculosis}, Wellington, 1955, pp.36-38, 40-45.
They also underestimated the low socio-economic status of most Maori and the particular difficulties they faced when attempting to improve their living conditions.

The Taranaki Mobile X-ray Unit’s establishment and initial success was evidence that Maori leaders were keen to overcome the TB problem and would adopt modern practices and technology to do so. The excellent response by Maori in the first year of the screening project can be seen as a vindication of the Unit’s initial promotion, crafted to appeal to Maori culture and interests, as well as its special status as a ‘Maori’ project.90 It was an early and unusual example of the anti-tuberculosis message being specifically geared to the culture and traditions of a target group. Another Maori public health tool was suggested during the planning for the Taranaki project. A ‘special Maori propaganda film’, *Tuberculosis and the Maori People of the Wairoa District*, was made by the National Film Unit in co-operation with the Health Department and the Ngati Kahungungu Tribal District Committee.91 Barbara Brookes has shown how this collaborative project provided Maori with a vision of the possible, of tuberculosis being beaten through modern medicine, technology and lifestyle.92 Both the Taranaki Mobile X-ray Unit and the film were significant examples of public health initiatives formulated to appeal directly to Maori concerns and culture. This contrasted sharply with general Health Department campaigns and

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90 Minutes of Meeting, 10 November 1941, & Minutes of Executive Committee Meeting of Taranaki Mobile X-ray Unit, 3 June 1943, p.2. ARC 2002-549, Box R4/4/4, TRC.
91 E. P. Allen, Taranaki Mobile X-ray Unit, to DDT, 18 December 1945. H1 130/13/4 17750, ANZW; *Tuberculosis and the Maori People of the Wairoa District*, National Film Unit, 1952, ARNZ 18828 RV157, ANZW.
messages aimed at the whole population which often seem to have bypassed many Maori communities.

One initiative to reach Maori more effectively came from the Prime Minister and Maori Affairs Minister, Peter Fraser, in 1949. He advised the Health Department that information from its English language TB brochures was being broadcast on radio as part of the Sunday Maori news sessions and suggested that, in view of the apparent interest, they be reprinted in Maori. Five thousand copies were printed the same year. However, when the Department’s TB brochure series was reviewed just three years later, many district staff questioned the value of the Maori versions, and they were discontinued. Some commented that the brochures were ‘too technical’ or in ‘too much detail’ for most Maori patients, and there was a consensus that Maori who did not speak English usually did not read at all and that younger Maori preferred to read in English.⁹³ There seems to have been some questioning of the overall effectiveness of the brochures for some of the English language TB brochures were withdrawn at the same time.⁹⁴ Some may also have felt the message of modernity embraced by both Pakeha and Maori leaders in the Taranaki Mobile X-ray Unit and the *Tuberculosis and the Maori People* film was undermined if delivered in the Maori language.

Wider public knowledge about poor Maori health and TB in particular meant that Maori were stigmatised as a group who *all* suffered poor health. This view was

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⁹⁴ Memos to Head Office from M. C. Chapman, New Plymouth Hospital, 4 August 1952, MOH Gisborne, to DGH, 28 August 1952, MOH Hamilton, to DGH, 29 August 1952. H 1 246/63/1 24645 ANZW; Shirley Tonkin, Interview with D. Dunsford, 10 February 2006.
no doubt helped by the slower and later decline in Maori TB rates compared to the European population. European respiratory tuberculosis rates per 10,000 of population trended strongly downwards from 1945. The Maori rate fluctuated or increased in the late 1940s and only began to fall from 1954 (see Appendix VII). Mantoux testing in 1955 showed that 13.18 per cent of European and 23 per cent of Maori 10-14 year olds tested positively. By 1966 these figures had reduced to 7.3 per cent of Europeans and 16.18 per cent of Maori. While not as rapid or dramatic as the European decline, the Maori position was improving nonetheless, and public health staff consciously attempted to overcome negative stereotyping. In 1951 Rodney Francis wrote to Tuberculosis Division Director Jack Wogan regarding the percentages of Mantoux positive reactions at some of the local Maori schools and colleges. These appeared to be declining, and Francis hoped to be able to ‘controvert the current (lay) opinion that the “Maoris are rotten with TB” as more than one person has tried to tell me’. Wogan confirmed that similar figures for Maori colleges in Northland suggested that Maori children were less exposed to TB than previously.

Feelings of stigma vary according to traditions and culture, and the experience of Pacific people’s of stigma and tuberculosis in New Zealand has been different in character from that experienced by other New Zealanders. Contemporary medical and social science research has revealed that, even after 30 or 40 years’ residence in New Zealand, Pacific peoples still draw much of their knowledge of TB from their island of origin; their understanding is often based on a pre-drug

95 AJHR, 1956, H-31, p.91.
97 R. S. R. Francis to DDT, 19 March 1951. H 1 130/32 24372, ANZW.
98 DDT to R. S. R. Francis, 22 March 1951. H 1 130/32 24372, ANZW.
premise of shadowy social rather than biological origins and TB remains highly stigmatised within Pacific societies as contagious, isolating, morally shameful and, surprisingly, incurable.  Three contemporary studies emphasise the importance of culturally-targeted education about the curability of TB in the modern day as a means of combating the enduring feelings of stigma within Pacific communities.

After graduating from the Otago University Medical School, Dr Tom Davis (later to become Premier of the Cook Islands) returned home as Medical Officer to the Cook Islands in 1946. His autobiographies portray a very basic health system which was gradually improved, as well as a poor understanding of Western medicine on the part of most Cook Islanders. The narrator of Samoan writer Albert Wendt’s short story ‘Flying Fox in a Freedom Tree’ was a TB patient conscious of earlier romantic links to literature: ‘You get TB and you want to be a verse-maker’, he says of his decision to ‘become the second Robert Louis Stevenson’, who had died in Samoa of the disease. Wendt’s story is set when effective drug treatment meant people could expect to recover, but the narrator believes, in spite of his doctor’s advice to the contrary, that he is dying, that the disease remains incurable. Such memoirs and literature provide insight into

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the probable knowledge of and attitudes towards TB of post-war Pacific Island immigrants to New Zealand.

The Health Department’s educational efforts undoubtedly eluded many Pacific Island people. Its anti-TB propaganda was formulated in the 1940s with a largely homogeneous message to a population increasingly familiar with and confident of modern bio-medical success. The Department’s disappointment at both Pacific Island and Maori communities’ responses to Auckland’s 1964 mass X-ray campaign was instructive. The Department had made no special promotion to either group, with MOH Dr Brian Christmas stating the principle that services be offered without discrimination. However, the low turnout drew the comment from Dr Harold Turbott that it was ‘an excellent example of what will inevitably happen unless you seek the closest co-operation of the people in touch with these communities’ and led to an approach to the Department of Maori Affairs to try and improve future efforts.103  Targeted TB health education and screening work through the Polynesian Federation and church leaders was suggested, and attempts were made to engage more with both groups. An X-ray unit was positioned outside All Saints Church, Auckland, at the same time as immunisation clinics were held during 1966, and the Health Department introduced Pacific Island language brochures in the 1970s.104  These were clearly useful but, as straight translations of existing brochures, they lacked specific reference to the cultural and traditional beliefs that underpinned Pacific Island

103 MOH to DGH, 16 April 1964, & B. W. Christmas to Maori Affairs Department, 16 April 1964, & Turbott to Christmas, 28 April 1964. BAAK 25/40/1 (2) A358/141b, ANZA. See similar example in Christchurch, J. G. Tees to DGH, 2 February 1976. CAVX 58/21 241 Acc 588, ANZC.
understanding of TB, its causes and curability. It seems that New Zealand’s post-war TB education efforts made little impact on the country’s new Pacific Island arrivals.

Concerns within the medical profession about levels of TB among Pacific Island people became evident from the early 1960s although they took time to filter through to the public. A 1966 *New Zealand Herald* feature, ‘TB still a big health problem’, concentrated on the role of Maori and ‘Rarotongans’ in Auckland’s TB rates.\(^{105}\) The Health Department was sensitive to the stigmatisation of Pacific Island people during the 1960s. For many years Pacific Island people were simply included in the Maori statistical category.\(^{106}\) However, in 1967 the Health Department’s Medical Statistician advised the Maori Health Committee that a third racial group, ‘Pacific Islander’, would be added to hospital record cards. Additional discussion on whether this should be broken down to individual Island groups brought some objections, with Public Health Division Director Dr Gordon Dempster saying that ‘to extract Pacific Islanders was tantamount to separating out a social group’. Dr Derek Taylor, another member of the Division, illustrated the Department’s commitment to prevent high-risk groups being publicly stigmatised with TB. He advised that the Department would not even be publishing separate infectious disease figures for Maori that year, and it did not intend to perpetuate the distinctions at a national level,

\(^{105}\) Cutting, NZH, 28 May 1966. BAAK 25/40(11) A358/140a, ANZA.

\(^{106}\) Meeting of Maori Health Committee, 28 April 1966, p.2. BAAK 25/1/6 (1) A358/122d, ANZA.
although statistics would be kept within the Department ‘as a basis for any policy
decisions which might be necessary’. 107

Out of the public eye, the opinions of Department personnel were less cautiously
expressed. The Director-General of Health wrote to the Auckland MOH in
March 1972 about TB control among Samoan immigrants in Auckland, noting
‘The Polynesian invasion of Auckland is creating very serious problems in
relation to the health of the total community particularly in relation to TB’. 108
This contrast between confidential comment and careful public statement shows
the Department was sensitive to the potential stigmatisation of visible ethnic
groups with high TB rates and accepted responsibility for countering this.

The same sentiments can be seen behind the progressive termination of the BCG
school vaccination programme in the 1960s and 1970s, as discussed in Chapter
Four. By the 1970s the risk was disproportionately concentrated in those
localities with high Maori and Pacific Island populations but the Department
tried to avoid the public spectre of Maori and Pacific Island people being singled
out for BCG vaccination. The programme was discontinued in most regions by
1980 but continued in Auckland, parts of Wellington and rural localities with
high rates, to ensure that at-risk Maori and Pacific Island children were
vaccinated but not identified as a ‘problem’ group. In 1983 the whole scheme
was quietly shifted to an at-risk basis at the discretion of each district office. 109

107 Minutes of Meeting of Maori Health Committee, 16 March 1967, p.1. BAAK 25/1/6 (1)
A358/122d, ANZA.
108 DGH to MOH, Auckland, 30 March 1972. BAAK 25/40 (12) A358/140d, ANZA.
109 Epidemiology Advisory Committee: meeting, 13 October 1983. ABQU 246/64 55983,
ANZW.
Differences in class and socio-economic status also affected the way in which the stigma of tuberculosis was experienced. Historians of tuberculosis internationally have emphasised the relationship of poverty and low socio-economic status to high TB incidence. While TB patients who experienced sanatorium life might have believed that TB was not a ‘respecer of social or economic standing’, F. B. Smith’s assessment that ‘tuberculosis respected rank’ is closer to the truth. New Zealand health authorities had recognised this important connection at least from the 1930s and embraced a dual medical and social attack on the disease. But the huge reduction in TB incidence through effective drug treatment from the 1950s resulted in the long-standing link between tuberculosis and poor socio-economic status becoming even more pronounced. As more and more New Zealanders were removed from the TB statistics, a stubborn tail of cases remained, the majority of which experienced some combination of poor and overcrowded housing, low living standards and income.

A useful way to examine the relationship between poor socio-economic status and TB in New Zealand in this period is through a comparison of housing districts. Pulmonary TB cases notified for the Auckland City Council area for 1937 showed the run-down and crowded inner city suburbs of Newton-Ponsonby and Eden Terrace-Grafton with the highest rates, over twice as high as the

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111 Ohlson; Smith, 1988, p.10.
wealthy, less crowded suburbs of Remuera, Orakei, Kohimarama and St Heliers.\footnote{Pulmonary TB cases notified to 31 December 1937, Auckland City Council area. BAAK 25/40k A49 65d, ANZA.} Similarly, Christchurch MOH Francis de Hamel’s report on tuberculosis in Canterbury from 1946 to 1960 showed new notifications of TB to be inversely related to the density of a suburb’s population, the value of the houses and the number of people per house, that is, to relative poverty and poor and overcrowded living conditions.\footnote{F. A. de Hamel, \textit{Tuberculosis in Canterbury: A Study of the Epidemiology of Tuberculosis in Canterbury 1946-60}, Department of Health Special Report No. 7, Wellington, 1962, pp.8-10, 54.} The 1964 report on tuberculosis in Auckland by TB Officer Herbert King illustrated the Department’s awareness of the geographic and social contrasts in TB incidence, as well as in attitudes to the disease. In the new state housing suburb of Glen Innes, over 85 per cent of cases came from working-class families with five or more members and a direct link to a previously infected person. A high proportion of cases and residents in this suburb were Maori. In contrast, cases in the established and wealthy suburb of Remuera came from smaller families with higher incomes ‘who denied any contact with infection, possibly concealing this for social reasons’.\footnote{C. H. King, \textit{Tuberculosis in Auckland}, 13 April 1964. BAAK 25/40 (11) A358/140a, ANZA; The concentration of TB in poorer Auckland suburbs was also confirmed at this time by Ian Pool’s 1959 thesis. See D. Ian Pool, \textit{A Social Geography of Auckland}, MA thesis (Geography), University of Auckland, 1959.}

The changing profile of the disease and the increasing emphasis on poverty meant that the small number of people from higher social groups who contracted TB could feel especially shamed by having what was now almost entirely a disease of the poor, Maori or, increasingly, Pacific Island people. Lingering feelings of stigma can be seen through their attempts to hide or manage their TB status. Strategies included controlling public dissemination of their TB status,
avoiding direct contact with the Health Department and, as King recognised in 1964, asserting distance from the source of infection.

Preventing the patient’s TB disease from becoming common knowledge in the community, often with the collaboration of their doctor, had long been a common practice.\footnote{115}{\cite{Volinn1983}, p.389, regarding the role of health professionals in the revealing of ‘damaging’ information.} Many patients preferred to deal solely with their own general practitioner and avoid contact with public health staff for this reason. Notifications of all TB cases had been more strictly enforced from 1941 and ended the common practice of some patients, who could afford to pay their own practitioner for consultation and treatment, being able to avoid notification. At that time Auckland Hospital Board’s TB Department only examined family contacts of cases actually being treated at the Auckland Dispensary or Shelters; staff well knew there were many other cases in the city. The Board had ‘no access whatever to the contacts of cases of tuberculosis treated by private practitioners and the cases themselves have by no means always been notified’.\footnote{116}{\cite{McDowell1941}, YCAS 62/6/2 A740/533a, ANZA.} The confidentiality afforded by the intimate doctor-patient relationship did not end with the 1941 changes and was seen as under threat in the 1948 debates when MP Jack Marshall criticised the Tuberculosis Bill’s emphasis on the Department of Health’s role at the expense of the private practitioner.\footnote{117}{\cite{Cutting1948}, NZH, 22 July 1948. BAAK 25/40(5) A358/138a, ANZA.} In spite of Marshall’s fears, people were allowed to have their treatment and family supervision carried out by their own doctor; it seems likely that these were families from the middle class and above, able to pay ongoing...
doctor’s fees and anxious to preserve the anonymity of their disease.\textsuperscript{118} Even as late as 1971, the Herne Bay case whose doctor disagreed with the Health Department about the status of his disease suggests that the doctor’s diagnostic position may have been influenced by his willingness to protect his patient from the stigma of surveillance by the Department. \textsuperscript{119}

Another way in which this social group might alleviate a sense of shame about TB was to classify the source of infection as an unknown or ‘distant other’, making the patient an ‘unlucky’ victim. Infection contracted through workplaces could also alleviate the potential for stigma, rendering the patient blameless and unlucky. TB patient Colleen Upton’s work colleagues at Dreaver’s department store in Dunedin were all checked without result, and she eventually surmised she had contracted her TB while travelling on crowded trains at the end of the war.\textsuperscript{120} In 1944 a woman wrote to Dr Claude Taylor alleging the source of her infection was a fellow clerical worker at the Income Tax Department in Wellington. Her abhorrence of being labelled with the disease was apparent. Currently resident at the Otaki Sanatorium, she was apparently unable to bring herself to mention tuberculosis, instead writing that she had ‘unfortunately contracted an infection of the lung’.\textsuperscript{121} It seems that she was keen to identify the possible source of infection and absolve herself from blame by establishing that her TB was simply an unlucky event.

\textsuperscript{118} B. Christmas, MOH, Auckland, to British Medical Association Executive, 26 June 1963. BAAK 25/40 (11) A358/140a, ANZA; Summary of meeting at Green Lane, 20 April 1972. BAAK 25/40(12) A358/140d, ANZA.
\textsuperscript{119} File note, 25 May 1971. BAAK 25/40 (11) A358/140c, ANZA.
\textsuperscript{120} Colleen Upton, Interview with D. Dunsford, 3 August 2004.
\textsuperscript{121} Robins to DDT, 24 March 1944. H 1 130/1 20023, ANZW.
One group who did seem more personally resistant to the stigma of TB were those medical and nursing students, doctors and nurses who contracted tuberculosis in the course of their duties. There was no suggestion of guilt on their own or their families’ part as they had become sick through their vocation of caring for and healing others. The common acceptance in the 1940s and even into the 1950s that TB was an occupational risk for this group meant they accepted their disease as bad luck. Their understanding of the physiological nature of the infection and disease, together with their training in the medical and hospital systems, meant they accepted the treatment offered as the best path to recovery. One way in which medical staff who caught TB could be stigmatised was their elimination from the highly competitive professional ladder of medicine because of ongoing caution about their health. Unable to risk long hours and hard work, they found themselves choosing what they might have otherwise regarded as ‘lesser’ specialisms, often within the field of tuberculosis itself.

As the disease declined, the stigma of the past continued to manifest itself but was often not understood by those for whom the disease now meant nothing. As a child in Wellington in the 1950s, Tony Kember recalled the ominous fascination with which he regarded the Ewart Chest Hospital, hidden down a driveway among pine trees on Mt Victoria. His parents had told him about the patients in this isolated place and he felt a sense of sadness for their strange

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plight. For Anne Foley, living at Wanganui in the late 1950s, the Gonville Sanatorium, also down a long drive with glass verandahs and surrounded by pine trees, was a strange place, rather like a prison, although nicer. She knew not to go there because she might catch something but, was not sure exactly what it was. 124

Conclusion

Stigma is an attitude sifted variously through the perceptions of those with TB and the broader community around them and, as this chapter has shown, is difficult to locate simply. Negative social attitudes and stigmatisation were part of the tuberculosis experience of most New Zealand patients during the 1940s and into the 1950s, although that experience was far from uniform across society. The high incidence of TB in Maori resulted in some stigmatisation of them as a group who all had tuberculosis. It is not surprising that patients in higher socio-economic groups often had the resources to alleviate stigma more effectively than the poor.

From the 1940s the Department of Health and the medical profession actively campaigned to educate the public that TB was curable and should not be feared. Indeed, instances of negative public attitudes towards TB within the Health Department’s files decreased significantly from the late 1950s. This apparent shift in public attitude was influenced in part by public education messages that emphasised an effective drug cure. More importantly, the public absorbed a subliminal message from their own communities that TB disease no longer

124 Tony Kember, email communication, 16 January 2008; Anne Foley, email communication, 5 November 2007.
struck down family and acquaintances and was rapidly ceasing to be a significant health threat to most New Zealanders. The ‘TBs’ who had been the ‘untouchables’ were now quickly cured and rehabilitated back into society to live normal lives.

Paradoxically, the potential for social objections and feelings of shame did not disappear entirely. The long-term persistence of stigmatising attitudes at odds with modern bio-medical knowledge highlighted the continued need for health education specific to individual cultures and traditions to be effective. By the late 1960s and 1970s the concentration of TB among the poor — and, by extension, Maori and Pacific Island people — was the disease’s dominant feature. The broader population, which by then had largely lost its own sense of innate shame at contracting tuberculosis, increasingly identified Maori and Pacific Island peoples as the intractable obstacles to the final eradication of TB in New Zealand.
CONCLUSION

By the end of the 1970s, it appeared to most that New Zealand’s anti-tuberculosis campaign had brought victory over a disease that had devastated families since colonial times; the mid-twentieth century ‘miracle’ of effective drug therapy released patients from the uncertainty and isolation of prolonged rest treatment and tempted public health professionals with the ultimate prize of eradication. The limits of medical science and new technology seemed boundless at this time and mass X-ray, BCG vaccination, antibiotic drugs and education were combined in an intensive public health campaign against TB. Significantly, the effects of the campaign and the introduction of drug therapy were underpinned by the socially-progressive policies of the first Labour Government and the long post-war economic boom that together provided a net of social security and raised living standards across all levels of society. The prize of eradication proved elusive however and TB persisted at a low level among the poorest in society and in new immigrant groups from countries with high incidence of the disease. This thesis shows that, as tuberculosis disappeared from the lives of most New Zealanders, its incidence increasingly became a marker of poverty and social deprivation.

The elements that made up the anti-tuberculosis public health campaign and the changing shape of the tuberculosis experience in New Zealand are at the heart of this thesis. Social histories of tuberculosis in the late 1980s that focused on the period of sanatorium treatment saw the effective drug therapy of the 1950s as an
appropriate end to that story. This thesis takes up the narrative from the start of
the mid-century public health campaign and carries it through to its conclusion in
the 1970s. It is a story that lacks an orderly conclusion of conquest but critically
assesses the campaign and the persistent and changing nature of tuberculosis
incidence.

Mobile mass X-ray was the campaign’s highly-visible flagship; the war-time
screening of the armed forces was extended first to ‘at-risk’ groups and then to a
nationwide campaign targeting the whole adult population. The cost-
effectiveness of a mass X-ray campaign was questionable from the outset; the
Division of Tuberculosis was aware of the uncertain benefits at a time of
declining TB incidence but introduced it as part of its comprehensive plan.
However the huge increase in numbers X-rayed from 1952 did not produce a
dramatic spike in notifications. Instead the gradual decline already established
continued and it seems a more limited and targeted scheme may well have been a
sufficient response. Once established, the mass X-ray programme was such a
large investment in capital, personnel and public relations it was difficult to
dismantle.

The secondary schools BCG vaccination scheme was the preventive brick in the
anti-TB wall and was delivered to an entire at-risk age group. The mass aspect
of the BCG campaign was always seen as temporary and, unlike mass X-ray, it
was relatively easy to wind back to specific at-risk groups as TB incidence fell.
Yet, this was not so straightforward. In the 1970s, the Health Department was
reluctant to label Maori and Pacific Islanders as ‘the TB problem’ and chose to
restrict the BCG vaccination scheme to schools in at-risk areas, such as Auckland, rather than identify at-risk groups. This study highlights the challenges arising from the need to tailor public health education and services to at-risk groups, but at the same time avoid stigmatisation.

The thesis opens at a time when the sanatorium still formed part of the TB experience for many patients. It shows that, in spite of the lengthy and uncertain treatment, the communal life of the sanatorium provided positive benefits. Friendship, socialising and romance were all features of life in New Zealand's sanatoria, as were the shared hopes for a cure. Living in these worlds apart protected patients from the stigmatisation that was an unpleasant aspect of the TB experience in the 1940s and 1950s. The introduction of effective multiple-drug therapy from 1952 profoundly altered patient experience of the disease, with indefinite isolation in hospitals and sanatoria becoming an eccentricity of the past. The ‘miracle’ of modern medicine quickly rendered patients non-infectious. Although the entire process of drug treatment could still be lengthy — and at times painful and unpleasant — it returned patients to the full health and normal life so elusive previously.

Brandt and Gardner have called the burgeoning confidence in medical science and technology of the time a ‘golden age’ and this contributed to assumptions that a model for the conquest of infectious disease had been established.1 The remark attributed to United States Surgeon General, Dr William Stewart, in 1967 that it was ‘time to close the book on infectious disease’ sums up the ambience

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within which the anti-tuberculosis campaign was conducted.\textsuperscript{2} Such belief can also be seen in the vigorous efforts and ‘victory’ against other infectious diseases, such as the New Zealand Health Department’s introduction of a programme to eradicate measles epidemics in 1979 and the international certification of the global eradication of smallpox the same year.\textsuperscript{3}

The early intensity of the post-war campaign illustrates the strength of the commitment to adopt new technology and medical science when the disease was perceived as a threat to the whole population. However as the scale of the threat declined, and with the reassurance of drug treatment to cure those who did get the disease, the singular focus on TB as a public health priority faded. The battle appeared increasingly to be won, and it was for the majority of New Zealanders. But beneath the expectation that TB would be eradicated, some health professionals found themselves grappling with a stubbornly persistent disease that challenged the existing public health strategy with its altered demographic features. TB was still regarded seriously but fresh initiatives to deal with its changing social characteristics were piecemeal and other areas of public health assumed what had been the priority of TB.

The significant influence of social and economic deprivation on tuberculosis, and on health generally, is one of the essential lessons to be derived from this study. Poverty had always been the greatest contributor to TB incidence but, before drug treatment, the disease had also been spread widely across society. Yet,

from the 1950s, tuberculosis in New Zealand told two distinct stories. One was of its disappearance from the lives of the majority of New Zealanders. The second was of a residual incidence among the poor, more often Maori and Pacific Island immigrants, especially children.

Ethnic disparity in TB rates intersected with low socio-economic status. The differential between European and Maori rates was nothing new; Maori TB incidence declined alongside European rates but the inequality was not eliminated. Like other colonised indigenous peoples, both the time-frame of their epidemic and their socio-economic status trailed that of the European population.\(^4\) The period was also one of growing ethnic diversity driven by immigration. This complicated the TB picture further as some immigrants, especially from the Pacific Islands, brought a higher and more complex TB risk from their homelands.\(^5\) Public health officials recognised the immigrant challenge to the eradication of TB and attempted to resolve it by introducing border controls to prevent those with TB entering the country at all. However, the ‘problem’ of immigrant tuberculosis was not just one of border control but was intrinsically linked to the social and economic welfare of immigrants after arrival in New Zealand.

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Public health attempts to solve the problem of TB in immigrants illustrates changes in social attitudes and to New Zealand’s place in the wider world. New Zealand’s economic and cultural dependence on Britain was solid in the late 1940s and its preference for those of European race over ‘aliens’ was illustrated by the two-tier system of medical checks that informally allowed easier entry for Europeans than for non-Europeans. This racial bias continued with the system of X-rays introduced especially for Pacific Island nations, although such biased treatment became increasingly unacceptable and was eventually discontinued.

This thesis contributes to the historical literature on tuberculosis in revealing the significant change to the nature of stigma associated with TB from the 1950s. The education of patients and the public not to fear or be ashamed of tuberculosis was one of the pillars of the public health campaign. Once widely-feared as incurable, with the infectiousness of TB an invisible threat to life itself, the stigma of the disease declined rapidly alongside the ‘cure’ of drug treatment. This was especially true for the general population. For them, TB incidence fell so low that the disease was commonly thought to be eradicated, as the propaganda of the post-war campaign had promised. In ceasing to be a major threat, its infectiousness and incurability overcome, TB lost its power of fear and shame; by the 1970s, tuberculosis was irrelevant and invisible to the majority of New Zealanders.

As TB remained an intermittent part of the life experience of the poor, especially Maori and Pacific Island people, stigma also continued as a factor in different cultural understandings of the disease, its cause and its curability. The public
health campaign tended to assume a Western bio-medical understanding of
disease and its treatment, irrespective of culture. For Pacific Island immigrants
in particular, their isolation from mainstream New Zealand society by language,
ethnic difference, geographic separation and majority prejudice meant the Health
Department’s anti-tuberculosis campaign made minimal impact on them. This
study has drawn on contemporary social scientific and medical literature to
comprehend different cultural understandings of TB among New Zealand’s
Pacific Island immigrants. Such perspectives show the potential weakness of
mainstream public health messages and the unexpected continuation of stigma
within such immigrant cultures.\(^6\) On a broader level, by the end of the 1970s,
the stigmatising notion that TB was ‘a disease of immigrants’ was evolving.

This study tells us much about New Zealand society from World War Two to the
1970s and illuminates social change through the lens of a ground-breaking and
ambitious public health campaign. It was a campaign that fell short of its ultimate
goal, not because of a failure to commit resources but because medical science
and technology were never going to be sufficient by themselves. The expansion
of the welfare state from the 1930s and the long post-war economic boom played
a significant role in reducing TB incidence in New Zealand from World War
Two to the 1970s, with drug therapy the final act in reducing rates to very low
levels. However, TB proved far more opportunistic than imagined and has
remained entrenched at low levels among New Zealand’s poor. The

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Roannie Ng Shiu, ‘The Place of Tuberculosis: The lived experience of Pacific peoples in
Auckland and Samoa’, MA thesis, University of Auckland, 2006; Clif van der Oest, Richard
Chenhall, Dell Hood & Paul Kelly, ‘Talking about TB: multicultural diversity and tuberculosis
Department’s large-scale campaign reflected the perception of population-wide threat in the 1940s. TB was quickly reduced to a far more limited threat that required a more tightly focused attack to succeed. The hopes of eradication expressed as part of the confidence of the time were ultimately unfulfilled and confirmed the unhappy but continuing truth in Dr Martyn Finlay’s observation that ‘[t]uberculosis, like the poor, is always with us’.\footnote{Dr Martyn Finlay, NZPD, Vol. 281, 22 July 1948, p.852.}
## APPENDIX I

### New Zealand Tuberculosis Death Rates

**Quinquennial Crude Rates per 100,000 population**

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<th>Europeans all forms</th>
<th>Maori all forms</th>
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<td>1912-16</td>
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## APPENDIX II

### Mass Miniature X-rays taken in New Zealand, 1951-1980

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<th>Year</th>
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<th>Inactive</th>
<th>Healed</th>
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<td>1953</td>
<td>70,500*</td>
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<tr>
<td>1954</td>
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*Approximate figures given in annual reports only.
APPENDIX III

New Notifications of Tuberculosis, 1943-78

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<td>1978</td>
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## APPENDIX IV

### Results of Tuberculin Testing, ages 10-14, 1955-1966

<table>
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<tr>
<th>Year</th>
<th>Total Tested</th>
<th>Total Tuberculin Positive</th>
<th>Total Rate</th>
<th>European Rate</th>
<th>Maori Rate</th>
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<tbody>
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<td>1955</td>
<td>19,962</td>
<td>2786</td>
<td>13.9%</td>
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<tr>
<td>1956</td>
<td>15,449</td>
<td>1806</td>
<td>11.7%</td>
<td></td>
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<tr>
<td>1957</td>
<td>22,126</td>
<td>2391</td>
<td>10.8%</td>
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<tr>
<td>1958</td>
<td>15,328</td>
<td>1538</td>
<td>10.0%</td>
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<tr>
<td>1959</td>
<td>30,736</td>
<td>3785</td>
<td>12.3%</td>
<td></td>
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<tr>
<td>1960</td>
<td>30,801</td>
<td>2941</td>
<td>9.5%</td>
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<td>1961</td>
<td>34,933</td>
<td>2873</td>
<td>8.2%</td>
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<tr>
<td>1962</td>
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<td>1963</td>
<td>45,455</td>
<td>4540</td>
<td>10.0%</td>
<td>8.9%</td>
<td>22.5%</td>
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<td>1964</td>
<td>48,004</td>
<td>4754</td>
<td>9.9%</td>
<td>9.0%</td>
<td>16.3%</td>
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<tr>
<td>1965</td>
<td>30,949</td>
<td>3862</td>
<td>12.5%</td>
<td>10.7%</td>
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</tr>
<tr>
<td>1966</td>
<td>39,718</td>
<td>3180</td>
<td>8%</td>
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<td>16.1%</td>
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## APPENDIX V

### Results of Mantoux Testing (Percentage Positive), 1963-1966

<table>
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<tr>
<th>Year</th>
<th>European</th>
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<th>Maori</th>
<th></th>
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<tr>
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<td>Age 0-4</td>
<td>Age 5-9</td>
<td>Age 10-14</td>
<td>Age 0-4</td>
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<td>3.6</td>
<td>3.1</td>
<td>8.9</td>
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<td>2.4</td>
<td>9.0</td>
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<td>4.4</td>
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<tr>
<td>1966</td>
<td>5.1</td>
<td>3.0</td>
<td>7.3</td>
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Source: AJHR, 1964-1967
APPENDIX VI

Tuberculosis Notifications, Aged 15-24, 1962-67

<table>
<thead>
<tr>
<th>Year</th>
<th>Including Maori</th>
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<tr>
<td></td>
<td>Number</td>
<td>Rate per 10,000 aged 15-24</td>
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<td></td>
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<td>North Island</td>
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<td>South Island</td>
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<td>31</td>
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<td>1963</td>
<td>43</td>
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Source: Table of Tuberculosis Notifications, ages 15-24. H 1 246/64 34419, ANZW.
## APPENDIX VII

Respiratory Tuberculosis, New Notifications and Rates per 10,000 population, European and Maori, 1945-78

<table>
<thead>
<tr>
<th>Year</th>
<th>European New Notifications</th>
<th>Maori New Notifications</th>
<th>European Rate per 10,000</th>
<th>Maori Rate per 10,000</th>
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<tbody>
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<td>1945</td>
<td>1722</td>
<td>450</td>
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<td>1946</td>
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<td>443</td>
<td>9.2</td>
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<td>1947</td>
<td>1396</td>
<td>412</td>
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<td>38.7</td>
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<td>1948</td>
<td>1356</td>
<td>404</td>
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<tr>
<td>1949</td>
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<td>476</td>
<td>6.9</td>
<td>42</td>
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<td>1950</td>
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<td>475</td>
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<td>40.6</td>
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