INTRODUCTION

Ill-health and the struggle against disease have been a constant in human history. As an ancient, painful and deadly disease tuberculosis has figured prominently in this struggle. This thesis examines the public health campaign to control tuberculosis in Australia from 1898 to 1948. Its primary purpose is to analyse the historical, political and administrative processes that led to the first public health campaign funded jointly by State and Commonwealth Governments. After a faltering start in 1945 the Commonwealth granted money to the States in 1948 to conduct a joint public health campaign that led to a nation-wide x-ray survey, new treatment and diagnostic facilities, and financial support for tuberculosis sufferers and their dependants. It was a distinct shift from normal Government jurisdictions for health policy, health being the responsibility of the States. The timing of the legislation places it within the policy framework of post-war reconstruction. The central question is how medical authorities succeeded in having tuberculosis placed on the agenda of post-war reconstruction at a time when mortality rates from tuberculosis had been in decline for decades and a drug seemed to be in sight.

Australian historians of public health have identified a movement among some Australian physicians during the first half of the twentieth century, most particularly in the inter-war years, to promote state intervention in health. Their goal was to elevate the role of preventive medicine in creating a healthier nation. James Gillespie argued that this agenda finally failed by the late 1940s. But the anti-tuberculosis campaign defied this defeat to be the one area where the ideas of these physicians came to fruition.

This thesis is an analysis of tuberculosis and the state. It concentrates on the interplay between the state and that section of the medical profession engaged in public health either directly through state employment or as active physicians in the forums of their profession. I argue that tuberculosis public health policy would have evolved within state jurisdictions only but for two developments at the federal level after World War I that ultimately placed tuberculosis on the post-war re-construction agenda. In 1920 the Commonwealth parliament passed the *Repatriation Act* under which the Commonwealth assumed full responsibility for the medical repatriation of returned soldiers. Repatriation policy for returned soldiers with tuberculosis was an important influence on the shape of the later joint campaign. In 1921 the Commonwealth established its own health department providing publicly-employed physicians with a base from which to argue their case for a centralised national tuberculosis policy.

To provide boundaries for the study I use four main themes to structure the analysis and bring together the administrative, jurisdictional and policy-making problems of managing a chronic and contagious disease. The themes are state and local public health administration, the role of repatriation policy following World War I, the agenda of the federal Health Department and post-war reconstruction. The time-frame for the study is based on legislative markers beginning with the time the disease was broadly accepted as contagious and ending at the commencement of a recognisably modern national public health campaign. In 1898 tuberculosis first appeared in legislation as a contagious disease in South Australia, and in 1948 the Commonwealth Tuberculosis Act put in place the means to conduct a nationally co-ordinated public health campaign supported by Commonwealth funds.

Throughout the study I refer to a range of statistical data that informs the medical and political debate. Philip Roberts has made a valuable contribution to unravelling the meanings of past disease terminologies through his examination of nineteenth century Victorian data,[1] but Australian historians of medicine have not generally pursued the problems of medical statistics that have produced more nuanced statistical pictures of tuberculosis in other countries such as the United Kingdom. Criena Fitzgerald noted that Western Australian public health doctors mistrusted official statistics of tuberculosis before the 1950s believing the statistics understated both the mortality and incidence rates.[2] Andrew Noymer, however, has suggested Australian vital statistics after 1907 were relatively reliable. Noymer undertook a comparative study of mortality statistics of Australia and the United States to determine the impact of the 1918-19 influenza pandemic on the decline of tuberculosis. While acknowledging the impossibility of overcoming certain systemic errors such as misclassifying cause of death or being able to offer any absolute guarantee of quality, he found Australian statistics after 1907 to be carefully compiled and detailed thereby indicating good quality data.[3]

Medical statistics can be skewed by shifting classifications of disease, unreliable diagnoses and Australian data largely excluded the aboriginal population but it is

[1] Philip Roberts, 'Determining the Meaning behind Historical Disease Terminology through an Examination of Patterns of Terminology used in the Mortality Statistics of Victoria, 1853-1900, *Health & History*, Volume 10, Number 1, 2008, pp. 63-87. Others have briefly touched on some of the limitations and inconsistencies. For example, see Claudia Thame, 'Health and the State: The Development of Collective Responsibility for Health Care in Australia In the First Half of the Twentieth Century', PhD thesis, Australian National University, June 1974, pp. 365-367. Criena Fitzgerald, 'Making tuberculosis everyone's business: The public health campaigns to prevent and control tuberculosis in Western Australia 1900-1960', PhD thesis, University of Western Australia, September 2002, pp. 2-5.

[2] Fitzgerald, "Making tuberculosis everyone's business, 2002, pp. 3-4.

[3] Andrew Jonathan Noymer, 'Studies in the Historical Demography and Epidemiology of Influenza and Tuberculosis Selective Mortality', PhD thesis, University of California, Berkeley, Fall, 2006, p. 73.

not my intention to unravel the ambiguities of the statistics presented but to offer figures unchallenged for two reasons. First, and most important, the statistics presented were those to which governments and public health authorities referred when considering public health policy. Second, despite the limitations of all such figures and lack of uniformity across the States, they present a general portrait of various aspects of the Australian tuberculosis picture. As Claudia Thame noted, even flawed statistics provide a more complete picture of death and morbidity than literary evidence.[4]

Table I

Five Yearly National Death Rate All Forms Per 100,000 1891 – 1970

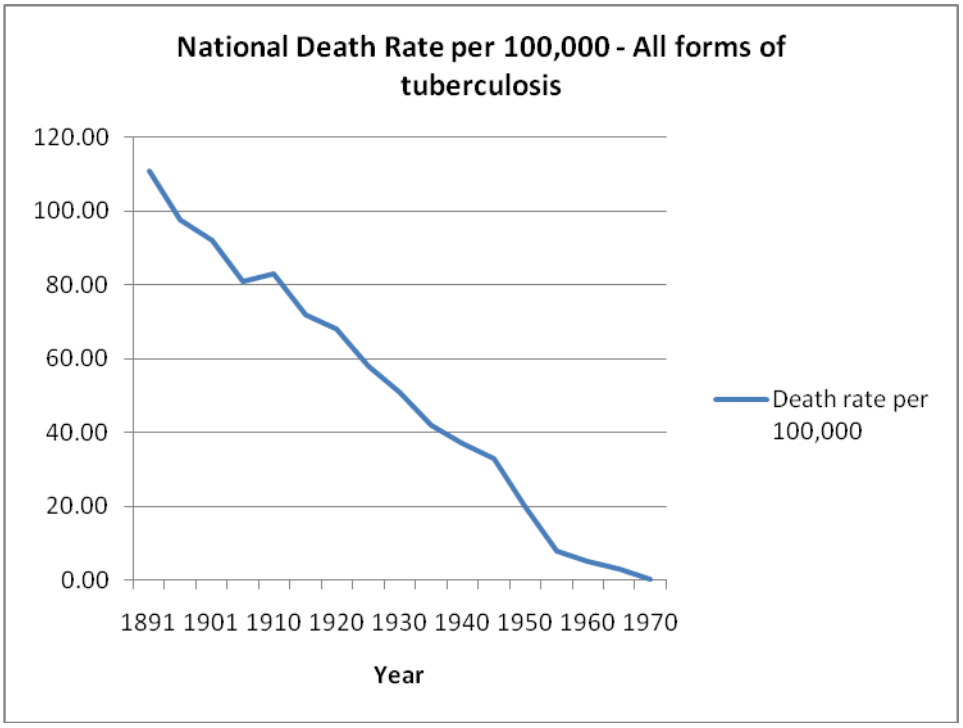
Year	Five Yearly National Death Rate All Forms Per 100,000
1891	111.00
1896	97.80
1901	92.10
1905	80.80
1910	83.00
1915	72.00
1920	68.00
1925	58.00
1930	51.00
1935	42.00
1940	37.00
1946	33.00
1950	20.00
1955	8.00
1960	5.00
1965	3.00
1970	0.20

Compiled from Commonwealth Bureau of Census and Statistics, *Official Year Books of the Commonwealth of Australia*, 1908, p.209; 1912, p.209; 1917, p. 205, 1921, p. 136; 1926, p. 946; 1931, p. 721; 1936, p. 501; 1941, p. 348; 1946-47, p. 790; 1953, p. 627; 1957, p. 621; 1962, p. 355; 1967, p. 248; 1972, p. 187.

[4] Thame, 'Health and the State', 1974, p. 367.

Chart I.1

Five Yearly National Death Rate All Forms Per 100,000 1891 – 1970



Compiled from Commonwealth Bureau of Census and Statistics, *Official Year Books of the Commonwealth of Australia*, 1908, p.209; 1912, p.209; 1917, p. 205, 1921, p. 136; 1926, p. 946; 1931, p. 721; 1936, p. 501; 1941, p. 348; 1946-47, p. 790; 1953, p. 627; 1957, p. 621; 1962, p. 355; 1967, p. 248; 1972, p. 187.

Although tuberculosis has been well documented by social historians of medicine as well as in medical texts, some comment on the disease itself and its long history is germane. Archaeological and palaeontologic evidence has shown the presence of tuberculosis in humans for thousands of years. For example, human remains found in Germany showed evidence of tuberculosis dating back to approximately 8000 BC, while on the South American continent an Incan mummy of a child showed evidence of Potts disease[5] or tuberculosis of the spine.[6] Descriptions in ancient

[5] David Schlossberg,(ed.), *Tuberculosis*, 3rd edition, Springer-Verlag, New York, 1994, p. 1

[6] Macdonald Critchley, (Editor-in-Chief), *Butterworths Medical Dictionary*, second edition, Butterworths, London, 1978, p. 1365.

medical texts also provide evidence of its presence, most famously in the Hippocratic works where symptoms were well described.[7]

Tuberculosis is a communicable disease caused by the bacillus, *Mycobacterium tuberculosis* or 'tubercle bacillus' which most often infects the lungs but can attack any organ or tissue of the body. Two species of the bacillus can infect humans, bovine and human. Bovine infection is transmitted through infected cows' milk and the human bacillus is transferred from human to human when a person with active disease coughs, sneezes or speaks thereby discharging aerosolized droplets of infected matter into the air. The lung is almost always the point of entry for these droplets.[8] Infection becomes active disease in a minority of cases but once infected the potential for disease remains for life. Bacteria continue to be viable, if dormant, in otherwise healthy persons for many years and therefore can spark active disease years after the initial infection.[9]

Since the early 1950s tuberculosis has been treated with drug combinations of isoniazid, streptoymycin and para-aminosalicylic acid (PAS) and later ethambutol, rifampin, pyrazinamide.[10] Nevertheless drug resistant strains of the disease have emerged around the globe attributed to incomplete or inconsistent drug treatment, incorrect drug treatments and the absence of a dependable supply of drugs. Though generally treatable with second-line drugs, resistant strains require more rigorous

[7] Ralph H. Major, M.D., *Classical Descriptions of Disease*, 3rd edition, Charles C Thomas, Springfield, Illinois, 1978, pp. 52-53.

[8] Schlossberg, *Tuberculosis*, 1994, pp. 1, 4-5. David Stepanek Barnes, 'The Making of a social disease: Tuberculosis in Nineteenth-Century France', PhD. Diss., University of California at Berkley, 1995, p. 2.

[9] Schlossberg, *Tuberculosis*, 1994, p. 1. S.L. Robbins, et. al., *Pathological Basis of Disease*, 3rd edition, W.B. Saunders Co., Philadelphia, 1984, p. 341.

[10] Schlossberg, *Tuberculosis*, 1994, p. 71.

and longer treatment with medications that produce more adverse side effects than those used to treat non-resistant strains.[11]

In 1993 the World Health Organisation (WHO) declared tuberculosis a 'global emergency' and in 2006 began a new Stop TB Strategy within the context of the United Nations Millenium Goal number six.[12] According to the WHO someone in the world is infected by tuberculosis every second, one third of the world's population is infected and more than 1.5 million die each year from the disease. Estimates for 2006 were 9.2 million new cases with 1.7 million deaths.[13] The World Health Organisation reported 9.4 million new cases in 2008, 1.4 million being people infected with HIV and 1.8 million deaths.[14] While tuberculosis is most destructive in developing countries, particularly South East Asia and Africa, since the 1980s it has been resurgent in Eastern Europe, Russia and some Western countries. One contributor to this resurgence is AIDs because it weakens the body's defences allowing an infection with the tubercle bacillus that might otherwise remain dormant to become active disease. Poverty, always a factor in activating the disease, has also contributed. In the United States tuberculosis increased among socially deprived groups including HIV infected patients, intravenous drug users, the homeless, prisoners and immigrants at the lower end of the socioeconomic scale.

Until the beginning of the twentieth century, and sometimes beyond, two basic aetiological theories competed and sometimes merged with each other as an

[11] World Health Organisation (WHO), www.who.int/mediacentre/factsheets/fs104/en/index.html, p. 3. Schlossberg, *Tuberculosis*, 1994, pp. 69-80.
[12] WHO Report 2008, Global Tuberculosis Control, pp. 1, 15. WHO, who.int/mediacentre/factsheets/fs104/en/index.html, p. 2, revised March 2007.
[13] WHO, www.who.int/mediacentre/factsheets/fs104/en/index.html , Revised March 2007, p. 1. WHO, *Global Tuberculosis Control,* WHO Report 2008, p. 1.
[14] WHO, 2009 updated, Tuberculosis Facts.

explanation for tuberculosis. In their simplest terms, the theories were heredity (or constitutional predisposition) and contagion. Before the *tubercle bacillus* was recognised as the infective agent, contagion was understood as the transference of material from the breath of diseased individuals or from their possessions to another individual.[15] Social and political responses to this disease were conditioned by these two broad aetiological categories and in turn constructed and re-shaped the theories. Rene and Jean Dubos in their seminal study of tuberculosis suggested that attempts to understand the cause of tuberculosis were among the most exciting features of medical science with different theories each contributing in their own way to medical understanding. During the seventeenth century belief in the contagiousness of tuberculosis in some European nations, notably Italy and Spain, led to the promulgation of public health regulations that were the forerunners of twentieth century measures.[16] British and North American physicians generally held to the heredity thesis.[17] The dominance of this explanation was challenged in the latter part of the nineteenth century.

The notion of a constitutional predisposition to the disease, or tubercular diathesis, can be found as far back as the Hippocratic writings, which note symptoms and a 'constitution inclined to the phthisical'.[18] In the late seventeenth century, Franciscus Sylvius, who is credited with linking the characteristic lesions (referred to as tubercles) of tuberculosis with the disease,[19] cited both hereditary disposition

[15] René and Jean Dubos, *The White Plague, Tuberculosis, Man and Society,* [1952], Rutgers University Press, New Brunswick, New Jersey, 1987, p. 28.
[16] Dubos, *The White Plague,* [1952], pp. 28-33, 70.
[17] John C. Waller, " 'The Illusion of an Explanation': The Concept of Hereditary Disease, 1770-1870,"*Journal of the History of Medicine and Allied Sciences,* Volume 57, Number 4, October 2002, pp. 410-412, 429-432, 439,442.
[18] Hippocrates, *The Genuine Works of Hippocrates*, translated by Francis Adams, cited in Major, *Classic Descriptions of Disease*, 1945, p. 52.
[19] Major, *Classic Descriptions of Disease*, 1978, p. 58. Dubos, *The White Plague,* [1952] p. 73. Late Sir William Osler, BT, M.D., F.R.S., and Thomas McCrae, M.D., *The Principles and Practice of*

and contagion as causes of phthisis. The prevalence of phthisis in certain families suggested that the disease passed directly from parent to child, while at the same time family members were also susceptible if they inhaled the air expelled by a phthisis patient. In tract IV *De Phthisi* of his *Opera Medica*, he wrote

> …it is known this disease can be hereditary, transmitted from parents to children; but in whatever this hereditary consists, is also not known. …
> ...
> Besides these mention of Contagion is made … by Medical Authors, according to which Air expired from the Phthisic was exhaled and inhaled by the mouth and nostrils close by: from whose foetid and Acrid miasma, others especially Relatives were affected, attacked and finally died from the same disease, Phthisis.[20]

Richard Morton made similar observations in England at around the same time. Among Morton's proffered causes were the breathing of air made noxious by fog and smoke, a hereditary disposition and infection. The conclusions of hereditary disposition and contagion were both consistent with his observations. First, the children of consumptive parents often contracted the disease and second, people in close contact with consumptives could succumb.[21] Without the microscopic evidence that the tubercle bacillus was necessary for the disease, the one cause became two.

In a revealing article in 1864, Henry Bowditch, well known American physician, demonstrated the dual aetiology. Although many doctors demarcated heredity and contagion, others held their views less dogmatically and allowed the opposing view to inhabit the margins of their own view. Bowditch's article names a range of physicians who adhered to one view or the other but also pointed to others who, while believing in the prevailing view of a tubercular diathesis, nevertheless

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Medicine Designed for the use of Practitioners and Students of Medicine, Ninth Revised Edition, D. Appleton and Company, New York, 1920, p. 155.

[20] Franciscus Deleboe Sylvius, *Opera Medica*, Geneva, de Tournes, 1680, p. 526 cited in Major, M.D., *Classic Descriptions of Disease*, pp. 60 – 61.

[21] Morton, Richards, *Phthisiologia; or, a Treatise of Consumptions,* London, Smith and Walford, 1694, p. 64, cited in Major, *Classic Descriptions of Disease*, 1978, p. 62.

believed contagion was possible in some circumstances. Bowditch's own qualified belief in the tubercular diathesis exemplified this overlapping view.

> While we may feel assured that contagion, …is, at least in this country, a delusion – we may feel, I think, equally assured that we should warn a wife or a sister or near female friend from devoting herself too closely to the attendance upon a consumptive husband, sister or friend.[22]

In 1865, Jean-Antoine Villemin reported his findings that tuberculosis was transmissible from a human to a rabbit, and that the sputum of a tubercular patient carried the means of infection.[23] Tuberculosis, he wrote, arose from 'a morbid agent which infects the entire organism.'[24] Villemin failed to convince the medical profession especially in Britain. As John Waller noted, the belief in a hereditary diathesis as an explanation for chronic diseases including tuberculosis was pervasive in Britain from the late eighteenth century until the late nineteenth century when the germ theory of disease gained traction.[25] In the case of tuberculosis, although infection by the *tubercle bacillus* came to be the orthodox etiological explanation, the question was vigorously debated. As Rosenberg noted, the germ theory did not bring about an immediate and categorical change but was ultimately accepted because it more logically explained the nature of contagious disease.[26]

Medical understanding of tuberculosis in Australia as in other Western nations underwent a paradigm shift by 1900. The disease, until then generally thought to be

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[22] Henry I. Bowditch, "Is Consumption Ever Contagious, or Communicated by One Person to Another in Any Manner?" Boston (1864), in Barbara Gutmann Rosenkrantz, *From Consumption to Tuberculosis A Documentary History*, Garland Publishing Inc., New York, 1994, p. 45.

[23] Major, *Classic Descriptions of Disease*, 1978, p. 66. Dubos, *The White Plague*, pp. 98-100.

[24] J.A. Villemin, *Études sur la Tuberculose*, Paris, Baillière, 1869, cited in Major., *Classic Descriptions of Disease*, 1978, p. 66.

[25] John C. Waller, '"The Illusion of Explanation": The Concept of Hereditary Disease, 1770-1870, *Journal of the History of Medicine and Allied Sciences*, Volume 57, October 2002, Number 4, 410-446, pp. 410-413, 446.

[26] Charles E. Rosenberg, *The Care of Strangers The Rise of America's Hospital System*, The Johns Hopkins University Press, Baltimore and London, 1987, p. 141.

hereditary, shifted to the category of contagious disease and became a matter for the state as well as individuals and the medical profession. German bacteriologist, Robert Koch, discovered the offending bacillus for tuberculosis *bacillus mycobacterium* in 1882 and the Australian medical profession debated the question and its implications for the next two decades by which time the six Australian colonies had constituted themselves into a federation and formed a national government. The new States retained jurisdiction over matters of health but health legislation and structures were rudimentary concentrating mainly on controlling public health nuisances such as abattoirs, cesspools and drains. Public health was administered largely by local councils. State governments moved into the area of tuberculosis management only when persuaded by health reformers and sections of the medical profession. In a number of countries including Great Britain, the United States of America and Canada strong voluntary organisations emerged which conducted their own education campaigns, and set up clinics and sanatoria. Australia did not have a comparable national organisation. Only in New South Wales did a private organisation securely establish itself before the 1940s. The Australian state therefore received less ancillary support in managing the disease than other comparable nations.

At the end of the nineteenth century doctors, philanthropists and public health reformers initiated a campaign, or 'crusade', as they commonly referred to it, against tuberculosis. They called for anti-spitting legislation, compulsory notification of the disease, state provision of institutions for the isolation of indigent consumptives and public education measures. The principal concern of the campaign was pulmonary tuberculosis the major killer of the various forms of the

disease and the most prevalent among adults between the economically productive ages of 20 and 45 years of age.

The clearer understanding of the aetiology of tuberculosis contrasted with the lack of an effective cure. The re-categorisation of tuberculosis as a contagious disease placed on the States a new public health burden. Crusaders and reformers called for state action to manage tuberculosis. Although the medical profession had no cure for the disease it still claimed that both cure and prevention were possible. Two major planks of the campaign were to trace the disease by making it notifiable, and to provide sanatoria for tuberculosis patients. An examination of these two aspects in three Australian States reveals the problems faced by States in reacting to these demands. The timing and manner of notification varied between the States and the day to day implementation of health measures rested largely with local authorities who could often ill afford the additional expense or were unwilling to invest in public health. Bed shortages led to calls for public sanatoria. Managing notification and hospitalisation of tuberculosis cases was onerous. Health authorities were unused to thinking about a contagious disease that lingered for years because other familiar contagious diseases such as diphtheria and typhoid were acute and usually episodic.

Campaigners began to call for a nationally uniform approach, even national co-ordination. World War I brought the Federal Government into tuberculosis policy when it assumed responsibility for the medical repatriation of all returned soldiers. Soldiers who returned home with tuberculosis and who were granted a repatriation pension received a higher pension rate than civilians did under the invalid pension scheme. At the same time that the Commonwealth took full control of medical

repatriation of returned soldiers, it also established its own Health Department. During the inter war years a cohort of public health physicians particularly those employed by the Commonwealth Health Department lobbied for a nationally uniform public health approach to tuberculosis. The Department was not a large one within the Commonwealth and its efforts during the 1920s to investigate tuberculosis nationally largely failed. In November 1928 the Health Department established a Division of Tuberculosis and Venereal Disease whose head, Mervyn J. Holmes, investigated how each State was dealing with tuberculosis. Finding State management of tuberculosis to be inadequate, he produced wide ranging recommendations for nationally consistent measures. By 1928 a national body called the Federal Health Council had been formed but neither this Council nor the Health Department had the power to force any schemes on the States and Holmes' report went largely unheeded for another decade. Nevertheless arguments for a national approach to the tuberculosis problem intensified during the late 1930s as the country slowly recovered from the Great Depression.

As the Depression eased public health physicians again urged a greater national effort against tuberculosis. They were encouraged by survey results of the families of returned soldiers on repatriation pensions. These families showed a lower familial rate of disease than the families of sufferers receiving the more meagre invalid pension confirming the medical view that tubercular families needed economic support in order to ensure a high level of nutrition and hygienic living conditions, which would raise resistance and prevent the spread of infection. In the early 1940s as the Commonwealth began planning for post-war reconstruction the idea of a national anti-tuberculosis campaign funded jointly by the States and the Commonwealth emerged as part of the post-war agenda. The post-war social and

political climate was receptive to grand schemes and in 1946 the Commonwealth Government attained constitutional control over social services allowing it to proceed with legislation for the anti-tuberculosis scheme. Built on the work of reformers and public health physicians during the inter-war years, particularly through the efforts of the Federal Health Department and the National Health and Medical Research Council, a national anti-tuberculosis scheme was initiated at the end of World War II.

From the mid 1980s the rise of AIDs and the re-emergence of tuberculosis as a major health issue in sections of Western society prompted historical research into the disease. A review of how historians have studied the history of tuberculosis will establish the methodological ideas informing this project. Historians of tuberculosis have generally studied the disease within four broad themes namely the epidemiology and decline of tuberculosis in western societies, the relationship between culture and disease, medical treatments and the patient experience, and the campaign against tuberculosis from the turn of the twentieth century. This project falls under the theme of the twentieth century public health campaign but these different perspectives also overlap and inform each other. Thomas McKeown's 1976 thesis on the role of tuberculosis in Britain's population increase drew wide attention to the decline in tuberculosis mortality and focussed attention on the cause of tuberculosis mortality decline. Social and cultural representations of the disease as well as treatment modes and patient experience were integral to the political reactions to the disease and public health debates.

Tuberculosis held a central position in debate about the reasons for increases in the British and European populations during the nineteenth century. In his 1976

iconoclastic study of demographic changes in nineteenth century Britain, Thomas McKeown assigned a leading role in Britain's declining mortality rate to tuberculosis. He attributed the rise in population to declining mortality from infectious diseases rather than a rising birth rate.[27] Declining mortality, McKeown argued resulted primarily from rising living standards and increased resistance through improved nutrition rather than direct interventions either by medical treatments or public health. He exempted smallpox and the water-borne diseases of cholera and typhoid from this broad conclusion and argued that the leading role tuberculosis played in the decline confirmed the primacy of improved nutrition.[28]

McKeown's thesis sparked considerable and protracted debate on the underlying reasons for the modern population rise. Wrigley and Schofield were early challengers of McKeown's thesis particularly his exclusion of changing birth rates from the specific causes of rising population. They also found that food intake per capita had not improved, as did Van de Wall who suggested that increased food production probably merely paralleled the increase in population.[29] In 1988 F.B. Smith was one of the first social historians to undertake a specific investigation of tuberculosis and its decline in Britain. He examined the disease over a hundred year period from 1850 to 1950. While not expressly addressing McKeown's thesis he came to similar conclusions. Like McKeown, he saw no contribution to the decline of tuberculosis mortality from the medical profession, or from any actions of government or philanthropists. He did, however, suggest Poor Law institutions

[27] Thomas McKeown, *The Modern Rise of Population*, Edward Arnold, London, 1976, pp. 152-3. This work was the culmination of research and publications from the 1950s and 1960s.
[28] Thomas McKeown, *The Modern Rise of Population*, pp. 91-109, 153-4, 158.
[29] E.A. Wrigley, Review, 'Demographic economics', *Journal of Economic Literature*, Vol. 16, March 1978, p. 154. James Colgrove, 'The McKeown Thesis: A Historical Controversy and Its Enduring Influence', *American Journal of Public Health*, Vo. 92, No. 5, May 2002, p. 727. E. van de Walle, Review, 'Accounting for population growth', *Science*, vol. 197, no. 4303, 5 August 1977, p. 652.

may have contributed to the decline because they had isolated consumptives. Smith concluded that improvements in the living conditions of the poor, who were most at risk of the disease, led the decline. The combined impact of better nutrition, better housing, smaller family size and improved energy, he suggested, acted together to fight the disease. Smith qualified his conclusions, however, by noting the need for detailed studies at the local or micro level to confirm his findings.[30]

Anne Hardy subsequently investigated public health work at the level of local councils to argue that intervention by local medical officers contributed to the decline of mortality from infectious diseases in England during the second half of the nineteenth century. Hardy painstakingly examined the behaviour, distribution and decline of eight major infectious diseases in individual local areas, concentrating primarily on the districts of London, between 1856, when local medical officers of health were first appointed, and 1900 by which time mortality from all major infections had declined. The diseases were whooping cough, measles, scarlet fever, diphtheria, smallpox, typhoid, typhus and tuberculosis. Medical Officers of Health were responsible for enforcing legislation such as Lodging Housing regulations, Nuisances Removal Acts and the 1866 Sanitary Act.[31] The Nuisances Removal Acts, for example, gave power to local authorities to act on accumulations of street and industrial waste and smoke, polluted rivers, slaughter houses, filth and other threats to health by inspecting business or private premises.[32] Local Medical Officers of Health observed and investigated diseases in their own areas and Hardy found that during the 44 years of her study local medical

[30] F.B. Smith, *The Retreat of Tuberculosis 1850-1950,* Croom Helm, London, 1988 *passim.*

[31] Anne Hardy, *The Epidemic Streets Infectious Disease and the Rise of Preventive Medicine, 1856-1900*, Clarendon Press, Oxford, 1993, p. 234.

[32] Anthony S. Wohl, , *Endangered Lives Public Health in Victorian Britain,* J.M. Dent & Sons Ltd., London, 1983, p. 153.

officers of health carried out a preventive campaign by actions such as slum clearances and public education about the importance of domestic hygiene. She concluded that these interventions had played a major role in reducing the mortality of adult infectious diseases such as smallpox, typhoid, typhus and possibly tuberculosis. The interventions though had a lesser impact on childhood infections like measles, whooping cough and diphtheria.[33] In the case of tuberculosis she warned against attributing the decline of tuberculosis to nutritional status alone arguing that local level interventions leading to improved housing and water supply may have mitigated activating causes such as overcrowding and poor domestic and personal hygiene.[34] Hardy considered her work not to be complete revision of McKeown's thesis but a re-evaluation.[35]

Others were less reticent in challenging McKeown. Simon Szreter re-examined the data McKeown had relied upon and painstakingly refuted McKeown's interpretation of the empirical evidence. Szreter used the same evidence as McKeown to reach a different conclusion. He argued that public health interventions administered locally to alleviate urban crowding played the leading role in overall mortality decline. Szreter disputed McKeown's assertion of the primacy of tuberculosis in the mortality decline, instead arguing that respiratory tuberculosis may have followed or merely paralleled a drop in sanitation diseases brought about by public health interventions. In other words, because sanitation

[33] Anne Hardy, *The Epidemic Streets* p. 290.
[34] ibid., pp. 213, 219-226, 228, 250.
[35] ibid., pp. 265-266, 289, 293.

diseases were less prevalent and fewer people were weakened by them, tuberculosis infections were less likely to manifest into disease.[36]

General agreement emerged against McKeown's thesis apart from his finding that curative medicine contributed little to falling mortality before the middle of the twentieth century. But his influence was considerable. Bernard Harris has surveyed the work of historical demographers to conclude that despite the criticism of McKeown's thesis, nutrition could not be ignored as a factor in mortality decline and should therefore be included among a range of factors. Better sanitation, rises in real wage levels and improvements in working class housing were implicated in the mortality decline from the 1750s to the 1910s. He drew on recent understanding of the negative relationship between poor nutrition and many infectious diseases to suggest further reconsideration of McKeown. In recent decades epidemiologists have considered good nutritional status to have a positive effect on the major diseases considered most important in Britain's mortality decline including cholera, measles, viral and bacterial respiratory infections generally and tuberculosis. He pointed out that a difference existed between nutrition defined as the quality and amount of food eaten and nutritional status defined as the balance between food intake and the body's requirements according to the physical demands made upon it. [37]

Some historians have also investigated the decline in later periods. While Szreter found that a decrease in other diseases attenuated tuberculosis infection during the

[36] Simon Szreter, 'The Importance of Social Intervention in Britain's Mortality Decline *c.*1850-1914: A Re-interpretation of the Role of Public Health, *Social History of Medicine*, Volume I, No. 1, April 1988, pp. 1, 11-17, *passim*

[37] Bernard Harris, 'Public Health, Nutrition, and the Decline of Mortality: The McKeown Thesis Revisited', *Social History of Medicine*, Vol. 17, No. 3, 2004, 379-407.

late nineteenth century and early twentieth century, Andrew Noymer found that in the 1920s another disease, influenza, accelerated the decline of tuberculosis because the high mortality rate of influenza during the pandemic of 1918-19 decreased the size of the tuberculosis-infected population. Using data from the United States of America and Australia, he argued that influenza mortality reduced the number of people who could spread tuberculosis and left behind a generally healthier population who had survived the pandemic.[38] He found the effect of the influenza pandemic in Australia to have a weaker impact on tuberculosis mortality than in the United States because both tuberculosis and influenza were less severe in Australia than in America. Nevertheless, he observed proportionately a similar pattern in Australia to that of the United States.[39] He did not seek to fully explain the decline of tuberculosis mortality but argued that the influenza pandemic was the most important factor in the twentieth century decline in America.[40]

Australian mortality rates followed a broadly similar downward trend to other western nations and rates were generally among the lowest in western nations. Taylor, Lewis and Powles found that mortality decline from tuberculosis during the late nineteenth and early twentieth century followed the generally downward trend of Australia's overall mortality.[41] F.B. Smith, on the hand, after exploring the non-indigenous Australian health transition from 1880 to 1910 suggested that tuberculosis mortality fell more than any other specific illness and, combined with the fall in infant mortality from the turn of the twentieth century, constituted Australia's health transition to lower mortality. He regarded McKeown and

[38] Noymer, 'Studies in the Historical Demography and Epidemiology', 2006, pp. 1, 21, 149, *passim*
[39] ibid., pp. 89, 94-95, 66-104.
[40] ibid., p. 149.
[41] Richard Taylor and Milton Lewis, John Powles, 'The Australian Mortality decline: all-cause mortality 1788-1990, *Australian and New Zealand Journal of Public Health*, 1998, vol. 22, No. 1, p. 31.

Szreter's explanations for Britain's health transition to be inadequate arguing instead that the basic explanation was improved housing, nutrition, working conditions and reduced fatigue and anxiety that came about with rising real wages in Australia from the 1870s and Great Britain from the 1880s. As he did in his study of tuberculosis in Britain, Smith dismissed the notion that actions of the medical profession contributed to declining tuberculosis death rates.[42]

This thesis is not an epidemiological study in the manner of Taylor, Lewis and Powles or Smith, but any analysis of tuberculosis during the twentieth century is underpinned by the decline in mortality rates. Public health physicians attributed the decline to their own efforts and utilised the evidence of reduced mortality to persuade governments of the success of public health measures undertaken and to argue to for further expansion of the public health attack on tuberculosis. Smith's assertion would not have found favour with the Australian medical profession during the early decades of the twentieth century.

A number of scholars have studied the patient's experience of tuberculosis. In a study of the disease in the United States of America from 1884 to 1954, Carolyn McQuien[43] examined how social, medical and economic trends affected the personal experience of the tubercular as sufferers of a chronic illness. She identified shifts in medical therapies, public attitudes and images of tuberculosis sufferers arguing that after 1900 the tubercular were generally treated poorly. Before the widespread acceptance of contagion, climate therapies thrived in the

[42] F.B. (Frances Barrymore) Smith, 'The first Health Transition in Australia 1880-1910, An Exploratory Essay, National Centre for Epidemiology and Population Health, ANU, 1995, pp. 1-7,17-18.

[43] Carolyn June McQuien, 'Tuberculosis as chronic illness in the United States: Understanding, treating, and living with the disease, 1884-1954', PhD thesis, University of Texas at Austin, December, 1993, *passim.*

United States with sufferers travelling south and west for their health. The public attitude was sympathetic and the image of the sufferer was of an especially sensitive person or a hardy survivor if their disease had been arrested. Following general acceptance of the disease's contagious nature, sympathy was replaced with fear and sensitive or heroic images gave way to perceptions of the tubercular as unclean, dissolute and immoral, a perception that survived until the disease came under control in the 1950s when public interest in tuberculosis declined. McQuien argued that a succession of therapies from that time contributed to the pain and discomfort of sufferers. Isolation in sanatoria distanced the tubercular from family and social networks, absolute bed rest resulted in isolation and depression and lung collapse therapies, especially popular in the 1920s and 1930s, were painful, dangerous and sometimes fatal with few if any substantiated benefits. She accused the medical profession of using their increasing professional authority to resist federal regulation of their profession leaving the provision of health care at the state and local level resulting in wide national variation.[44] McQuien focussed on the patient experience and the personal impact of therapeutic trends with minimal attention to the state.

While McQuien identified a nineteenth century image of the tubercular as sensitive souls, Sheila Rothman questioned this idea in her study of tuberculosis through the eyes of patients. She noted, 'I have tried ... to liberate them ...from literary constructs that have distorted their experience.'[45] Rothman used personal sources such as family papers to construct a history of tuberculosis in the United States from the viewpoint of patients from the early nineteenth century to 1940. From

[44] McQuien, 'Tuberculosis as chronic illness', 1993, *passim.*
[45] Sheila M Rothman, *Living in the Shadow of Death, Tuberculosis and the Social Experience of Illness in American History*, The Johns Hopkins University Press, Baltimore and London, 1994. p. 8

these records she found an experience of tuberculosis that shifted across, time, space and gender. For example, from the personal records of New Englanders she found that men were expected and able to seek popular cures like sea voyages while women were more likely to remain in the domestic sphere managing their disease and family at home. Rothman's "narratives of illness" revealed the shift of tuberculosis from a personal struggle, perhaps in partnership with a physician, to a contagious, public disease in which medical authority over the illness increased. Although Rothman acknowledged her inability to cover all patient experience, she has been criticised for presenting a non-representative picture, particularly in relation to her study of only one New England woman during the first half of the nineteenth century. She was also less successful in bringing the patient voice to her chapter on public health measures in the early twentieth century. Here she described the views of mainly New York public health physicians rather than that of patients. This gap is silent evidence of the lack of patient voice among the poorer citizens of New York. Nevertheless she has given voice to patients in middle class New England, to sufferers who migrated west in large numbers seeking a cure and to patients' sanatorium experience. She achieved her aim of liberating sufferers from literary representations and provided texture to the political and medical history of tuberculosis and its impact on American society.[46] Rothman's work is instructive in revealing how perceptions of tuberculosis shifted from a private disease to a public health menace, a shift as evident in Australia as in the United States of America. The measures undertaken in New York described by Rothman provided an exemplar for many Australian physicians who cited New York as a model to be imitated.

[46] Rothman, *Living in the Shadow of Death, passim*.

Barbara Bates, like Rothman, sought to recover the patient experience but also the experience of patient's immediate circle of family, friends, doctors, nurses and charitable organisations. She succeeded to the limit of her sources, the personal records of the renowned Dr. Lawrence Flick and charitable institutions in eastern Pennsylvania. She found the management of tuberculosis to be not simply medical or public health oversight of patients, but a matter of negotiation between the various players. She demonstrated the agency of sufferers, but also found heroes among carers. In discovering these personal experiences Bates also tracked the anti-tuberculosis campaign in Philadelphia and eastern Pennsylvania during the first four decades of the twentieth century to conclude that the anti-tuberculosis movement did not meet its optimistic goals. The movement was flawed, she argued, by an over-estimation of its ability to cure the disease and prevent its spread. Despite the goal of cure, no existing medical treatment cured the disease. The goal of prevention was limited by the nature of the sanatorium system itself. Patients delayed entry into sanatoria while they could still work and remain with their families and friends and then, because of the need to remain in the institution for long periods of time, left the sanatorium before their condition had improved as much as doctors desired. The high proportion of inmates who did not enter institutions until the disease was well advanced resulted in a system of care for the chronically ill and dying rather than the much preferred treatment and isolation of early stage cases whose condition might improve and who could re-enter society in a condition less likely to easily infect others. In other words the sanatorium became a place in which patients who suffered constant ill health simply resided.[47]

[47] Barbara Bates, *Bargaining for Life, A Social History of Tuberculosis, 1876-1938,* University of Pennsylvania Press, Philadelphia, 1992, pp. 3-6, 11-13, 42, 97-98, 328-334, *passim.* Georgina Feldberg, Review, *Isis*, 85, 1, 1994, p. 187.

Bates conclusion that treatment included negotiation with patients and families as well as medical dicta, and that the sanatorium fell into a system of care for chronically ill rather than treatment and cure, is supported by the Australian experience. While Bates drew heavily from the work one renowned campaigner, I have drawn on the medical and political debates about sanatoria and quantitative evidence on the extent of patient patronage of sanatoria to reach similar conclusions. The sanatorium experience of both patients and medical staff varied across states and institutions. Patient behaviour and compliance as well as medical dictates shaped the institutions and their results. The dominance of late stage patients in sanatoria frustrated physicians who sought to prove the rationale of sanatorium treatment by arresting disease in early stage patients. But early stage patients were less likely to submit to the sanatorium regime while they were still able to continue in their employment.

Other American scholars have analysed the diversity of patient experience within the theme of the public health campaign against tuberculosis by concentrating on regions and specific groups or classes of Americans. These studies consistently demonstrated the construction of specific groups of tuberculosis sufferers as outsiders, but with regional differences. Barron Lerner's study of Seattle concentrated on the treatment of poor alcoholics from Seattle's Skid Road to reveal an overuse of public health powers in detaining alcoholic consumptives.[48] In contrast Peggy Hardman's study of the African American community in Texas from 1900-1950 revealed a failure to arrest mortality in the African American population not through an overuse of health powers but because government failed

[48] Barron H. Lerner, ' "On What Authority Is This Being Done?" Tuberculosis Control, Poverty and Coercion in Seattle, 1909 – 1973', PhD, thesis, University of Washington, 1996, *passim*, Wellcome Library.

to support public health action in Black communities, which were enduring segregation, poverty and racial discrimination.[49] Emily Abel has explored how California's self promotion as a health resort shaped the response in Los Angeles to the high number of tubercular invalids who migrated to the city seeking a cure. Inherent in the notion of Los Angeles as a healthy alternative to east coast cities was an attitude denigrating the invalid who did not improve their own health. This resulted in a perception of unhealthy immigrants as agents of disease rather than victims. This in turn led to a policy by health authorities of preventing targeted immigrant groups from entering Los Angeles. Itinerant single young men, low income tuberculosis sufferers and Mexicans were excluded through such methods as sponsoring a federal bill to discourage low-income tuberculosis sufferers from leaving the east coast. Abel showed how these policies of exclusion retarded development of public health programmes for tuberculosis leaving Los Angeles lagging behind east coast cities.[50]

These American studies help to illustrate the many variables of the public health campaign against tuberculosis. A range of responses including sanatorium regimens and public health supervision particularly of poorer sections of society recur across western nations but these were mediated by culture, class, race, politics and geography. While regional and class specific studies reveal underlying thematic similarities, each study augments the analysis of the campaign in general. This thesis is an analysis of the broad campaign against tuberculosis in Australia but examines in detail one specific group of Australians, returned soldiers.

[49] Peggy J. Hardman, "The Anti-Tuberculosis Crusade and the Texas African American Community, 1900-1950", PhD thesis, Texas Tech University, May 1997, pp. iv – vi-vii, 255-262, 264, Wellcome Library.

[50] Emily K. Abel, *Tuberculosis and the Politics of Exclusion A History of Public Health and Migration to Los Angeles*, Rutgers University Press, New Brunswick, New Jersey, 2007, pp 1-3, *passim.*

Returned soldiers differed from the disadvantaged groups highlighted by American scholars in that they generally received better support from the Government than their civilian counterparts. A further difference was that returned soldiers advocated on their own behalf, a departure from the more common tendency to try to hide the condition rather than bring it to public attention. The actions of returned soldiers themselves and the Repatriation Department's response was to influence tuberculosis policy because, as noted, investigations in the late 1930s showed a lower infection rate among returned soldiers' families with a higher repatriation pension than those on lower invalid pensions. This lent support to arguments for individual economic support to sufferers in the interests of prevention.

Underpinning most investigations of tuberculosis during the first half of the twentieth century is an analysis of the anti-tuberculosis movement that emerged at the beginning of the twentieth century. Some scholars have raised the question of why this movement emerged at this time querying the completeness of the more traditional view that discovery of its bacterial cause and the rise of bacteriological science led to an anti-tuberculosis movement. A number of commentators on tuberculosis placed the anti-tuberculosis campaign among the plethora of middle class reform movements that sought to subdue and control the working class in the name of national efficiency.[51] Mark Caldwell suggested the hygiene movement in the United States preached 'passive obedience' during a time of increasing labour unrest.[52] Michael Worboys similarly argued that the early twentieth century campaigns of the British National Association for the Prevention of Consumption

[51] Linda Bryder, *Below the Magic Mountain, A Social History of Tuberculosis in Twentieth-Century Britain*, Clarendon Press, Oxford, 1988. Mark Caldwell, *The Last Crusade, The War on Consumption 1862-1954,* Atheneum, New York, 1988. Michael Worboys, 'Sanatoria for Consumption' in John V. Pickstone, (ed.), *Medical Innovations in Historical Perspective*, 47-71, Macmillan, 1992.

[52] Caldwell, *The Last Crusade,* 1988.

challenged working class culture. He saw the sanatorium regime as the antithesis of working class life; spacious not crowded, clean not dirty and resisted by the working class.[53] Linda Bryder too has argued for national efficiency as the driver of the anti-tuberculosis movement in Britain.[54] She proposed that a concern for the physical condition of Britons as it affected national efficiency was a more important impetus than bacteriology.[55] The rising status of Germany and the United States as world powers threatened Britain's global power and anxiety about this, Bryder argued, led to concerns about the health of the nation's workers and soldiers. As well as medical, sanatoria and government sources, Bryder drew heavily on the historical record of the National Association for the Prevention of Tuberculosis to argue that because it was a disease that attacked the young and productive, tuberculosis became a target of a general health movement initiated and controlled by the middle class but directed at the working class.[56] Although in later work on New Zealand she gave more weight to the rise of the germ theory of disease, she still stressed the importance of national efficiency.[57] Michael Teller on the other hand proposed that while American anti-tuberculosis campaigners sometimes used the language of national efficiency to promote their ideas, they were motivated less by economic concerns than by human suffering. He located the American anti-tuberculosis movement within the social movements of the

[53] Michael Worboys, *Medical Innovations,* 1992, p. 58.
[54] Bryder, *Below the Magic Mountain*, 1988, pp. 2, 21-22, 30.
[55] ibid., pp. 2, 7.
[56] ibid., pp. 2, 15, 16, 19, 17, 21-22, 45, 30.
[57] Linda Bryder, 'Tuberculosis in New Zealand', in A.J. Proust (ed), *History of Tuberculosis in Australia New Zealand and Papua New Guinea*, Brolga Press, Canberra, 1991, 80. Linda Bryder, 'If preventable, why not prevented?, The New Zealand Response to Tuberculosis 1901-1940, in Linda Bryder (ed), *A Healthy Country Essays on the Social History of Medicine in New Zealand,* Bridget Williams Book Ltd, Wellington, 1991, p. 111.

Progressive Era[58] such as the social hygiene movement, school reform, labour laws and social security.[59]

Despite a proliferation of studies on tuberculosis in North America as well as interest in Great Britain and Europe, less has been attempted in Australia. While some historical investigation into the national anti-tuberculosis campaign of the post-war period has been produced, and shorter studies have examined specific aspects of the national policy before the 1940s, comprehensive work on the first half of the twentieth century has been generally concentrated on individual States. This study adds to these State based analyses by examining notification (or case finding) and sanatoria in the three States of South Australia, Victoria and New South Wales. These studies shed light on the differences and similarities in each State, the difficulties of persuading State governments to invest in public health and the problems created by the devolution of public health to local authorities, problems that encouraged public health physicians to seek a national solution.

The first history of the post-war campaign against tuberculosis was written in 1958 while the scheme was still in progress. L.O. Goldsmith's thesis concentrated on a short period from 1945 – 1954 and examined the administrative arrangements between the States and the Federal Government. Goldsmith offered a useful summary of tuberculosis policy before 1945 but did not have the scope to examine closely medical debates and implementation problems. He also provided a good

[58] Michael E. Teller, *The Tuberculosis Movement, A Public Health Campaign in the Progressive Era*, Greenwood Press, New York, 1988, pp. 1-3, 20-21, 34-37, 62, 107-108, 119-137, *passim.*

[59] John C. Burnham, 'The Progressive Era Revolution in American Attitudes toward Sex', *The Journal of American History*, Vol. 59, No. 4, Mar, 1973. William J. Reese, *Promise of School Reform, Grass-roots movements during Progressive Era*, 1986, Boston. David A. Moss, *Socializing Security, Progressive-Era Economists and the Origins of American Social Policy*, 1996, Harvard College, *passim.*

summary of the events leading to the 1948 Act particularly in relation the different opinions of Treasury and the Departments of Health and Social Services. This showed Treasury's reluctance to embrace the policy especially a monetary allowance to sufferers' dependants. Goldsmith concluded that, in the post-war period, concerns such as those expressed by Treasury were disregarded in the climate of post-war enthusiasm for providing social services. He argued that the campaign was part of the post-war social service provisions and that in 1948 medical and political authorities understood how much would need to be spent and the need for co-operation between State and Federal jurisdictions. States simply could not meet the costs of increasing demands on health services generally and thereby co-operated.[60]

Goldsmith's placement of the anti-tuberculosis campaign under the rubric of post-war social services is valid but while he summarises public health measures undertaken in the preceding four decades, his narrow focus of years did not allow him to provide a detailed analysis of why this public health project joined the other social service programmes after World War II. As Herbert Cole (H.C.) Coombs, Director-General of the Department of Post-War Reconstruction, noted, the concerns of the Ministry were the re-establishment to civil life of all involved in the war, direct economic policy with the goal of full employment, improvement of the social and physical environment, and contribution to a better international economic order.[61] While the idea of improving the social and physical environment implied action in social as well as economic policy, and health could fall under the

[60] L.O. Goldsmith (1958), 'Control of Tuberculosis in Australia 1945-1954', University of Western Australia thesis, *passim.*

[61] H.C. Coombs, *Trial Balance*, The Macmillan Company of Australia Pty Ltd., South Melbourne, 1981, p. 27.

rubric of social policy, it did not imply a high level of investment in fighting one disease. The death rate from tuberculosis had been in decline since the late nineteenth century and was not the leading disease killer having long been overtaken by heart disease and cancer. Nor were tubercular veterans of the Second World War to be as numerous as those of the First World War.

The subject of tuberculosis received little attention by Australian historians for nearly three decades after Goldsmith. In 1965 Ronald Mendelsohn studied the national campaign as a vehicle for examining inter-governmental co-operation and procedures but in a short study could not analyse state precursors nor indulge in a highly detailed examination of the events leading to the campaign. Mendelsohn correctly observed that the specifics of the campaign had been on the agenda of public health doctors since the late 1920s and that the medical personnel remained much the same from the 1920s to the 1940s.[62] I will suggest that both the medical personnel and the ideas pre-dated the 1920s. The continuity of both the ideas about tuberculosis management and the medical personnel who pursued those ideas were a feature of the Australian campaign and these factors underpinned the design of the post-war campaign.

In 1991 two books on tuberculosis in Australia were published. Sponsored by the Menzies Foundation, an institute for the promotion of medical and health research, physicians R.M. Porter and T.C. Boag presented an account of the campaign from 1948–1976. Charles Boag was employed in the Tuberculosis Division of the Department in 1950 and rose to become Assistant Director-General in charge of the

[62] Ronald Mendelsohn, 'The Introduction of the Commonwealth-State Tuberculosis Scheme 1948-1952', in B.B. Schaffer and D.C. Corbett (eds.) *Decisions: case studies in Australian administration*, F.W. Cheshire, Melbourne, 1965, 104-123.

Tuberculosis Branch. Porter and Boag's study was an overview of the post-war scheme that briefly outlined the legislation, the conduct of the campaign, the end of the arrangements between the States and the Commonwealth, and the medical personnel involved.[63] Similarly, the *History of Tuberculosis in Australia, New Zealand and Papua New Guinea*, edited by physician A.J. Proust, despite its title, was not a critical history of tuberculosis in Australasia. Like Porter and Boag it was highly informative and though early chapters addressed aspects of the period before 1948, the study was primarily an eclectic collection of the experiences and opinions of a range of health personnel who participated in the post-1948 national campaign.[64]

Moving away from the focus on the post-war national campaign Michael Roe studied tuberculosis in Tasmania from British colonisation in 1805 to the time of publication in the late 1990s and Criena Fitzgerald analysed the disease in Western Australia from 1900–1960. Michael Roe concentrated on the ideas and work of the medical bureaucracy and the political context in which it operated. In line with his work on Progressivism in Australia, he applauded the work of John Elkington who led Tasmania's newly established Department of Health from 1903-1909 and his successor John Smith Purdy. As in other States Elkington and Purdy urged an organised attack on tuberculosis.[65] Their success was limited to the establishment of a charitable sanatorium in Hobart and Launceston, a consumptive wing of the infectious diseases hospital in Tasmania, anti-spitting regulations and tuberculin

[63] R.M. Porter, and T.C. Boag, *The Australian Tuberculosis Campaign 1948-1976*, Menzies Foundation, 1991.
[64] A.J. Proust (ed), *History of Tuberculosis in Australia, New Zealand and Papua New Guinea*, Brolga Press, Canberra, 1991.
[65] Michael Roe, *Life over death: Tasmanians and Tuberculosis*, Tasmanian Historical Research Association, Hobart, 1999, 47-73, 98-107.

testing of cattle and notification in 1909.[66] Tasmania's tuberculosis rates were below all other states until the 1920s when the situation reversed. Roe found that Tasmania's efforts against tuberculosis improved when a new Labor government under Albert Ogilvie brought the State's anti-tuberculosis measures to parity with mainland states.[67]

Criena Fitzgerald has examined tuberculosis as a public health problem in Western Australia from 1900 to 1960. She analysed the strategies of the Western Australian Public Health Department employed to manage the disease in a state one quarter the size of Europe and with an economy strongly reliant on the mining industry. From 1900 to 1940, she argued, the Health Department failed in its attempts to manage the disease because it was administratively constrained by the sheer size of the state and the Department's inability to gain the co-operation of general practitioners who did not treat tuberculosis as a public health disease but rather as a private matter between patient and doctor. The sanatorium became a place of last resort, not a place of treatment and prevention, and notification did not meet its goal of identifying and treating the tubercular. The exception to this was a systematic attempt to control tuberculosis in mining towns, but economic imperatives prevailed and the solution concentrated on the occupation of mining, not public health. Only miners were targeted and they were blamed for their own condition brought about, doctors argued, by a profligate and immoral lifestyle. Sick miners were excluded from underground work with little compensation and tuberculosis was subsumed under the rubric of 'miners' phthisis', a term that included tuberculosis and silicosis. By the 1940s public health doctors in Western

[66] ibid., pp. 32-73.
[67] ibid., pp. 98-135.

Australia had gained control of the debate and, with Commonwealth support, gained the necessary co-operation of doctors and the public to institute a campaign.

Fitzgerald's thesis of 2002, later published as *Kissing Can be Dangerous*, filled a hiatus in Australian scholarship on tuberculosis by carefully detailing the struggles of public health doctors to be heard on the question of tuberculosis during the first half of the twentieth century. This current study complements Fitzgerald's work by relating the struggles within state jurisdictions to the struggle of Commonwealth public health physicians to convert state efforts to a co-ordinated national effort. By taking a national view I am able to analyse the way in which the Commonwealth came to provide the support so vital ultimately to Western Australia's success in shifting the disease to the public health arena.

Other Australian scholars have undertaken smaller studies of singular aspects of the disease. Alison Bashford, for example, noted the importance of examining tuberculosis public health policy in Australia through the prism of labour and the economy. Analysing a period between 1900 and 1920, and looking at the states of New South Wales and Victoria, she proposed that government support for managing tuberculosis, particularly the establishment of public sanatoria, was motivated by a desire to preserve the health of the worker for the benefit of the overall economy. This incorporated a gender bias because the worker was perceived as the male breadwinner in the average working family, a model of labour laid down in the famous Harvester case of 1907.[68] Bashford's conclusions are borne out in this thesis. Discussions of the debates on tuberculosis reveal a concentration on the issue of the impact of tuberculosis on the male breadwinner.

[68] Alison Bashford 'Tuberculosis and Economy: Public Health and Labour in the early Welfare State', *Health and History*, 2002, 4/2: pp. 19,-20, 24-25, 28-,29, 32, 34-35, *passim.*

In the area of general Australian health care policy two studies in particular have informed my approach and made a valuable contribution to our understanding of the politics of national health policy. Claudia Thame's work in 1974 explored the growth of the state's involvement in the health of the population during the first half of the twentieth century. She found that health policy shifted from its limited base of environmental concerns to the control of infectious diseases, national health programmes such as infant and maternal welfare, and the supply of medical and hospital services. The shift towards collective or state responsibility for health care was slow, patchy and far from complete when the Chifley Labor Government, having proposed a universal health care system, lost government in the election of 1949. The management of tuberculosis claimed a place under both the control of infectious diseases and national health programmes. Although Thame presented an excellent summary of tuberculosis in these contexts her analysis was concerned with broad questions of state responsibility for health care, of which tuberculosis was only one part. She did not therefore critically examine why in this one instance collective responsibility for prevention occurred at the national level, nor could she chart in detail the complexities of implementing policy within the Australian states and the impact of public health medical professionals.[69]

James Gillespie, in his study of medical politics from 1910 to 1960, posited an underlying struggle in the medical profession between advocates of public preventive medicine, or public hygienists, and private 'curative' medicine. He identified a cohort of medical professionals who, particularly during the inter-war years, pressed for a broad preventive public health policy controlled, or at least co-

[69] Claudia Thame, 'Health and the State', 1974, pp. 85-114, *passim.*

ordinated, at a national level. This philosophy aimed to contain general practice medicine within the parameters of a wider national health policy strongly emphasising prevention of ill health. Gillespie concluded that the 1940s saw a turning point in this struggle in which the national hygienists' vision was defeated by the end of the decade and health policy turned primarily to ensuring universal access to private health services.[70] The reasons for this were a tendency to *ad hoc* decisions based on political and constitutional shifts that did not meet the careful design of the public hygienists' plans, and the subordination of national health to larger debates on the question of nationalisation in areas like banking. Added to this was the marginalised position of the Commonwealth Health Department compared with other Commonwealth departments. Gillespie also noted a generational change in the hygienists themselves. Many were at the end of their careers and their successors showed less interest in the preventive philosophy.[71]

Broadly, I concur with Gillespie's findings but in subsuming tuberculosis within his conclusions he overlooked the exceptional position of this disease. He argued that tuberculosis moved out of the national hygienists' paradigm of preventive medicine to be redefined under the more dominant rubric of curative individual medicine. By including the tuberculosis allowance under the broad category of cash benefits instituted in the post-war period he overlooked the wider mass x-ray campaign and the Commonwealth funding for tuberculosis facilities like chest clinics and sanatoria. The cash benefits had also been a component of the preventive scheme advocated by national hygienists. The anti-tuberculosis campaign was an exception as Gillespie implied when he noted that the Menzies Government on taking power in 1949 limited their involvement in broad health

[70] James A Gillespie, *The Price of Health* pp. xi-xii, 31-56, *passim.*
[71] ibid., pp. 239 – 241, 280-281, *passim*

schemes to free milk in schools and wider tuberculosis benefits. Here again Gillespie noted the tuberculosis allowance, not the broader campaign. The anti-tuberculosis campaign was largely based on the design of the public hygienists. Drawing on Gillespie's work I focus strongly on the work of national hygienists employed by State and Commonwealth Governments.

A further study on health policy generally that highlighted the importance of studying specific public health policies such as tuberculosis was Gwendolyn Gray's analysis of Australian health policy[72] in the context of Australian federalism. She compared Australia with Canada and provided a good overview of the federal role in health policy and alerted us to the steady incursion of the Federal Government into this policy area. While her study achieved its aim of explaining the broad nature of Canadian and Australian federalism, historical analysis raises questions about some of her conclusions. Gray found, for instance, that federalism posed no real barriers to the joint anti-tuberculosis campaign initiated in the 1940s and that from 1943 the campaign moved parallel with medical advances. This conclusion takes account of the short-term impetus but does not fully explain why this public health campaign overcame jurisdictional barriers. The 1940s campaign was a culmination of state policy and medical ideas formulated in the previous four decades. It was also a triumph of the Federal Health Department, which had been trying since the early 1920s to centralise policy on tuberculosis. The 1940s campaign was a replication of earlier ideas converted to tangible policy by the injection of federal funds and enthusiasm for post-war reconstruction. Medical advances provided some impetus but were not the driving force. The introduction of miniature x-rays and their rehearsal on Australian troops was important because

[72] Gwendolyn, Gray, *Federalism and Health Policy: The Development of Health Systems in Canada and Australia*, University of Toronto Press, Toronto, 1991, *passim.*

it provided the means for an economically viable mass x-ray programme. Miniature x-ray was an important technological step but Australian designers of the campaign paid little attention to the promising new drug, streptomycin and its possible successors, when designing the campaign. The joint federal/state scheme was formulated more on ideas developed in the previous three decades than the medical advances of the 1940s. Much of the 1948 scheme was based on proposals of the Federal Health Council in 1929. Gray's conclusion that federalism provided few barriers is misleading when viewed from the longer perspective. States had shown little interest in cooperating with each other or the Federal Health Department on tuberculosis policy despite the urging of the medical profession from at least 1911. Similarly, the national government did not provide its Health Department with the resources it needed to take the lead on a national tuberculosis policy.

This thesis is arranged in two sections. Section one examines the three States of South Australia, New South Wales and Victoria to explain the development of health policies on tuberculosis at the State level from the early 1900s to the late 1920s. Drawing on evidence from the three States, chapter one traces Australian medical debates on the implications of the discovery of the tubercle bacillus, debates which concluded in the generally accepted view that tuberculosis was contagious and therefore a matter of concern for health authorities. Subsequent public health policy concentrated on preventive strategies, the central elements being notification and public sanatoria both of which are explored in detail. Section 1 establishes the developing themes of the medical profession's arguments in its attempt to persuade governments to mount anti-tuberculosis programmes. While the States adopted some public health measures intended to stay the spread of tuberculosis, examination of these two main elements of the anti-tuberculosis

movement shows the limit of the States' willingness to invest in public health and the shortcomings of the strategies.

Section two is concerned with the idea of tuberculosis as a national problem, rather than one defined within State borders. In this section the medical profession's debate on tuberculosis as a national problem from the early years of the twentieth century to the 1930s along with the proposition that the medium for a national attack on the disease must be the Federal Government is examined. At the end of World War I the Commonwealth took responsibility for the medical rehabilitation of returned soldiers, including those with tuberculosis, and this was the national government's first foray into the making of health policy other than the protecting the coastline through its quarantine powers. Returned soldiers are examined in detail, not only as an example of federal policy-making in the area, but because repatriation policy was to influence the later anti-tuberculosis campaign. The remainder of section two traces the medical and governmental debate on tuberculosis at the federal level throughout the 1930s and 1940s, a debate resolved by federal intervention in tuberculosis policy at the end of World War II as an element of Australia's post-war reconstruction.

Because this work is an analysis of tuberculosis and the state, it relies heavily on government sources both federal and state in the form of parliamentary debates, papers and reports. These sources include major inquiries and reports notably the Commonwealth Committee on Death and Invalidity which produced a number of reports in 1916 and 1917, the Commonwealth Royal Commission on Health in 1925 and the Joint Committee on Social Security, a Commonwealth Parliamentary Committee which conducted inquiries from 1941 to 1946. Extensive use has been

made of internal correspondence and reports of the Federal Health Department, the Federal Health Council established in 1927 and its successor the National Health and Medical Council established in 1937 all held in the National Archives of Australia. Similar sources held in the Australian War Memorial section of the Australian Archives have been mined for the analysis of returned soldiers who suffered from tuberculosis, most specifically World War 1 soldiers. The same parliamentary and internal departmental materials have been examined at the State level in South Australia, Victoria and New South Wales.

The opinions and expertise of the medical profession are central to health policy debate. The published sources of the Australian medical profession therefore have a been used extensively and include early medical journals such as the *Australian Medical Journal, Australasian Medical Gazette* and particularly the *Medical Journal of Australia* which has been issued since 1914 as the official publication of the British Medical Association (BMA) in Australia. The BMA changed its name to the Australian Medical Association in 1962. The Australian BMA held medical congresses, which included New Zealand, every two years, and these proved to be an excellent source of medical debate. Transactions of the Congresses were also published in the *Medical Journal of Australia*. Many Government sources can be included in medical sources as they often comprised reports and correspondence of medical bureaucrats in both state and federal jurisdictions. The views of the medical profession, of course, were not homogenous and these sources reveal the debates and differences of opinion within the profession about disease causation, treatment, and prevention.

Newspapers and some specialist magazines add a further dimension indicating opinions aired more publicly than in official documentation. Statistics are drawn from a range of sources including Year Books, government publications at the state and federal level, hospitals records and medical publications.

These sources have allowed a comprehensive administrative and policy analysis but are more limited in revealing the personal narratives of sufferers and the role of non-government groups such as charities, the Red Cross and the Association for the Prevention of Tuberculosis in New South Wales. Peter Tyler has contributed a book length study of the New South Wales Association but scope remains for further study of the activities of non-government groups in the long struggle against tuberculosis. Another area of interest for the Australian history of tuberculosis that is beyond the scope of these sources and this thesis is a close examination of the impact of policy on specific occupational and social groups. Miners have received some attention but research in this area is mainly limited to Fitzgerald's work on Western Australia. Many other occupational groups such as medical personnel, domestic servants, rock-choppers and factory workers warrant attention. The sources employed for this project have shed some light on the gendered language of the campaign and government policies but would need to be broadened to allow full exposition of the impact on women and children generally. A further area of tuberculosis policy deserving of further historical investigation is the question of the effect of the disease itself as well as public health policy on the indigenous population. While the evidence from official documents and medical reports employed in this thesis could contribute to such a study it would be necessary to mine sources at the local level of indigenous communities both written and oral.

Apart from discussions on the sanatorium, I have not detailed the long list of treatments or alternative cures proposed for tuberculosis. Collapse therapy, special diets, climate therapies have been well documented in a range of studies.[73] Peculiarly Australian alternatives such as Mutton Bird oil[74] and Australian reactions to the renown Spahlinger treatment[75] would be worthy of a small research project.

It is important to note that while comparable industrialized nations had similar experiences to that of Australia, policies and experiences were nuanced by social, economic and political differences. Canada, for example, has a similar governmental structure to Australia in that it is a federation of states with a central national government and provincial governments. Like Australia the Canadian provinces were responsible for health policy but the Canadian federation was more decentralized than Australia and Canada's provincial governments were economically strong during the inter-war period because of the growth of resource industries. The balance of power between the provinces and the central government alternated between the two, whereas the trend to greater centralization of power to the federal government took a steady path in Australia. Like Australia, the Canadian Dominion Government provided funds for the fight against tuberculosis in the years after World War II but control of the funds rested entirely with the

[73] See for example, Smith, *The Retreat of Tuberculosis,* 1988, pp.136-165. Bryder, *Below the Magic Mountain*, 1988, p. 46-69, 157-198. Katherine, Ott, 'The intellectual origins and cultural forms of tuberculosis in the United States, 1870-1925', (Volumes I and II), PhD Thesis, Temple University, 1991, *passim.* Katherine McCuaig, *The Weariness, the Fever, and the Fret, The Campaign against Tuberculosis in Canada, 1900* – 1950, McGill-Queen's University Press, 1999, pp. 18-36, 42-46, 69-83. Caldwell, *The Last Crusade,* 1988, pp. 67 – 126. Dubos, *The White Plague*, [1952], pp. 131 – 181. McQuien, 'Tuberculosis as chronic illness'1993, *passim.*

[74] 'Treatment of Tuberculosis. Experiments with Mutton-bird Oil', *The Age*, 27 August, 1936, p. 7. ' "Mutton-bird Oil" in Pulmonary Tuberculosis' *The British Medical Journal*, 7 November, 1936, pp. 949-950.

[75] Australia, Parliament 1924, *Spahlinger Treatment of Tuberculosis* (Sir Neville Howse), Parl. Paper 136, Melbourne, Vol 2, p. 1643. NAA: A458, E68/3, 1922-1927, "Spahlinger" Treatment of Tuberculosis. Thame, 'Health and the State', 1974, p.98.

provinces. Unlike the Commonwealth Government of Australia, Canada had no central tuberculosis body in the Dominion Government nor was a special allowance for tuberculosis administered federally but within the provinces. Another area of difference was the role of a large voluntary organization. As in the United States and Britain a powerful voluntary organizations played an influential role in the anti-tuberculosis campaign in Canada even receiving financial support from the Dominion Government.[76]

This study can be located between those of Gillespie and Fitzgerald. Drawing on Gillespie's discussion of public hygienists the analysis of public hygienists' philosophy and goals has been extended to a specific disease adding depth to our understanding of these physicians and their influence on policy. In the area of tuberculosis specifically, the study complements and adds to Fitzgerald's conclusion about tuberculosis and public health in one state by providing examples from three other states and then examining the issue from a national perspective. This has allowed me to introduce a more detailed discussion of the political processes occurring at the national level that resulted in the post-war campaign.

A note on terminology

Throughout this study the term 'tuberculosis' will refer primarily to pulmonary tuberculosis with other forms of tuberculosis being described by their specific type or the generic 'other forms'. Pulmonary tuberculosis was commonly known as 'consumption' or 'phthisis' especially during the early decades covered in this study and these terms appear occasionally and refer to pulmonary tuberculosis. The title of the national government of Australia is Commonwealth Government of

[76] McCuaig, *The Weariness, the Fever,* 1999, *passim.*

Australia but is also referred to as the Federal Government and both terms are used in this thesis. Finally, confusion can arise around the use of the terms ‘contagious’ and ‘infectious’. Contagious once referred to communicable diseases transferred from one person to another by touch but is generally now used to mean any disease that can be transmitted to another person through contact, touching of an object infected with micro-organisms, or infected droplets released from a diseased person. Infectious disease is defined broadly as diseases resulting from external parasites such as bacteria and viruses. Both can be described as communicable diseases. Generally I use the term contagious to describe the nature of tuberculosis but legislation in particular often referred to infectious diseases and this term is retained where appropriate.