# Socio-economic Status in the Sanatorium: Tuberculosis in British Columbia in the Interwar Period

By Sarah Johnston
Supervised by Dr. John Lutz

A Graduating Essay Submitted in Partial Fulfillment of the Requirements in the Honours Programme.

For the Degree of

Bachelor of Arts

In the

Department

of

History

University of Victoria
April 2, 2024

## **Table of Contents**

Table of Contents	i
Acknowledgements	ii
Introduction	1
Section 1 – Background	6
Section 2 – Tranquille Sanatorium	21
Conclusion	38
Bibliography	41

## Acknowledgements

I would like to thank my parents for their unwavering support of all my goals, picking up my many late night phone calls, and sending photos of my dog. In a similar vein, I would like to thank my dear friends for forcing me to take breaks from studying, their encouragement, and willingness to listen to my "fun facts" about tuberculosis.

This project would have been impossible without the help of my supervisor, Dr. Lutz, and the many professors who invested their time in helping me navigate the complexities and challenges of both university in general, and of writing an honours' thesis.

Lastly, I would like to express my gratitude for receiving funding from the Jamie
Cassels Undergraduate Research Award from the University of Victoria and the Hannah
Studentship Award from the Canadian Society for the History of Medicine and AMS
Healthcare.

#### Introduction

This thesis is separated into two main sections. The introductory portion outlines the thesis structure, the methods and sources used, and ends with my self-location and an explanation of my personal motivation. In the background section I will cover the modern medical understanding of tuberculosis (TB), then the historical understandings and evolution of thought on tuberculosis, including its social history. This segues into the history of environmental explanations of health and the rise of the sanatorium era, including the spread of sanatoriums to North America, eventually making its way to the British Columbia interior. The last part of this section will outline the anti-TB movement in B.C., including the founding of Tranquille Sanatorium and its operation until the Second World War.

The second section focuses attention on Tranquille during the interwar period, looking at the socio-economic status of patients and exploring their experiences at the sanatorium. This project began with the hopes of interrogating the claims of one of the informational/promotional pamphlets created by the British Columbia Anti-Tuberculosis Association. That claim was that "No patient who has been a resident of British Columbia for six months or over is refused admission on account of inability to pay." <sup>1</sup> The conclusion will summarize the findings and connect them to the wider literature and ongoing discussion surrounding the resurgence of TB in public imagination.

<sup>1</sup> 

<sup>&</sup>lt;sup>1</sup> British Columbia Anti-Tuberculosis Society, 'King Edward Memorial Sanatorium for the Treatment of Tuberculosis, Tranquille, Kamloops, British Columbia' (Canadiana (Research Knowledge Network), between and 1921 1912), British Columbia Archives and Records Service, Victoria, https://www.canadiana.ca/view/oocihm.84403.

While the Canadiana archives cites this as being from 1912 and 1921, I have determined it can be dated to 1915-18. This is supported by the municipal rate of \$1.25, which was changed from \$1 in 1915 (Norton, 77). The upper limit of 1918 is because of the original "King Edward Memorial Sanatorium" title, reverted to "Tranquille Sanatorium" in 1918 (Norton, 96).

This research was based on both primary and secondary sources. The bibliography includes the full list of sources consulted, but I will highlight a few key texts. Background information on the science and history of TB, particularly in Canada, was helpful in contextualizing broader trends. Two books on the history of TB in Canada that I used were *The Weariness, the Fever, and the Fret: The Campaign Against Tuberculosis in Canada 1900-1950* (1999) by Katherine McCuaig and *The Miracle of the Empty Beds: A History of Tuberculosis in Canada* (1977) by George Jasper Wherret.<sup>2</sup> Books on wider TB history were *Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History* (1994) by Sheila Rothman and *Phantom Plague: How Tuberculosis Shaped History* (2022) by Vidya Krishnan.<sup>3</sup> The most helpful book in my research was the only book written specifically on the history of Tranquille Sanatorium, *A Whole Little City by Itself: Tranquille and Tuberculosis* by local Kamloops historian Wayne Norton, published in 1999.<sup>4</sup>

The historical writing about tuberculosis that I have used for this research has centred around the social history of the disease, including demographic patterns concerning aspects like race, ethnicity, class, gender, and age. Within Canada, the Indigenous experiences of tuberculosis maintains a distinct place within wider tuberculosis history. Because the federal government (rather than the provincial

<sup>&</sup>lt;sup>2</sup> Katherine McCuaig, *The Weariness, the Fever, and the Fret: The Campaign Against Tuberculosis in Canada 1900-1950* (McGill-Queen's University Press, 1999),

https://canadacommons-ca.ezproxy.library.uvic.ca/artifacts/1866340/the-weariness-the-fever-and-the-fret/2615335/view/; George Jasper Wherret, *The Miracle of the Empty Beds: A History of Tuberculosis in Canada* (Toronto: University of Toronto Press, 1977).

<sup>&</sup>lt;sup>3</sup> Sheila M. Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History (New York: BasicBooks, 1994); Vidya Krishnan, Phantom Plague: How Tuberculosis Shaped History (New York: PublicAffairs, 2022).

<sup>&</sup>lt;sup>4</sup> Wayne Norton, *A Whole Little City by Itself: Tranquille and Tuberculosis* (Kamloops, BC: Plateau Press, 1999).

government) was responsible for Indigenous people's healthcare, they were denied access to the standard of care that was available for non-Indigenous citizens. From my research, I found no cases of an Indigenous person being treated at Tranquille and therefore this gap is reflected in my thesis, but for those wishing to learn more about the Indian Hospital System, the 2013 book by Laurie Meijer Drees Healing Histories: Stories from Canada's Indian Hospitals is a valuable source, as is the 2013 article by Moffat et al. on the colonial legacy of sanatoriums. There was also racism within this healthcare system against non-European Settlers, including racism at people of Asian descent who were sent to separate hospitals, where conditions were often worse.<sup>5</sup> Due to the makeup of the patient population, this thesis focuses on the experiences of settlers of European descent, and analysis of gendered experiences of the sanatorium are limited. While both men and women were treated at Tranquille and the gender ratio differed over time (for example the influx of soldiers), they were kept segregated to different floors and wings.<sup>6</sup> The main demographic category I analyze is socio-economic status and how this affected experiences at the sanatorium.

Primary sources from the BC Archives were the basis for my exploration of socio-economic status in the sanatorium. Many of these files are restricted due to the personal information of patients, but some items are publicly accessible, like *The Tranquillian* magazine's first two issues. The restricted access sources mainly consist of documents on administration, ledgers, and correspondence. There is a wealth of information and detail in these sources, and I have had to leave out many details that

<sup>&</sup>lt;sup>5</sup> Huguette Turcotte, 'Hospitals for Chinese in Canada: Montreal (1918) and Vancouver (1921)', *Historical Studies* 70 (1 January 2004): 131–45.

<sup>&</sup>lt;sup>6</sup> Norton, *Tranquille and Tuberculosis*, 78.

were not important to this topic, but I encourage those curious to check BC Archives. The dispersal of primary source documents relating to Tranquille and organizations associated with it has left some gaps in my research. Limitations due to time and travel have meant that I have been restricted to using archives in Victoria and online databases. Despite these challenges, the amount of material available to me was enough to create a very rich portrait of Tranquille, its administration, its public perception, and the experiences of its patients.

In the spirit of decolonization and self-location, I am grateful to live and study on unceded territories of the ləkwənən speaking Nations of the Songhees, Esquimalt and WSÁNEĆ peoples, whose relationships with the land and sea here continue. I was born and raised in Salmon Arm on the land of the Interior-Salish Secwépemc (Shuswap) speaking peoples. This region is part of Secwépemc'ulucw (Secwépmec territory) which also includes the Kamloops region where Tranquille is located. Part of why I chose to research Tranquille in particular is my connection to the area, going back to when my great-great-grandparents came to the region as settlers in the early 20th century.

My main interest in TB comes from its symbolic power as a modern example of global health inequality. Tuberculosis has had an outsized role throughout modern history, and I am fascinated in how our understanding and perception of this disease has changed over time. In rich countries, we imagine TB as existing only in the past, a melodramatic bloody handkerchief in a movie or book about the Victorian era. In reality, it is still an exceptionally deadly disease, killing a million and a half people and causing more than ten million new infections in 2021. It is the second-deadliest communicable

disease (after Covid-19) and given the prevalence of TB that has become resistant to antibiotic treatment, it is likely to get even deadlier.<sup>7</sup>

The issue of TB in the modern world is deeply connected to wealth and poverty. Socio-economic status remains an incredibly important predictor of health, reflected in countless studies on the social determinants of health.<sup>8</sup> The fact poor people have less access to healthcare, lower life expectancy, and higher disease burden is true not just within nations, but also on a global scale. This fact is harder to swallow when looking at preventable and treatable diseases like tuberculosis, where 80% of cases and deaths are in low and middle income countries.<sup>9</sup> While researching the role that socio-economic status played concerning TB treatment in B.C. in the past, I am also aware that for many parts of the world this is not just a disease and disparity of the past, but of the present too.

<sup>7</sup> World Health Organization, 'Tuberculosis (TB)', 21 April 2023, https://www.who.int/news-room/fact-sheets/detail/tuberculosis.

<sup>9</sup> WHO, Tuberculosis (TB)

<sup>&</sup>lt;sup>8</sup> World Health Organization World Health Organization, 'Social Determinants of Health', accessed 26 February 2024, https://www.who.int/health-topics/social-determinants-of-health.

## Section 1 – Background

This section begins with an outline of our modern understanding of tuberculosis, but this conception of the disease emerged over time and as a result of numerous breakthroughs. The period of focus for this thesis is between the late 1910s and early 1940s, which occurs between the two most important discoveries in tuberculosis research. The first was in 1882, Koch's discovery of the bacillus that causes tuberculosis, and the second was in the late 1940s with the introduction of antibiotics to treat and cure active tuberculosis. These moments of discovery and the history of how we came to our modern medical understanding of TB are more important to a historian, but it is helpful to know about the science of this disease and bacteria itself before discussing the misconceptions we previously believed.

TB is a disease caused by the rod-shaped bacillus *Mycobacterium tuberculosis*. It is transmitted mainly through the air, by breathing in the droplets exhaled by people with active infections as they cough, but historically it has also been transmitted from cows to humans through infected milk before pasteurization became common practice. TB is not highly infectious though, and to spread it requires consistent exposure over a long period of time, which is why it is commonly spread between family members. TB is famous for infecting the lungs and causing respiratory symptoms, but in roughly 15-20% of cases it occurs outside the lungs, and in this case it is called extrapulmonary TB. In these manifestations, it usually infects the lymphatic system, but can also occur in the pleura (lining of the lungs), genitourinary system, and skeletal system. The most

<sup>&</sup>lt;sup>10</sup> 'Tuberculosis Information | Mount Sinai - New York', Mount Sinai Health System, accessed 20 February 2024, https://www.mountsinai.org/health-library/condition/tuberculosis.

<sup>&</sup>lt;sup>11</sup> Ali H. Baykan et al., 'Extrapulmonary Tuberculosis: An Old but Resurgent Problem', *Insights into Imaging* 13, no. 1 (7 March 2022): 39, https://doi.org/10.1186/s13244-022-01172-0.

common symptoms of TB are persistent cough, weakness and fatigue, lack of appetite and weight loss, fever, and night sweats.<sup>12</sup>

In the vast majority of cases, those who come into contact with the bacteria responsible for TB will not get sick with the disease. Our immune systems either immediately fight off the infection, or it will live inside the body in small clusters and cause latent or inactive TB, as is the case for an estimated 2-3 billion people in the world as of 2015.<sup>13</sup> In cases of latent TB, the person is not infectious, meaning they cannot spread the disease to others, but over their lifetimes they have a roughly 5-10% risk of the disease progressing to active TB. 14 Risk of developing active TB is higher in populations with weaker immune systems, including the old, the very young, pregnant women, and those living with HIV/AIDS. Risk factors like malnutrition and poor living conditions also contribute to higher incidence rates. TB is treated with antibiotics, but due to its slow reproductive rate it requires treatment over the course of at least 6 months, and often for over a year with multiple antibiotics. This also means that the bacteria can easily mutate and become antibiotic resistant, and this has become a huge issue in countries without robust healthcare systems, where the TB continues to spread but is becoming harder and harder to treat. 15

<sup>-</sup>

<sup>&</sup>lt;sup>12</sup> Public Health Agency of Canada, 'Tuberculosis (TB): Symptoms and Treatment', education and awareness, 5 December 2023,

https://www.canada.ca/en/public-health/services/diseases/tuberculosis.html.

<sup>&</sup>lt;sup>13</sup> Y. Ma et al., 'Quantifying TB Transmission: A Systematic Review of Reproduction Number and Serial Interval Estimates for Tuberculosis', *Epidemiology and Infection* 146, no. 12 (September 2018): 1478–94, https://doi.org/10.1017/S0950268818001760.

<sup>&</sup>lt;sup>15</sup> CDC-Centers for Disease Control and Prevention, 'Tuberculosis (TB) - Treatment for TB Disease', Centers for Disease Control and Prevention, 22 March 2023,

https://www.cdc.gov/tb/topic/treatment/tbdisease.htm. For more information on the impact of antibiotic resistance in poor countries, see Vidya Krishnan's *Phantom Plague*.

In present day Canada, TB incidence is very low, and the number of people infected per 100,000 is 4.8. By only looking at that statistic though, we erase the huge disparities of who has TB in Canada. The incidence rate per 100,000 varies widely: 0.3 for non-Indigenous people born in Canada, 12.3 for people born outside of Canada, 135.1 for Inuit, 16.1 for First Nations, and 2.1 for Métis. The issue of TB in recent immigrants stems from global health inequity, but within Canada the non-immigrant group with the highest rate of TB is the Inuit, as discussed by Mrozewski. The instance of TB is the Inuit, as discussed by Mrozewski. The instance of TB is the Inuit, as discussed by Mrozewski. The incidence rate per 100,000 varies widely: 0.3 for non-Indigenous people born in Canada, 12.3 for people born outside of Canada, 135.1 for Inuit, 16.1 for First Nations, and 2.1 for Métis. The issue of TB in recent immigrants stems from global health inequity, but within Canada the non-immigrant group with the highest rate of TB is the Inuit, as discussed by Mrozewski.

Now that we have a foundation of the science of TB, we can turn to the historical understandings of and attitudes toward TB. Although TB is an ancient disease that has followed humans for millennia and across continents (including pre-European contact Americas), in this background segment I will be focusing on the direct precedent to the study period, the Victorian era. Of all the diseases common among the Victorians (including cholera, typhoid, smallpox, and influenza) the one most associated with them in our cultural memory is TB.

The name "tuberculosis" was not given to this disease until the 1830s, and the old name "consumption" was not fully phased out even by the time that Tranquille Sanatorium first opened in 1907. The phasing out of the term "consumption" was affected by increasing professionalization of medicine and tendency to use more anatomical and physiological names.<sup>18</sup> It is understandable why the Victorians used the

<sup>&</sup>lt;sup>16</sup> Public Health Agency of Canada, 'Tuberculosis in Canada: Infographic (2021)', research, 16 March 2023.

https://www.canada.ca/en/public-health/services/publications/diseases-conditions/tuberculosis-canada-20 21-infographic.html.

<sup>&</sup>lt;sup>17</sup> Josephine Catherine Mrozewski, 'Inuit, Tuberculosis, and Political Determinants of Health', 2022, http://hdl.handle.net/1828/14177.

<sup>&</sup>lt;sup>18</sup> Jacalyn Duffin, *History of Medicine: A Scandalously Short Introduction*, Third (Toronto: University of Toronto Press, 2021), 238.

old name though, because "consumption" is a very Romantic word for the disease. It was an apt term because TB is a wasting disease, meaning it causes sufferers to 'waste away', seen in symptoms like lack of appetite and subsequent weight loss. The disease was 'consuming' patients from the inside out, with little that doctors could do to stop or slow its progress. Unfortunately, even as the science progressed over the 19th century there remained little that doctors could do, even for decades into the 20th century.

Medical historian Jacalyn Duffin writes that "Tuberculosis was the single most important cause of death in the nineteenth century", and when one considers its impacts on science, population, and culture, this conclusion is hard to argue. <sup>19</sup> In 1882 Robert Koch attributed one seventh of all human deaths to TB, with that rate rising to one third among the middle-aged, with it sparing no race, age, class, or gender. <sup>20</sup> Historian Sheila Rothman argues that in the United States from 1800 to 1850, that ratio of TB deaths to all deaths was one out of every five. <sup>21</sup> An entire book exists on TB's influence on fashion and beauty, drawing connections between ideals such as thinness, paleness, and rosy cheeks to the Romanticized version of 'consumption' seen from the late 18th to mid 19th century. <sup>22</sup> In this book, Day also argues that there was a gradual shift in the perception of the tubercular patient, which began to change in the middle of the century. In general, tuberculosis had been perceived as a disease that "conferred beauty and intelligence", but this idea changed into one of a "biological evil" linked to poverty and conditions that could be controlled and stopped, partly due to social and sanitary

<sup>&</sup>lt;sup>19</sup> Duffin. 84.

<sup>&</sup>lt;sup>20</sup> Carolyn Day, *Consumptive Chic: A History of Beauty, Fashion, and Disease*, *Consumptive Chic: A History of Beauty, Fashion, and Disease* (London; Bloomsbury Academic, an imprint of Bloomsbury Publishing Plc, 2017), 9.

<sup>&</sup>lt;sup>21</sup> Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, 13.

<sup>&</sup>lt;sup>22</sup> Day, Consumptive Chic: A History of Beauty, Fashion, and Disease, 95.

reforms, partly due to changes in literary and cultural representations of the disease.<sup>23</sup> Of course, part of the Romantic connotation of TB lived on, but it had come to be seen more as a dangerous 'disease' than a beautifying 'condition', and its association with poverty were also lasting.

The question of how one became tuberculous, or consumptive, had varying answers in the Victorian era. There were two main factors that were considered, with emphasis depending on circumstances such as the location and class of the victim. These theories also did not entirely rule out the possibility of tuberculosis as contagious, rather they often supplemented that yet-to-be proven theory, which was more accepted in Southern Europe than Western Europe (with the latter being where most North American ideas originated).<sup>24</sup> The hereditary theory was prominent among the upper class, stating that the nervous and weak constitution of rich women could predispose them to consumption, and then their families.<sup>25</sup> At the same time, there was the miasma or environmental theory, which connected TB to miasma and the climate one lived in.<sup>26</sup> The link between TB and wet, cold conditions led the sick (or at least those who could afford it) on pilgrimages to find better weather, and this played a role in where sanatoriums would be built, both in Europe and North America.<sup>27</sup> In the 1860s, some Victorians began to associate the illness with sinful behaviour and promiscuity, leading to increased stigmatization of the disease and its association with 'fallen women'.<sup>28</sup>

<sup>&</sup>lt;sup>23</sup> Dav. 130.

<sup>&</sup>lt;sup>24</sup> Day, 15.

<sup>&</sup>lt;sup>25</sup> Day, 131-132.

<sup>&</sup>lt;sup>26</sup> Day; Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, 18-19.

<sup>&</sup>lt;sup>27</sup> Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, 133.

<sup>&</sup>lt;sup>28</sup> Day, Consumptive Chic: A History of Beauty, Fashion, and Disease. 132.

Acceptance of TB's contagious nature occurred slowly and reflected larger medical tendencies, which reluctantly accepted germ theory. After Koch's discovery of the bacteria causing TB in 1882, it became harder to ignore the evidence pointing to contagion. Still, this did not do much to sever links between the disease and climactic cures, as the increasing number of sanatoriums proves.<sup>29</sup>

Historical treatment of TB was mostly ineffective, and generally the less invasive, the better off a patient was. Their best hope was that a combination of nutritious diet and rest would allow their immune system to fight the infection on its own, but in advanced stages of disease, recovery was rare. The first great disappointment in TB treatment was in 1890, when Koch reported to have found a cure for TB in the form of 'tuberculin' to treat the tuberculous. This 'treatment', however, was ineffective and in fact worked better as a diagnostic tool, which is what it became.<sup>30</sup> The next innovation was the Bacille Calmette-Guérin or BCG vaccine, first administered in 1921, which proved fairly successful and is still used today for those at high risk of exposure to TB.<sup>31</sup> Throughout the early twentieth century, another treatment had been gaining popularity: artificial pneumothorax. This treatment called for a surgeon to cut into the lung cavity and deflate the tuberculous lung, allowing it to 'rest', which was a surprisingly effective treatment in some cases.<sup>32</sup> Despite ongoing research and pressure to find treatments and cures for the disease, tuberculosis remained a troubling diagnosis to receive up

-

<sup>&</sup>lt;sup>29</sup> Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, 195.

M. Martini, G. Besozzi, and I. Barberis, 'The Never-Ending Story of the Fight Against Tuberculosis: From Koch's Bacillus to Global Control Programs', *Journal of Preventive Medicine and Hygiene* 59, no. 3 (28 September 2018): E241–47, https://doi.org/10.15167/2421-4248/jpmh2018.59.3.1051.
 Martini, Besozzi, and Barberis.

<sup>&</sup>lt;sup>32</sup> G. Rakovich, 'Artificial Pneumothorax: Tapping into a Small Bit of History', *Canadian Medical Association Journal* 182, no. 2 (9 February 2010): 179–179, https://doi.org/10.1503/cmaj.090024.

until the late 1940s when antibiotics were becoming available to those in wealthy countries.<sup>33</sup>

Sanatoriums, a word meaning buildings of health, began in Germany in the 1850s. The first location was advertised as improving health with its low barometric pressure and high elevation. These early facilities more closely resembled spas than hospitals, but encouraged what became the default treatment for TB: fresh air, diet, rest, and exercise. 34 Doctors recommended sanatorium stays to patients in the incipient stage of TB, which they believed to be more susceptible to their cures than late stage disease, where death was all but assured.35 The popularity of sanatoriums grew in Europe, and by 1885 the first sanatorium in North America opened in upstate New York.<sup>36</sup> By this time, fears of contagion began to play a large part into the reasoning behind sanatoriums. A well-placed sanatorium allowed scientists and doctors to hit two birds with one stone: improve patient conditions with better climate and control their ability to spread the disease. Control over patients was a key element of these facilities, and it was common for patients to have rigid treatment plans that included set time for sleep, outdoor fresh air rest, exercise, and mealtimes, as well as prohibitions on smoking and drinking.<sup>37</sup> Even at the earliest American sanatorium, Rothman notes the stricter code of conduct expected for poorer patients, and "charity, as is often the case, imposed rigid codes of behaviour", and these patients were expected to help with

<sup>&</sup>lt;sup>33</sup> Of course, in many parts of the world, access to effective antibiotics remains a challenge, particularly for people with antibiotic resistant TB who need multiple types, and new types of antibiotics.

<sup>&</sup>lt;sup>34</sup> Martini, Besozzi, and Barberis, 'The Never-Ending Story of the Fight Against Tuberculosis'. E243.

<sup>&</sup>lt;sup>35</sup> Norton, *Tranquille and Tuberculosis*, 21.

<sup>&</sup>lt;sup>36</sup> Rothman, Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History, 203.

<sup>&</sup>lt;sup>37</sup> Rothman, 204.

cleaning and tidying.<sup>38</sup> As shown later in this thesis, this was also the case at Tranquille.

The question of control over patients leads to one of the central debates among scholars of sanatorium, hospitals, and asylums: the role of state control over patients at these institutions. Author George Orwell is one of many famous figures who suffered from TB, and his stay at a sanatorium in the UK is often read into a work he later published, which deals with themes of authoritarian state control, 1984.<sup>39</sup> The 2010 chapter by Condrau and Worboys "Beyond Total Institution" analyzes sanatorium experiences against Erving Goffman's 1961 "Total Institution" description of mental asylums.<sup>40</sup> They conclude that sanatorium experiences varied widely both between and within classes, and that while sanatoriums were far from perfect they were not the "concentration camps" that the term total institution suggests. 41 Sanatoriums and mental asylums may seem like fairly direct comparisons when imagining the level of control and institutionalization, but this ignores some key differences, like the different types and extents of stigma about mental illness vs TB, public perceptions of the institutions, and contact with families that patients had. The debate over how controlling and coercive sanatoriums were, will be addressed again later in this thesis in the section on patients' lives at Tranquille.

-

<sup>&</sup>lt;sup>38</sup> Rothman, 204.

<sup>&</sup>lt;sup>39</sup> Hilda Bastian, 'Down and Almost out in Scotland: George Orwell, Tuberculosis and Getting Streptomycin in 1948', *Journal of the Royal Society of Medicine* 99, no. 2 (February 2006): 95–98. <sup>40</sup> Flurin Condrau and Michael Worboys, 'Beyond the Total Institution: Towards a Reinterpretation of the Tuberculosis Sanatorium', in *Tuberculosis Then and Now*, vol. 37 (Canada: MQUP, 2010), 72–99, https://doi.org/10.1515/9780773577046-004.

<sup>&</sup>lt;sup>41</sup> Condrau and Worboys, 92. This is not as much the case for the Indian Hospital system for Indigenous people in Canada, which was far more coercive, controlling, and abusive. For more information on this system, see Drees.

Picking up the Canadian sanatorium thread, the first Canadian sanatorium to open was Muskoka Cottage Sanatorium in Gravenhurst, Ontario in 1897. The site was chosen with help from the National Sanatorium Association, which was established in Toronto by wealthy philanthropists looking to import the sanatorium model to Canada. The association considered numerous other possible sites, including Kamloops (the eventual location of Tranquille), Medicine Hat, and Moose Jaw. Notably, the Muskoka sanatorium did not provide care to those unable to pay fees, and it was not until 1902 that a second sanatorium opened nearby, the Muskoka Free Hospital for Consumptives, that non-paying patients would be treated at the first free TB hospital in the world. Tranquille opened in 1907 as Canada's seventh sanatorium, and its first west of Ontario.

As previously noted, Kamloops was a popular location for the tuberculous, both in medical theory, and starting in practice at the turn of the century. Back when the National Sanatorium Association had been looking for location candidates for its first sanatorium, the British Columbia's interior region's dry belt and Kamloops' rail connections made the Kamloops region stand out. In the mid-1890s, advertising pamphlets promoting Kamloops for consumptives were published by local doctors and business leaders, and many doctors scouting locations for sanatoriums agreed that the location was one of, if not the best, sites in Canada.<sup>45</sup> On top of national approval for the area, the 1904 creation of the British Columbia Anti-Tuberculosis Society (BCATBS) was rooted in the founders' goal to see a sanatorium opened near Kamloops. The

<sup>45</sup> Norton, *Tranquille and Tuberculosis*, 22-23.

<sup>&</sup>lt;sup>42</sup> Wherret, The Miracle of the Empty Beds: A History of Tuberculosis in Canada, 17.

<sup>&</sup>lt;sup>43</sup> Norton, *Tranquille and Tuberculosis*, 19-21.

<sup>&</sup>lt;sup>44</sup> 'Tuberculosis Records-Medical Records at the Archives of Ontario', accessed 23 February 2024, https://www.archives.gov.on.ca/en/explore/online/health\_records/tuberculosis.aspx.

BCATBS was not strictly a government venture, but was very closely tied to provincial politics, with members including the mayors of Victoria, Vancouver, and Nanaimo, Premier McBride, and two influential doctors, Dr. Fagan and Dr. Procter. <sup>46</sup> Dr. Charles Fagan was the province's first permanent Medical Health Officer, and was "the most influential medical practitioner in B.C." and "practically speaking, solely responsible for public health of the non-Native population". <sup>47</sup> Dr. Procter was a young doctor at Kamloops' Royal Inland Hospital, medical officer, and local advocate for the curative powers of the region's climate. <sup>48</sup>

Whether altitude, temperature, and humidity effect TB has been the topic of some recent research. A systematic scientific review on the effect of temperature and altitude found that TB incidence rates decreased as altitude rose and temperature falls. It is difficult to discern the extant that Tranquille's location was a factor in successful treatment, because of the lack of effective control studies. It would be far more likely that access to rest and a healthy diet was more effective, as this would help the patient's immune system.

Along with the new efforts from the BCATBS to raise funds from businesses, governments, and individuals for the building of a sanatorium, there were also public health measures being put in place by the province. Back in 1901, B.C. (under Dr. Fagan) made TB a reportable disease, meaning that doctors, teachers, and medical supervisors were required by law to report suspected cases of tuberculosis to local

-

<sup>&</sup>lt;sup>46</sup> Norton, 28, 30.

<sup>&</sup>lt;sup>47</sup> Norton, 34.

<sup>&</sup>lt;sup>48</sup> Norton, 23.

<sup>&</sup>lt;sup>49</sup> Yalemzewod Assefa Gelaw et al., 'Effect of Temperature and Altitude Difference on Tuberculosis Notification: A Systematic Review', *Journal of Global Infectious Diseases* 11, no. 2 (2019): 63–68, https://doi.org/10.4103/jgid.jgid\_95\_18.

health officers. At the same time, spitting was made a summary offence on tramways and inside public buildings.<sup>50</sup> Although not enacted by policy, Dr. Fagan and many other doctors advocated for women to shorten the hems of their skirts and dresses out of concern that they were picking up the dried spit (and therefore TB bacteria) from the dirty streets.<sup>51</sup> All of this signaled another shift that would continue throughout the twentieth century: increased government control and involvement in public health. The debate around that topic can be heated, as we have all been reminded by Covid and the pushback against vaccination and mask mandates, and just like people of the present, those in the past aired their complaints and grievances.

All the attention Kamloops received for its potential as a sanatorium location led some consumptives to go there on their own. A few of these health-seekers had already rented lodgings from local ranchers along Kamloops Lake, in a ranching area known as Tranquille. Tranquille is roughly 20km North East of downtown Kamloops, on the opposite side of the lake from the Canadian Pacific Railroad (CPR) line, though a train line would be built along the North shore in 1912.<sup>52</sup> Tranquille was considered a better option than in the heart of Kamloops for two practical reasons: weather and the fear of contagion. Kamloops is a quite windy and often dusty city, with steep hills that carry wind through the valley. The existing population in the city of Kamloops (1,591 according to the 1901 census) was divided about the merits of creating a sanatorium in the city.<sup>53</sup> Some prominent citizens created the "Anti-Sanatorium (in Kamloops) League"

\_

<sup>&</sup>lt;sup>50</sup> Norton, *Tranquille and Tuberculosis*, 34. For more on the fascinating history of spitting laws, skirt lengths, and consumption, see the "Chapter 3: The Man Problem" from Krishnan's *Phantom Plague*. <sup>51</sup> Norton, 27.

<sup>&</sup>lt;sup>52</sup> Norton, 72.

<sup>&</sup>lt;sup>53</sup> Norton, 40-41; Stirling Prentice, 'Research Guides: Kamloops & Region Census Statistics: 1870-1971: Introduction', accessed 23 February 2024, https://libguides.tru.ca/KamloopsRegionalCensus/introduction.

to argue that the danger of contagion of was too great. Despite these loud critics, the BCATBS continued its mission to see a sanatorium built in the Kamloops area.

Before starting the next section and focusing on the interwar period, it is helpful to outline the founding and pre-war history of Tranquille. This provides a background from which it is easier to see the significant changes that Tranquille underwent, particularly in the wake of the First World War and the Great Depression.

Tranquille's funding came from fundraising, mostly from campaigns launched by the BCATBS, which spread from being almost exclusively in Victoria to having more branches on the mainland in 1906, reaching ten branches by the end of 1907. The society called for enough funds to construct a sanatorium and the money required to maintain it and its patients.<sup>54</sup> Much of the fundraising efforts were aimed at the business and philanthropic community, including politicians like the Lieutenant Governor James Dunsmuir, who pledged \$10,000. Even in these early days, before any sanatorium construction had begun or even land acquired for it, there was criticism that this work should be done by the government, or at the very least the government should pay for a large portion of it.<sup>55</sup> Eventually, in July 1907 the Society bought Fortune Ranch in Tranquille, with treatment beginning in the existing buildings and plans to build a proper, modern sanatorium later. In purchasing this land, the society also purchased the buildings and surrounding farmland and ranch, all 560 acres. 56 There were plans to build separate sanatoriums, one for incipient patients and one for advanced patients, with founders worrying that seeing dying patients would negatively affect the morale of

<sup>&</sup>lt;sup>54</sup> Norton, *Tranquille and Tuberculosis*. 41-42.

<sup>&</sup>lt;sup>55</sup> Norton, 44.

<sup>&</sup>lt;sup>56</sup> Norton, 45, 47.

early stage patients who had a higher chance of recovery, but due to the constant funding challenges this never happened.<sup>57</sup>

The first group of patients arrived late in November 1907, and already by April 1908 there were allegations from a non-paying patient that he was being treated worse than the paying patients. The allegations were investigated by the BCATBS board of directors, found to be unsubstantiated, although one can reasonably question the amount of bias they had in investigating their own organization and staff. In the first years of operation, the staff were overworked, and it was difficult to find people willing to work in a remote area and put themselves at risk of infection. The struggle to adequately staff the institution continued throughout its operation. During those first years there was also significant criticism from the public and government about the high cost, with patient's average monthly bills being \$55 to \$60, much higher than normal hospital costs. The full weekly rate charged to patients was \$14, if they were able to pay, but the majority were not. In these cases, their costs were covered by the Society and their local branches.

Finances were always an issue, and in early 1910 the first medical superintendent of Tranquille, Dr. Irving resigned because the BCATBS did not want him seeing other patients on the side to supplement his income. He went on to open another sanatorium just outside Kamloops, this one only for incipient cases and only for patients able to pay the full fees.<sup>62</sup> The same year, the BCATBS formally requested that the

<sup>57</sup> Norton, 35.

<sup>&</sup>lt;sup>58</sup> Norton, 50.

<sup>&</sup>lt;sup>59</sup> Norton, 55.

<sup>60</sup> Norton, 59.

<sup>&</sup>lt;sup>61</sup> Norton, 61.

<sup>&</sup>lt;sup>62</sup> Norton, 64.

provincial government take over responsibility for running the sanatorium, citing lack of funds. <sup>63</sup> Despite the persistent funding issues, there were still new buildings, rooms, and verandahs built, and patients continued to be treated. <sup>64</sup> In 1911, municipalities became required to send \$1 per day for destitute patients from their region. <sup>65</sup> The next year, upon the death of King Edward, the official title of the sanatorium was renamed in honour of the anti-TB work he had championed across the British empire. <sup>66</sup> This name change did not last long though, and a mere six years later in 1918 they reverted to the original name of Tranquille, because so many institutions had renamed themselves after the deceased monarch that it was leading to confusion. <sup>67</sup>

To summarize the pre-war situation of Tranquille, it was an institution that relied on begging for funds from the federal and provincial governments, on donations from businesses, BCATBS auxiliary branches, individuals, and lastly on money from paying patients. It was not able to house and treat enough people, and there was always a waitlist. Partly due to the lack of spaces available, many of the patients arriving at Tranquille were in the late stages of the disease, when little could be done by even the best medicine at the time. Other factors that contributed to this were that wealthier people could afford earlier stage treatment at privately run sanatoriums or home-care, whereas poor people with TB had to work until they were physically forced to seek treatment at public institutions like Tranquille, by which time it was often too late.<sup>68</sup> The institution was run by a charitable society that continuously begged the provincial

\_\_\_

<sup>&</sup>lt;sup>63</sup> Norton, 64.

<sup>&</sup>lt;sup>64</sup> Norton, 74.

<sup>&</sup>lt;sup>65</sup> Norton, 70.

<sup>&</sup>lt;sup>66</sup> Norton, 71.

<sup>&</sup>lt;sup>67</sup> Norton, 96.

<sup>&</sup>lt;sup>68</sup> Norton, 78.

government to take over the cost and burden of administration.<sup>69</sup> The First World War would bring about significant changes to Tranquille and begins the period of focus for this thesis.

<sup>69</sup> Norton, 64.

## Section 2 – Tranquille Sanatorium

Now that background information has been laid out, we can turn our focus to the main period analyzed in this thesis: the mid 1910s to the mid 1940s, or roughly the interwar period. The First World War had effects that created a massive shift in the funding and demographics of Tranquille and is therefore where my analysis begins. As time went on, funding fluctuated, often reflecting the politics of the party controlling the provincial government at the time and the wider economic situation. My period of focus ends with the Second World War because the advent of antibiotics in the decade following was so effective that Tranquille shut its doors as a tuberculosis sanatorium in 1958. This is the section of the thesis that includes primary source research and analysis. First, I will outline the general themes of this period, then I will analyze some of the documents and records that illustrate these themes.

In B.C., and Canada as a whole, health officials realized in the early twentieth century that TB, while affecting the poor disproportionately, was not just a problem for the poor. There were many reasons why it was worth it to pay for the treatment of poor patients, and the humanitarian reasons were not the most important. Economically, healthy people are much more productive, contributing more to business and taxes. From a public health perspective, TB was transmissible enough to make even the wealthiest afraid of contagion, making the prospect of sending the sick to an isolated sanatorium appealing (although the residents of the places near sanatoriums expressed fear and anger at the perceived risk of being flooded with tuberculous health seekers).<sup>71</sup> The seriousness of TB as a public health concern meant that the barrier to qualify for

<sup>&</sup>lt;sup>70</sup> Norton, 176

<sup>&</sup>lt;sup>71</sup> Norton, 40.

social assistance for it was lower than for other welfare, as seen in a June 1944 circular sent to all municipalities in B.C. This memo stated that "in view of the urgency of obtaining control of this disease as soon as possible, it is felt that in dealing with such cases the usual standards of eligibility for social allowances must be disregarded".<sup>72</sup>

Like many government-run institutions, funding was a huge concern and priority. The sanatorium's operating costs were paid for by four main sources: the province, municipalities, aid organizations, and patients. This order also represents the hierarchy of funding sources, with the least coming from individual patients and the most coming from the provincial budget. The system as it stood in 1914 asked the home municipality of the patient to pay a portion of the fees (with the amount changing over time to reflect inflation and increased costs). Patients hailing from outside municipal boundaries had this portion paid for by the province. Although aid groups like the Red Cross and local charities are still around today, they had a much bigger role at Tranquille than in present day healthcare. At Tranquille, groups like the Kamloops Red Cross and lower mainland and island branches of the BC Anti-Tuberculosis Society raised funds that not only supplemented or fully covered individual patient fees, but also bought furnishings for rooms and books for the patient library. When the sanatorium was officially handed over from the BCATBS to the province in April 1921, the province took on an even larger responsibility in paying for Tranquille and its patients, although it had already been paying most of the bill.<sup>73</sup>

<sup>&</sup>lt;sup>72</sup> Correspondence from Superintendent of Welfare to All Municipalities, Members of the Field Service Staff, and Government Agents Re: Control of Tuberculosis, Circular Letter, 5 June 1944, GR-0129, Container 000069-0616, Folder 18 "Social Assistance 1943-1946", Tuberculosis Control Division Director's records, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>73</sup> Norton, 105.

Why were individual patient fees the least important source of money for Tranquille? Well, as Norton outlines, the average Tranquille patient was not wealthy. The average Tranquille patient was not wealthy. Wealthy people suffering from tuberculosis could afford private care, whether at a sanatorium that catered only to paying clientele (in fact, one private sanatorium was opened by former Tranquille medical superintendent Dr. Irving just East of Kamloops after he resigned in 1910), or by paying for home-care. Because of the poorer origins of Tranquille's patients, they were often in worse condition, marked in the "advanced" or "hopeless" prognosis column. In explaining the correlation between wealth and condition at time of admission, the simple explanation is that the poor had to work, often in harsher manual labour jobs, until they physically could not continue. Even once they arrived at Tranquille, they were expected to earn their keep to an extant that paying patients were not. If they were considered fit for light exercise or work, they would be tasked with cleaning or working on the Alexandra Ranch (often called the Tranquille Ranch) owned by the Sanatorium.

On the topic of wait lists and number of beds, it is difficult to discern the waitlists and how they operated, but it is possible to extrapolate from the number of beds and the high TB rate that there were many unmet needs. Internal data from the Provincial Secretary from 1932-1944 shows that the patient numbers usually hovered around 300.<sup>77</sup> The time spent at the sanatorium depended on the patient's condition, fitting the bell curve of very severe patients, often dying fairly soon, and early stage patients

\_

<sup>&</sup>lt;sup>74</sup> Norton, 78-79.

<sup>&</sup>lt;sup>75</sup> Norton, 64.

<sup>&</sup>lt;sup>76</sup> British Columbia Anti-Tuberculosis Society, 'King Edward Memorial Sanatorium for the Treatment of Tuberculosis, Tranquille, Kamloops, British Columbia'.

<sup>&</sup>lt;sup>77</sup> British Columbia Provincial Secretary, GR-0637, File: Report on number of patients in public institutions, items: Reports of Institutions, 1932-1944.

improving enough to return home. One patient notably spent seventeen years at Tranquille.<sup>78</sup> From my research, I point to the average time spent at Tranquille as between three and nine months.<sup>79</sup> During the 1920s and 1930s, Norton states an average rate of one death per week, and that roughly two thirds of patients were in the "advanced" or "far-advanced" stages of disease.<sup>80</sup>

Beginning with the source that inspired this thesis and research question, I will start by analyzing a pamphlet released by the BCATBS. Despite the short length of this pamphlet, it is an incredibly rich source that contains information on a variety of topics relating to Tranquille, including its buildings, transportation, the general routine, and has various photos of the site. Additionally, this source is publicly available and digitized. This pamphlet's main purpose was to spread awareness to doctors, patients and their families about the Sanatorium. Other interpretations of this pamphlet could describe it as propagandistic, with messaging that promotes the BCATBS and the role of philanthropy in public health, but I believe this would not have been a common criticism at the time. Due to the title of the sanatorium being "King Edward Memorial" and the municipal rate being \$1.25, I date this pamphlet as being from 1915 to 1918.<sup>81</sup>

As outlined in the introduction, in the "Admission of Patients" section of this pamphlet, the first sentence is in bold, stating that "No patient who has been a resident of British Columbia for six months or over is refused admission on account of inability to

<sup>&</sup>lt;sup>78</sup> Norton, *Tranquille and Tuberculosis*, 139.

<sup>&</sup>lt;sup>79</sup> Admissions Book, 1907-1947, MS-1916, Container 913431-0495, Volume 7, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.

<sup>80</sup> Norton, Tranquille and Tuberculosis, 125.

<sup>&</sup>lt;sup>81</sup> For more information on this, see footnote 1.

pay". 82 In the "rates" section, they note that "full-pay patients" are charged \$15 per week, but that "cheaper accommodation is given to those unable to afford this amount". Following this, they include that "any municipality or benevolent society sending a patient to the Sanatorium is asked to pay \$1.25 a day for maintenance" and that poor patients needing municipal funding are required to bring a letter from their mayor. The sanatorium was serious about municipal payment, taking the municipality of Enderby to court over non-payment in 1915.83 Other funding came from benevolent societies like unions, which helped pay for treatment for their members.

In the "support" section that outlines the funding of the sanatorium, they reiterate that it is owned and operated by the BCATBS "and is not, as many think, a government institution". Following this, they note that although the government has contributed some funding, "the Government grant is entirely inadequate to support the institution, and it has to depend for additional support upon the subscriptions and contributions of the people of the Province". This is an interesting statement to include and is a quite direct critique of the government, and it points to the many calls of the BCATBS to have the government take over running the sanatorium.<sup>84</sup>

Because this thesis is not focused solely on socio-economic status, but also on the experiences of patients at the sanatorium, it is worth including some of the rules that this pamphlet includes. This not only gives us an idea as to what doctors thought was medically necessary at the time, but additionally tells us about what the social and behavioural expectations were in the institution. For "cough and expectoration" there are

<sup>&</sup>lt;sup>82</sup> British Columbia Anti-Tuberculosis Society, 'King Edward Memorial Sanatorium for the Treatment of Tuberculosis, Tranquille, Kamloops, British Columbia'.

<sup>83</sup> Norton, 87.

<sup>&</sup>lt;sup>84</sup> Norton, 64.

twelve rules, and most have a medical basis and are rooted in controlling contagion. The first, about appropriate handling of expectoration (phlegm, mucus, and spit from coughing) includes that disobedience to this rule will result in immediate dismissal. Given the risk of spreading the disease through spit, the focus on mitigating this risk is understandable. The most interesting rule is about coughing during meal, where patients are instructed to leave the dining room as it "annoys the other patients", and that they should "avoid all disagreeable sounds of clearing nose and throat". One somewhat upsetting rule is that "patients noticing blood-stained sputum are to remain quiet and report to the nurse at once", which implies that there were instances of patients coughing up blood, realizing that this generally meant their condition was worsening, and (reasonably) having a large reaction to that. From these rules, it is clear that some are more logical, and rooted in science, than others. How patients felt about these rules would obviously vary from person to person, but the number of rules alone would present difficulties for at least some patients.

The separate list of "general rules" (i.e., not regarding spitting and coughing) is fifteen items long. The first rule is relevant to the question of how poorer patients were treated:

Patients not paying full rates are required to make their own beds and keep their lockers in order if they are physically fit to do so. They are expected to do any other work assigned them by the physician. Work to be assigned only to such patients as are physically able to work without detriment to their health.

From this, it is unclear whether the same standards applied to full-pay patients too, but the fact that they included this as a rule in their promotional material is telling,

and shows that they likely either already had problems with this or were anticipating such problems.

One topic that is often brought up in relation to institutions (including sanatoriums) is the level of coercion and control present. As discussed in section one, some modern scholars are hesitant to apply the same arguments levelled against institutions such as mental asylums and jails to sanatoriums. 

85 While I agree that the extent of control and coercion is less in sanatoriums, the sources show that there was still a concerted effort to dictate the behaviour of patients in ways that surpass immediate health concerns. The rules outlined in the First World War era pamphlet explicitly ban patients visiting each other in their rooms without a nurse's permission, and also ban conversations about the disease, symptoms, laughing and arguments. There was a mandate to "cultivate mutual cheerfulness and aid others to forget their ailments" which targets not just the physical, but also the mental behaviour of patients (and assumes control over one's own emotions and mindset that is rarely possible). Although it is difficult to find what the enforcement of these rules entailed, they still point to extreme restrictions that patients faced.

Now that we know more about some of the expectations for patients, we turn to the question of whom the patients were. To find out who was treated at Tranquille, the first place to look is the admissions book: a record of every person treated at the institution. Once this ledger is publicly accessible and digitized, it will be an incredibly valuable source for quantitative analysis. Despite the limitations of its current restricted access state (meaning no names or identifiable information about individuals will be

<sup>&</sup>lt;sup>85</sup> Condrau and Worboys, 'Beyond the Total Institution'.

Included in this thesis), it is useful to see what information the administrators of Tranquille thought would be important to note. In the 1914-1915 section of the admissions book, the following information was collected: patient number, date of admission, name, occupation, address, marital status, sex, age, religion, nationality, rate per week (payment), and physician (who referred them). 86 Additional information added during this time included new columns for name and address of relation or friend, date of discharge, and remarks. Even without including the information of any particular patient, this list of information still shows a lot. Firstly, there are the categories that appear purely practical like patient number, name, date of admission, sex, age, and emergency contact information. The columns that are more surprising in a healthcare context (at least from the 21st century) are those concerning occupation, marital status, religion, and nationality. The inclusion of these demographic categories points toward the era's trend toward an increased interest in statistical analysis and using demographic information to draw conclusions about who was more at risk of disease.

Another use of this admissions book is seeing how the First World War and tuberculous soldiers changed the demographics of the sanatorium. Looking in the "occupation" column, there is a clear point, towards the end of 1915 where the admissions show a huge influx of soldiers.<sup>87</sup> Although it is not thought of as one of the staple diseases of the First World War (trench foot, typhoid, etc.), TB had a tremendous impact on soldiers. Scholar Katherine McCuaig argues that TB rivalled venereal disease for "the most severe medical problem" of the war, which given the prevalence of STDs

<sup>&</sup>lt;sup>86</sup> Admissions Book, page 22, 1907-1947, MS-1916, Container 913431-0495, Volume 7, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>87</sup> Admissions Book, page 27, 1907-1947, MS-1916, Container 913431-0495, Volume 7, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.

in this setting, is a bold statement.<sup>88</sup> While the discussion of tuberculous soldiers in Europe or at Canadian training sites might appear to be a digression from the topic of socio-economic factors at Tranquille, these sick soldiers created massive changes at Tranquille.

Soldiers were exempt from all the typical trends of funding seen at Tranquille. McCuaig writes that soldiers in the First World War had a high incidence of tuberculosis. Most of this is due to the horrible living conditions of trench warfare: the dank, cold, crowded spaces were prime breeding grounds for disease to spread, including TB. Many of the soldiers who had enlisted and been sent to Europe brought *Mycobacterium tuberculosis* with them, spread it, and had to be taken away from the front lines and off active duty. First, they were sent to recuperate at convalescent hospitals in England, but when beds ran out they were sent back to Canada. As soldiers, their bills were to be paid entirely by the federal government, which contributed \$10 per week per soldier patient. At Tranquille, the Military Hospitals Commission gave \$2,500 for a new building to be added for the treatment of soldiers. Throughout the 1920s the number of soldiers present declined and their influence and importance at Tranquille decreased as they were discharged from the sanatorium.

On the matter of discharges, the archives contain a questionnaire from 1922-23 that was sent to discharged patients, seeking responses that would tell medical professionals if their treatments had worked. Questions included their fitness for work, if they had any relapse, how much money they were making, if they had sought more

<sup>88</sup> McCuaig, Campaign Against TB in Canada 1900-1950, 37.

<sup>&</sup>lt;sup>89</sup> McCuaig, 37.

<sup>90</sup> Norton, *Tranquille and Tuberculosis*, 88.

treatment at other sanatoriums, if they had married, had kids, and if their families were healthy. In connection to the scientific question of the impact of climate on tuberculosis, the questionnaire also asked ex-patients to describe any impact that moving outside the dry belt had on their health. Female patients who had children since their discharge were asked what effect pregnancy had on their health. That question points to what doctors had known for a long time but were still struggling to find the cause of, which is that tuberculosis often seems to get better during pregnancy only to worsen quickly after birth. Scientists now know that this is because of changes in the immune system during pregnancy, but at the time the risk of tuberculosis worsening due to pregnancy and birth was so great that doctors often resorted to abortion. In a July 1936 General Office bulletin to the Tranquille superintendent A.D. Lapp, a doctor in the lower mainland states that "two therapeutic abortions and one sterilization" were performed in that month. The questionnaires point to the importance of patient follow-up and research, which became an important tool in deciding which treatments were effective.

The late 1910s brought about a new type of source that is somewhat unexpected for a medical institution: *The Tranquillian* magazine.<sup>92</sup> This magazine includes pieces on the science of TB, editorials from doctors, and original articles written by the patients of Tranquille. While the BC Archives only has the first two issues (July and August 1919), these still provide tremendous insight into how these patients' felt about the institution and their condition. This part of the project's limitations are a combination of inherent to

<sup>&</sup>lt;sup>91</sup> Correspondence from General Office's sent to Dr. A.D. Lapp, Monthly Bulletin for July 1936, GR-2654, Box 2, File 5 "Tranquille Sanatorium Reports 1936-42", Sanatorium – reports, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>92</sup> The Tranquillian, Volume 1, No. 1, 1919, MS-1916, Box 1, File 11, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.; *The Tranquillian*, Volume 1, No. 2, 1919, MS-1916, Box 1, File 11, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.

the topic and my own limitations. The vast majority of people's accounts of their time at Tranquille are not in the BC Archives, instead they are much more likely to be passed down orally through families. The sources that are available, and the one I have chosen on for this section, have some obvious constraints. The limited sources that I was able to find and read during this research has led me to focus on a smaller subset of sources, those of *The Tranquillian* magazine. This source is not by any means representative of every patient's experience. Contributing writers included some women, but most were men. These authors included doctors, but mos were patients, and all of them had to have a base level of health that allowed them to write. In my estimation, the writing styles of the articles points to well-educated writers, which would also not be surprising. This source tells us less about the different experiences of paying and non-paying patients, and more about what was permitted for publication, and what these patient-writers wanted to convey about their own experiences.

The editors state their reason for creating the magazine as "primarily for the education and enlightenment of the general public" but that they hoped it would also be interesting for Tranquille's own patients. <sup>93</sup> There is a "Clinic Report" on the Rotary Club's TB treatment in Vancouver, and the "Sanatorium Report for June" giving numbers of people of treated and their conditions. In an article titled "Military Jottings" there is a description of some of the recreation that patients had access to, including a rowboat donated by the Red Cross, and activities like croquet, lawn bowling, golf, and billiards. A paragraph later, the unnamed writer states that "one of the most pleasant features of Sanatorium life is the willingness with which pleasures are shared among the

<sup>&</sup>lt;sup>93</sup> *The Tranquillian*, Volume 1, No. 1, page 2, 1919, MS-1916, Box 1, File 11, British Columbia Anti-Tuberculosis Society Fonds, BC Archives, Victoria, British Columbia.

inmates". <sup>94</sup> The choice to use the term "inmates" rather than patients could point to criticism of the institution as a jail-like, or it could be a joke because these leisure clubs point to some freedom and enjoyment (for instance, the next sentence is about getting to go on motor-boat excursions on Kamloops Lake). The term inmates is used again, just 4 words away from the term patient, which points to the possibility that they were using it more to avoid repetition than anything else. <sup>95</sup> There are also regular parts that are common in any magazine or newspaper, including many ads for local businesses and joke sections, one joke being: "Overheard: 'Who taught you to play the guitar, Freddie' 'I taught myself.' 'Well, beat yourself up and get your money back; you've been stung."

The second issue, the August 1919 edition, is similar to the first issue, except it is six pages long as opposed to four. The caption under a group picnic photo on the page notes that the picnics are greatly appreciated because in some cases the patients have not been "out of sight of the sanatorium for months, and in some cases years" and they are grateful to the owners of motorboats for taking them out on excursions.<sup>97</sup> In response to readers who wrote to them, whose feedback was "some kind, some the other kind", the editors responded to opinions that "we are lacking in humor, raciness, and fun" with the argument that their "raison d'etre" was educational, but that they would try to add more entertainment into future issues.<sup>98</sup>

\_

<sup>&</sup>lt;sup>94</sup> The Tranquillian, Volume 1, No. 1, page 4, 1919.

<sup>&</sup>lt;sup>95</sup> The Tranquillian, Volume 1, No. 1, page 2, 1919.

<sup>&</sup>lt;sup>96</sup> The Tranquillian, Volume 1, No. 1, page 3, 1919.

<sup>&</sup>lt;sup>97</sup> The Tranquillian, Volume 1, No. 2, page 1, 1919.

<sup>98</sup> The Tranquillian, Volume 1, No. 2, page 2, 1919.

There is a lengthy article, "Going Broke" by Dr. A.D. Steward, which connects wealth with health and describes TB as a form of "health insolvency". <sup>99</sup> This article is very positive about the role of the sanatorium, calling its receivership "kindly and careful" and "friendly, experienced, and competent". It addresses the harsh rules: "it seems tyrannical when its rules keep in bed men who want to be up" and that "the sanatorium makes plans for men who would rather make their own". <sup>100</sup> Overall this article argues that the while the rules imposed at the sanatorium are controlling, they are necessary for helping patients return to a healthy state. It is important to consider that this was written by a doctor, not by one of Tranquille's patients.

Moving on to later periods, there is a student nurse's examination that includes question that show the evolution in medical understandings of tuberculosis. Many student nurses trained at Tranquille, where they got hands-on experience and attended lectures from doctors and head nurses. There are questions for nurses exams available from 1931-38. Some questions show how lasting old ideas were, for example the question: Is tuberculosis hereditary? How do you account for the finding of several cases in some families? That question was included in nearly all the exams. In 1931 and 1932 questions were asked about race and TB, and if certain races were more susceptible to TB than others. Unfortunately, the archives do not contain an answer key, and the available copies of lectures given to nurses do not cover this topic.

-

<sup>&</sup>lt;sup>99</sup> The Tranquillian, Volume 1, No. 2, page 2, 1919.

<sup>&</sup>lt;sup>100</sup> The Tranquillian, Volume 1, No. 2, page 6, 1919.

<sup>&</sup>lt;sup>101</sup> Examinations for student nurses 1931-1938, GR-2654, Box 2, File 1, Tranquille Sanatorium records, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>102</sup> Student Nurse's Examination, 23 November 1936, GR-2654, Box 2, File 1, Examinations for student nurses 1931-1938, Tranquille Sanatorium records, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>103</sup> 1931-1932 Nurse's Exam, GR-2654, Box 2, File 1, Tranquille Sanatorium records, BC Archives, Victoria, British Columbia.

Nurses were not the only people at the sanatorium being educated, though. Many of the younger patients at Tranquille were enrolled in correspondence school. In a 1931 letter from the director of high school correspondence to Dr. Lapp, JW Gibson wrote that the department of education was willing to waive the tuition fees for children at Tranquille, but they still had to pay the \$2 registration fee. 104

The question of coercion and control has been recurring in this project, and in letters from Dr. Lapp written in 1930 to six different Canadian sanatorium medical superintendents, he shows a concerning (albeit common) disregard for patients' rights to know about their own health. In this letter, he writes that "I am interested in finding out the practice in your sanatorium regarding explaining to a patient his physical condition. The physicians on our staff are not agreed as to how much a patient should be told". 105 In a 1942 report, on the topic of "Patients Wishing to Leave" which stated that in most cases these people could be persuaded to stay, but sometimes there was a compromise required and patients still testing positive were allowed to return home, but only for "one or two weeks". Despite this being "against their principles", it was deemed necessary because the only other option was "locking these people up and having very belligerent patients on our hands". 106 From this it is visible that rather the problem was less with the ethics of "locking up" unconsenting patients, but that these patients would be hard to deal with. The field of medical ethics has changed considerably since this

<sup>&</sup>lt;sup>104</sup> Correspondence from JW Gibson to Dr. Lapp, 29 September 1931, GR-2654, Box 1, File 5, Correspondence School course (correspondence with the Department of Education). Sanatorium reports, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>105</sup> Correspondence from Dr. Lapp to other Canadian sanatoriums, 22 September 1930, GR-2654, Box 1, File 6, Canadian Sanatoria (correspondence with other sanatoria), Sanatorium - reports, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>106</sup> 1942 Report on Tranquille Institution, 11 December 1942, GR-2564, Box 2, File 5, Tranquille Sanatorium - reports, BC Archives, Victoria, British Columbia.

time, but there are still debates about balancing individual freedom and public health concerns in the present, as seen during Covid.

To end this section, it is helpful to look at a number given by the provincial health officer, Dr. Aymot, in 1945. Out of 300 patients on October 31, 1945, only 73 were paying the full rate, and 56 of those were being paid for by Veterans Affairs. Of the remaining seventeen "several" were being paid for by the Worksmen's Compensation Board. Overall, this section and the primary source research not included show that this site, as a rule, did not turn anyone away based on inability to pay. There are indications that non-paying patients who were physically able were asked to do some work at the sanitorium, but I have found no indication they were treated differently when it came to medical care or recreational activities. While at the sanatorium all patients seem to have had access to correspondence classes, a library, and group entertainment like movies. In 1908, Dr. Fagan, the anti-TB champion who founded the BCATBS wrote a summary of the work accomplished:

Humanity first, mutual safety second, calls for united action between the north and south poles of society. Capitalist and working man, master and servant, are equal in this greatest of modern missions among mankind; there is no distinction of class or quality; disease and death bring all men to a common level; we cannot, but either united or any other effort, defeat death ultimately, but we have it in our power to combat disease, some kinds partially, some effectually.<sup>109</sup>

He was right, and even more so in 1945: fear of TB had united people enough to have a government run and funded place for people to be treated for TB no matter their

<sup>&</sup>lt;sup>107</sup> Letter from Dr. G.F. Amyot to Mr.----, 4 December 1945, GR 0129, Container 000069-0616, File 10, Historical Sketch, Tuberculosis Control Division Director's records, BC Archives, Victoria, British Columbia.

<sup>&</sup>lt;sup>108</sup> Norton, *Tranguille and Tuberculosis*, 159, 97.

<sup>&</sup>lt;sup>109</sup> C. J Fagan, *British Columbia Anti-Tuberculosis Society: A Summary of the Work Accomplished*, CIHM/ICMH Digital Series = CIHM/ICMH Collection Numérisée (R. Wolfenden, 1908).

income. Universal healthcare in Canada may not have existed in the early 20<sup>th</sup> century, but the system used to provide TB treatment is its direct predecessor.

During the interwar period, the wider idea of TB continued to shift. It was a difficult time, as doctors were aware of the mechanisms of the disease, but there was still no "magic bullet" treatment, meaning that they had to rely on interventions that focused on allowing the patient's own immune system to fight the bacteria. While 19<sup>th</sup> century literary imagination construed TB as a Romantic disease, in the interwar period it carried over some of this connotation when the sufferer was wealthier, if they were poor, TB was seen as resulting from their poverty. The disease continued to affect rich and poor alike, and while all classes were seemingly treated at Tranquille, its patient population was made up mostly of patients who could not afford the full rate, and often even the partial rate.

Although this thesis has focused on Tranquille, tuberculosis care was not relegated to a single sanatorium outside Kamloops, which would have been impractical for the largely lower mainland population of British Columbia. Various systems were in put in place to monitor and treat tuberculosis using strategies other than simply sending people to Tranquille, whose long wait lists and limited beds would never be able to accommodate all the province's sick. For some, the full sanatorium treatment was unnecessary, and similar conditions of rest, good diet, and regular visits to a medical professional could be done either at home or at local hospitals. Clinic centres were first established at Vancouver General Hospital and Victoria's Royal Jubilee Hospital, and later in Trail, Rossland, Prince Rupert, and Kelowna, along with a travelling clinic

service.<sup>110</sup> During the 1930s there was a move toward centralization of TB management through the government, part of wider public health strategies at the time.<sup>111</sup> In the 1940s three facilities were converted for the Indian Medical Services (operated by the federal government) into hospitals and sanatoriums, in Sardis, Nanaimo, and Prince Rupert.<sup>112</sup> One additional sanatorium built was Pearson Hospital in Vancouver, which opened in the 1950s, but other diseases like polio were also treated there.<sup>113</sup> The overall trend in B.C. was a move away from the rural, climate based sanatoriums like Tranquille and towards home-care and hospital wings or wards that were closer to where the majority of the population lived in the lower mainland.

<sup>&</sup>lt;sup>110</sup> Wherret, The Miracle of the Empty Beds: A History of Tuberculosis in Canada, 177.

<sup>&</sup>lt;sup>111</sup> Megan J. Davies, 'Competent Professionals and Modern Methods: State Medicine in British Columbia during the 1930s', *Bulletin of the History of Medicine* 76, no. 1 (2002): 56–83.

<sup>&</sup>lt;sup>112</sup> Wherret, The Miracle of the Empty Beds: A History of Tuberculosis in Canada, 178.

<sup>&</sup>lt;sup>113</sup> Wherret, 177.

#### Conclusion

I was surprised by many of the findings of this research. When I began this project and created my research question about the socio-economic make-up of Tranquille, I did so with an assumption that this would be a sanatorium that only the rich could afford. My logic was that this was a time before universal healthcare in Canada, and that only the rich would be able to pay the prohibitive cost of care at a sanatorium. While this was partially true, it was only true insofar as the rich were able to afford private sanatoriums and at-home care. 114 At a public sanatorium like Tranquille, patients were treated regardless of their ability to pay for x-rays, tuberculin tests, artificial pneumothorax surgeries, or even just for the cost of room and board. Issues like long waitlists or needing to work to provide for one's family were a much bigger obstacle in accessing treating than being too poor to access care, as discussed earlier.

My finding, that although poor people (compared to the wealthy) did not usually have access to treatment as early or from home, is not a dramatic departure from the conclusions of other historians. Given the renewed interest in a two-tier, semi-private healthcare system though, I believe that the story of Tranquille can tell us about the limitations of this type of system. Tranquille was created by a philanthropic non-governmental organization (although it was quasi-governmental in that its top members and board were very involved in politics and the government). Within a few years of Tranquille's opening, the BCATBS was begging the government to take it over,

<sup>&</sup>lt;sup>114</sup> Danielle Martin et al., 'Canada's Universal Health-Care System: Achieving Its Potential', *Lancet (London, England)* 391, no. 10131 (2018): 1718–35, https://doi.org/10.1016/S0140-6736(18)30181-8; Norton, *Tranquille and Tuberculosis*, 78.

citing the insurmountable issue of funding. While there was significant involvement from the public, the sheer size of the issue demanded the resources of a government willing to spend money on public health. Fundamentally, this points to the limitations of private healthcare funding, because to adequately address systemic health inequities (e.g., disproportionate disease rates among certain populations) we need well-funded, systemic approaches.

After spending months thinking about this topic, and dozens of hours in the basement of the BC Archives, I have had a hard time coming to a conclusion about how these findings connect with the larger tuberculosis story. It seems trite to say that we were effective in dealing with TB in this situation, so we can replicate it in the present to put an end to this devastating disease once and for all. Even within Canada, we have never actually "conquered" TB. Instead, our progress has plateaued, and it remains an endemic disease within Inuit communities in the far North. 116 Globally, the more than ten million new infections of TB each year are being failed by the international philanthro-capitalist charity model. In this system, rich Western countries like Canada get to pat ourselves on the back for donating money, only then to have that money handed back to us with interest, as poor countries pay exorbitant fees for antibiotics kept under patents. 117 In sharing my research with the public, I have learnt that the vast majority of Canadians think of TB exclusively as a disease of the past, associated with Charles Dickens and period dramas. We are content to relegate it to a purely historical

<sup>&</sup>lt;sup>115</sup> Norton, *Tranquille and Tuberculosis*, 64.

<sup>&</sup>lt;sup>116</sup> Richard Long and Edward Ellis, 'Tuberculosis Elimination in Canada: Truce or Victory?', *CMAJ* 187, no. 16 (3 November 2015): 1191–92, <a href="https://doi.org/10.1503/cmaj.150317">https://doi.org/10.1503/cmaj.150317</a>, 1191.

<sup>&</sup>lt;sup>117</sup> Krishnan, "Chapter 10: Patents vs Patients", *Phantom Plague*.

disease, when in reality the epidemiological trends point to it becoming a disease of our future as antibiotic resistance continues to grow.

Perhaps the most effective lesson from the Tranquille is that fear of contagion is powerful, and it can be harnessed to make governments and individuals willing to pay for treatment of the poor. If the moral argument for eradicating TB is not enough, economic and contagion-based arguments may be more convincing. No exaggeration is needed to express how dire of a situation we are faced with when it comes to tuberculosis. The rise of antibiotic resistant strains of the disease in places like India, some of which are impossible to treat with any existing antibiotics, should worry everyone, even those of us who imagine ourselves to be safe in our wealthy global hamlets.

## Bibliography

#### **Primary Sources**

British Columbia Anti-Tuberculosis Society Fonds. BC Archives, Victoria, British Columbia.

British Columbia Anti-Tuberculosis Society. 'King Edward Memorial Sanatorium for the Treatment of Tuberculosis, Tranquille, Kamloops, British Columbia'. Canadiana (Research Knowledge Network), between 1912 and 1921. British Columbia Archives and Records Service, Victoria. https://www.canadiana.ca/view/oocihm.84403.

Fagan, C. J. British Columbia Anti-Tuberculosis Society: A Summary of the Work Accomplished. CIHM/ICMH Digital Series = CIHM/ICMH Collection Numérisée. R. Wolfenden, 1908.

Sanatorium – reports. BC Archives, Victoria, British Columbia.

Tuberculosis Control Division Director's records. BC Archives, Victoria, British Columbia.

Tranquille Sanatorium records. BC Archives, Victoria, British Columbia.

#### **Secondary Sources**

- Bastian, Hilda. 'Down and Almost out in Scotland: George Orwell, Tuberculosis and Getting Streptomycin in 1948'. *Journal of the Royal Society of Medicine* 99, no. 2 (February 2006): 95–98.
- Baykan, Ali H., Hakan S. Sayiner, Elcin Aydin, Mustafa Koc, Ibrahim Inan, and Sukru M. Erturk. 'Extrapulmonary Tuberculosis: An Old but Resurgent Problem'. *Insights into Imaging* 13, no. 1 (7 March 2022): 39. https://doi.org/10.1186/s13244-022-01172-0.
- Canada, Public Health Agency of. 'Tuberculosis in Canada: Infographic (2021)'.
  Research, 16 March 2023.
  https://www.canada.ca/en/public-health/services/publications/diseases-conditions/tuberculosis-canada-2021-infographic.html.
- -----. 'Tuberculosis (TB): Symptoms and Treatment'. Education and awareness, 5 December 2023.

https://www.canada.ca/en/public-health/services/diseases/tuberculosis.html.

- CDC-Centers for Disease Control and Prevention. 'Tuberculosis (TB) Treatment for TB Disease'. Centers for Disease Control and Prevention, 22 March 2023. https://www.cdc.gov/tb/topic/treatment/tbdisease.htm.
- Condrau, Flurin, and Michael Worboys. 'Beyond the Total Institution: Towards a Reinterpretation of the Tuberculosis Sanatorium'. In *Tuberculosis Then and Now*, 37:72–99. Canada: MQUP, 2010. https://doi.org/10.1515/9780773577046-004.
- Davies, Megan J. 'Competent Professionals and Modern Methods: State Medicine in British Columbia during the 1930s'. *Bulletin of the History of Medicine* 76, no. 1 (2002): 56–83.
- Day, Carolyn. Consumptive Chic: A History of Beauty, Fashion, and Disease.

  Consumptive Chic: A History of Beauty, Fashion, and Disease. London;

  Bloomsbury Academic, an imprint of Bloomsbury Publishing Plc, 2017.
- Duffin, Jacalyn. *History of Medicine: A Scandalously Short Introduction*. Third. Toronto: University of Toronto Press, 2021.
- Gelaw, Yalemzewod Assefa, Weiwei Yu, Ricardo J. Soares Magalhães, Yibeltal Assefa, and Gail Williams. 'Effect of Temperature and Altitude Difference on Tuberculosis Notification: A Systematic Review'. *Journal of Global Infectious Diseases* 11, no. 2 (2019): 63–68. https://doi.org/10.4103/jgid.jgid 95 18.
- Krishnan, Vidya. *Phantom Plague: How Tuberculosis Shaped History*. New York: PublicAffairs, 2022.
- Long, Richard, and Edward Ellis. 'Tuberculosis Elimination in Canada: Truce or Victory?' *CMAJ* 187, no. 16 (3 November 2015): 1191–92. https://doi.org/10.1503/cmaj.150317.
- Ma, Y., C. R. Horsburgh, L. F. White, and H. E. Jenkins. 'Quantifying TB Transmission: A Systematic Review of Reproduction Number and Serial Interval Estimates for Tuberculosis'. *Epidemiology and Infection* 146, no. 12 (September 2018): 1478–94. https://doi.org/10.1017/S0950268818001760.
- Martin, Danielle, Ashley P Miller, Amélie Quesnel-Vallée, Nadine R Caron, Bilkis Vissandjée, and Gregory P Marchildon. 'Canada's Universal Health-Care System: Achieving Its Potential'. *Lancet (London, England)* 391, no. 10131 (2018): 1718–35. https://doi.org/10.1016/S0140-6736(18)30181-8.
- Martini, M., G. Besozzi, and I. Barberis. 'The Never-Ending Story of the Fight Against Tuberculosis: From Koch's Bacillus to Global Control Programs'. *Journal of Preventive Medicine and Hygiene* 59, no. 3 (28 September 2018): E241–47. https://doi.org/10.15167/2421-4248/jpmh2018.59.3.1051.
- McCuaig, Katherine. *The Weariness, the Fever, and the Fret: The Campaign Against Tuberculosis in Canada 1900-1950.* McGill-Queen's University Press, 1999.

- https://canadacommons-ca.ezproxy.library.uvic.ca/artifacts/1866340/the-wearines s-the-fever-and-the-fret/2615335/view/.
- Mount Sinai Health System. 'Tuberculosis Information | Mount Sinai New York'.

  Accessed 20 February 2024.

  https://www.mountsinai.org/health-library/condition/tuberculosis.
- Mrozewski, Josephine Catherine. 'Inuit, Tuberculosis, and Political Determinants of Health', 2022. http://hdl.handle.net/1828/14177.
- Norton, Wayne. A Whole Little City by Itself: Tranquille and Tuberculosis. Kamloops, BC: Plateau Press, 1999.
- Prentice, Stirling. 'Research Guides: Kamloops & Region Census Statistics: 1870-1971: Introduction'. Accessed 23 February 2024. https://libguides.tru.ca/KamloopsRegionalCensus/introduction.
- Rakovich, G. 'Artificial Pneumothorax: Tapping into a Small Bit of History'. *Canadian Medical Association Journal* 182, no. 2 (9 February 2010): 179–179. https://doi.org/10.1503/cmaj.090024.
- Rothman, Sheila M. Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History. Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History. New York: BasicBooks, 1994.
- 'Tuberculosis Records-Medical Records at the Archives of Ontario'. Accessed 23 February 2024.

  https://www.archives.gov.on.ca/en/explore/online/health\_records/tuberculosis.asp x.
- Turcotte, Huguette. 'Hospitals for Chinese in Canada: Montreal (1918) and Vancouver (1921).' *Historical Studies* 70 (1 January 2004): 131–45.
- Wherret, George Jasper. *The Miracle of the Empty Beds: A History of Tuberculosis in Canada*. Toronto: University of Toronto Press, 1977.
- World Health Organization. 'Social Determinants of Health'. Accessed 26 February 2024. https://www.who.int/health-topics/social-determinants-of-health.
- -----. 'Tuberculosis (TB)', 21 April 2023. https://www.who.int/news-room/fact-sheets/detail/tuberculosis.