

At Rest: An Epidemiological Study of Potsdam's Cemetery Populations

Researcher: Emily Willis
 Anthropology Department
 Mentor: Dr. Nasser Malit
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Introduction

A census of four out of the five cemeteries in Potsdam, NY, was used to create a database of approximately 6000 people interred there. This study is the first of its kind. It combines these data with corresponding obituaries found in the *Courier and Freeman* from 1861 to 1911. Armed with this information, I tracked the spread of infectious diseases in the Greater Potsdam Area over the corresponding fifty years. This study will show area death rates from tuberculosis, typhoid fever, scarlet fever, diphtheria, cholera, and spinal meningitis in Potsdam, and the Greater Potsdam Area, the towns immediately bordering Potsdam. Lines of potential future research will also be proposed.

Thesis and Scope

For the citizens of Potsdam, NY during the mid-19th to early 20th centuries, infectious disease was part of life. In the time of a global pandemic from COVID-19, it is apposite to turn to the past to identify how the people of Potsdam lived and died with infectious diseases. Six infectious diseases were identified and studied based on their virulence and their appearance in the obituaries of the Greater Potsdam Area, as found in the *Courier and Freeman* newspaper from 1861-1911. The Greater Potsdam Area comprises the towns immediately bordering Potsdam, which also share routes of travel. It was my hypothesis that these infectious diseases spread along the routes of travel into Potsdam - from the North, South, and two routes from the East. These towns are Canton, Colton, Norfolk, Parishville, Pierpont, and Stockholm. Though the cemetery record shows deaths predating 1861, the newspaper record begins in Potsdam in 1861. This study is a 50-year vignette of life and death in Potsdam, NY.

Material and Analysis

At Rest is the product of two stages of work. During the first stage, data on name, birth year, death year, and age at death was recorded from legible tombstones in four cemeteries of Potsdam (South Potsdam, West Potsdam, Garfield, and Bayside Cemeteries) (Figure 4). This database contains approximately 6000 individuals. In the second phase of this study, I collected data on causes of death data from newspaper obituaries (Figure 1). Many of the deaths reported were from infectious disease, primarily, tuberculosis, typhoid fever, scarlet fever, diphtheria, cholera, and spinal meningitis. 50 years of deaths were recorded by hand and then entered a database, separated by individual disease. These data were analyzed by comparing one infectious disease with another, in each decade over a 50-year timeline between 1861 to 1911, Table 1. I also compared the deaths from infectious diseases between males and females, adults and children, Figure 5.

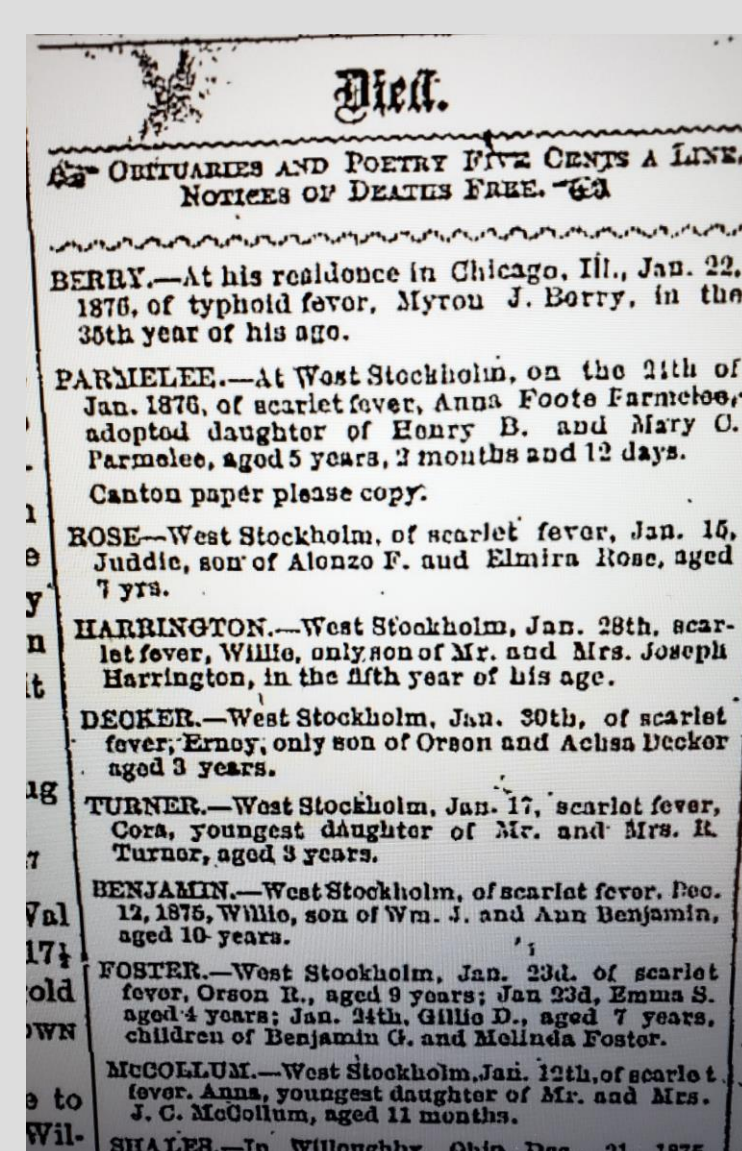


Figure 1. An example of obituaries record found in the *Courier and Freeman* 1861-1911.

Years	Deaths from ID	Deaths without ID	Deaths in Cemetery Record
1861-1869	50	183	223
1870-1879	97	289	304
1880-1889	77	318	401
1890-1899	43	201	456
1900-1909	8	34	410
1910-1911	2	7	93

Table 1. Potsdam deaths from Infectious Disease, deaths reported without an Infectious Disease Cause of Death, and deaths recorded in the cemetery record

Results and Discussion

There were a total 468 deaths from the infectious diseases from 1861-1911. The results indicate that of the six infectious diseases identified and studied, tuberculosis was the deadliest and most frequently occurring, with 247 deaths, as shown in Figure 2. The 1870s proved to be the deadliest decade of the 50 years, with 168 deaths from infectious diseases. There follows a steady decline in infectious disease deaths as we reach the turn of the century. This is exemplified by Figure 3.

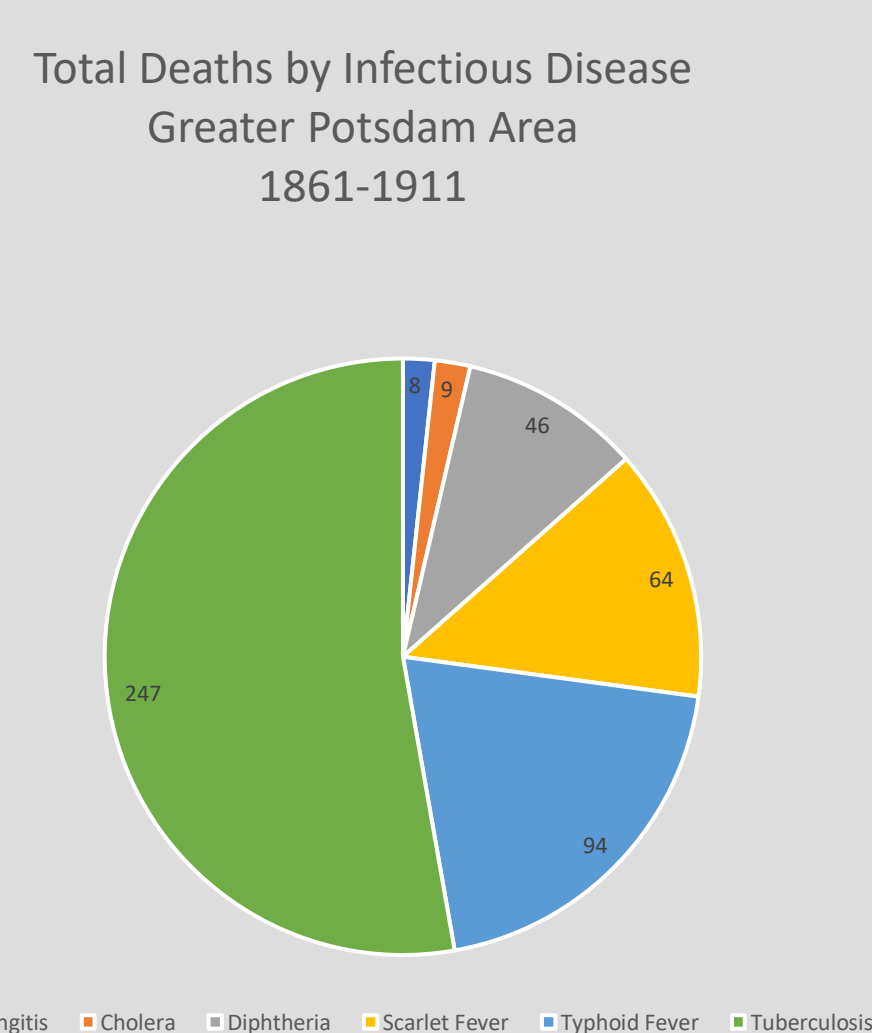


Figure 2. Total deaths from all Infectious Diseases in the Greater Potsdam Area 1861-1911

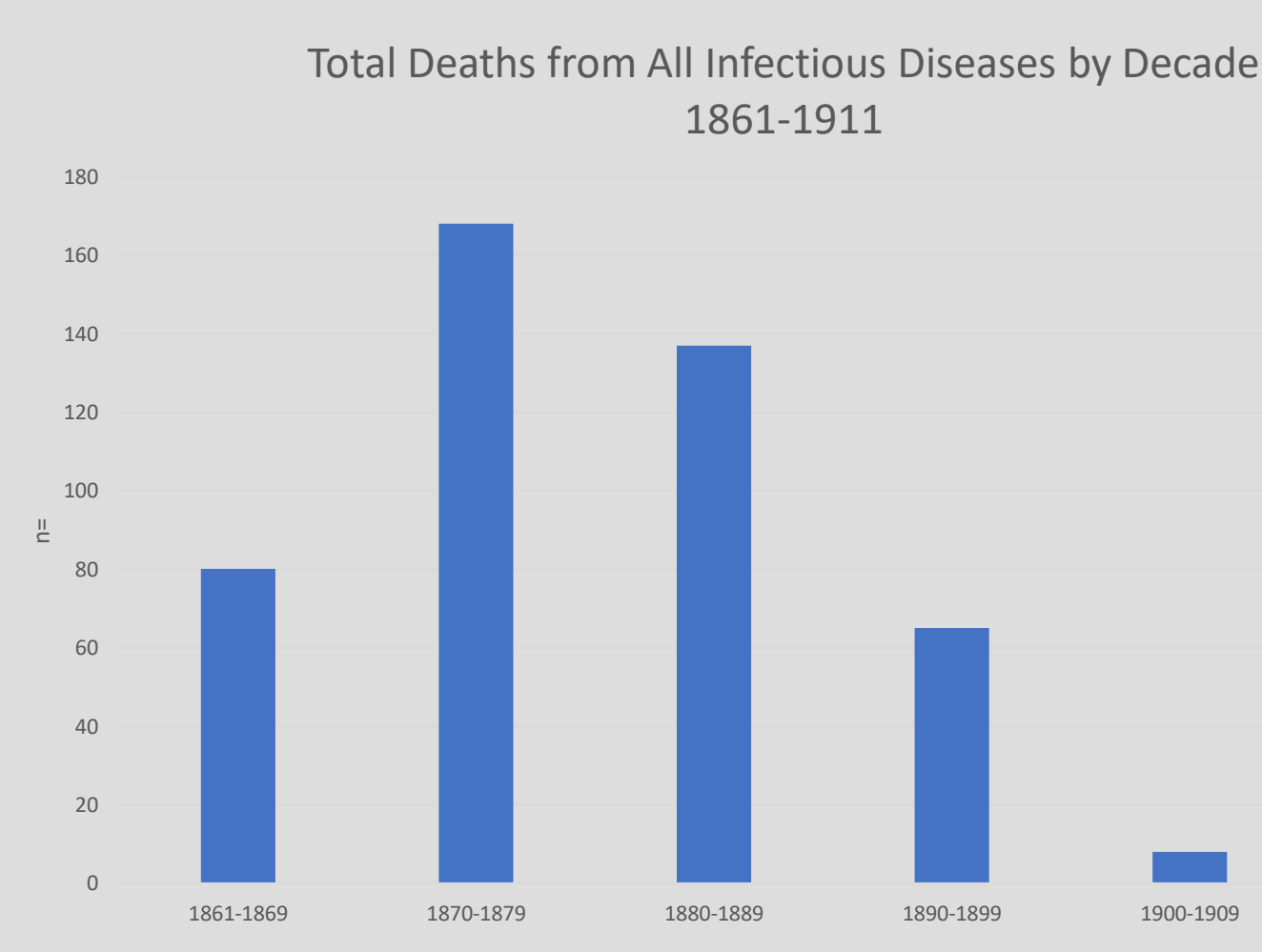


Figure 3. Deaths from Infectious Disease in the Greater Potsdam Area by decade

Results and Discussion

Potsdam proved to be the hub of illness during this 50-year span. A map was created to visualize the spread of disease in the Greater Potsdam Area. In conjunction with the graphs created, the map showed that the 1870s were the deadliest years for the Greater Potsdam Area. One may make the inference that since Potsdam was a center of commerce, the spread of infectious disease may have started in Potsdam and radiated outward.

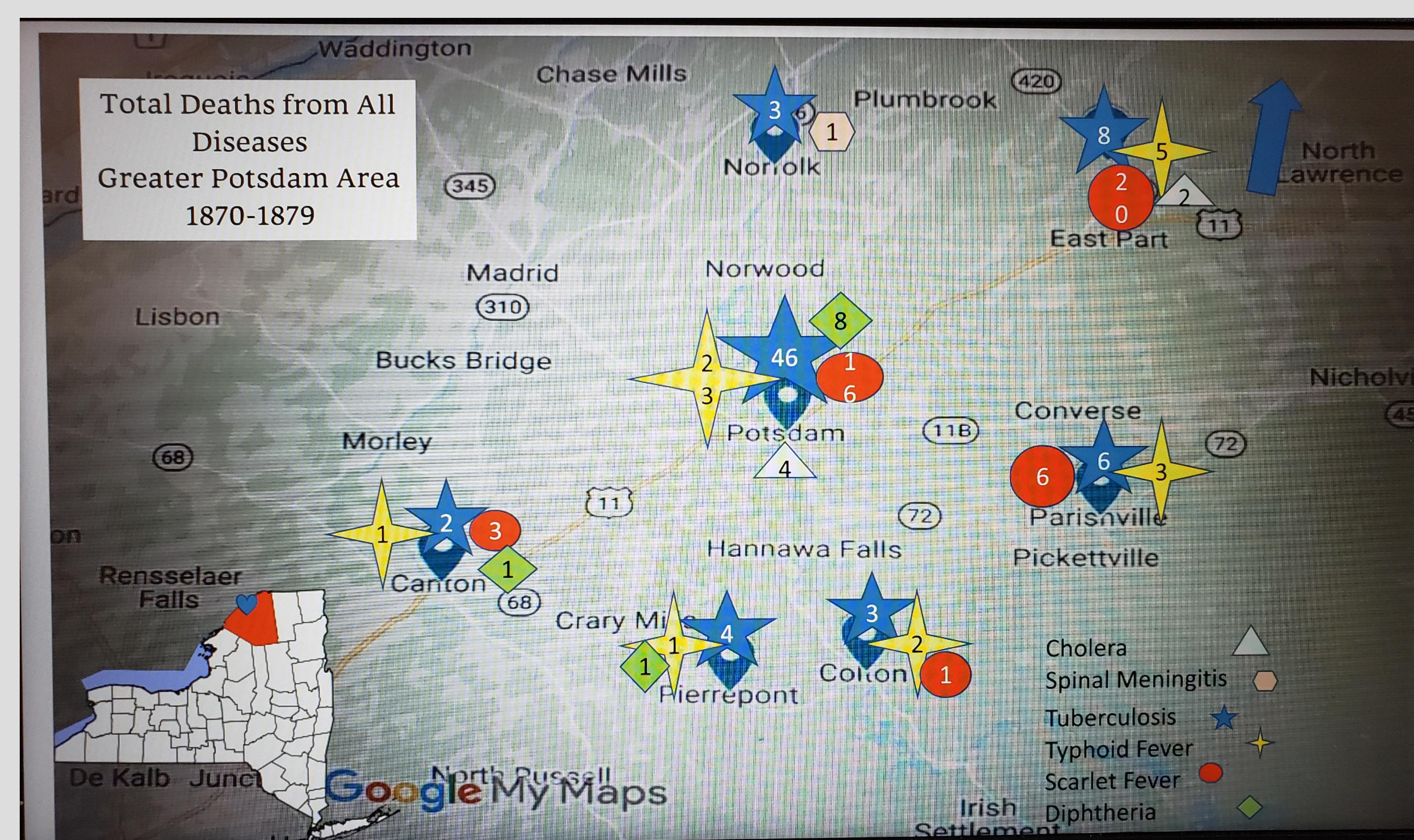


Figure 4. Total Deaths from All Infectious Diseases in the Greater Potsdam Area 1870-1879; Inset map with Potsdam identified by blue heart

Further results show that tuberculosis disproportionately affected women and girls throughout these 50 years (Figure 5). While Potsdam Town proved to be the most affected in the area, Stockholm also experienced a devastating 20 deaths from Scarlet Fever alone (Figure 4). This is an interesting and noteworthy spike. It should also be noted that while infectious disease appears to be rampant, the newspapers showed no sensationalism or panic-inducing headlines or stories. There was also no feeling of existential threat as with the COVID-19 pandemic presently.

From the epidemiological information gleaned so far, we may infer that infectious disease was a common cause of death for the people of the North Country. Infectious diseases had a 1.24% mortality rate in the 1870s*, compared to .07% present COVID-19 deaths in the United States**. Tuberculosis had a mortality rate of .59%; typhoid fever: .29%; scarlet fever: .20%; diphtheria: .10%; and cholera .05%.* Any discrepancies in the data may be attributed to omission due to the legibility of the print, or omission from the cemetery database due to tombstone legibility issues. Further lines of research will be posed below.

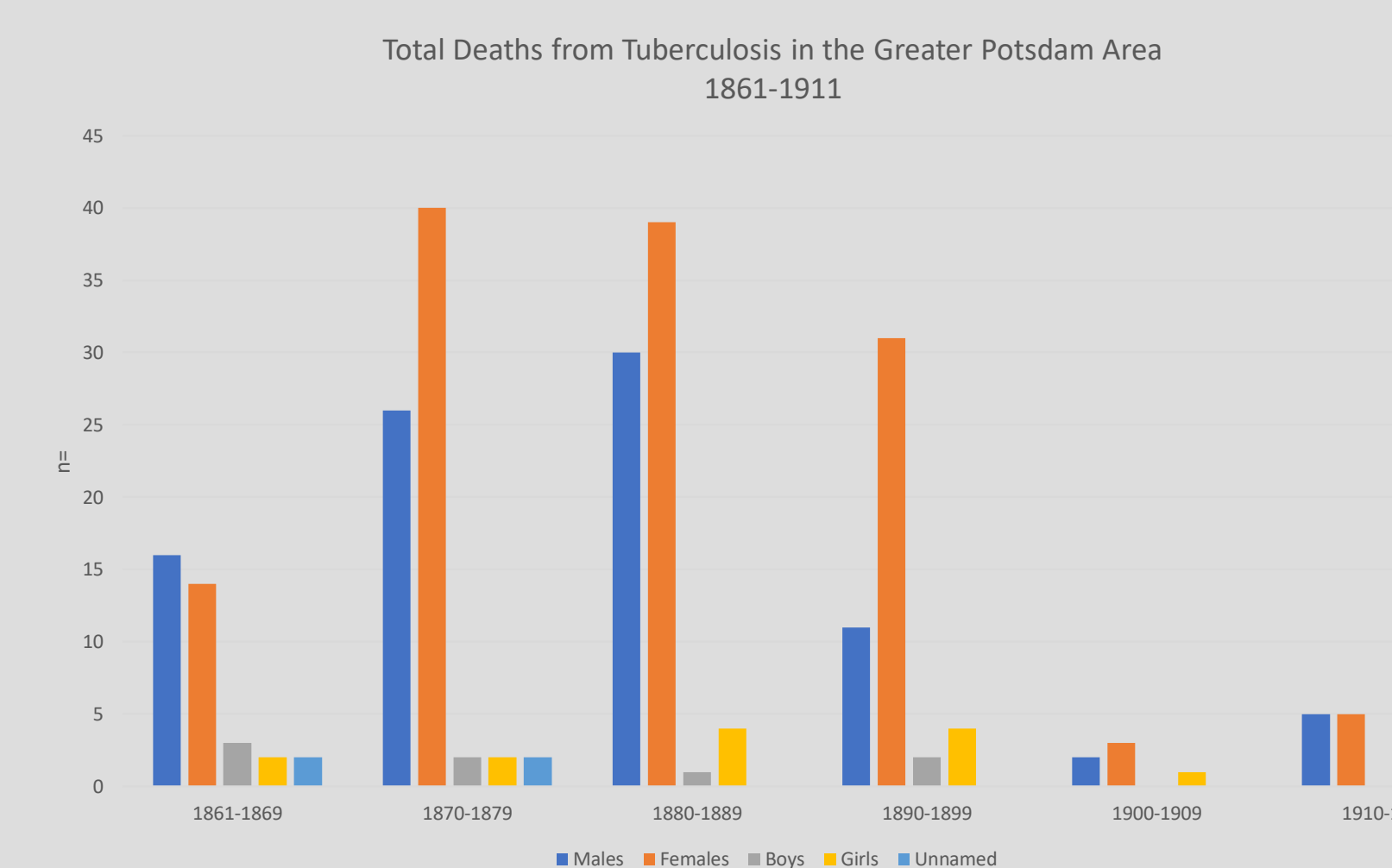


Figure 5. Deaths from Tuberculosis in the Greater Potsdam Area

Conclusion

Life in the Greater Potsdam Area included coping with virulent infectious diseases such as tuberculosis, typhoid fever, scarlet fever, diphtheria, cholera, and spinal meningitis. The newspapers echoed this normalcy with weekly adds for consumption and cholera cures, but there was a notable lack of panic over an epidemic. Potsdam was identified as the epicenter of illness, which could be explained by the population sizes relative to each other, and by the commercial draw of Potsdam. The 1870s were the deadliest decade for the Greater Potsdam Area through the lens of infectious disease; women were disproportionately affected by tuberculosis. At the turn of the century, tuberculosis was the only infectious disease present in the obituary records. Indeed, tuberculosis had the most impact on the lives of Greater Potsdam Area people. This study represents what could be the first Epidemiological Transition Stage for this region and is directly relevant to epidemiological studies today.

Recommended further lines of research are as follows:

- Record, compile, and complete the database for the interred of Potsdam by including St. Mary's Catholic Cemetery. Apply the results to this study.
- Comb through newspapers to identify the disappearance or reappearance of the identified infectious diseases
- Comb through the newspapers from 1861 onwards to include all causes of death to create a comprehensive database of all causes of death in Potsdam
- Expand the scope of the study to include all of St. Lawrence County to create a comprehensive study of Infectious disease in the North Country

*based on 1870 census population of Potsdam, NY

**as of April 13, 2020 Johns Hopkins University