Deadly Summers: Infant and Child Deaths in 19th Century Rochester, New York

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Introduction

During the 19th century, Rochester, NY, became a bustling city full of potential. Although there were many benefits to living in Rochester, the prevalence of infectious disease was not one of them (McKelvey 1956). At this point in history, short lives were very common, and many people did not live past childhood. Therefore, children and infants were the most affected by these diseases. During the summer months, fever and diarrhea, likely due to contaminated food or water, took the lives of many infants and children. This study will explore these diseases, which were commonly referred to as cholera infantum and summer complaint, which were made worse by other conditions like general malnutrition and marasmus. Childhood deaths due to cholera infantum and summer complaint were, sadly, preventable, but the general public was unaware of the impact that sanitation of milk and food and public water would have on their children. The causes for cholera infantum and summer complaint were "hot weather, foul air, domestic filth and improper food" (Harris 1868). Cholera infantum was the cause of death for 60 children in one month of the summer of 1893 (McKelvey 1956). This further added to public fear and confusion because the fundamental differences between infantile cholera and Asiatic cholera were unknown to the general public and therefore caused a lot of fear and confusion about the cause of cholera infantum. I would like to see if there was a geographic pattern of cholera infantum, summer complaint, and marasmus in 19th century Rochester, NY.

Data & Methods

Analysis of the Mt. Hope Cemetery records were used alongside a spatial analysis of specific disease occurrence of cholera infantum, summer complaint, and marasmus/inanition. I analyzed data for deaths occurring in Rochester, NY where the cause of death was listed as cholera infantum, summer complaint, marasmus/inanition, and diarrhea in infants and children under the age of 5. The Mt. Hope Cemetery records were accessed through the Rush Rhees Library at the University of Rochester in the Rare Books, Special Collections, and Preservation department. The sample of individuals from the Mt. Hope Cemetery records was 12,854 individuals, with 4,696 being under the age of 5. Additionally, an analysis of dairy and milk production, as well as water quality, in Rochester, will also be analyzed due to the likely correlation between the prevalence of these diseases and the sanitation of milk and water.

Results

The deaths from cholera infantum, summer complaint, and marasmus make up a small percentage of overall deaths, but when compared with only the deaths of children under age 5 they are more substantial. Since most of these illnesses did not kill adults or adolescents, the data is much more meaningful if looked at through age. The percentage of children and infants who died from the illnesses listed above peaked at 20 % in 1870-1889 and slowly began to decrease after that.

A spatial analysis was done for the three major illnesses being studied: cholera infantum, summer complaint, and marasmus/inanition.

- Figure 1 shows the distribution of cholera infantum throughout the city of Rochester. The cases seem to be the most concentrated along and around the Genesee River, as well as inner-city Rochester. The cases seem to be less frequent closer to the suburbs.
- In figure 2, summer complaint was less of an issue compared to cholera infantum. This may be because summer complaint and cholera infantum had very similar symptoms and were sometimes even used interchangeably. It is likely that summer complaint has less of a geographic pattern due to the cause being highly correlated with high temperatures and contaminated milk, not water.
- In figure 3, the distribution of Marasmus is more widespread than either of the previous illnesses. This condition is chronic and severe malnutrition that can lead to death. In children, problems like access to food and clean water can be a main reason they die of these preventable illnesses.

Discussion & Conclusion

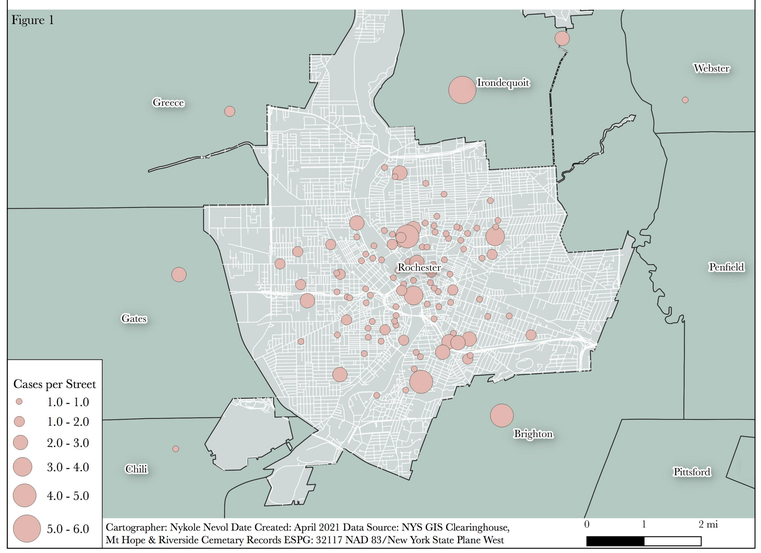
The main question posed after analyzing this data, is why did so many infants and children die of these diseases? The simple answer lies in their nutrition or lack thereof. Food, water, and milk were not regulated by any government entity during this point in time, so it was very easy and common for it to become contaminated.

Cholera infantum and summer complaint were likely caused by contaminated milk, which was very common in 19th century Rochester. Milk often came from cows that had diseases, been contaminated by an outside source, or was left in temperatures not suitable for milk (Koch 1991). Cholera infantum was also thought to be caused by contaminated water, but this may be due to the confusion between cholera infantum and Asiatic cholera. Cholera infantum does seem to be concentrated around the Genesee river. Contaminated water may have had an affect on cholera infantum, but I do not think it was the main cause due to the disease not being spread through a fecal-oral route like Asiatic cholera.

Marasmus, on the other hand, can have many different causes; simply not eating enough, poor hygiene, other infections causing lack of hunger, neglect, etc. can all be factors that can lead to marasmus (Ghosh-Jerath et al., 2017). Marasmus was likely more widespread than shown in the spatial analysis, due to it not being listed as a cause of death very often, mostly since children usually died from another illness while suffering from marasmus (Ruis 2013).

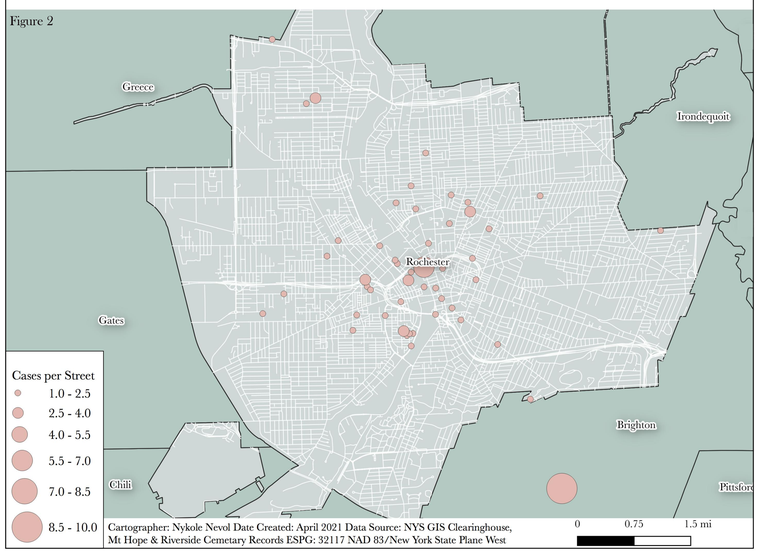
Cholera Infantum Distribution in Rochester, NY: 1840-1910

Figure 1



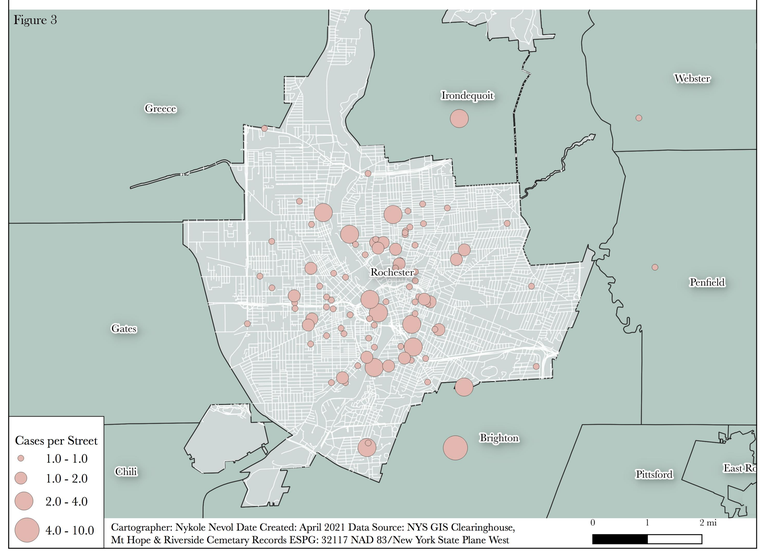
Summer Complaint Distribution in Rochester, NY: 1840-1910

Figure 2



Marasmus Distribution in Rochester, NY: 1840-1910

Figure 3



GIS Data

University of Rochester. Rush Rhees Library Rare Books, Special Collections, and Preservation. https://rbscp.lib.rochester.edu/3310

New York State GIS Clearinghouse. New York State Civil Boundaries. http://gis.ny.gov/civil-boundaries/.

References

Anderton, D. L., and S. H. Leonard. "Grammars of Death: An Analysis of Nineteenth-Century Literal Causes of Death from the Age of Miasmas to Germ Theory." *Social Science History* 28, no. 1 (2004): 111–43. https://www.jstor.org/stable/40267835.

Bagby, B. B. "Changes in a Small Town Brought about by the Health Department." *Public Health Reports* 38, no. 10 (March 9, 1923): 456–58. https://www.jstor.org /stable/4576683.

Brennan, C. "'Genesee Fever' and Other Illnesses in Early Rochester." *Rochester Public Library/Local History & Genealogy Division*, May 9, 2017. https://rochistory.wordpress.com/2017/05/09/genesee-fever-and-other-illnesses-in-early-rochester/.

Brown, T. M. and E. Fee. "George Washington Goler: The Biggest Crank and the Best Health Officer in the United States" *American Journal of Public Health* 100 no. 2 (February 2010): 237. https://doi.org/10.2105/AJPH.2009.184010

"Cholera-Prevention the Best Remedy." *The North Star*. April 27, 1849. link.gale.com/apps/doc/GT3013081022/NCNP?u=geneseo&sid=NCNP&xid= c7ffd40e.

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References Continued

"Cholera." Scientific American. August 9, 1884, 51 edition, sec. 6. https://www.jstor.org/stable/10.2307/26083569.

Condran, G. A., and E. Crimmins-Gardner. "Public Health Measures and Mortality in U.S. Cities in the Late Nineteenth Century." *Human Ecology* 6, no. 1 (March 1978): 27–54. https://www.jstor.org/stable/4602436.

Ghosh-Jerath, S., A. Singh, S. Gupta, and E. F. Racine. "Undernutrition and Severe Acute Malnutrition in Children." *British Medical Journal* 359 (November 13, 2017): 1–6. https://www.jstor.org/stable/10.2307/26950703.

Harris. "Good Advice from Dr. Harris-Summer Complaint, Cholera Infantum and their Treatment- The Disinfection of the Streets. *New York Times,* July 18, 1868.

Jackson, P. S. B. "Fearing Future Epidemics: the Cholera Crisis of 1892." *Cultural Geographies* 20, no. 1 (January 2013): 43–65. https://www.jstor.org/stable/44289588.

Koch, R. G. "Cows and Milk in Rochester." *The Crooked Lake Review*, August 1991. https://www.crookedlakereview.com/articles/34_66/41aug1991/41koch.html.

Lovejoy Jr, D. B. "The Hospital and Society: the Growth of Hospitals in Rochester NY in the 19th Century." *Bulletin of the History of Medicine* 49, no. 4 (1975): 536–55. https://www.jstor.org/stable/44450295

Luby, S. P., J. Davis, R. R. Brown, S. M. Gorelick, and T. H. F. Wong. "Broad Approaches to Cholera Control in Asia: Water, Sanitation and Handwashing." *Vaccine* 38 (2020): A110–A117. https://doi.org/10.1016/j.vaccine.2019.07.084

McKelvey, B. "The History of Public Health in Rochester, New York." *Rochester History* 18 no. 3 (July 1956): 1-28.

McMurry, S. "The Impact of Sanitation Reform on the Farm Landscape in U.S. Dairying, 1890–1950." *Buildings & Landscapes: Journal of the Vernacular Architecture Forum* 20, no. 2 (2013): 22–47. https://www.jstor.org/stable/10.5749/buildland.20.2.0022

Pyle, G F. "The Diffusion of Cholera in the United States in the Nineteenth Century." *University of Chicago Geographical Analysis* 1 (1969): 59–75. https://doi.org/10.1111/j.1538-4632.1969.tb00605.x

References Continued

Richmond, P. A. "University of Rochester Library Bulletin: Asiatic Cholera in Rochester." *River Campus Libraries*. University of Rochester, 1961. https://rbscp.lib.rochester.edu/3353 .

Rodriguez, L., E. Cervantes, and R. Ortiz. "Malnutrition and Gastrointestinal and Respiratory Infections in Children: A Public Health Problem." *International Journal of Environmental Research and Public Health* 8 (2011): 1174–1205. https://doi.org/doi:10.3390/ijerph8041174

Routh, C. H. F. "On The Mortality Of Infants In Foundling Institutions, And Generally, As Influenced By The Absence Of Breast-Milk (Concluded)." *The British Medical Journal* 1, no. 60 (February 20, 1858): 145–47. https://www.jstor.org/stable/25192079.

Ruis, A. R. "'Children with Half-Starved Bodies' and the Assessment of Malnutrition in the United States, 1890–1950." *Bulletin of the History of Medicine* 87, no. 3 (2013): 378–406. https://www.jstor.org/stable/10.2307/26305936.

Snow, J. "Cholera and the Water Supply in the South Districts of London in 1854." *Journal of Public Health and Sanitary Review* 2, no. 7 (1856): 239–57. https://pubmed-ncbi-nlm-nih-gov.proxy.geneseo.edu/30378891/.

Strahan, J. "Cholera Infantum and the Hydrencephaloid Condition." *The British Medical Journal* 2, no. 1234 (August 23, 1884): 359–61. https://www.jstor.org/stable/25267256

Tuite, A. R., C. H. Chan, and D. N. Fisman. "Cholera, Canals, and Contagion: Rediscovering Dr Beck's Report." *Journal of Public Health Policy* 32, no. 3 (May 5, 2011): 320–33. https://doi.org/10.1057/jphp.2011.20.

Williams, R. "The Cholera Pandemic of 1832 in New York State." New York Almanack, ' May 7, 2020. https://www.newyorkalmanack.com/2020/05/cholera-pandemic-of-1832/.