

THE CONTEXT AND THE COMMISSIONER:
THE EFFECT OF MILWAUKEE'S HEALTH COMMISSIONERS' SOCIAL, CULTURAL, AND HISTORICAL
UNDERSTANDING OF MILWAUKEE'S PEOPLE DURING THE LAST FIVE PANDEMICS

by

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ABSTRACT

THE CONTEXT AND THE COMMISSIONER: THE EFFECT OF MILWAUKEE'S HEALTH COMMISSIONERS' SOCIAL, CULTURAL, AND HISTORICAL UNDERSTANDING OF MILWAUKEE'S PEOPLE DURING THE LAST FIVE PANDEMICS

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Resistance to pandemic response policies was observed globally throughout the COVID-19 pandemic. This resistance has been linked by researchers to the prolonged duration and higher mortality rate of COVID-19 compared to previous pandemics, despite advancements in modern medicine, extensive surveillance networks and record vaccine production. However, the strategies implemented by public health officials during the COVID-19 pandemic closely mirrored those successful in mitigating past pandemics. To elucidate this disparity, a historical analysis encompassing the 1918, 1957, 1968, 2009, and Covid-19 pandemics was conducted within the city of Milwaukee. By examining archival documents and over 800 newspaper articles, this research found that health commissioners who considered the social, cultural, and historical context of Milwaukee residents exhibited significantly greater efficacy in eliciting cooperation with non-pharmaceutical interventions. This thesis concludes that in order to gain compliance with pandemic response policies and effectively address a pandemic, public health officials must consider the contextual factors that shape the attitudes and behaviors of the public.

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To
those we have lost to this pandemic,
the friends who kept me safe, caffeinated, and entertained,
the nurses and doctors that carried me through,
and especially my Papa for his love of history, academia,
and providing feedback on several of my papers throughout my academic career,
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LIST OF ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
EDR	Excess Death Rate
MHD	Milwaukee Health Department
MJS	Milwaukee Journal Sentinel
MPS	Milwaukee Public Schools
NPIs	Non-pharmaceutical interventions
Vital Stats	Vital Statistics: Morbidity, Mortality, EDR
WHO	World Health Organization

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Chapter 1: Pandemics and Context

Introduction

The COVID-19 pandemic has sparked global and national interest in pandemic response policies. During the COVID-19 pandemic, as well as during any public health emergency, non-pharmaceutical interventions (NPIs) are the favored method of response by public health officials. The Centers for Disease Control and Prevention (CDC) defines NPIs as “actions that people and communities can take apart from vaccination and medication to slow the spread of illnesses like pandemic influenza (flu).”¹ Examples of NPIs include mask mandates, school closures, mandated reporting of influenza-like illnesses, social distancing, staggered work hours, capacity limits, and education campaigns.² Throughout the COVID-19 pandemic, the United States saw significant opposition to NPIs and vaccines, resulting in separate epicenters occurring in cities and counties nationwide despite public health officials deploying similar response policies.³ This opposition is one of the reasons why the COVID-19 pandemic lasted for approximately three years with a high degree of severity despite modern medicine, record vaccine production and distribution time, and timely response plans deployed globally.⁴

1 “Non-Pharmaceutical Interventions (NPIs),” Center for Disease Control and Prevention, last modified April 27, 2020, <https://www.cdc.gov/nonpharmaceutical-interventions/index.html>.

2 J. Alexander Navarro and Howard Markel, “Politics, Pushback, and Pandemics: Challenges to Public Health Orders in the 1918 Influenza Pandemic,” *American Journal of Public Health* (1971) 111, no. 3 (2021): 416–18, 421, <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2020.305958>.

3 Judith W. Leavitt, “Pandemics and History: Context, Context, Context,” *American Journal of Public Health* 111, no.6 (2021): 996-98, [doi:10.2105/AJPH.2021.306270](https://doi.org/10.2105/AJPH.2021.306270).

4 Allison Caldwell, “How Were Researchers Able to Develop COVID-19 Vaccines So Quickly?” At The Forefront, UChicago Medicine, The University of Chicago Medical Center, January 14, 2021, <https://www.uchicagomedicine.org/forefront/coronavirus-disease-covid-19/developing-covid19-vaccines-quickly>;

This thesis aims to identify factors contributing to public compliance or opposition to NPIs during a pandemic. Public health officials have implemented NPIs during each pandemic in recent history.⁵ In order to understand fully the context of the public's response to NPIs, it is necessary to conduct a historical analysis of the last five pandemics: the 1918 influenza (1918-1919); H2N2 pandemic (1957-1959); H3N2 pandemic (1968-1970); H1N1 pandemic (2009-2010); and Coronavirus or COVID-19 pandemic (2019-2023). To avoid confusion, each pandemic will be referred to by the year it begins, with the exception of COVID-19. Each pandemic had unique elements that stood out from the others. The 1918 pandemic had the most aggressive and widespread intervention from health officials, while the 1957 and 1968 pandemics had the highest morbidity rates.⁶ The 2009 pandemic offered the first insight into how social media can affect pandemics.⁷ The COVID-19 pandemic is the first known global pandemic caused by a non-

Stephen Reicher and Clifford Stott; "On Order and Disorder during the COVID-19 Pandemic," *British Journal of Social Psychology* 59, no. 3 (2020): 694–702, [doi:10.1111/bjso.12398](https://doi.org/10.1111/bjso.12398).

5 Susan L. Craddock, Susan L., Tamara Giles-Vernick, and Jennifer Gunn, *Influenza and Public Health: Learning from Past Pandemics* (London: Routledge, 2010), 187-302, [doi.org:10.4324/9781849776448](https://doi.org/10.4324/9781849776448); Howard Markel et al., "Nonpharmaceutical Interventions Implemented by US Cities During the 1918-1919 Influenza Pandemic," *JAMA: The Journal of the American Medical Association* 298, no. 6 (2007): 644–54, [doi:10.1001/jama.298.6.644](https://doi.org/10.1001/jama.298.6.644); David M. Morens, Jeffery K. Taubenberger, and Anthony S. Fauci, "A Centenary Tale of Two Pandemics: The 1918 Influenza Pandemic and COVID-19, Part I," *American Journal of Public Health* 111, no. 6 (2021): 1086-94, [doi:10.2105/AJPH.2021.306310](https://doi.org/10.2105/AJPH.2021.306310).

6 Martin C. J. Bootsma and Neil M. Ferguson, "The Effect of Public Health Measures on the 1918 Influenza Pandemic in U.S. Cities," *Proceedings of the National Academy of Sciences - PNAS* 104, no.18 (2007): 7588-93, [doi:10.1073/pnas.0611071104](https://doi.org/10.1073/pnas.0611071104); Barbara Jester, Timothy M. Uyeki, and Daniel B. Jernigan, "Fifty Years of Influenza A(H3N2) Following the Pandemic of 1968," *American Journal of Public Health* 110, no. 5 (May 2020): 670-73; Edwin D. Kilbourne, "Influenza Pandemics of the 20th Century," *Emerging Infectious Diseases* 12, no. 1 (2006): 9, *Gale Academic OneFile*, accessed October 26, 2021, 9-13, <https://link.gale.com/apps/doc/A141048441/AONE?u=milwaukee&sid=bookmark-AONE&xid=5d5e1019>; Frank F. Piraino, Edwin M. Brown, and Edward R. Krumbiegel, "Outbreak of Hong Kong Influenza in Milwaukee, Winter of 1968-69," *Public Health Reports (1896)* 85, no. 2 (1970): 147, [doi:10.2307/4593811](https://doi.org/10.2307/4593811); Cecile Viboud et al., "Global Mortality Impact of the 1957-1959 Influenza Pandemic," *The Journal of Infectious Diseases* 213, no.5 (2019): 740-43, [doi:10.1093/infdis/jiv534](https://doi.org/10.1093/infdis/jiv534).

influenza virus and the first pandemic in which public health officials recorded demographic and race-related data.⁸

This study examines pandemic response policies in Milwaukee, Wisconsin during each of the five pandemics. Amid the 1918 pandemic, the city had one of the top three most successful responses.⁹ The Health Commissioner, Dr. George C. Ruhland, attributed this success to the cooperation of the city's residents with what health officials now label as NPIs.¹⁰ Public health historians often consider the 1957 and 1968 pandemics “forgotten pandemics.”¹¹ As a result, these two constitute a minimal percentage of pandemic research. However, Health Commissioner Dr. Edward Krumbiegel, who presided over both mid-century pandemics, conducted research and documented both pandemic courses in Milwaukee.¹² The largest regional outbreak of the 2009 pandemic occurred in Milwaukee, making the city the epicenter

8 Costantino Iadecola, Josef Anrather, and Hooman Kamel, “Effects of COVID-19 on the Nervous System,” *Cell, Elsevier Public Health Emergency Collection* 183, no. 1 (2020): 16-20, doi: 10.1016/j.cell.2020.08.028; Brentin Mock, “The Black Health Commissioner at the Center of the Fight Against COVID-19 Racism,” CityLab, Bloomberg (online), July 31, 2020, accessed September 15th, 2022, <https://www.bloomberg.com/news/articles/2020-07-31/how-milwaukee-is-fighting-coronavirus-racism>.

9 Leavitt, “Pandemics and History,” 996-97; Markel et al., “Non-Pharmaceutical Interventions,” 647-50.

10 “City Second in Flu Fight,” *Milwaukee Journal*, December 31, 1918, 9.

11 Mark Honigsbaum, “Revisiting the 1957 and 1968 Influenza Pandemics,” *The Lancet (British Edition)* 395, no. 10240 (2020): 1824–26, doi:10.1016%2FS0140-6736(20)31201-0; Bojan Pancevski, “Forgotten Pandemic Offers Contrast to Today’s Coronavirus Lockdowns; In the Late 1960s, the Hong Kong Flu Was Allowed to Run Rampant until a Vaccine Was Introduced,” *Wall Street Journal. Eastern Edition*, April 24, 2020, <https://www.wsj.com/articles/forgotten-pandemic-offers-contrast-to-todays-coronavirus-lockdowns-11587720625>; Jen Pinkowski, “The History of the Forgotten Pandemic,” Yale Insights, Management in Practice, last modified January 7, 2021, <https://insights.yale.edu/insights/the-history-of-the-forgotten-pandemic>.

12 Piraino, Brown, and Krumbiegel, “Outbreak of Hong Kong Influenza,” 140–50.

of Wisconsin.¹³ This pattern continued into the COVID-19 pandemic, although the city was the first to illuminate the disproportionate effect the virus had on people of color.¹⁴

Public health historians Judith Walzer Leavitt, J. Alexander Navarro, and Howard Markel have each studied historic pandemics within the city of Milwaukee. These scholars' research primarily focused on the 1918, 2009, and Covid-19 pandemics and the 1894 smallpox epidemic.¹⁵ Leavitt, Navarro, and Markel each cite Health Commissioner Doctor George C. Ruhland's as an example of how public health officials should respond to a pandemic, specifically referencing his extensive use of NPIs, which these scholars attributed to the low death rate in Milwaukee during the 1918 pandemic. However, a study conducted by Navarro and Markel shows that while NPIs are effective in controlling a pandemic's spread, they are

13 David Haynes, "Understanding the Flu, the Harvard Study of Milwaukee's Swine Flu Outbreak Should Shed Light on How the Disease Is Spreading. Investigators Can Help the Public Prepare by Sharing What They Know." *Milwaukee Journal Sentinel*, July 27, 2009, <https://archive.jsonline.com/news/opinion/51816582.html/>; Shaun A. Truelove, et al., "Comparison of Patients Hospitalized with Pandemic 2009 Influenza A (H1N1) Virus Infection During the First Two Pandemic Waves in Wisconsin," *The Journal of Infectious Diseases* 203, no.6 (2011): 828-37, doi:10.1093/infdis/jiq117.

14 Leonard E. Egede, Rebekah J. Walker, Emma Garacci, and John R. Raymond, "Racial/Ethnic Differences in COVID-19 Screening, Hospitalization, and Mortality in Southeast Wisconsin," *Health Affairs (Project Hope)* 39 no.11 (2020): 1927, doi:10.1377/hlthaff.2020.01081; Jeramey Jannene, "Where Are the City's COVID-19 Hotspots?" *Urban Milwaukee*, May 26, 2021, <https://urbanmilwaukee.com/2020/05/26/where-are-citys-covid-19-hotspots/>; Joel Rast, Yaidi Cancel Martinez, and Lisa Heuler William, "Milwaukee's Coronavirus Racial Divide: A Report on the Early Stages of COVID-19 Spread in Milwaukee County," Milwaukee: Center for Economic Development Publications 54 (April 2020): 1-13, UWM Digital Commons, https://dc.uwm.edu/ced_pubs/54.

15 Judith W. Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton: Princeton University Press, 1982), <https://www.jstor.org/stable/3787396>; Leavitt, "Pandemics and History," 996-98; Judith W. Leavitt, "Politics and Public Health: Smallpox in Milwaukee, 1894-1895," *Bulletin of the History of Medicine* 50, no. 4 (1976): 553-68, <http://www.jstor.org/stable/44450375>; Markel et al., "Non-Pharmaceutical Interventions," 644-54; Navarro and Markel, "Politics, Pushback, and Pandemics," 416-422; J. Alexander Navarro et al., "A Tale of Many Cities: A Contemporary Historical Study of the Implementation of School Closures During the 2009 pA(H1N1) Influenza Pandemic," *Journal of Health Politics, Policy and Law* 41, no. 3 (2016): 393-421, <https://dx.doi.org/10.1215%2F03616878-3523958>.

only effective when enforced by officials and complied with by the public.¹⁶ Leavitt, Navarro and Markel’s opinions, along with pandemic researcher Edwin D. Kilbourne, differ slightly as to why Ruhland gained public compliance in 1918, which other health commissioners could not.¹⁷

In Leavitt's 2021 article, she compared the response of Health Commissioner Ruhland during the 1918 pandemic to the national response to COVID-19, finding the implementation of NPIs to be similar.¹⁸ However, Leavitt noted that only NPIs deployed during the COVID-19 pandemic received significant pushback.¹⁹ For example, health commissioners issued face mask ordinances as non-pharmaceutical interventions during both pandemics.²⁰ In 1918, Milwaukee residents complied with masking and accepted the orders as a safety measure.²¹ During the COVID-19 pandemic, public resistance to wearing masks was common, even escalating to anti-mask protests around Milwaukee County and the entire nation.²²

16 Navarro and Markel, “Politics, Pushback, and Pandemics,” 416–422.

17 Kilbourne, “Influenza Pandemics,” 9.

18 Leavitt, “Pandemics and History,” 996-98.

19 Leavitt, “Pandemics and History,” 996.

20 “Teachers of Sycamore Street School, Equipped with Gauze Masks, Starting Out on Health Tour,” *Milwaukee Sentinel*, October 20, 1918, 1.

21 “Anti-Influenza Mask Worn by Barber Here,” *Milwaukee Sentinel*, October 23, 1918, 4; “Influenza Masks Worn Here,” *Milwaukee Journal*, October 4, 1918, 19.

22 Alysson Dirr and Drake Bently, “County Alters Mask Requirements Outside,” *Milwaukee Journal Sentinel*, May 21, 2020, 7; Jeffrey E. Harris, “COVID-19, Bar Crowding, and the Wisconsin Supreme Court: A Non-Linear Tale of Two Counties,” *Research in International Business and Finance* 54, no. 101310 (December 2020). doi: [10.1016/j.ribaf.2020.101310](https://doi.org/10.1016/j.ribaf.2020.101310); Sarah Hauer, “Kohl’s Pick ‘n Save are Latest Retailers to Require Masks,” *Milwaukee Journal Sentinel*, July 16, 2020, 22; Leavitt, “Pandemics and History,” 996-97; “Mask Wearing,” *Milwaukee Journal Sentinel*, July 17, 2020, 30; Reicher and Stott, “On Order and Disorder,” 694–702, doi: [10.1111/bjso.12398](https://doi.org/10.1111/bjso.12398); Rick Wood, “Masks,” *Milwaukee Journal Sentinel*, July 14, 2020, 10; Nicholas Wu and David Jackson, “White House Now Recommends Mask Use,” *Milwaukee Journal Sentinel*, April 4, 2020, 2.

Leavitt argued that the difference in public acceptance of the mask mandates in 1918 compared to the COVID-19 pandemic was due to the difference in each health commissioner's framing of the order.²³ Leavitt explained that Ruhland used war-centric rhetoric that was deployed throughout World War I to transfer the unity the war produced to the public fight against the influenza virus. As a result, Leavitt cites this rhetoric as one of the reasons for Milwaukee's remarkable compliance in 1918.²⁴ She stated regarding Ruhland's mask framing's success: "Masks carried patriotic value and gave the public a way to exhibit and celebrate their loyalty."²⁵ Navarro and Markel indicated that this framing was not Ruhland's invention but was a national campaign by the American Red Cross often printed in newspapers, including the *Milwaukee Journal* and *Milwaukee Sentinel*.²⁶ Further, Navarro and Markel concluded in their study of 43 U. S. cities during the 1918 pandemic that "almost everywhere these measures were met with widespread noncompliance and outright defiance" despite the patriotic mask framing by the Red Cross.²⁷ Therefore, despite Leavitt's indications, simple framing was not the reason for Milwaukee residents' cooperation with wearing masks.

Ruhland used an extensive media campaign to educate and inform the public about NPIs. Leavitt cited this campaign as another determinant of Milwaukee residents' compliance in

23 Leavitt, "Pandemics and History," 996-97.

24 Leavitt, "Pandemics and History," 997.

25 Leavitt, "Pandemics and History," 997.

26 Markel et al., "Non-Pharmaceutical Interventions," 644-54; Navarro and Markel, "Politics, Pushback, and Pandemics," 417.

27 Markel et al., "Non-Pharmaceutical Interventions," 644-54; Navarro and Markel, "Politics, Pushback, and Pandemics," 417.

1918.²⁸ According to Leavitt, the health commissioner's media campaign included local speeches at city factories and manufacturing plants and pamphlets and posters in a dozen different languages.²⁹ Leavitt emphasized the importance of the variety of media and having it printed in multiple languages because the action ensured information was accessible to each resident in the city due to its large immigrant population.³⁰

Navarro and Markel, and Howard Markel et al., determined that Ruhland's success in gaining public compliance stemmed from his consistency in NPI implementation and dissemination of pandemic information.³¹ Markel et al. conducted a study in 2007 on forty-three cities during the 1918 pandemic.³² They found that repealing NPI mandates too early forced health and public officials to implement more stringent NPIs later in the pandemic.³³ The health officials then struggled to gain compliance during the second set of orders because they did not maintain a consistent message after repealing the mandates. Moreover, the compliance by public officials with NPIs also affected the public's overall compliance in 1918. During the pandemic, elected officials in San Francisco, Detroit, and Los Angeles were all documented by local newspapers as violating masking orders and capacity limits for social gatherings.³⁴

28 Leavitt, "Pandemics and History," 996-98.

29 Leavitt, "Pandemics and History," 997-98.

30 Leavitt, "Pandemics and History," 997-98.

31 Markel et al., "Non-Pharmaceutical Interventions," 644-54; Navarro and Markel, "Politics, Pushback, and Pandemics," 417.

32 Markel et al., "Non-Pharmaceutical Interventions," 650-53.

33 Markel et al., "Non-Pharmaceutical Interventions," 650-53.

34 Navarro and Markel, "Politics, Pushback, and Pandemics," 417-419.

According to Markel et al. and Navarro and Markel, the lack of enforcement of NPIs on public officials deteriorated the motivation for each city's residents to comply with them.³⁵

Navarro and Markel's research provided insights into resistance during the 2009 pandemic in Milwaukee as well. The most widely used NPI during the 2009 pandemic were school closures, and these closures caused pushback around the country.³⁶ During the 2009 pandemic, Milwaukee had the largest regional outbreak of the 2009 pandemic virus in the country.³⁷ When Health Commissioner Bevan K. Baker followed CDC guidance and closed schools with a certain degree of pandemic cases, he faced significant pushback from the public for doing so.³⁸ Navarro and Markel concluded that the pushback in Milwaukee resulted from a lack of timely communication by the Milwaukee Health Department (MHD) and Health Commissioner Baker, and understanding of who had the legal authority to close schools.³⁹

These scholars differ on which direct action of the health commissioners is the primary determinant of public compliance during a pandemic. However, their research suggests that the public was more likely to comply with NPIs during historic pandemics because of the context of the time.⁴⁰ Leavitt credits the ease of Milwaukeeans' unification and cooperation under

35 Navarro and Markel, "Politics, Pushback, and Pandemics," 418-20.

36 Navarro and Markel, "Politics, Pushback, and Pandemics," 416-18.

37 Swati Kumar et al. "Epidemiologic Observations from Passive and Targeted Surveillance during the First Wave of the 2009 H1N1 Influenza Pandemic in Milwaukee, WI," *Viruses* 2, no. 4 (2010): 785, doi.org/10.3390/v2040782.

38 Navarro and Markel, "Politics, Pushback, and Pandemics," 394.

39 Navarro and Markel, "Politics, Pushback, and Pandemics," 398-99, 409.

40 Leavitt, "Pandemics and History," 997-98; Navarro et al., "A Tale of Many Cities," 407-13.

Ruhland to the unity resulting from World War I.⁴¹ In contrast, Leavitt found a shift in social and political context during the COVID-19 pandemic that undermined the unity seen during the 1918 pandemic. Similarly, when Kilbourne analyzed the 1918, 1957, and 1968 pandemics, he alluded to a bleak future of outcomes due to politics beginning to invade public health platforms.⁴² Navarro and Markel also noted partisanship as an essential context when comparing the COVID-19 pandemic to historic pandemics.⁴³ Namely, the mixed messaging created by partisan politics, they state, leached into public health and became the crux for public resistance during the 2009 and COVID-19 pandemics.⁴⁴

The politicization of both the 2009 and COVID-19 pandemics at the national level eroded potential unity among the public. However, political polarization was also present during the 1957 and 1968 pandemics. During the 1957 pandemic, the Cold War and the “Red Scare” resurgence characterized the political climate.⁴⁵ The issue of public health became politicized when President Dwight Eisenhower personally refused the 1957 pandemic vaccine for several months.⁴⁶ Additionally, the country was experiencing social movements and

41 Leavitt, “Pandemics and History,” 996-98.

42 Kilbourne, “Influenza Pandemics,” 13.

43 Navarro and Markel, “Politics, Pushback, and Pandemics,” 420.

44 Kilbourne, “Influenza Pandemics,” 13; Navarro and Markel, “Politics, Pushback, and Pandemics,” 421.

45 Tula A. Connell, *Conservative Counterrevolution: Challenging Liberalism in 1950s Milwaukee*, (Champaign: University of Illinois Press, 2016) 15-56, muse.jhu.edu/book/45291; “Red Scare,” HISTORY.com, A&E Television Networks, last modified February 28, 2020, <https://www.history.com/topics/cold-war/red-scare>.

46 Connell, *Conservative Counterrevolution*, 84-102; John Kelly, “In 1957, a New Flu Appeared in Asia. The World Watched and Waited for It to Spread,” *Washington Post*, last modified March 17, 2020, https://www.washingtonpost.com/local/in-1957-a-new-flu-appeared-in-asia-the-world-watched-and-waited-for-it-to-spread/2020/03/17/9f5205b4-685f-11ea-b313-df458622c2cc_story.html.

protests, which began with the passage of the Civil Rights Act in 1957.⁴⁷ Similarly to the summer of 2020, in 1968, the country was marked by social unrest and protests.⁴⁸ The country was deeply divided politically during both 1957 and 1968 pandemics, comparable to the political polarization seen during the 2009 and COVID-19 pandemics.⁴⁹

The city of Milwaukee went through a massive political shift between the 1957 and 1968 pandemics. In 1960, Milwaukee residents elected the first non-Socialist mayor since 1914, Conservative Democrat Henry Maier.⁵⁰ Milwaukee followed the nationwide course and became an epicenter for civil rights in the 1960s, despite Mayor Maier's opposition to the movement.⁵¹ From 1967-1968 Milwaukee Civil Rights activists led an open housing march for 200 consecutive days to protest racial discrimination in housing.⁵² Despite the efforts of Alderwoman Vel R.

47 National Archives, "Civil Rights Act of 1957," Dwight D. Eisenhower Presidential Library, Museum & Boyhood Home, accessed March 12, 2023, <https://www.eisenhowerlibrary.gov/research/online-documents/civil-rights-act-1957#:~:text=The%20result%20was%20the%20Civil,with%20the%20right%20to%20vote.>

48 Zachariah Mampilly, "Protests Are Taking Over the World. What's Driving Them?" *New York Times*, October 3, 2021; National Archives, "1968: a Year of Turmoil and Change," last modified June 6, 2018, <https://www.archives.gov/news/topics/1968-a-year-of-turmoil-and-change>; Jennifer D. Roberts, "Pandemics and Protests: America Has Experienced Racism like This Before," *How We Rise*, The Brookings Institution, June 9, 2021, accessed April 11, 2023, <https://www.brookings.edu/blog/how-we-rise/2021/06/09/pandemics-and-protests-america-has-experienced-racism-like-this-before/>.

49 National Archives, "1968."

50 Alexander Belovsky, "Milwaukee Mayors," *Encyclopedia of Milwaukee* (online), accessed September 10, 2021, <https://emke.uwm.edu/entry/milwaukee-mayors/>.

51 Connell, *Conservative Counterrevolution*, 75-104; *Crisis of our Cities*, 4, August, 1967, Box 170, Folder 23, Milwaukee (Wis.). Mayor: Records of the Henry W. Maier Administration, 1960-1988, Archives/ Milwaukee Area Research Center, University of Wisconsin-Milwaukee Libraries.

52 Mary Kate McCoy, "50 Years after Milwaukee's Fair Housing Marches, Disparities Remain, Activists Say," *Wisconsin Public Radio* (online), accessed on April 1, 2023, <https://www.wpr.org/50-years-after-milwaukees-fair-housing-marches-disparities-remain-activists-say>. The 1967-1968 open housing march in Milwaukee, was the longest spanning protest associated with Civil Rights in the country's history, until the record was broken in the fall of 2021 again in Milwaukee, by Milwaukee-based Civil Rights activists.

Phillips, the first African American and woman elected to Milwaukee's Common Council, who proposed a fair housing act three times between 1962 and 1968, and the accompanying marches, boycotts, and protests, a Fair Housing ordinance was not adopted in Milwaukee until the spring of 1968. The Milwaukee Common Council adopted the ordinance only after Congress passed the 1968 Fair Housing Act, after pressure from Martin Luther King Jr's assassination.⁵³ However, a federal judge had to force the desegregation of Milwaukee Public Schools by an order in 1976.⁵⁴ Simply put, the context of political and social division cited by these scholars as the reason for resistance to NPIs during the 2009 and COVID-19 pandemics was present during prior pandemics. However, Milwaukee residents did not resist NPIs until the 2009 and COVID-19 pandemics.

This research project found a different cause for the public's cooperation with NPIs during the 1918, 1957, and 1968 pandemics in Milwaukee, as opposed to the opposition and indifference during the 2009 and COVID-19 pandemics. This thesis argues through a historical analysis of the last five pandemics in the city of Milwaukee, with an emphasis on its health commissioners, that a health commissioner's social, cultural, and historical understanding of the city is the crucial factor in gaining public compliance and determining the outcome of each pandemic.

⁵³ "Fair Housing Act," Congressional Debate, History.com, January 27, 2010, last modified January 28, 2021, https://www.history.com/topics/black-history/fair-housing-act#section_2; McCoy, "50 Years After."

⁵⁴ McCoy, "50 Years After."

Methodology

This historical analysis of the last five pandemics in Milwaukee emphasizes health commissioners' responses to each pandemic. This study employs qualitative research methods, including archival and newspaper research, to gather contextual information. This study used basic quantitative data, including vital statistics, to track the effect of each pandemic on Milwaukee residents. Vital statistics included excess death rates (EDR), morbidity, and mortality for each pandemic virus.

This thesis used the city of Milwaukee, Wisconsin, to examine and compare pandemic responses and public cooperation during the last five pandemics for several reasons. Pandemic scholarship has frequently cited Milwaukee for the health commissioner's use of public health interventions and overall outcome during the 1918 pandemic.⁵⁵ In 1918, Milwaukee ranked third of the pandemic's lowest excess death rate (EDR) in a study of forty-three cities.⁵⁶ Through Ruhland's utilization of non-pharmaceutical interventions, even as a city with slightly more than 470,000 people, the excess death rate stayed at 292/100,000 deaths/people.⁵⁷

55 "Milwaukee Flu Death Rate Lowest in U. S.," *Milwaukee Journal*, January 15, 1919; Johnson, "Milwaukee Cases to be Key," 1; Haynes, "Understanding the Flu," 1.

56 Richard J. Hatchett, Carter E. Mecher, and Marc Lipsitch, "Public Health Interventions and Epidemic Intensity during the 1918 Influenza Pandemic," *Proceedings of the National Academy of Sciences* 104, no. 18 (May 2007): 7582-87, doi: 10.1073/pnas.0610941104.

57 Leavitt, "Pandemics and History," 996-97; Markel et al., "Non-Pharmaceutical Interventions," 647-50. Dr. William Farr from the U.K. created the excess death rate (EDR) statistic in 1840 to track and visualize pandemics. EDR initially was calculated by subtracting the number of influenza-like illness (ILI) deaths observed during an epidemic or pandemic from the average during non-epidemic seasons. Today tests for pandemic viruses are developed quicker so EDR from a pandemic virus is even more exact, but in the beginning stages EDR is used when it is not possible to confirm through testing that someone died from a virus. For an excellent breakdown of this history and use of EDR in pandemics see Mark Honigsbaum's article in the *Lancet*: Mark Honigsbaum, "Revisiting the 1957 and 1968 Influenza Pandemics," *The Lancet (British Edition)* 395, no. 10240 (2020): 1824-26, [https://dx.doi.org/10.1016%2FS0140-6736\(20\)31201-0](https://dx.doi.org/10.1016%2FS0140-6736(20)31201-0).

Milwaukee was one of the eighteen largest cities in the country, defined as having a population of more than 350,000. Under this parameter, Milwaukee's excess death rate was the second lowest, with only Minneapolis, Minnesota faring slightly better at 271/100,000.⁵⁸ Milwaukee's health commissioner during both the 1957 and 1968 pandemic, Edward Krumbiegel, recorded the city's experience with the pandemics. His reports and local Milwaukee newspapers' documentation of the mid-century pandemics' effects on Milwaukee make setting this research in this city essential to bridge the gaps in pandemic research over the last century. Further, the 2009 pandemic's disproportionate impact on the city and resulting questioning of the Milwaukee Health Department and health commissioner Bevan K. Baker's pandemic response by the public and local and national health officials show the variance needed for this study.⁵⁹ Lastly, Milwaukee was responsible for the most confirmed cases of COVID-19 in Wisconsin during the first two months of the pandemic, but was also the first city in the nation to record race-based data.⁶⁰

Primary and Secondary Sources

The primary sources used were over five hundred newspaper articles from *The Milwaukee Sentinel* (1837-1995) and *The Milwaukee Journal* (1882-1995) for the 1918, 1957, and 1968 pandemics, respectively. *The Milwaukee Journal Sentinel* consolidated the two newspapers in 1995. An additional six hundred articles from the merged newspapers were identified to analyze the 2009 and COVID-19 pandemics. The articles were gathered from the

58 Leavitt, "Pandemics and History," 996; Markel et al., "Non-Pharmaceutical Interventions," 647.

59 Kumar et al., "Epidemiologic Observations," 783, 794.

60 Jannene, "COVID-19 Hotspots."

combined archives found in *The Milwaukee Journal Sentinel's* online database.⁶¹ Other primary sources included a study conducted by Health Commissioner Krumbiegel and the Milwaukee Health Department (MHD) during the 1968 pandemic,⁶² local and state government reports, and correspondence between health commissioners and colleagues.⁶³ Archival sources included Milwaukee Department of Health Records,⁶⁴ the Emil Seidel papers, Daniel Hoan collection, and Records of Mayor Henry W. Maier Administration 1957-1989, and maps of Milwaukee held by the University of Milwaukee's American Geographical Society Library.⁶⁵ Secondary sources included journal articles on the pandemics,⁶⁶ the *Encyclopedia of Milwaukee*

61 See Appendix B, "Pandemic Newspapers," for a complete list of newspaper articles analyzed during each pandemic.

62 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 140–50.

63 City of Milwaukee Department of Health Records, 1871-2020, Collection 24, Residential Vital Statistics, 1962-1974, Box 69, Folder 12, City of Milwaukee Archival Collections, Milwaukee Public Library, Milwaukee, Wisconsin.

64 "Department of Health Records 1871-2005" collection, Humanities Department, Milwaukee Public Library.

65 "American Geographical Society Library Digital Map Collection," American Geographical Society Library, University of Wisconsin-Milwaukee, <https://collections.lib.uwm.edu/digital/collection/agdm/search/searchterm/American%20Geographical%20Society%20Library%20Digital%20Map%20Collection/field/digitb/mode/exact/conn/and>.

66 Bootsma and Ferguson, "The Effect of Public Health Measures," 7588–93; Leavitt, *The Healthiest City*, 120-35; Markel et al., "Non-Pharmaceutical Interventions," 644–54; Navarro et al., "A Tale of Many Cities," 393–421.

(online),⁶⁷ *The American Influenza Epidemic of 1918-1919: A Digital Encyclopedia* (online),⁶⁸ biographies of the health commissioners,⁶⁹ and histories of the city of Milwaukee.⁷⁰

Background of Milwaukee

The issue of residential segregation has persisted in Milwaukee for a considerable period, and it has adversely affected the health of minority and low-income residents. This outcome is attributable to several factors, including concentrated poverty, a lack of social support networks, and limited political power.⁷¹ Scholars Leonard E. Egede, Rebekah J. Walker, Emma Garacci, John R. Raymond; Michael R. Kramer, Carol R. Hogue; J. Alexander Navarro, Katrin S. Kohl, Martin S. Cetron, Howard Markel; Joel Rast, Yaidi Cancel Martinez, and Lisa Heuler Williams, have conducted studies demonstrating the significant impact of residential segregation on minority communities during pandemics, including the 2009 outbreak and

67 Belovsky, "Milwaukee Mayors."

68 "Milwaukee," *The American Influenza Epidemic of 1918-1919: A Digital Encyclopedia*, University of Michigan Center for the History of Medicine and Michigan Publishing, University of Michigan Library, last modified September 19, 2016.

69 Belovsky, "Milwaukee Mayors"; Todd Fulda, "Daniel Hoan and the Golden Age of Socialist Government in Milwaukee," *The American Journal of Economics and Sociology* 75, no. 1 (2016): 246–60, [doi: 10.1111/ajes.12136](https://doi.org/10.1111/ajes.12136); Jerome A. Watrous, *Memoirs of Milwaukee County: From the Earliest Historical Times down to the Present, Including a Genealogical and Biographical Record of Representative Families in Milwaukee County* (Madison: Western Historical Association, 1909), <https://content.wisconsinhistory.org/digital/collection/wch/id/63024>.

70 John Gurda, "People of Milwaukee: Polish Milwaukee," *The Making of Milwaukee*, Milwaukee PBS, accessed on November 12, 2022, <https://www.milwaukeepbs.org/the-making-of-milwaukee/people/>.

71 Egede et al., "Racial/Ethnic Differences in COVID-19," 1927; Michael R. Kramer and Carol R. Hogue, "Is Segregation Bad for Your Health?" *Epidemiologic Reviews* 31, no. 1 (2009): 186-88, [doi:10.1093/epirev/mxp001](https://doi.org/10.1093/epirev/mxp001); Douglas S. Massey, "Origins of Economic Disparities: Historical Role of Housing Segregation," In *Segregation: The Rising Costs for America*, edited by James H. Carr and Nandinee K. Kutty, (New York: Routledge, 2008), 39-80, <https://archive.org/details/segregationrisin0000unse/page/n3/mode/2up>.

COVID-19.⁷² While researchers have linked this problem to redlining policies of the past, its existence precedes those regulations.

In Milwaukee, the segregated neighborhoods on the north and southsides were particularly hard-hit during these health crises.⁷³ However, the roots of health inequality in Milwaukee's neighborhoods go back further than the first redlining policy of the 1930s. Historical data shows that the city was initially segregated by ethnicity, and the Polish and German enclaves encountered similar health disparities during the 19th and early 20th centuries, including the 1918 pandemic.⁷⁴ Therefore, this background section provides historical information on Milwaukee's geography, settlement patterns, and health, to establish that residential segregation is not the sole determinant for the difference in outcomes between the 1918 and 2009 and COVID-19 pandemics in Milwaukee.

Milwaukee's segregation extends beyond social lines and is evident in its urban structure, which resembles a Multiple Nuclei Model or a neighborhood-centric geography.⁷⁵ The city's layout evolved from its three original settlements, beginning in 1818 with Solomon

72 Egede et al., "Racial/Ethnic Differences in COVID-19," 1926-34; Kramer and Hogue, "Is Segregation Bad," 186-88; Navarro et al., "A Tale of Many Cities," 417-19; Rast, Martinez, and Williams, "Milwaukee's Coronavirus Racial Divide," 16-18.

73 Navarro et al., "A Tale of Many Cities," 418; Rast, Martinez, and Williams, "Milwaukee's Coronavirus Racial Divide," 3-11.

74 Brigitte M. Charaus, "What Lies Beneath: Uncovering the Health of Milwaukee's People, 1880-1929" (PhD diss., Marquette University, Fall 2010), 15-110, https://epublications.marquette.edu/dissertations_mu/68/; Leavitt, *The Healthiest City*, 11-97.

75 Michael P. Conzen and Kathleen Neils Conzen, "Geographical Structure in Nineteenth-Century Urban Retailing: Milwaukee 1836-1890," *Journal of Historical Geography* 5, no. 1 (January 1979): 44, [doi.org/10.1016/0305-7488\(79\)90037-9](https://doi.org/10.1016/0305-7488(79)90037-9).

Juneau's "Juneautown" on the east side.⁷⁶ George Walker settled "Walker's Point" on the southside of the Milwaukee River in 1835, driven by economic potential and trade accessibility.⁷⁷ A year later, Byron Kilbourn established "Kilbourntown" on the west side of the river.⁷⁸ Milwaukee's north side developed from the inner core of the city where the west and east sides met.⁷⁹ Expressways built in the twentieth century and parks separate the north, west, and southsides from the east side and lakefront.⁸⁰ The name Milwaukee stems from the Anishinaabemowin word "minowakiing" meaning good place in reference to the city's location at the meeting of the Kinnikinnic, Milwaukee, and Menomonee rivers. The three rivers serve as a natural geographic barrier that further divides the city.⁸¹

From 1818 until 1846, Juneautown, Kilbourntown, and Walker's Point developed separate municipalities with commercial districts, urban design, and ethnic enclaves.⁸² A distinct competition between the villages drove separation during expansion, creating a lasting impact on the city's geography. For example, Kilbourn intentionally designed his settlement's

76 Watrous, *Memoirs of Milwaukee County*, 3-15.

77 Charaus, "What Lies Beneath," 34-41.

78 Charaus, "What Lies Beneath," 34-41.

79 The Great Migration of the early 20th century, segregation laws, and redlining practices resulted in northern, western, and southern expansion of the city. The neighborhoods at the inner core of the city such as Brewer's Hill, Bronzeville, Halyard Park, and Harambe, form the current northside, despite previously being considered part of the west or eastsides.

80 Leah Foltman, Malia Jones, Caitlin Bourbeau, "How Redlining Continues to Shape Racial Segregation in Milwaukee." *Disparities and Equity in Wisconsin*, *WisContext*, February 28th, 2019, <https://www.wiscontext.org/how-redlining-continues-shape-racial-segregation-milwaukee>.

81 John Gurda, *Cream City Chronicles: Stories of Milwaukee's Past* (United States: Wisconsin Historical Society Press, 2007), 74.

82 Conzen and Conzen, "Urban Retailing: Milwaukee 1836-1890," 44.

streets to misalign with Juneau's, which led to mismatched streets from west to east and angled bridges separating distinct parts of the city.⁸³ These discrepancies are still apparent today. In 1846, Juneau, Kilbourn, Walker, and their settlements voted to merge into one municipality. After the villages merged, they retained their commercial centers, never fully becoming a cohesive unit.⁸⁴ The neighborhood-centric geography and residential segregation of the city today are the consequence of that lack of early cohesivity.⁸⁵

Two main groups, affluent Yankee Yorkers residing on the east side and north shore and German immigrants residing on the west side of the city, influenced the early development of Milwaukee.⁸⁶ Yankee Yorkers initiated the city's wheat agriculture which gave rise to the city's brewing industry and a large influx of German immigrants becoming prominent early members of Milwaukee society.⁸⁷ After Yankee Yorkers left the city, the wealthiest Germans took their places on the east side. At the same time, working-class Germans continued to populate west-side neighborhoods close to the breweries and tanneries where they worked.⁸⁸ Due to the large

83 John Gurda, "Where Healing Began: The First 'Regional Medical Center' Was on N. 4th St.," *Milwaukee Journal Sentinel*, March 2, 2013, 8; Matthew J. Prigge, "Bridge Wars!" *Shepard Express*, April 7, 2014.

84 Conzen and Conzen, "Urban Retailing: Milwaukee 1836-1890," 44.

85 Conzen and Conzen, "Urban Retailing: Milwaukee 1836-1890," 44.

86 Conzen and Conzen, "Urban Retailing: Milwaukee 1836-1890," 44; Joseph Schafer, "The Yankee and the Teuton in Wisconsin," *The Wisconsin Magazine of History* 6, no. 2 (1922): 125-45, <http://www.jstor.org/stable/4630418>. Yankee Yorkers eventually expanded along the lake shore past city bounds and developed the North Shore suburbs, the villages of Bayside, Fox Point, Shorewood, and Whitefish Bay.

87 Schafer, "The Yankee and the Teuton," 125-45, <http://www.jstor.org/stable/4630418>.

88 John Gurda, "America's Most German-American City: Milwaukee Looks Back on Its Legacy as the Deutsch-Athens," *German Life*, 3 no.4 (1997): 42-45.

population of German immigrants during the 19th and early 20th centuries, German culture highly influenced Milwaukee, earning it the reputation as the most German city in America.⁸⁹

Throughout the city's early history, Walker's Point was Milwaukee's foremost manufacturing hub. Most factories and railroads were situated in the south-side neighborhood which resulted in the concentration of industrial activity and job opportunities there.⁹⁰ As a result, the neighborhood became a magnet for successive waves of immigrants during the 19th century. Irish, Italian, Greek, Slovenian, and Eastern European immigrants all settled in the area, making it the city's most diverse neighborhood in terms of ethnicity.⁹¹ However, it was also the least economically diverse, with a predominantly working-class population.

The third most influential ethnic enclave in shaping Milwaukee was comprised of Polish immigrants. Polish immigrants significantly impacted the residential geography and architecture of Milwaukee's southside. They emigrated to Milwaukee later than Germans, primarily from 1870-1910, where they initially settled in and around Walker's Point to be near the factories they worked at.⁹² Polish immigrants placed immense value on home and land ownership, as a

89 Gurda, "America's Most German-American City," 42-45.

90 "Walker's Point," Neighborhoods in Milwaukee, Urban Anthropology, accessed April 5, 2023, <http://www.neighborhoodsinmilwaukee.org/Walker%27s%20Point.pdf>.

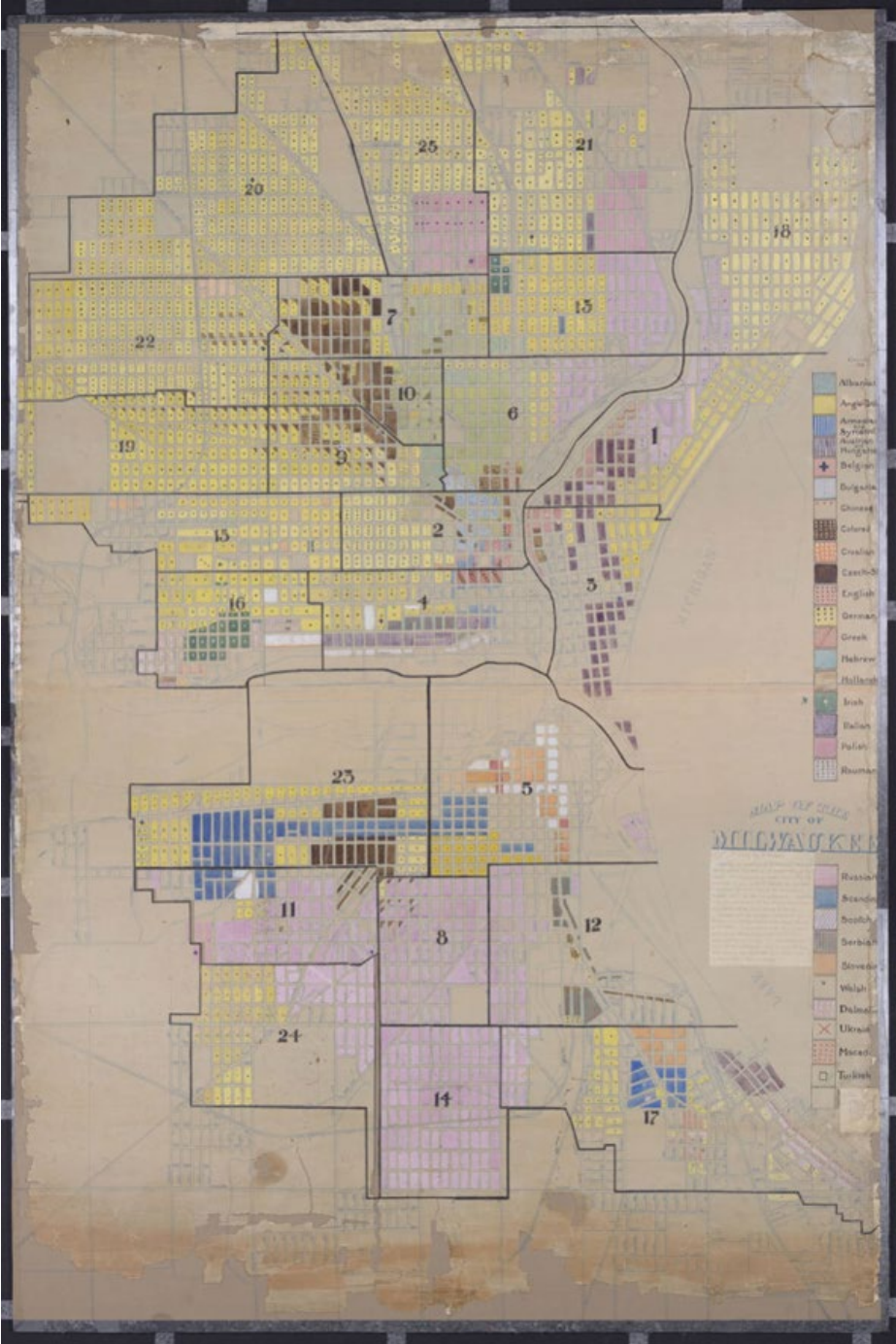
91 "Walker's Point," neighborhoodsinmilwaukee.org. For more information on the history of other ethnic enclaves' health and settlement patterns in Milwaukee apart from Poles, Germans, Yankee Yorkers, Latine, and African Americans see Brigitte M. Charaus's dissertation "What Lies Beneath: Uncovering the Health of Milwaukee's People, 1880–1929," https://epublications.marquette.edu/dissertations_mu/68/.

92 Gurda, "Polish Milwaukee."

result they caused the expansion of the southside to the 11th and 14th Wards, shown in the map below, where neighborhoods Polonia, Lincoln Village, and Muskego Way are today.⁹³

⁹³ Cari Taylor-Carlson, "Lincoln Village Is a Slice of Polish History," Milwaukee Walks, *Urban Milwaukee*, March 13, 2022, <https://urbanmilwaukee.com/2022/03/13/milwaukee-walks-lincoln-village-is-a-slice-of-polish-history/>.

Figure 1: Map of Racial Demographics in Milwaukee, 1918



Mrs. William MacLaren and Mrs. Arthur T. Holbrook, Map of the City of Milwaukee: Racial Map of Milwaukee, Women’s Club of Wisconsin, 1918, MPL Humanities Map Collection, Milwaukee Public Library. <https://content.mpl.org/digital/collection/MKEMaps/id/74/>.

Poles constructed small cottages on narrow land plots outside of Walker's Point as soon as they could afford to.⁹⁴ Instead of purchasing larger homes later, they would excavate under the first structure to create another level, giving rise to the "Polish Flat" style of housing.⁹⁵ The overcrowded and poorly ventilated conditions of the first floor of these flats contributed to the health concerns of the area.⁹⁶ Additionally, since Polish immigrants built these flats in newly expanded neighborhoods, they often lacked running water due to the city's infrastructure limitations until the 1910s.⁹⁷

During the 1920s, Germans with increasing wealth began migrating from west and northside neighborhoods to the east side or northern and western suburbs of Milwaukee.⁹⁸ As a result, African Americans who relocated to Milwaukee during the Great Migration settled in the city's north side, where housing was attainable and available.⁹⁹ At the same time, the southside Walker's Point area experienced a shift in population as tannery owners began recruiting immigrants from Mexico and South America.¹⁰⁰ Consequently, the Latine community

94 Thomas C. Hubka and Judith T. Kenny, "The Workers' Cottage in Milwaukee's Polish Community: Housing and the Process of Americanization, 1870-1920," *Vernacular Architecture Forum* 8 (2000): 33-52, <https://doi.org/10.2307/3514406>.

95 Hubka and Kenny, "The Workers' Cottage," 38-42.

96 Affordability Advocates Rediscover Milwaukee's 'Polish Flats' and 'German Duplexes,' Fieldworks Archives. U.S. Department of Housing and Urban Development, July/August 2000, <https://archives.huduser.gov/fieldworks/0800/fworks1.html>.

97 John D. Buenker, *The Progressive Era, 1893-1914*, (Stevens Point: Wisconsin Historical Society Press, 2013): 233; Leavitt, "Politics and Public Health," 553-60.

98 Charaus, "What Lies Beneath," 180, 243-44.

99 Charaus, "What Lies Beneath," 220.

100 Jessica Madhukar, "Understanding the Origins of Milwaukee's South Side Latino/Hispanic Community," TMJ4 Milwaukee, September 30, 2021, last modified October 1, 2021,

settled on the southside near their places of work.¹⁰¹ Poles began moving out of the city to Milwaukee's western suburbs in the 1960s, which led to the Latine community expanding out from Walker's Point to the rest of the previously Polish neighborhoods and into many Polish Flats.¹⁰²

Health Commissioners and the Milwaukee Health Department

The waves of immigration not only impacted the geography of Milwaukee, but the need for the city to address public health. Public health, as it is known today, emerged as a response to the cholera epidemics of 1832, 1849, and 1866 that spread across the United States.¹⁰³

During the 19th century, rapid urbanization led to crowded living conditions and inadequate sanitation in cities, resulting in constant epidemics of diseases that lacked established methods of response to prevent their spread.¹⁰⁴ Prior to public health boards and Health Departments in cities, local government, religious groups, and physicians led disease interventions and were largely ineffective. According to Charles Rosenberg's examination of the cholera epidemics, the groups were inefficient in responding to disease spread for two reasons. First, the groups staunchly differed from each other in terms of the interventions they implemented. Second,

<https://www.tmj4.com/news/hispanic-heritage/understanding-the-origins-of-milwaukees-south-side-latinx-community>.

101 John Gurda, "Milwaukee's Historic South Side: Poles then, Latinos Now," *Milwaukee Journal Sentinel*, August 2, 2013, <https://archive.jsonline.com/news/opinion/milwaukees-historic-south-side-poles-then-latinos-now-b9965192z1-218125601.html/>.

102 "Poles," Encyclopedia of Milwaukee, accessed October 1, 2021, <https://emke.uwm.edu/entry/poles/>.

103 Charles E. Rosenberg, *The Cholera Years* (Chicago: The University of Chicago Press, 1962), 6-8; Milwaukee Common Council, *Meeting Minutes*, 1866.

104 Rosenberg, *The Cholera Years*, 6-12.

their patient care and treatment were impacted by their social, cultural, and political biases.¹⁰⁵ The establishment of boards of health ensured a swift, universal, and science-backed approach to all future epidemics in most cities. Furthermore, these health boards' powers later expanded to focus on other areas impacting residents' health, such as sanitary infrastructure like running water and sewage systems.¹⁰⁶

Like other cities across the United States, Milwaukee's focus on public health shifted significantly with the establishment of the Milwaukee Board of Health in 1867.¹⁰⁷ The Board consisted of five members appointed by the mayor.¹⁰⁸ In the 1870s, Mayor Edward O'Neill appointed Dr. James Johnson as Milwaukee's first health commissioner, which began a long history of reform-focused health commissioners.¹⁰⁹ Despite experiencing typical health problems of other cities due to population density, Milwaukee gained a reputation for public health reform through the actions of its “sewer socialists” and health commissioners. The reformers' success eventually earned the city the title of “The Healthiest City” in the 1940s.¹¹⁰

Several of the first Health Commissioners of the city of Milwaukee made significant contributions to the field of public health, and the public health of the city.¹¹¹ Dr. Orlando

105 Rosenberg, *The Cholera Years*, 8.

106 Rosenberg, *The Cholera Years*, 9-10.

107 Milwaukee Common Council, *Meeting Minutes*, 1866.

108 Milwaukee Common Council, *Meeting Minutes*, 1866.

109 Louis Frederick Frank, *The Medical History of Milwaukee* (Milwaukee: Germania Publishing Company, 1915), 5-62, 184.

110 Leavitt, *The Healthiest City*, 43.

111 See [Appendix A](#) for the chronological order of Milwaukee's Health Commissioners.

Williams Wight (1878-1887), Dr. U.O.B. Wingate (1890-1894), and Dr. Walter Kempster (1894, 1895-1898) are three of the most significant health commissioners to the context of this thesis. Wight, the third health commissioner of the city, was responsible for the city's earliest reforms. When he took on the position, annual epidemics of disease were common, prompting him to create sweeping reforms to ensure clean drinking water, waste disposal, and prevention of the sale of unsafe milk, meat, and other foods.¹¹² Journalist Carl Swanson described Wight as having “an off-the-charts level of drive and focus, [encouraging], [cajoling], [arguing] and, if all else failed, outright [bullying] business and civic leaders into sweeping public health reforms.”¹¹³

Wight initiated the city's first non-pharmaceutical interventions, including enforcing closed-casket funerals for those who had died of a contagious disease. When multiple undertakers disobeyed his orders, he issued a formal Health Department order that the coffins remain sealed, with violators facing the consequences. The public slightly complained about the order, according to Wight's recount:

A few people grumbled about tyranny in a free country, and one clergyman sent me word that I was interfering with Divine Providence. I sent him back word that if he would produce an authenticated order from Divine Providence that smallpox, scarlet fever, and diphtheria shall not be contagious at funerals, then the Commissioner of Health would consider his order superseded.

Even so, Wight's order was complied with by the city's public, clergy, and undertakers.

112 Carl Swanson, “Orlando Williams Wight: The Man Who Cleaned Up Milwaukee,” *Milwaukee History, On Milwaukee*, March 13, 2015, accessed February 27, 2022, <https://onmilwaukee.com/articles/orlandowilliamswight>.

113 Swanson, “Orlando Williams Wight.”

During his three years as health commissioner, Wight involved himself in nearly every sector of the city.¹¹⁴ He canvassed every single school building, closing six for unsafe environments. He inspected delis, dairy, and meat processing factories and created the city's first health code standards.¹¹⁵ Wight instituted vast and swift reforms but operated under the idea that every member of the public deserved to have their health-related concerns heard. To this end, he created a “nuisance court” where members of the public could speak to him and other Health Department members about health-related issues they faced.¹¹⁶ During the first year of this nuisance court, he heard over 1200 cases.¹¹⁷ Wight's consideration of the public facilitated a massive change to the city's public health.

During Wight's tenure, religious charities and physicians continued to provide most of the individual healthcare for residents. However, the city commissioned the Milwaukee Board of Health to address public health and disease spread. The most effective measures to prevent disease spread are isolation and quarantine. The Board's first initiative was establishing the Milwaukee City Hospital in 1877, which was the first public non-affiliated, and not-for-profit hospital in Milwaukee.¹¹⁸ The Health Department used this hospital as an isolation and quarantine hospital throughout its history.¹¹⁹ The hospital was initially located on the city's

114 Frank, *Medical History of Milwaukee*, 88, 184.

115 Swanson, “Orlando Williams Wight.”

116 Swanson, “Orlando Williams Wight.”

117 Swanson, “Orlando Williams Wight.”

118 Milwaukee Health Department, *Annual Report*, 1880. City Hospital was renamed several times.

119 Bobby Tanzilo, “Urban Spelunking: Milwaukee Isolation Hospital/Southside Health Center,” OnMilwaukee, March 6, 2015, accessed April 2, 2023, <https://onmilwaukee.com/articles/isolationhospital>.

outskirts, between the 11th and 14th wards, impoverished, densely populated, and predominantly Polish neighborhoods.¹²⁰ The hospital was built in this area because although diseases often did not originate in these wards, due to socioeconomic and cultural practices, including Polish-flat style housing and anti-vaccination beliefs, effective isolation within homes was not practical.¹²¹ Therefore, once diseases spread to these neighborhoods, the spread could quickly turn into an epidemic for the entire city, making removal to an isolation hospital necessary.

Health Commissioner Dr. Orlando Williams Wight had designed a hospital that would work for isolation, requiring proper ventilation, corridor seals, plumbing, and heat.¹²² The Common Council ignored Wight's design as they had commissioned an architect, and in 1879 the hospital was completed.¹²³ The hope of the isolation hospital was to mitigate disease spread. However, because its design lacked consideration for disease spread and Health Commissioner Wight's input, it could only viably house five patients without risking infection spreading. From its completion in 1879 until its reconstruction in 1890, the hospital repeatedly housed more than five patients at a time, making it ineffective at its sole purpose.¹²⁴ Consequently, the hospital developed a stigma, and nearby residents referred to it as a pest

120 Andy Soth, "When Efforts to Halt Smallpox in Milwaukee Provoked Fear and Fury," Wiscontext, PBS Wisconsin and Wisconsin Public Radio, May 8, 2020; Swanson, "Orlando Williams Wight."

121 Buenker, *The Progressive Era*, 231-35.

122 Swanson, "Orlando William Wight."

123 Tanzillo, "Urban Spelunking."

124 Tanzillo, "Urban Spelunking."

house, with the common belief that being in proximity to it would cause one to become ill.¹²⁵

When Dr. U. O. B. Wingate became Health Commissioner in 1890, he rehabbed the building, adding disinfectant chambers and a heating system to enable its use during the winter.¹²⁶

During the 1894 smallpox epidemic and 1918 influenza pandemic, authorities utilized the newly reconstructed hospital for quarantine.

Throughout Health Commissioner Wingate's term in the position, he created a new round of reformations to the public health of Milwaukee. Wingate served as health commissioner of Milwaukee from 1890 to 1894 when he was appointed secretary of the Wisconsin state board of Health.¹²⁷ Wingate made the most significant policy changes to the position of health commissioner and the Health Department. These policy changes included the 1890 decision that the mayor would still appoint the health commissioner, but the health commissioner could select their board members, who would then be confirmed by the Common Council.¹²⁸ In 1891, his policy that required any child who attended public school to be vaccinated prior to entering the school year was approved.¹²⁹ He also established more individual powers for the health commissioner, specifically the ability to remove patients that

125 Soth, "When Efforts to Halt."

126 Frank, *Medical History of Milwaukee*, 73, 150.

127 Frank, *Medical History of Milwaukee*, 92.

128 *Milwaukee Common Council Proceedings*, September 7th, 1890.

129 *Milwaukee Common Council Proceedings*, August 15th, 1891.

were sick with a contagious disease to the city's isolation hospital if quarantining or isolation was not possible at home.¹³⁰

The public and his colleagues highly regarded Health Commissioner Wingate.¹³¹ When the mayor appointed Dr. Walter Kempster as his successor, Kempster continued to seek the advice of Wingate. Dr. Kempster served as health commissioner of Milwaukee in 1894; the Common Council impeached him in 1895 and then reinstated him shortly after to serve the rest of his term through 1898. Kempster had a number of achievements prior to his appointment in Milwaukee. He was highly regarded in the United States, both as a researcher and as a mental illness expert, and served as an expert witness on multiple trials, including the assassination of Abraham Lincoln and appeals of John Wilkes Booth.¹³² He was commissioned by the United States government to travel to Europe and study Eastern Europeans health practices, as there was a large influx of immigrants from those countries to the US.¹³³ The results of his study on the effectiveness of quarantine to prevent disease spread was published and implemented by the United States government.

The mayor appointed Dr. Kempster as the health commissioner of Milwaukee due to his study on disease transmission amongst Eastern European immigrants, given the significant influx of Polish and German immigrants to Milwaukee during that period. However, despite

130 *Milwaukee Common Council Proceedings*, February 4th, 1892.

131 Frank, *Medical History of Milwaukee*, 92.

132 Scott Cross, "Dr. Walter Kempster," Oshkosh Public Museum, November 10, 2020, <https://oshkosh.pastperfectonline.com/photo/BF339F8C-E98E-44AF-89C6-866735202704>.

133 United States, Public Health Service, *Annual Report of the Surgeon General* (United States: US Government Printing Office, 1894), 72.

Kempster's qualifications, his tenure in Milwaukee is the most significant example of a lack of social and cultural understanding when implementing NPIs, resulting in substantial public pushback.

Disease in Milwaukee

The 1894 smallpox riots in Milwaukee are among the most heavily cited events in public health literature about non-pharmaceutical interventions. Kempster was already at a disadvantage coming into the position of Milwaukee health commissioner due to the political nuances of the Common Council at the time. Further, he was an Englishman in the country's most German city, with a population of 80% European-born immigrants. Kempster was also a staunch supporter of vaccinations and installed dozens of vaccination clinics around the city during his time. Over half of Milwaukee's population were immigrants or children of immigrants from Germany and Poland who had fled their countries due to the repressive governments. Their government enforced smallpox inoculations, so Kempster's reverence for them was not seen as a preventative and potential life-saving measure but a representation of repression. When a smallpox outbreak occurred in Milwaukee, it quickly spread to the densely packed 11 and 14th wards, where it became an epidemic. Kempster noted that during the weeks leading up to the epidemic, residents in the city would ask to be taken to the City Isolation Hospital to be cared for properly. However, once Kempster implemented the NPI of forcible removal on 11th ward Polish residents, a riot broke out, attacking the Health Department employees.

Considering the predicament, Health Commissioner Kempster's decision to order the forcible removal to the city's isolation hospital was appropriate. The tightly packed Polish flats and the considerable number of residents packed within them made it impossible for residents

infected with smallpox to quarantine. Further, because most of the residents in the 11 and 14th wards were not vaccinated, Kempster knew that the disease would spread quickly and infect many Milwaukeeans. The residents pushed back against Kempster's order because he did not consider the cultural, social, or historical background of the residents he enforced his order on. In turn, Kempster was impeached by a vote of the Common Council, with whom the health commissioner had few supporters from the start. Months later, he sued the city for wrongful termination and won. Kempster was then reinstated and finished his term without added controversy. However, Common Council repealed the right of the Health Commissioner to forcibly remove people from their homes for isolation or quarantine matters.

This event during Kempster's time as health commissioner serves as the foundation for understanding disease spread in Milwaukee and the implications of a health commissioner's social, cultural, and historical understanding of a population when deploying NPIs. The history of the city's geography and residential housing has affected specific neighborhoods of the city from their foundations in the 19th century to the present. Settlement patterns of past Milwaukeeans inadvertently determined the health of minority groups today and without proper intervention will continue to lead to mass outbreak of disease in these neighborhoods. However, two health commissioners in Milwaukee's history have been able to circumvent the challenges the residential geography of the city has posed, the first being Dr. George C. Ruhland.

Chapter Two: George C. Ruhland and the 1918 Pandemic

The 1918 influenza pandemic was a global health crisis that remains one of the deadliest pandemics in modern history. The pandemic was commonly known as the “Spanish Flu” due to the belief that the outbreak originated in Spain.¹ However, in recent years, scientists and historians have traced the first case of the virus to Fort Riley in Kansas, United States. From 1918-1919 the pandemic occurred in three distinct waves, with the second being the deadliest and the third infecting those who had not previously contracted the virus, leaving one-third of the global population infected.² The virus spread rapidly worldwide due to the travel and unsanitary conditions of World War I. Health officials estimate that 500-million people worldwide contracted the virus, resulting in 50-100 million deaths. In the United States alone, the pandemic infected 25% of the population, and an estimated 675,000 died.³ The mortality rate was highest among healthy individuals aged 20-40 and was typically caused by a secondary bacterial pneumonia after the initial symptoms of the virus subsided.⁴

1 “Defeating the Grippe,” *Milwaukee Journal*, October 10, 1918, 8.

2 A few cities including Milwaukee experienced a fourth wave in the spring of 1920. This wave occurred in city’s who had lower morbidity and mortality rates during the first three waves, leading to a large portion of their populations to not have immunity. After abandoning NPIs, combined with the lack of immunity, cases in these city’s were significant and were classified as a fourth wave. “1918 Pandemic Timeline,” Influenza (Flu), Centers for Disease Control and Prevention (CDC), last modified March 20, 2018, accessed on October 10th, 2021, <https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/pandemic-timeline-1918.htm>; Warren T. Vaughan, “Influenza: An Epidemiologic Study,” *The American Journal of Hygiene* (July 1921): 93-95. From *Influenza Encyclopedia*, University of Michigan Center for the History of Medicine, digitally archived October 1, 2020, http://hdl.handle.net/2027/spo.0980flu.0016.890_ accessed March 30, 2022.

3 “1918 Pandemic (H1N1 Virus),” Influenza (Flu), Centers for Disease Control and Prevention, last modified March 20, 2019, accessed September 15, 2021, <https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.

4 George J. Dehner, *Influenza: A Century of Science and Public Health Response* (Pittsburgh: University of Pittsburgh Press, 2012), 12.

Dr. George C. Ruhland's exceptional leadership and response prevented Milwaukee's rapid spread and high mortality rates during the 1918 pandemic. Through his extensive knowledge of public health emergencies and longstanding employment in the Milwaukee Health Department (MHD), he implemented successful non-pharmaceutical interventions (NPIs) that effectively slowed the spread of the virus. Ruhland's social understanding built positive relationships, which he relied on to deploy NPIs and mobilize resources. By demonstrating an acute cultural awareness, Ruhland could tailor NPIs to address the diverse needs of the communities in Milwaukee. Without a deep understanding of the public's social, cultural, and historical context, Health Commissioner Ruhland would not have been able to ensure that the residents received the necessary support to adhere to his response plan. As a result, morbidity and mortality rates would have been significantly higher.

Biography of George C. Ruhland

Health Commissioner Doctor George C. Ruhland was born in Milwaukee in 1879.⁵ He served as a newspaper correspondent in Cuba during the Spanish-American war after graduating high school.⁶ He studied medicine at the Wisconsin College of Physicians and Surgeons after the war. After the war, he pursued medical studies at the Wisconsin College of Physicians and Surgeons. Upon graduation, Ruhland began working for the city, starting as a bacteriologist in the Health Department's laboratories in 1906.⁷ He eventually became the city's chief bacteriologist, holding this position until 1914, when he was appointed as the Health

5 "Dr. Ruhland Heart Victim," *Milwaukee Journal*, April 16, 1958, 31.

6 "Dr. Ruhland," *Milwaukee Journal*, April 16, 1958, 31.

7 "Dr. Ruhland," *Milwaukee Journal*, April 16, 1958, 31.

Commissioner by Mayor Daniel Hoan and confirmed by the Common Council.⁸ During his tenure, Ruhland also served in the medical division of the US Army during World War I and achieved the rank of Major by 1919.⁹ Ruhland remained in the position of health commissioner for ten years until 1924, despite two attempts by Mayor Hoan to replace him. Ruhland's survival in the role was due to his approval by the Common Council.

Historians and colleagues of Ruhland described him as a consensus-building health commissioner.¹⁰ He was also an early pioneer of incorporating sociology into public health.¹¹ Through his application of a sociological lens to his work in the Health Department, Ruhland placed importance on working with appropriate organizations and boards to ensure accessibility to public health services for Milwaukeeans. One example of this approach was Ruhland's work with the Milwaukee school board to establish ice stations on school property, so they were accessible during the summer. These ice stations were critical in the summer to prevent food spoilage and the public contracting food borne illnesses as a result. He also secured appropriate subsidization from an ice company to make ice affordable to poorer families, which reduced infant mortality rates among people with low incomes in Milwaukee.¹²

8 "Dr. Ruhland," *Milwaukee Journal*, April 16, 1958, 31.

9 "Dr. Ruhland," *Milwaukee Journal*, April 16, 1958, 31.

10 "Dr. Ruhland," *Milwaukee Journal*, April 16, 1958, 31; Steven Burg, "The Virus That Shut Down Wisconsin: The Great Flu Pandemic of 1918," *The Flu and Wisconsin's Public Health* (blog), *WisContext*, last modified April 7, 2020: 83-96, <https://www.wiscontext.org/virus-shut-down-wisconsin-great-flu-pandemic-1918>.

11 Burg, "The Virus."

12 Letter from George C. Ruhland Health Commissioner to F. M. Harbach, Secretary of the Milwaukee School Board, about Ice stations, from "Proceedings of the Board of School Directors," (United States: The Board, 1919): 399.

Furthermore, the American Housing Association credited Ruhland with conducting “the most thorough surveys of housing and social conditions in any community that has been made in recent years in America” in 1917, due to his groundbreaking work correlating poor housing conditions with health.¹³ His study provided evidence that poor morals were not the sole cause of bad health, debunking a common belief of the time.¹⁴

Despite his contributions to public health, Ruhland did face criticism, particularly for his strict control of Milwaukee's milk industry. Public health historian Judith Walzer Leavitt, disapproved of Ruhland's actions, citing their negative impact on local dairy farmers and the dairy industry.¹⁵ Nevertheless, Ruhland received commendation from members of the local government and his colleagues for his efforts, especially during the 1918 pandemic.¹⁶

The 1918 Pandemic in Milwaukee

Between 1918 and 1920, Milwaukee experienced four waves of pandemic influenza.¹⁷

The first wave lasted from September 15th to November 4th, 1918, followed by the second

13 “Report of the Secretary,” Proceedings of the National Housing Association, United States: American Housing Association, (1917): 416.

14 “Housing and Health,” Housing, (United States: National Housing Association, 1916): 14-16, 25. <https://www.google.com/books/edition/HoUSing/drhNAAAAMAAJ?hl=en&gbpv=0>.

15 Judith W. Leavitt, “Pandemics and History: Context, Context, Context,” *American Journal of Public Health* 111, no.6 (2021): 997, [doi:10.2105/AJPH.2021.306270](https://doi.org/10.2105/AJPH.2021.306270).

16 Belle Bortin, “Influenza Epidemic,” *Marquette Law Review* 3, no. 1 (1918): 42-47. <https://scholarship.law.marquette.edu/cgi/viewcontent.cgi?article=4779&context=mulr>; “Letter of Transmittal,” Letter to Health Commissioner F. C. Kraft from J. R. Commons and B. M. Rastall of the Bureau of Economy and Efficiency, September 6, 1911.

17 John M. Barry, “What We Can Learn from How the 1918 Pandemic Ended,” *New York Times*, January 31, 2022.

wave from November 29th, 1918, to January 10th, 1919.¹⁸ The third wave occurred from March 6th to April 30th, 1919, with the final wave taking place from January 14th to February 29th, 1920.¹⁹ Historians consider Milwaukee's response to the pandemic, particularly during the first two waves, as one of the most successful in the United States.²⁰ Scholars and public officials credit the early and comprehensive deployment of non-pharmaceutical interventions (NPIs) by the city's health commissioner, George C. Ruhland, for this success.²¹

The first cases of influenza reached Milwaukee on September 15, 1918, by way of three men. They were D. Henderson, a laborer for a Great Lakes freight boat, William Westphal, a Milwaukee resident, and Lieutenant Vernon Stacey, on leave from the Great Lakes Naval Training Center in Chicago, who visited Westphal.²² The hospital admitted Henderson first. Stacey followed later that day.²³ Westphal died of pneumonia as a complication of influenza the

18 "Co-operation with the Health Department Will Prevent Another Serious Influenza Epidemic in Milwaukee," *Milwaukee Sentinel*, December 9, 1918, 1; "Flu Situation Still Declared Serious," *Milwaukee Journal*, November 23, 1918, 7; "Prevent Influenza," *Milwaukee Sentinel*, December 8, 1918; "Warning Is Renewed against Flu," *Milwaukee Sentinel*, November 23, 1918, 15.

19 "Influenza Gains; Warning Is Issued," *Milwaukee Sentinel*, March 14, 1919, 7; "Public Is Called to Stamp Out Flu," *Milwaukee Sentinel*, January 15, 1920, 1; Warren Taylor Vaughan, "Influenza: An Epidemiologic Study," *The American Journal of Hygiene* no. 1, (July 1921): 36-37, 85-92, 159, <https://www.google.com/books/edition/Influenza/Lhc6AQAAMAAJ?hl=en&gbpv=1>.

20 Leavitt, "Pandemics and History," 996-98; Markel et al., "Non-Pharmaceutical Interventions," 649-52.

21 Bootsma and Ferguson, "The Effect of Public Health Measures," 7588-93; Burg, "The Virus;" Richard J. Hatchett, Carter E. Mecher, and Marc Lipsitch, "Public Health Interventions and Epidemic Intensity during the 1918 Influenza Pandemic," *Proceedings of the National Academy of Sciences* 104, no. 18 (May 2007): 7582-87, doi: 10.1073/pnas.0610941104; Morens, Taubenberger, and Fauci, "A Centenary Tale," 1086-94.

22 "New Disease in Milwaukee," *Milwaukee Journal*, September 16, 1918, 1; "Spanish Influenza Cases Reported Here," *Milwaukee Sentinel*, September 17, 1918, 5.

23 Influenza Encyclopedia, *University of Michigan Center for the History of Medicine, City Essays, Milwaukee Wisconsin*; "No Danger of Flu Here, Ruhland Believes," *Milwaukee Sentinel*, September 18, 1918, 5; "Reported Dead of Influenza," *Milwaukee Journal*, September 17, 1918, 1.

next day in the nearby city of Racine, Wisconsin.²⁴ Prior to the spread to Milwaukee, the Great Lakes Naval Training Center had been experiencing an outbreak for several weeks.²⁵ Health Commissioner Ruhland requested that all other sailors be quarantined until the epidemic was contained.²⁶ At this point, influenza was beginning to spread all over the United States.²⁷ Along with his request to the Training Center's captain, Ruhland sent telegrams to the city's physicians to establish the number of influenza-like illnesses (ILI) that had occurred in the past week.²⁸ They totaled 98.²⁹

In 1918, influenza was not a mandatory reportable disease to the Health Department in Milwaukee. Ruhland changed that practice, subsequently implementing his second NPI, by asking all area physicians to report any influenza cases to the Health Department promptly.³⁰ Ruhland likely only asked for a week's worth of influenza-like illness statistics to gauge what

24 "Reported Dead of Influenza," *Milwaukee Journal*, September 17, 1918, 1.

25 "6 Dead and 5,000 Ill from Influenza," *Milwaukee Journal*, September 20, 1918, 1; "Jackies Blamed for Influenza," *Milwaukee Sentinel*, September 18, 1918, 11; "Moffett Denies Danger in Influenza Epidemic," *Milwaukee Sentinel*, September 23, 1918, 4.

26 "No Jacks Here; It's the Flu," *Milwaukee Journal*, September 22, 1918, 2; State Medical Society of Wisconsin, "How Milwaukee Organized Its Fight against the Flu," *Wisconsin Medical Journal* 17, (1918): 251. <https://archive.org/details/wisconsinmedical1719stat/page/n259/mode/2up>; "Urges Quarantine at Naval Station," *Milwaukee Sentinel*, September 19, 1918, 5.

27 "Fight 'Flu' at Camp Grant," *Milwaukee Journal*, September 28, 1918, 5; "Influenza Causes 45 Army and Navy Deaths," *Milwaukee Sentinel*, September 22, 1918, 6; "Vote a Million to Fight 'Flu,'" *Milwaukee Journal*, September 29, 1918, 4; "Watch Your Nose and Smother Your Cough," *Milwaukee Journal*, September 22, 1918, 1.

28 State Medical Society of Wisconsin, "How Milwaukee Organized," 251; "Spanish Influenza May Stop 'Shore Leave,'" *Milwaukee Journal*, September 18, 1918, 1; "Survey of Malady Made by Official," *Milwaukee Sentinel*, September 14, 1918, 3.

29 State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

30 "Reported Dead of Influenza," *Milwaukee Journal*, September 17, 1918, 1; "Report Cases of Influenza," *Milwaukee Journal*, September 26, 1918, 1; "Ruhland Seeks Help of Doctors," *Milwaukee Sentinel*, September 26, 1918, 4.

stage of the pandemic the city was in after studying its occurrence in Europe months prior.³¹ The Milwaukee Health Department received a report of one hundred additional cases only nine days after the first case.³² After Ruhland compared the reported cases to the vital statistics of influenza from previous years he found that the previous year's cases were higher than the current case numbers.³³ As a result, Ruhland released a statement stating that there was no immediate danger of an influenza epidemic but that "contact with anyone who has symptoms of influenza or cold should be avoided."³⁴ Though, according to his speech at the Wisconsin State Conference of Social Work, Ruhland knew the first wave of the pandemic had begun in Milwaukee at that time.³⁵ During the meeting, Ruhland stated that he believed that dozens of cases had likely gone unreported to doctors or the Health Department, causing the discrepancy between past years vital statistics and the current cases.³⁶ This made the severity of the pandemic spread through the city difficult to fully comprehend and relay to the public, likely resulting in Ruhland's decision to release the more understated statement to the newspapers.

31 "Fear Spanish Influenza May Attack America," *Milwaukee Journal*, September 15, 1918, 7.

32 "Hundred Ill of Influenza in Milwaukee," *Milwaukee Sentinel*, September 25, 1918, 1, 2; "Influenza Cases Number 100," *Milwaukee Journal*, September 24, 1918, 1, 4; "Influenza Wave Reaches Here," *Milwaukee Journal*, September 25, 1918, 1, 3.

33 "No Epidemic of Pneumonia," *Milwaukee Journal*, September 20, 1918, 1; "Spanish Influenza," *Milwaukee Sentinel*, September 20, 1918, 8.

34 "Heat Homes to Escape Grippe Ruhland Says," *Milwaukee Sentinel*, September 19, 1918, 7; "No Danger of Epidemic Here, Ruhland Believes," *Milwaukee Sentinel*, September 18, 1918, 5; "Says Worry Can Cause Spanish Influenza," *Milwaukee Sentinel*, September 22, 1918, 6.

35 Wisconsin State Conference of Social Work, "The Influenza Epidemic," In *Proceedings of the Wisconsin State Conference of Social Work Held at Milwaukee, October 8-10, 1918* (Madison: Democrat Printing Company, State Printer, 1919), 21-24.

36 Wisconsin State Conference of Social Work, "The Influenza Epidemic," 23.

Health Commissioner Ruhland's deployment of NPIs technically began with establishing the Great Lakes Naval Training Base quarantine initiative on September 15th and asking physicians to report influenza-like illnesses to the Health Department. Over the course of the first wave of the pandemic, Ruhland deployed the eighteen traditional NPIs cited by the framework established by epidemiologists Richard J. Hatchett, Carter E. Mecher, and Marc Lipsitch.³⁷ These NPIs included: declaring a public health emergency, isolation policies, church closures, theater closures, dance hall closures, other closures, staggered business hours to reduce congestion in stores and on street cars, a mask mandate, capacity limits for streetcars, private funerals, ban on door-to-door sales and campaigning, protective sequestering of children, bans on public gatherings, no crowding rules in locations other than transit systems, interventions designed to reduce transmission in the workplace, and community-wide business closures.³⁸

Between September 15th, 1918, and Ruhland's closing order on October 11th, he initiated a percentage of these NPIs, including launching the first parts of his media campaign and placing a ban on public gatherings with his cancellation of the Liberty Day Parade and all other public meetings on October 4th.³⁹ Ruhland had requested that the Wisconsin State Medical Society mandate that members of the public who were symptomatic be required to

37 Hatchett, Mecher, and Lipsitch, "Public Health Interventions," 7583.

38 Hatchett, Mecher, and Lipsitch, "Public Health Interventions," 7583; State Medical Society of Wisconsin, "How Milwaukee Organized," 251-53.

39 "Widespread Ban on Meetings," *Milwaukee Journal*, October 4, 1918, 1

wear a mask or cover themselves with a handkerchief when around other people as well. State officials then passed the masking ordinance also on October 4th.⁴⁰

By October 11th, Milwaukee's case numbers were rapidly increasing each day.⁴¹ As a result, Ruhland implemented his first closing order by closing lodges, theaters, churches, and all other places of amusement.⁴² Additionally, this order banned all public gatherings, including political meetings, card parties, socials, public dances, pool and billiard halls, natatoriums, swimming tanks, swimming pools, dancing schools, horse racing, community singing, and football until the health commissioner lifted the ban.⁴³ Special sale events fell under the ban in order to prevent crowding, Ruhland asked building owners to try to prevent crowding by applying capacity limits.⁴⁴ Further, all music at cafés and restaurants was ordered to stop immediately under the order. To notify café and restaurant owners of the new order, Ruhland enlisted the help of Milwaukee police officers who explained and enforced the ban.⁴⁵ One of the NPIs Ruhland deployed and upheld during the entirety of the pandemic was a "no-spitting" ordinance which was unique to his response and not included in official pandemic response

40 "Influenza Masks Worn Here," *Milwaukee Journal*, October 4, 1918, 19.

41 "Care of Citizens May Stay Malady," *Milwaukee Sentinel*, October 9, 1918, 6; "To Open Battle on Influenza," *Milwaukee Journal*, October 9, 1918, 1; "Unite Forces to Check Influenza," *Milwaukee Sentinel*, October 9, 1918, 1, 2.

42 "Amusement Places and Churches Closed to Halt Influenza Spread," *Milwaukee Sentinel*, October 11, 1918, 6; "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

43 "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "Public Museum Ordered Closed," *Milwaukee Sentinel*, October 17, 1918, 4.

44 "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

45 "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

framework.⁴⁶ Ruhland still permitted the public museum, public libraries, courts, restaurants, hotel dining rooms, saloons, and stores to stay open but implemented capacity limits with the closure orders.⁴⁷

Originally the order did not include the closing of schools, the Zoo or conservatories. However, on October 11th, Governor Philipp ordered the statewide closing of schools and Ruhland enforced the order the same day.⁴⁸ Likewise, on October 12th, Ruhland's advisory committee adjusted the initial plan and notified the Milwaukee Parks board that the Zoo and conservatories were to be closed to the public on Sundays.⁴⁹

The first closing ban only lasted three weeks and three days because of the effectiveness of Ruhland's NPIs and the public's cooperation with them.⁵⁰ By November 2nd, cases in the city had dramatically decreased.⁵¹ On November 4, Ruhland revoked his closing order and allowed all schools, businesses, and places of amusement to open with cautionary measures in place.⁵² Though, Ruhland warned that he would reinstate the ban if Milwaukeeans

46 "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

47 "Amusement Places and Churches Closed to Halt Influenza Spread," *Milwaukee Sentinel*, October 11, 1918, 6; "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

48 "New Flu Decree Closes Schools," *Milwaukee Journal*, October 12, 1918, 1.

49 "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "Order to Close because of Influenza Epidemic Is Extended by Dr. Ruhland," *Milwaukee Sentinel*, October 12, 1918, 6.

50 "Flu Ban Lifted Monday," *Milwaukee Journal*, November 2, 1918, 1; "Gen. Influenza Surrenders," *Milwaukee Journal*, November 3, 1918, 1.

51 "Flu Lid to Stay on Ten Days," *Milwaukee Journal*, October 24, 1918, 2; "May Soon Raise Influenza Ban," *Milwaukee Sentinel*, October 22, 1918, 4; "Revoke Closing Order Soon," *Milwaukee Journal*, October 21, 1918, 2.

52 "Flu Lid to Stay on Ten Days," *Milwaukee Journal*, October 24, 1918, 2.

did not follow the preventative measures.⁵³ However, three weeks after Health Commissioner Ruhland had revoked the first closing ban, cases began increasing, and the city entered a second wave of the pandemic.⁵⁴

During the second wave and subsequent ban, Ruhland initiated a similar approach and NPIs including suspending large gatherings, a curfew for children, closing schools, limiting hospital visitors, securing more funding from the Common Council, printing 70,000 more pamphlets for his media campaign, and either limiting capacity at places of amusement or completely closing them beginning December 6.⁵⁵ A single new NPI was deployed during the second wave, the NPI of placarding of homes where influenza patients lived.⁵⁶ Placarding is an excellent method of controlling the spread of a pandemic because it is a way to enforce isolation while allowing residents to remain in their homes.⁵⁷ This NPI was allowed only during the second wave because while placarding, limits stress on patients, it has the potential to violate individual rights. As such, only the State Health Officer has the power to order placards during a public health emergency and Ruhland requested the order because of the second wave's occurrence.⁵⁸

53 "Gen. Influenza Surrenders," *Milwaukee Journal*, November 3, 1918, 1.

54 "Flu Situation Still Declared Serious," *Milwaukee Journal*, November 23, 1918, 7; "Warning Is Renewed against Flu," *Milwaukee Sentinel*, November 23, 1918, 15.

55 "Epidemic Is Unchecked Twelve More Deaths," *Milwaukee Journal*, December 4, 1918, 7; "Health Bureau Will Be Clearing House," *Milwaukee Sentinel*, December 4, 1918, 5; "Will Use Children to Check Influenza," *Milwaukee Sentinel*, December 3, 1918, 6.

56 "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.

57 "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.

58 "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.

Despite requests from the public, Ruhland did not let up on his ban for the Christmas holiday.⁵⁹ Yet this decision did not spark outrage or a riot, and the public continued to comply with Ruhland's orders over the holiday. Later, Ruhland did allow New Year's Eve celebrations under the requirement that social distancing, capacity limits, and mask-wearing be strictly enforced.⁶⁰ By January 6th, case numbers had decreased, and on January 10th, the second ban was lifted.⁶¹

After the second ban was lifted, Ruhland was praised for his response which was considered the second best in the country at the time.⁶² What is notable about his NPIs was not just the thoroughness, but the adjustments and consideration for public and private residents that made it easier to comply. However, Ruhland would not have known where to adjust his NPIs or NPI delivery without understanding cultural and historical context. Furthermore, he would not have had a large base of volunteers if he did not have a good social understanding and positive social relationships to facilitate mobilization or have the subsequent positive reputation that undoubtedly contributed to the high level of cooperation from the public.

Ruhland's Social Understanding of Milwaukee

Health Commissioner George C. Ruhland's understanding of the social dynamics of Milwaukee was vital to gaining the public's compliance and building positive relationships with

59 "Flu Ban Stays; Cases Are Fewer," *Milwaukee Journal*, December 21, 1918, 1; "May Fix Rule on Holiday Affairs," *Milwaukee Sentinel*, December 21, 1918, 8.

60 "Concealed Faces De Rigueur," *Milwaukee Sentinel*, December 27, 1918, 5.

61 "Co-operation with the Health Department Will Prevent Another Serious Influenza Epidemic in Milwaukee," *Milwaukee Sentinel*, December 9, 1918, 1; "Prevent Influenza," *Milwaukee Sentinel*, December 8, 1918, 6.

62 "City Second in Flu Fight," *Milwaukee Journal*, December 31, 1918, 9.

organizations, businesses, newspapers, and local physicians during the pandemic. By proactively meeting with multiple organizations early on, Ruhland was able to establish trust and build relationships with organizations with which he had not previously worked. This approach allowed him to effectively leverage their resources and expertise in the fight against the pandemic. Ruhland also capitalized on his preexisting positive relationships, including colleagues like the State Health Officer and the members of the Health Department. Dr. Ruhland had several key allies in his efforts. One of them was Dr. E. V. Brumbaugh, a longtime colleague and friend who provided his public health clinic and coordinated nurse and schoolteacher volunteers.⁶³ The local Boy Scout organization also played a significant role by postponing their liberty loan drive and distributing educational materials across the city as part of Ruhland's campaign.⁶⁴ Additionally, Archbishop Messmer offered his support and instructed his congregants to cooperate with the health commissioner and the department.⁶⁵

Ruhland's success in rallying organizations to combat the pandemic was achieved through strategic planning and thoughtful consideration. In anticipation of the pandemic's escalation, Ruhland conducted three meetings between the day of the city's first documented case, September 15th- September 24th.⁶⁶ First, he met with Mayor Hoan to secure funds from the Common Council to fight the pandemic and to deploy his third NPI by requesting that Hoan

63 "Physicians Unite to Fight Epidemic," *Milwaukee Sentinel*, October 20, 1918, 15.

64 "Will Use Children to Check Influenza," *Milwaukee Sentinel*, December 3, 1918, 6.

65 "Pastors Are Busy in spite of 'Flu'" *Milwaukee Journal*, October 20, 1918, 1. Messmer was the Catholic Archbishop of the Archdiocese of Milwaukee; his endorsement was beneficial because over a third of Milwaukee's residents were Catholic in 1918.

66 State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

declare a public health emergency.⁶⁷ Ruhland was granted \$5,000 by the Milwaukee Common Council on October 9th.⁶⁸ The Milwaukee County Council also met and awarded Ruhland an additional \$10,000 to use towards a media campaign and to fund three isolation hospitals in the city.⁶⁹

At the same time all twenty-eight aldermen of the Common Council unanimously voted to grant Health Commissioner Ruhland “sweeping powers” to combat the pandemic.⁷⁰ These powers included the ability to order businesses closed and a reinstatement of the Health Commissioner’s authority to forcibly remove individuals for isolation and quarantine purposes.⁷¹ The Common Council had not approved this power for a health commissioner since the 1894 smallpox riots, indicating a high level of trust and approval of Ruhland. City Attorney Max Shoetz examined the charter provisions that granted Ruhland this authority to ensure that the resolution would circumvent any legal issues, further showing support of the health commissioner.⁷²

Ruhland’s second meeting was with local newspaper editors to provide them with an overview of the pandemic's local and global conditions and to request their cooperation in

67 State Medical Society of Wisconsin, “How Milwaukee Organized,” 251.

68 “Aldermen Start Warfare on ‘Flu,’” *Milwaukee Sentinel*, October 10, 1918, 4; “Whole City to Fight ‘Flu,’” *Milwaukee Journal*, October 8, 1918, 1.

69 “Ruhland Sounds Warning on ‘Flu,’” *Milwaukee Sentinel*, October 8, 1918, 4.

70 “Aldermen Start Warfare on ‘Flu,’” *Milwaukee Sentinel*, October 10, 1918.

71 “Local Health Boards Can Isolate Patients,” *Milwaukee Sentinel*, October 6, 1918, 1.

72 “Aldermen Start Warfare on ‘Flu,’” *Milwaukee Sentinel*, October 10, 1918, 4; “Whole City to Fight ‘Flu,’” *Milwaukee Journal*, October 8, 1918, 1.

disseminating factual, non-sensationalized information.⁷³ Both the *Milwaukee Sentinel* and *Milwaukee Journal* fervently supported Ruhland throughout the pandemic. Each newspaper dedicated specific sections to the latest information from Ruhland, or Milwaukee Health Department Bulletins. They both respected Ruhland’s wishes not to sensationalize the pandemic, and withheld information they were given until Ruhland determined it was the right time for the public to be informed. The newspaper’s approval and support of Ruhland was critical to influencing the public to comply with his NPIs and created a united front with the health commissioner’s efforts.⁷⁴ The following articles exemplify the newspaper’s support of Ruhland’s efforts through persuasive rhetoric.

- “Care of Citizens May Stay Malady,” *Milwaukee Sentinel*, October 9, 1918, 6.
- “To Open Battle on Influenza,” *Milwaukee Journal*, October 9, 1918, 1.
- “Unite Forces to Check Influenza,” *Milwaukee Sentinel*, October 9, 1918, 1, 2.
- “Disease Peril Rouses Whole City to Fight,” *Milwaukee Sentinel*, October 10, 1918, 1.
- “Aldermen Start Warfare on ‘Flu,’” *Milwaukee Sentinel*, October 10, 1918, 4.
- “Co-Operation Is Helping to Check Grippe,” *Milwaukee Sentinel*, October 14, 1918, 1.
- “City Ready to Halt Further Grippe Spread,” *Milwaukee Sentinel*, October 14, 1918, 1, 3.
- “Many Offering to Fight ‘Flu,’” *Milwaukee Journal*, October 16, 1918, 2.
- “Physicians Unite to Fight Epidemic,” *Milwaukee Sentinel*, October 20, 1918, 15.

73 “The ‘Flu’” *Milwaukee Journal*, September 25, 1918, 6; State Medical Society of Wisconsin, “How Milwaukee Organized,” 251.

74 Sharon Collinson and Jane M. Heffernan, “Modelling the Effects of Media During an Influenza Epidemic,” *BMC Public Health* 14, no. 376 (April 17, 2014): 1-10, [doi:10.1186/1471-2458-14-376](https://doi.org/10.1186/1471-2458-14-376). Scholars across disciplines have studied the media’s effect on public compliance and public opinion of epidemics and pandemics and found it to be substantial, the following articles provide excellent information to support this: Timothy K. F. Fung, Kang Namkoong, and Dominique Brossard, “Media, Social Proximity, and Risk: A Comparative Analysis of Newspaper Coverage of Avian Flu in Hong Kong and in the United States,” *Journal of Health Communication* 16, no. 8 (May 11, 2011): 889–907, [doi: 10.1080/10810730.2011.561913](https://doi.org/10.1080/10810730.2011.561913); Mark Honigsbaum, “Regulating the 1918–19 Pandemic: Flu, Stoicism and the Northcliffe Press,” *Medical History* 57, no. 2 (2013): 165–185, [doi: 10.1017/mdh.2012.101](https://doi.org/10.1017/mdh.2012.101); Trevor Hoppe, “Spanish Flu: When Infectious Disease Names Blur Origins and Stigmatize Those Infected,” *American Journal of Public Health* 108, no. 11 (2008): 1462-64, [doi:10.2105/AJPH.2018.304645](https://doi.org/10.2105/AJPH.2018.304645); Michael McCauley, Sara Minsky, and Kasisomayajula Viswanath, “The H1N1 Pandemic: Media Frames, Stigmatization and Coping,” *BMC Public Health* 13, no. 1 (2013): 1116, [doi:10.1186/1471-2458-13-1116](https://doi.org/10.1186/1471-2458-13-1116).

- “Influenza Again a Menace,” *Milwaukee Journal*, December 2, 1918, 2.
- “Mobilize Nurses to Fight Epidemic,” *Milwaukee Sentinel*, December 7, 1918, 6.
- “Co-operation with the Health Department Will Prevent Another Serious Influenza Epidemic in Milwaukee,” *Milwaukee Sentinel*, December 9, 1918, 1.
- “Ruhland May Map Out Grippe Fight,” *Milwaukee Sentinel*, March 20, 1919, 4.
- “Fight on Influenza in Ruhland’s Hands,” *Milwaukee Sentinel*, March 22, 1919, 4.
- “Influenza! Is Again Knocking at Your Door,” *Milwaukee Sentinel*, March 22, 1919, 13.
- “Public is Called to Stamp Out Flu,” *Milwaukee Sentinel*, January 15, 1920, 1.

These articles specifically show the efforts of the newspapers to create a unified narrative to the public about the pandemic and highlight cooperation efforts across the city. By consistently using phrases like “fighting the flu,” “opening battle on the flu,” “starting warfare on the flu,” etc., the newspapers consistently framed the influenza virus as the enemy and focused the public on combatting it, while giving them information on how to do so that is directly from the health commissioner. Furthermore, both the *Journal* and *Sentinel* used their platforms to share positive information with the public including stories of local organizations, volunteers, and businesspeople heartily complying with Ruhland’s NPIs and agreeing with their necessity. In example, the *Milwaukee Journal* published an article that Ruhland received a letter from the president and secretary of the Milwaukee Scat League stating that they would cancel all tournaments until he lifted the closing ban.⁷⁵

Likewise, despite theaters receiving only 24 hours’ notice, the *Milwaukee Sentinel* published that there was not a solitary case of defiance or anger when Ruhland ordered the closing ban.⁷⁶ The paper quoted the president of the Milwaukee Managers Association, William Schell stating, “Of course, this hits us all very hard, but it is inevitable, and we are glad to

75 “Many Offering to Fight ‘Flu,’” *Milwaukee Journal*, October 16, 1918, 2.

76 “Theaters Hard Hit by Closing Order,” *Milwaukee Sentinel*, October 11, 1918, 6.

comply with any measure that will help safeguard the public health.”⁷⁷ This not only showed the public that there was a unity in combatting the pandemic, but also served as an example of the cooperation Ruhland received. In fact, even before Ruhland placed his ban, the Milwaukee Electric Railway and Light Company volunteered to help the cause. According to the *Milwaukee Sentinel*, to ensure the safety of riders, the company disinfected their streetcars every night and posted notices explaining why the vents were left open instead of being closed.⁷⁸

The newspapers were also critical to checking the public when they were not following Ruhland’s guidelines as seen in the titles and throughout this list of articles,

- “Violators of Ban Order Are Warned,” *Milwaukee Sentinel*, October 26, 1918, 1.
- “Ruhland Warns,” *Milwaukee Sentinel*, November 19, 1918, 7.
- “Stores Shut if Flu Unchecked,” *Milwaukee Journal*, December 8, 1918, 2.
- “Are YOU Doing Your Part to Check the Influenza Epidemic?” *Milwaukee Sentinel*, December 8, 1918, 1.
- “Public Must Aid to Keep Places Open,” *Milwaukee Sentinel*, December 8, 1918.
- “Recession of Grippe Cases Will Halt Ban,” *Milwaukee Sentinel*, December 11, 1918, 1, 5.
- “City Christmas Tree Depends on Flu,” *Milwaukee Journal*, December 12, 1918, 5.
- “Banless Holidays Depend on Public,” *Milwaukee Sentinel*, December 16, 1918, 4.

In just the titles of these articles the support of Ruhland by the journalists and editors of the *Milwaukee Journal* and *Milwaukee Sentinel* is apparent. The rhetoric the newspapers deployed in these titles reinforced the new cultural norm of fighting the pandemic and cooperating with Ruhland’s NPIs. Moreover, by the newspaper editors using this more critical style of rhetoric they were the ones risking pushback from the public instead of Ruhland. Another interesting point is how the papers framed the control over the closures as within the

⁷⁷ “Theaters Hard Hit by Closing Order,” *Milwaukee Sentinel*, October 11, 1918, 6.

⁷⁸ “Disinfection of Cars to Prevent Influenza,” *Milwaukee Sentinel*, October 9, 1918, 6; “Electric Employees Issue ‘Flu’ Dont’s,” *Milwaukee Sentinel*, October 12, 1918, 6.

power of the public, instead of being the choice of the health commissioner.⁷⁹ This style of rhetoric is why the newspapers were critical not only to delivering information to the public, and modelling support of the health commissioner but also to preventing pushback during both closing bans.⁸⁰ Furthermore, this style placed responsibility of the length of the closing ban on the public's actions but then provided reminders of steps individuals could take to slow the spread of the virus, which is critical as it gives the public an actionable step to improve the city's situation rather than invoking frustration or apathy. As a result of the newspapers reinforcing Ruhland's NPIs this way, they subtly manifested cooperation by the public and helped slow the spread of the pandemic. However, without the proactive relationship and open communication Ruhland built with the media, their support would have been far different and may have resulted in a greater morbidity and mortality rate.

The third meeting was with local physicians, businesspeople, organizations, and the Federated Trades Council to discuss disease prevention strategies.⁸¹ This meeting was significant because one of the first NPIs public health officials deploy during a public health

79 Each of these factors are effective methods to influence behavior or reinforce a cultural norm according to Critical Discourse Analysis (CDA). This style of discourse though is considered "normalized pressure" within CDA and is an effective means to uses societal pressure to create a new behavior rather than using an authoritative approach that would result in higher chances of pushback by the public. See the following article for more detailed information: Stijn Joye, "News Discourses on Distant Suffering: A Critical Discourse Analysis of the 2003 SARS Outbreak," *Discourse & Society* 21, no. 5 (September 7, 2010), 586-90, <https://doi.org/10.1177/0957926510373988>.

80 Joye, "News Discourses on Distant Suffering," 586-90.

81 "Doctors Plan to Stop Influenza," *Milwaukee Journal*, September 30, 1918, 5; "No Epidemic of Pneumonia," *Milwaukee Journal*, September 20, 1918, 1; "Plans Discussed to Curb Spanish Grippe," *Milwaukee Sentinel*, October 1, 1918, 4; "Ruhland Seeks Help of Doctors," *Milwaukee Sentinel*, September 26, 1918, 4; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

emergency is the mandatory reporting of influenza cases.⁸² The health commissioner in Milwaukee can mandate reporting but cannot enforce it through penalties or fines until the Common Council or State Health Department passes an ordinance for it.⁸³ Part of the purpose of this meeting was for Ruhland to ask that physicians continue to report cases after the initial census on September 15th.⁸⁴ Physicians around the city complied to the best of their abilities prior to the actual mandate to do so but struggled to report new cases promptly because of the virus's infection rate.⁸⁵ After learning of the struggles local physicians were having during another meeting, Ruhland ordered postcards for the physicians to fill out.

The postcards included spaces for influenza patients' names, addresses, and ages which made reporting easier.⁸⁶ Ruhland also mobilized volunteers to distribute the postcards directly to hospitals and doctors in the area.⁸⁷ The Health Department instructed city physicians to send completed postcards to them every 24 hours so that case numbers could be accurately considered in Ruhland's response.⁸⁸ Further, the Health Department paid for the postcards

82 World Health Organization Writing Group, "National and Community Measures," *Emerging Infectious Diseases* 12, no.1 (2006): 88-94, doi: 10.3201/eid1201.051371.

83 Bortin, "Influenza Epidemic," 43; John Walter Kerr and Aristides Alcibiades Moll, *Organization, Powers, and Duties of Health Authorities* (United States: U.S. Government Printing Office, 1912), 46, 393, https://www.google.com/books/edition/Organization_Powers_and_Duties_of_Health/IHQaAAAAYAAJ?hl=en&gbpv=0.

84 "Ruhland Seeks Help of Doctors," *Milwaukee Sentinel*, September 26, 1918, 4; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

85 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41.

86 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41.

87 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41.

88 "Six Influenza Cases Reported to Ruhland," *Milwaukee Sentinel*, September 27, 1918, 6; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

from its budget as well.⁸⁹ Ruhland's adjustment reduced the burden of local doctors and, in turn, increased compliance with reporting. Important to consider is the effect Ruhland's quick response to the situation had on reinforcing his positive relationships with city doctors. By creating a solution Ruhland not only facilitated a better reporting method but showed that he supported area physicians and would help when necessary.

Although it was not a typical NPI, through Ruhland's third meeting on September 24th he formed an advisory committee composed of four attendees: Dr. Hoyt E. Dearholt and Dr. Louis F. Jermain, both city physicians, and local businessmen Col. Otto H. Falk and Carl Herzfeld.⁹⁰ The committee offered Ruhland valuable insights into how best to implement NPIs, assisted in planning his extensive media campaign, and recruited local businesses and volunteers to assist him in his fight against the flu.⁹¹

During the first few days of October, Milwaukee had a rapidly increasing number of the pandemic virus cases.⁹² In response, Ruhland convened with the Milwaukee County Council of Defense, his advisory committee, and the Federated Trades Council to plan his educational media campaign.⁹³ As scholars have noted, one of Ruhland's most significant NPIs was his extensive media campaign, which is included as Hatchett, Mecher, and Lipsitch's NPI for

89 "Six Influenza Cases Reported to Ruhland," *Milwaukee Sentinel*, September 27, 1918, 6; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

90 State Medical Society of Wisconsin, "How Milwaukee Organized," 252.

91 State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

92 "Flu' Epidemic Worse," *Milwaukee Journal*, October 7, 1918, 4; "Influenza Hits Hospital, Attaches," *Milwaukee Sentinel*, October 4, 1918, 4; "Influenza Masks Worn Here," *Milwaukee Journal*, October 4, 1918, 19; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

93 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

interventions designed to reduce transmission in the workplace.⁹⁴ Initially the campaign included talks consisting of a 10-minute speech at industrial factories every day at noon by volunteers of the Milwaukee County Council of Defense.⁹⁵ At Ruhland's request the Milwaukee County Council of Defense with the help of the Federated Trades Council, sent out letters to over 600 industrial plants and factories to notify them of the talks and request their assistance in arranging time with employees between October 1-10th.⁹⁶ Beginning October 11th the campaign included the distribution of 40,000 handbills written by Ruhland and his committee, by the Milwaukee County Council of Defense, who also placed 1,000 placards in city factories and public spaces, and 2,000 cards in elevators.⁹⁷ Ruhland's advisory committee organized volunteers to serve as "4-minute men" to hold educational speeches for over 30,000 workers.⁹⁸ Lastly, pamphlets in nearly a dozen languages were produced and distributed by local Boy Scouts and other volunteers.⁹⁹

This media campaign was effective because it was quickly expansive, and that is the result of Ruhland's advisory committee. Ruhland had a positive relationship with each committee member, which facilitated their work together. But what was critical was the fact

94 Hatchett, Mecher, and Lipsitch, "Public Health Interventions," 7583; State Medical Society of Wisconsin, "How Milwaukee Organized," 251-53.

95 "Influenza Masks Worn Here," *Milwaukee Journal*, October 4, 1918, 19; "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1.

96 State Medical Society of Wisconsin, "How Milwaukee Organized," 252.

97 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41.

98 Milwaukee County Council of Defense, *Report on Twenty Months*, 18, 41.

99 "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1.

that Milwaukee society highly regarded each member. Ruhland also trusted each of his committee members, listened to their advice, and delegated responsibilities like canvassing the city for case numbers, mobilizing volunteers and planning logistics for his campaign. As a result of the committee member's positive relationships with businesses, private hospitals, and other community leaders, Ruhland had a network of people throughout the city willing to aid his pandemic response that expanded far past the relationships and social capacity he would have had on his own that enabled the campaign's expanse.¹⁰⁰

An example of both Ruhland's trust in delegation and his committee members connections, a member of the advisory committee recruited the Wisconsin Anti-Tuberculosis Association to disperse part of the media campaign, who then commissioned local movie theaters to display influenza prevention slides to the public.¹⁰¹ Another, was the collaboration of Ruhland, with his advisory committee, to develop two initial versions of pamphlets of facts and suggestions about the flu. The committee tailored one version specifically to students and another to clergy members of different denominations, including Catholic, Lutheran, Protestant, Jewish and Orthodox.¹⁰² The advisory committee ensured that the pamphlets for the latter were produced first so they would be available in time for clergy members to distribute at the next service.¹⁰³ This example demonstrates the benefit of positive social

100 "Many Offering to Fight 'Flu,'" *Milwaukee Journal*, October 16, 1918, 2.

101 "Theaters Hard Hit by Closing Order," *Milwaukee Sentinel*, October 11, 1918, 6.

102 "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "Drastic Steps to Check Influenza," *Milwaukee Sentinel*, October 6, 1918, 1; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

103 "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "To Check Influenza," *Milwaukee Journal*, October 6, 1918, 1.

relationships and support by public and private residents for the health commissioner. Without this advisory committee Ruhland would have had to produce the information for the pamphlets, tailor them to different audiences, source and print the materials, and distribute them on his own. By building relationships and relying on his committee, information vital to slowing the spread of the pandemic was delivered quickly across the city. This example also highlights the importance of Ruhland's advisory committee for cultural guidance of the city.

Ruhland's Cultural Understanding of Milwaukee

Health Commissioner Ruhland and his advisory committee recognized the significance of religious audiences in Milwaukee and strategically tailored their approach to reach them.¹⁰⁴

With a large faith-based population and congregations gathering regularly, Ruhland saw an opportunity to disseminate influenza information effectively. The advisory committee worked closely with clergy members, providing them with pamphlets and requesting their assistance in distributing the materials and discussing them during services.

By leveraging the trust and influence of clergy members, Ruhland achieved greater public cooperation. In times of uncertainty and chaos, people often turn to their faith for guidance and comfort. By placing pandemic information in the hands of clergy members, who are authority figures in their congregations, Ruhland ensured that the foundational information about the pandemic reached the public through a trusted source. This approach significantly

¹⁰⁴ "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1; "Drastic Steps to Check Influenza," *Milwaukee Sentinel*, October 6, 1918, 1; State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

aided public compliance with Ruhland's NPIs and contributed to a slower spread of the virus in the city during the first wave.

During the 19th and 20th centuries, Milwaukee had a significant Catholic population, with many private Catholic schools including Marquette University.¹⁰⁵ Catholic organizations provided hospitals, facilities, and healthcare services essential to the congregation.¹⁰⁶ Recognizing the strong Catholic culture in Milwaukee, Ruhland prioritized outreach to Archbishop Messmer but also engaged in dialogue with leaders from all religious sects.¹⁰⁷ This collaboration was crucial, especially when it became necessary to close churches and temples and suspend religious services. By establishing alliances with religious leaders and effectively communicating the importance of these measures, Ruhland ensured there would be no resistance from the public. The clergy members played a vital role in enforcing Ruhland's NPIs and garnering support from their respective congregations. Overall, Ruhland's understanding of the significance of religious culture and his active collaboration with religious leaders played a substantial role in facilitating public cooperation with his pandemic response strategies and effectively limiting the spread of the virus in Milwaukee.

To ensure that information about the pandemic was accessible to the every citizen, Ruhland used his cultural knowledge of languages spoken in the city to publish pamphlets in

105 Steven M. Avella, "Roman Catholics," Encyclopedia of Milwaukee, accessed May 1, 2023, <https://emke.uwm.edu/entry/roman-catholics/>.

106 Avella, "Roman Catholics."

107 Milwaukee's second most common faith was Lutheranism, then Judaism. Each of these religions and Christian and Jewish orthodox sects cooperated with Ruhland's closures and worked with local newspapers to publish sermons, homilies, prayers, and Derasha.

nearly a dozen languages and had them delivered to the respective communities.¹⁰⁸ The four-minute talks held in and outside of worksites also factored in the culture of residents by ensuring information was convenient and accessible for those who could not read his printed materials.¹⁰⁹ Additionally, Ruhland mobilized teachers who played a critical role in the pandemic because their students' families trusted them.¹¹⁰ An article from the *Milwaukee Sentinel* which chronicled a day's work of the teachers referred to the public's reception of them as "Teacher Is Open Sesame."¹¹¹ The following quote from the same article describes the phenomenon of teachers' interactions with the public during their pandemic efforts,

The orders of the teachers taken them to the rear door. A woman opened it and gazed suspiciously upon her visitors, not knowing their mission. "I'm one of the teachers," began the inquirer. A broad smile broke over the woman's face and then followed a recital of her little daughter's illness, her recovery, of the doctor attending the case and wishes for success. It was the same everywhere else. As soon as the word "teacher" had cleared the air the interrogated person became friendly.¹¹²

Teachers were responsible for canvassing and documenting accurate case numbers in the city and ensuring that residents who could not afford care received assistance from Health Department nurses, doctors, or volunteer organizations that paid for their care.¹¹³ Local

108 "Whole City to Fight 'Flu,'" *Milwaukee Journal*, October 8, 1918, 1.

109 "Whole City to Fight 'Flu,'" *Milwaukee Journal*, October 8, 1918, 1.

110 "Teachers of Sycamore Street School, Equipped with Gauze Masks, Starting Out on Health Tour," *Milwaukee Sentinel*, October 20, 1918, 1.

111 "Teachers Canvass Homes to Search Influenza Cases," *Milwaukee Sentinel*, October 20, 1918, 1.

112 "Teachers Canvass Homes to Search Influenza Cases," *Milwaukee Sentinel*, October 20, 1918, 1.

113 "Teachers Canvass Homes to Search Influenza Cases," *Milwaukee Sentinel*, October 20, 1918, 1; "Teachers of Sycamore Street School, Equipped with Gauze Masks, Starting Out on Health Tour," *Milwaukee Sentinel*, October 20, 1918, 1.

teachers had coordinated some effort to aid in the pandemic fight themselves prior to Ruhland's request of them, which demonstrates the unity of the city.¹¹⁴ However, there was uncertainty of whether teachers would be paid while schools were closed regardless of if they were volunteering. Knowing that schools remaining closed was essential to slowing the spread of influenza and importance of teachers in Ruhland's pandemic response, he advocated for all teachers to be paid while schools were closed.¹¹⁵ In turn, teachers did not press for the re-opening of schools because they did not experience financial hardship from the closures. As a result, teachers who were healthy and able bodied continuously volunteered their critical efforts.¹¹⁶

Before the 1918 pandemic, Ruhland demonstrated a deep understanding of Milwaukee's culture and its implications for public health by considering all residents' language, religion, living environments, and socioeconomic status in his approach as evidenced by his housing survey and advocacy for ice stations. This cultural understanding of Milwaukee benefited his response throughout the pandemic. As previously mentioned, residential segregation can negatively impact communities' health. During the early 20th century, ethnic enclaves segregated the city residentially.¹¹⁷ As a result, certain cultural practices of the dominant enclave in each neighborhood impacted overall health. Polish southside enclaves are

114 "Teachers of Sycamore Street School, Equipped with Gauze Masks, Starting Out on Health Tour," *Milwaukee Sentinel*, October 20, 1918, 1.

115 "Fighting Flu is Real Work," *Milwaukee Journal*, November 7, 1918, 17; "Teachers Will Receive Pay during Epidemic," *Milwaukee Sentinel*, October 21, 1918, 3.

116 "Fighting Flu is Real Work," *Milwaukee Journal*, November 7, 1918, 17.

117 Conzen and Conzen, "Urban Retailing: Milwaukee 1836-1890," 44.

an example of this. They built tiny Polish Flats that were prone to overcrowding and tightly packed them next to each other.¹¹⁸ Ruhland was aware of the poor infrastructure, crowding, and poor health of specific wards and communities due to his 1916 survey of the city's housing conditions.¹¹⁹ This knowledge of living conditions in different neighborhoods allowed him to tailor his response in 1918 to the unique needs of each community.¹²⁰

To illustrate, Ruhland strategically staffed an isolation hospital close to the southside Polish neighborhoods.¹²¹ This was because the housing in these areas was mainly comprised of Polish Flats.¹²² Consequently, it was challenging to isolate sick individuals in the crowded flats, which could lead to a large outbreak in the neighborhood. Through conducting this earlier survey, Ruhland was aware of the issues this type of housing could pose and made a conscious decision to staff an isolation hospital there for those who needed a place to quarantine and receive care rather than spreading the virus further. During the second wave, he also placarded homes on the southside to prevent those who were not sick from entering households with the virus, mitigating spread further.

118 Carlson, "Lincoln Village;" Hubka and Kenny, "The Workers' Cottage," 38-42.

119 George Ruhland, Housing Conditions in Milwaukee (Milwaukee: Milwaukee Health Department, 1916), 6, Mss 2126, Annual Report, 1916, Milwaukee Health Department, MCHS; "Housing Betterment," *Journal of Housing Advance* 5, no. 2 (May 1916): 14-16; Milwaukee Health Department, Annual Report, 1915, Mss 2126, Milwaukee Health Department Collection MCHS.

120 "Nurses' Bureau Is Opened," *Milwaukee Journal*, October 20, 1918, 13; "Ruhland Heads Hygiene Society," *Milwaukee Sentinel*, January 11, 1919, 15.

121 "Influenza Hospital to Be Closed," *Milwaukee Journal*, November 12, 1918, 1.

122 "Influenza Hospital to Be Closed," *Milwaukee Journal*, November 12, 1918, 1.

Milwaukee was primarily a manufacturing city during this period.¹²³ Knowing that essential factory workers were critical to the city's economy and war effort, Ruhland took measures to mediate potential spread within the factories.¹²⁴ He assigned nurses and physicians to factories, large commercial houses, and manufacturing plants around the city.¹²⁵ Ruhland tasked these healthcare workers with watching for flu developments and intervening as needed. Moreover, Ruhland recognized the significant role of tavern culture in Milwaukee and made the controversial decision to keep saloons and restaurants open with certain limitations.¹²⁶ This approach helped to gain the public's support for his other initiatives. Overall, Ruhland's understanding of the specific living conditions in each neighborhood and his tailored response were crucial because he provided the resources necessary for residents to comply with his NPIs while mitigating the spread of the pandemic in Milwaukee.

Ruhland's Historical Understanding of Milwaukee

Health Commissioner George C. Ruhland drew on his in-depth knowledge of Milwaukee's history with public health emergencies and the public's perception of health commissioners to guide his approach to NPIs during the 1918 influenza pandemic. Ruhland used this knowledge in two ways. First, he employed the 1889 pandemic as an example in his communication with the public. He cited the city and country's experience with the earlier

¹²³ Kevin, J. Abing, *A Crowded Hour: Milwaukee During the Great War, 1917-1918* (South Carolina: Fonthill Media LLC, 2017), 23-46; "Violators of Ban Order Are Warned" *Milwaukee Sentinel*, October 26, 1918, 1.

¹²⁴ "Talks Help Fight On 'Flu,'" *Milwaukee Journal*, October 17, 1918, 4.

¹²⁵ "Nurses Co-operating with Health Officials," *Milwaukee Sentinel*, October 14, 1918, 3.

¹²⁶ "Amusement Places and Churches Closed to Halt Influenza Spread," *Milwaukee Sentinel*, October 11, 1918, 6.

outbreak as evidence of the need for cooperation from the public and private citizens to prevent excess deaths.¹²⁷ By highlighting the successful use of specific NPIs during the 1889 pandemic, Ruhland justified his deployment of similar NPIs during the 1918 outbreak to the public.¹²⁸ Moreover, Ruhland used the 1889 pandemic to provide a historical context for the severity of the 1918 pandemic, which helped alleviate fears and prevent public resistance.

In addition to communicating with the public, Ruhland demonstrated his historical understanding of Milwaukee's health history by carefully navigating his legal authority as health commissioner. Aware of the challenges his predecessors had faced with implementing NPIs and the legal restrictions on the health commissioner's powers imposed by the Common Council after the 1894 smallpox outbreak, Ruhland proactively sought to understand the extent of his authority.¹²⁹ He worked with the city attorney to ensure that his NPIs did not face legal recourse.¹³⁰ On October 6th, 1918, and again when officials lifted the statewide emergency, Ruhland regained the authority to forcibly remove individuals for isolation and quarantine from the Common Council.¹³¹ Despite having the facilities to remove and treat patients and

127 "Drastic Steps to Check Influenza," *Milwaukee Sentinel*, October 6, 1918, 1.

128 "Influenza Has Ancient History," *Milwaukee Sentinel*, October 16, 1918, 4.

129 "Plans Discussed to Curb Spanish Grippe," *Milwaukee Sentinel*, October 1, 1918, 4; "To Confer on Spanish Influenza Fight," *Milwaukee Journal*, September 28, 1918, 2.

130 "Aldermen Start Warfare on 'Flu,'" *Milwaukee Sentinel*, October 10, 1918, 4; Bortin, "Influenza Epidemic," 43-44.

131 "Aldermen Start Warfare on 'Flu,'" *Milwaukee Sentinel*, October 10, 1918, 4; "Local Health Boards Can Isolate Patients," *Milwaukee Sentinel*, October 6, 1918, 1.

households with the 1918 influenza virus, Ruhland chose not to implement this NPI.¹³² Instead, he asked the State Health Officer to order the placarding of households when he realized that residents were not abiding by household quarantine guidelines.¹³³

Ruhland's decision not to use the NPI of forcible removal and instead opt for a placarding NPI suggests that he recognized the challenges associated with the former. He knew the public was less likely to pushback against an isolation/quarantine NPI that consisted of placarding because it relied on social pressure and monetary fines to enforce the household quarantine.¹³⁴ In contrast, the NPI of forcibly removing sick residents to a hospital for quarantine or isolation had caused massive resistance in the city's history.¹³⁵ As a Milwaukee native who was approximately 15 years old during the 1894 smallpox epidemic and subsequent riots against the forcible removal of two children with smallpox, Ruhland would have been acutely aware of the public's resistance to Health Commissioner Kempster's NPI. Moreover, Ruhland would have been privy to the extensive local and national newspaper coverage of the court proceedings prompted by the smallpox riots that ousted and reinstated Health Commissioner Kempster. Therefore, it is reasonable to conclude that this history and Ruhland's knowledge of it influenced his decision not to use the forcible removal NPI in 1918 and instead to enforce a quarantine and isolation NPI less likely to face public resistance.

132 "Details of New Order to Stamp Out Influenza," *Milwaukee Journal*, December 10, 1918, 1, 6; "Health Department's Official Influenza Closing Regulations," *Milwaukee Sentinel*, December 11, 1918, 1.

133 "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.

134 "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.

135 Leavitt, "Politics and Public Health," 553-68.

Conclusion

Health Commissioner Ruhland's success in implementing non-pharmaceutical interventions during the 1918 pandemic in Milwaukee was due to a combination of factors. While previous scholars have emphasized the importance of Ruhland's media campaign and resource mobilization, it was his understanding of the city's social, cultural, and historical fabric that truly enabled him to gain the trust and cooperation of the community. This broader context is crucial to understanding the public's willingness to comply with non-pharmaceutical interventions.

However, the circumstances of the time are also a vital factor to consider when examining the public's willingness to comply with non-pharmaceutical interventions. Notably, the early 20th century was marked by frequent disease epidemics, and so, the public was likely acutely aware of the devastating consequences of an uncontrolled spread of disease. This heightened awareness could have facilitated the cooperation and mobilization established by Ruhland. Moreover, the timing of the pandemic would have further contributed to Ruhland's favorable reception by the public. The outbreak coincided with the final stages of World War I, a time marked by heightened patriotism and admiration for those who served in the military.¹³⁶ This patriotism, as Leavitt mentioned, may have been a contributing factor to public compliance with NPIs, but in a slightly different way than she presumed.¹³⁷ Ruhland, having left his position as Health Commissioner to join the war effort, garnered significant respect and admiration from

¹³⁶ Rutherford Birchard Pixley, *Wisconsin in the World War* (Milwaukee: The Wisconsin War History Company, 1919), 94.

¹³⁷ Leavitt, "Pandemics and History," 997-98.

the community, which may have impacted the public's perception of him as a public health figure.¹³⁸ This patriotic attribution was reflected in media coverage of Ruhland, with the *Milwaukee Journal* and *Milwaukee Sentinel* frequently referring to him several times as "General" and "Major," employing wartime rhetoric to emphasize his dedication and valor.¹³⁹

Ruhland also built upon his established reputation for reforming public health, and effectively capitalized on the public's trust and cooperation during the pandemic. Leveraging his comprehensive understanding of the city's social, cultural, and historical background, he devised a grassroots system that ensured comprehensive coverage across all parts of Milwaukee. By maintaining transparency and delegating responsibilities, Ruhland fostered a sense of shared responsibility and motivated individuals to actively participate in disease prevention and control measures. Through his proactive and inclusive approach, Health Commissioner Ruhland not only saved countless lives but also left an indelible mark on the city of Milwaukee, solidifying his position as a pivotal figure in the fight against the disease.¹⁴⁰

138 Abing, *A Crowded Hour Milwaukee During the Great War, 1917-1918* (South Carolina: Fonthill Media LLC, 2017), 85; Burg, "The Virus."

139 "Are YOU Doing Your Part to Check the Influenza Epidemic?" *Milwaukee Sentinel*, December 8, 1918, 1; "Gen. Influenza Surrenders," *Milwaukee Journal*, November 3, 1918, 1.

140 State Medical Society of Wisconsin, "How Milwaukee Organized," 251.

Chapter Three: Edward Krumbiegel and the 1957 and 1968 Pandemics

Pandemic scholarship has largely overlooked the 1957 and 1968 pandemics. One explanation for this is due to both pandemics' low mortality rates and subsequent classifications as category 2 pandemics.¹ In comparison, health officials consider the 1918 and COVID-19 pandemics to be category five pandemics.² However, there are still lessons to learn from the midcentury pandemics. Moreover, examining the 1957 and 1968 pandemics is critical to understanding the variance in Milwaukee's pandemic outcomes over the course of the last five pandemics.

The way health officials modeled the 1957 and 1968 pandemics was similar to the 2009 pandemic regarding morbidity and mortality. Nevertheless, in Milwaukee, the outcomes between the pandemics differed significantly. During the 2009 pandemic, Milwaukee

1 W. K. Chang, "National Influenza Experience in Hong Kong, 1968," *Bulletin of the World Health Organization* 41, no. 3 (1968): 349-351, <https://apps.who.int/iris/handle/10665/262470>; George J. Dehner, *Influenza: A Century of Science and Public Health Response* (Pittsburgh: University of Pittsburgh Press, 2012), 138-157; Jen Pinkowski, "The History of the Forgotten Pandemic," Yale Insights, Management in Practice, last modified January 7th, 2021, <https://insights.som.yale.edu/insights/the-history-of-the-forgotten-pandemic>.

2 Centers for Disease Control and Prevention, *Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States: Early Targeted Layered Use of Non-Pharmaceutical Interventions and Pandemic Severity Index*, June 2007, http://www.pandemicflu.gov/plan/community/community_mitigation.pdf; Centers for Disease Control and Prevention, "Updated Preparedness and Response Framework for Influenza Pandemics," *Recommendations and Reports* 63, no. 6 (September 26th, 2014): 1-5. The CDC created the Pandemic Severity Index in 2007. It served as the first framework to categorize a pandemic from levels 1-5, 1 being the mildest and 5 being the most severe. The levels corresponded with social distancing NPIs. For a level 1 or 2 pandemic public health officials would deploy voluntary home quarantines and isolation and treatment of individuals Suspected or confirmed of having the virus. As the level increased, the severity of the NPIs did as well, with closing schools and daycares, changing work schedules, and canceling large public gatherings. The severity of the pandemics was classified by a calculation of case fatality to population ratio; Level 1 = <0.1%, Level 2= 0.1 - <0.5%, Level 3= 0.5 - <1.0%, Level 4= 1.0 - <2.0%, Level 5 = > 2.0%. After the 2009 pandemic, CDC officials created the Pandemic Severity Assessment Framework that focused on four quadrants of transmissibility instead of the fatality ratio. This was changed Because focusing on transmissibility allows communities to prepare their mitigation tactics with a proper warning rather than the possibility of residents dismissing a pandemic based on the fatality ratio, even though a highly transmissible virus can cause economic hardships through absenteeism.

experienced the largest regional outbreak of the virus in the country.³ Compared to other cities of similar size, Milwaukee experienced a mild or average impact during the pandemics of 1957 and 1968.⁴ One of the significant differences between the 2009 and the 1957 and 1968 pandemics was the cooperation between the public and private officials with the health commissioners. Additionally, there was a difference in the health commissioners' social, cultural, and historical awareness of Milwaukee.

Three factors marked Health Commissioner Edward R. Krumbiegel's success addressing both the 1957 and 1968 pandemics. First, Krumbiegel took swift action by deploying educational and vaccine campaigns while being culturally sensitive to the concerns of Milwaukee residents. Second, Krumbiegel's substantial tenure as health commissioner gave him insight into the position's history and its residents. Third, the public responded positively to Krumbiegel's non-pharmaceutical interventions (NPIs) because of his positive social interactions with the public, media, and public officials during the pandemic. These three elements facilitated a transparent and successful response by Health Commissioner Krumbiegel to both pandemics he confronted in Milwaukee.

3 Swati Kumar et al. "Epidemiologic Observations from Passive and Targeted Surveillance during the First Wave of the 2009 H1N1 Influenza Pandemic in Milwaukee, WI," *Viruses* 2, no. 4 (2010): 782-83, doi.org/10.3390/v2040782.

4 "Flu in City Light Compared to West," *Milwaukee Sentinel*, January 17, 1960, 5; Frank F. Piraino, Edwin M. Brown, and Edward R. Krumbiegel, "Outbreak of Hong Kong Influenza in Milwaukee, Winter of 1968-69," *Public Health Reports (1896)* 85, no. 2 (1970): 147-149, [doi:10.2307/4593811](https://doi.org/10.2307/4593811).

Biography of Edward Krumbiegel

Doctor Edward R. Krumbiegel was born in Milwaukee on February 3rd, 1908, to Milwaukee-born children of German immigrants.⁵ He attended Marquette University in Milwaukee for his Bachelor of Science degree. He went on to graduate from Marquette University's medical school in 1935.⁶ Krumbiegel holds the record for the longest-serving health commissioner in Milwaukee's history, from 1940-1973.⁷ He was reappointed despite the political shift between Socialist to Democratic mayors and was a well-liked figure among the Milwaukee Health Department (MHD) staff and the public.⁸ Although Krumbiegel was another consensus-building health commissioner, he was a staunch and sometimes brash advocate for public health. For example, he is described as a "man who could inspire his staff and the city's residents to labor with devotion for the common good could also turn his anger instantly and brashly upon city politicians and businesses who stood in the way of what he considered progress."⁹

5 Marilyn Marchione, "Longtime Guardian of Health Dies," *Milwaukee Journal*, October 25, 1992.

6 "Krumbiegel, Dr. Edward R.," *Milwaukee Journal*, October 24, 1992.

7 Marchione, "Longtime Guardian of Health Dies," *Milwaukee Journal*, October 25, 1992.

8 Journal of the Senate, "Motions Under Joint Rule 26," (March 14, 1973): 526, <https://docs.legis.wisconsin.gov/1973/related/journals/senate/19730314.pdf>.

9 Daniel Carpenter, "Acknowledgments," In *Reputation and Power: Organizational Image and Pharmaceutical Regulation at the FDA*, xiii-xvi (Princeton: Princeton University Press, 2010), <https://doi.org/10.1515/9781400835119.xiii>.

Dr. Krumbiegel preferred to win the support of his ideas by utilizing cold logic, supported by facts from his study of the problem, and focused on teamwork within the MHD.¹⁰ This mentality extended to Krumbiegel's work with local organizations, utilizing them as branches of the Health Department and as places to learn about the city's residents.¹¹ His approach to public healthcare, which emphasized teamwork, cultural sensitivity, and historical awareness, was instrumental in his successful response to Milwaukee's 1957 and 1968 pandemics. This approach, characterized by a focus on collaboration, led to widespread social approval of Krumbiegel and his recommended non-pharmaceutical interventions (NPIs) during both pandemics.

The 1957 and 1968 Pandemics in Milwaukee

Milwaukee endured two distinct waves of the 1957 pandemic. The first occurred from September 5th to November 30th, 1957.¹² The second lasted from February 10th to March 30th, 1958.¹³ Health Commissioner Krumbiegel serologically confirmed the first case on

10 "Faculty Biography," *Marquette Medical Review* 29 no. 2 (United States: Marquette University School of Medicine, 1963): 65-67.

11 "Faculty Biography," 65-67.

12 "The Asian Flu," *Milwaukee Journal*, December 26, 1957, 10; "First Two Cases of Asian Influenza Confirmed Here," *Milwaukee Journal*, September 27, 1957, 59.

13 "New Asian Flu Wave Is Sweeping Over City," *Milwaukee Journal*, February 10, 1958, 17.

September 5th.¹⁴ The first school closed due to staff absenteeism and lack of substitute teachers on October 3rd.¹⁵ In total, the 1957 pandemic caused 255 deaths in Milwaukee.¹⁶

Health Commissioner Krumbiegel confirmed the first case of the 1968 pandemic influenza virus in Milwaukee during the week of October 6th, 1968.¹⁷ However, he believed it had been circulating for a few weeks.¹⁸ The pandemic occurred in two waves, from October 1968 to January 25th, 1969, and from October to January 1970.¹⁹ Krumbiegel estimated that 43% of Milwaukee's population contracted pandemic influenza during the first wave.²⁰ The age group ranging from thirteen to twenty-one years old experienced a significant impact from the influenza virus, in contrast to the elderly population and children under thirteen, who were less affected.²¹ Secondary pneumonia infection was the primary cause of death related to the influenza virus, a pattern similar to that observed during the 1918 pandemic.²² The first wave of the 1968 pandemic in Milwaukee peaked from September 15th to October 9th, with an

14 "First Two Cases of Asian Influenza Confirmed Here," *Milwaukee Journal*, September 27, 1957, 59.

15 "Flu Closes School, Spread to Adults," *Milwaukee Journal*, October 3, 1957, 43; "Lutheran High Closed by Asia Flu," *Milwaukee Sentinel*, October 3, 1957, 1.

16 "Flu in City Light Compared to West," *Milwaukee Sentinel*, January 17, 1960, 5.

17 Spaulding, "New Flu Spreads; Vaccines Useless," *Milwaukee Journal*, October 6, 1968, 1, 22.

18 Piraino, Brown and Krumbiegel, "Outbreak of Hong Kong Influenza," 143.

19 "Hong Kong Flu Sweeps Milwaukee," *Milwaukee Journal*, December 13, 1968, 1; "Ill Founded," *Milwaukee Journal*, January 1, 1970, 1, 15; Piraino, Brown and Krumbiegel, "Outbreak of Hong Kong Influenza," 143; "Pneumonia, Flu Deaths Rising," *Milwaukee Journal*, December 13, 1970, 14; "Worst of the Flu Epidemic Appears to Be Over Here," *Milwaukee Sentinel*, January 3, 1969, 14.

20 Piraino, Brown and Krumbiegel, "Outbreak of Hong Kong Influenza," 148-49.

21 Piraino, Brown and Krumbiegel, "Outbreak of Hong Kong Influenza," 143, 148.

22 "Flu Pneumonia Called Danger in New Strain," *Milwaukee Sentinel*, December 4, 1968, 14; James Spaulding, "Report on Your Health: Pneumonia Is Real Peril of Flu," *Milwaukee Journal*, December 14, 1968, 30.

estimated 70,000 cases.²³ From September 1st through October 21st, there were 32 deaths from influenza and pneumonia.²⁴ This total was almost triple the average number attributed to these illnesses in non-pandemic years.²⁵ However, the number of deaths was still considered low compared to a national standard.²⁶

During both pandemics, Health Commissioner Krumbiegel implemented the same non-pharmaceutical interventions. He made influenza a mandatorily reported disease, created an educational campaign, and instructed the public to follow isolation and quarantine measures.²⁷ He also worked with local organizations to support necessary steps, such as enacting visitor bans in city hospitals.²⁸ Though not a formal nonpharmaceutical intervention, one of the first interventions Krumbiegel initiated was to secure funding for vaccines during both pandemics.²⁹

23 "20 Weeks to Save the US from Asian Flu," *Milwaukee Journal*, September 8, 1957, 1, 69; "Asian Flu Death Rate Here Low," *Milwaukee Sentinel*, October 9, 1957, 1; "Facts about Asian Flu," *Milwaukee Sentinel*, September 8, 1957, 1; "Flu Believed at Its Height," *Milwaukee Journal*, October 9, 1957, 6.

24 "9 Here Killed by Flu and 23 by Pneumonia," *Milwaukee Journal*, December 27, 1968, 22.

25 "Pneumonia Flu Deaths Here up 128%," *Milwaukee Sentinel*, November 7, 1957, 3; "State Flu Death Total Reaches 17," *Milwaukee Sentinel*, October 31, 1957, 3.

26 Viboud et al., "Multinational Impact of the 1968 Hong Kong Influenza Pandemic: Evidence for a Smoldering Pandemic," *The Journal of Infectious Diseases* 192, no. 2 (July 15, 2005): 237, <https://doi.org/10.1086/431150>.

27 "City Warned by Health Chief to Brace for Lots of Influenza," *Milwaukee Journal*, October 8, 1967, 33; "New Asian Flu Epidemic Seen This Winter," *Milwaukee Sentinel*, September 24, 1968, 11.

28 "Flu Wanes, Ban Is Kept," *Milwaukee Journal*, December 31, 1968, 15; "Hospital Ban Stays to Jan. 15," *Milwaukee Journal*, January 2, 1969, 25.

29 Richard J. Hatchett, Carter E. Mecher, and Marc Lipsitch, "Public Health Interventions and Epidemic Intensity during the 1918 Influenza Pandemic," *Proceedings of the National Academy of Sciences* 104, no. 18 (May 2007): 7582-87, doi: 10.1073/pnas.0610941104; World Health Organization Writing Group, "Non-pharmaceutical Interventions for Pandemic Influenza, National and Community Measures," *Emerging Infectious Diseases* 12, no.1 (2006): 88-94, doi: 10.3201/eid1201.051371.

During the 1957 pandemic, scientists invented a vaccine quickly enough to significantly decrease the pandemic's length.³⁰ The short creation and physical manufacturing time is credited to microbiologist Maurice Hilleman.³¹ Hilleman recognized the possible pandemic after reading the description of its course in Hong Kong in a *New York Times* article from April 17th, 1957, and immediately requested virus samples from symptomatic American sailors stationed in Japan and Korea.³² As the chief of respiratory diseases at the Walter Reed Army Institute of Research in Washington DC, he gathered a group of virologists to isolate and identify the virus.³³

After identifying the virus, Hilleman warned U.S. health officials about the novel strain and the impending pandemic, but he was dismissed.³⁴ Against regulations, Hilleman called six vaccine manufacturing companies himself and instructed them to begin production on a vaccine for the 1957 virus.³⁵ He even issued a press release to the public through Walter Reed,

30 Pinkowski, "The Forgotten Pandemic."

31 Bojan Pancevski, "Forgotten Pandemic Offers Contrast to Today's Coronavirus Lockdowns; In the Late 1960s, the Hong Kong Flu Was Allowed to Run Rampant until a Vaccine Was Introduced," *Wall Street Journal Eastern Edition*, April 24, 2020, <https://www.wsj.com/articles/forgotten-pandemic-offers-contrast-to-todays-coronavirus-lockdowns-11587720625>; Pinkowski, "The Forgotten Pandemic"; J. Cavanaugh Simpson, "The Man Who Beat the 1957 Flu Pandemic," *Scientific American*, April 19, 2020, <https://blogs.scientificamerican.com/observations/the-man-who-beat-the-1957-flu-pandemic/>. Hilleman was the chief of respiratory diseases at the Walter Reed Army Institute of Research in Washington D. C. from 1948-1957. Hilleman conducted research on the 1957 H2N2 virus at the Walter Reed labs. However, in the last months of 1957 he began working for Merck & Co as the head of the virus and cell biology research department until 1984.

32 Pinkowski, "The Forgotten Pandemic."

33 Simpson, "Man Who Beat the 1957 Flu."

34 Simpson, "Man Who Beat the 1957 Flu."

35 Becky Little, "How the 1957 Flu Pandemic Was Stopped Early in Its Path," *History.com*, last updated May 6, 2020, <https://www.history.com/news/1957-flu-pandemic-vaccine-hilleman>; Pinkowski, "The Forgotten Pandemic"; Simpson, "Man Who Beat the 1957 Flu."

announcing that the pandemic would hit the United States in the fall, without waiting for federal approval.³⁶ Public health officials estimate that without Hilleman's prompt action, the United States would have seen one million deaths.³⁷

Scholars believe that Hilleman's reputation in the health field contributed to the success of producing the 1957 pandemic vaccine and the outcome of the pandemic.³⁸ Despite initially lacking the support of public health officials, he still sent out samples of the pandemic virus and each manufacturer cooperated with his request.³⁹ Initially labeled an alarmist, Hilleman is one example of how approval of one's peers significantly affects cooperation and, in turn, a pandemic.

Krumbiegel's Social Understanding of Milwaukee

Health Commissioner Krumbiegel prevented the 1957 pandemic from spreading uncontrolled by quickly deploying NPIs. He was able to take immediate action because of his strong relationships with Milwaukee Mayor Frank Zeidler and the Common Council. A month prior to the first suspected case in Milwaukee, on August 2nd, 1957, the United States Public Health Chief announced that a major pandemic would hit the U.S. in the fall.⁴⁰ The following day, Krumbiegel met with Mayor Zeidler and advised him to meet with the Common Council to

36 Pinkowski, "The Forgotten Pandemic;" Simpson, "Man Who Beat the 1957 Flu."

37 Little, "How the 1957 Flu Pandemic was Stopped."

38 Little, "How the 1957 Flu Pandemic was Stopped."

39 Little, "How the 1957 Flu Pandemic was Stopped."

40 "Major Flu Epidemic Predicted for the US," *Milwaukee Journal*, August 2, 1957, 3.

secure funds for vaccines and an educational campaign, which both Zeidler and the Council obliged.⁴¹

Krumbiegel's pandemic responses began with private meetings with local organizations and area doctors immediately after both the 1957 and 1968 pandemics' warnings.⁴² During these meetings Krumbiegel briefed local organizations and doctors on how the viruses could affect the city and asked for their support to mitigate spread.⁴³ He even recruited Marquette medical students to present a television program on the flu during the 1957 pandemic.⁴⁴ Even more critical was that he held these meetings prior to announcing the pandemic to the public, which allowed him to have an offense-based approach to the pandemic rather than a defense-based approach.⁴⁵ By establishing early relationships with people and organizations that were influential to Milwaukee society, Krumbiegel eased his path to gaining public acceptance and cooperation with his NPIs.

The news media's support of Krumbiegel played a crucial role in gaining public cooperation with pandemic information and NPIs as well, as newspapers were a primary source of information during the mid-20th century.⁴⁶ During the 1957 pandemic, Krumbiegel met with

41 "Mayor Asks Cash to Fight Flu Epidemic," *Milwaukee Journal*, August 3, 1957, 1.

42 "Asiatic Flu Talk Set," *Milwaukee Sentinel*, August 11, 1957, 24.

43 "Asiatic Flu Talk Set," *Milwaukee Sentinel*, August 11, 1957, 24.

44 "Asian Flu Slashed October Work Schedules," *Milwaukee Sentinel*, November 9, 1957, 14.

45 "Asiatic Flu Talk Set," *Milwaukee Sentinel*, August 11, 1957, 24; "City May Have Its 1st Case of Asian Flu," *Milwaukee Sentinel*, August 10, 1957, 1.

46 Randall N. Hyer and Vincent T. Covello, "Effective Media Communication during Public Health Emergencies: A WHO Field Guide," *World Health Organization* 35, no. 2 (2005), <https://apps.who.int/iris/handle/10665/43477>; Michael McCauley, Sara Minsky, and Kasisomayajula Viswanath,

Milwaukee newspaper editors after the U.S. Public Health Chief's initial warning.⁴⁷ He requested their support for his media campaign to educate the public in preventing the pandemic's spread.⁴⁸ The newspapers immediately cooperated, as demonstrated as early as August 18th, 1957, when the science editor of the *Milwaukee Sentinel*, William Engle, wrote to educate the public on the pandemic virus and encourage vaccinations.⁴⁹

By September 8th, the *Milwaukee Sentinel* and *Milwaukee Journal* were printing bulletins from the Health Department and direct quotes from the health commissioner.⁵⁰ Both newspapers featured a "Facts About the Flu" segment that relayed the latest information about the virus and served as a way for Krumbiegel to educate the public on what individuals could do to protect themselves from the virus or spreading it.⁵¹ Additionally, the segments emphasized that the public's actions could significantly impact the spread and severity of the flu in the city.⁵² Media influences public perception of pandemics. When Krumbiegel initiated a relationship with editors in the city and asked for their help, he created a positive social relationship. The newspapers then cooperated with him and did what they could to support his

"The H1N1 Pandemic: Media Frames, Stigmatization and Coping," *BMC Public Health* 13, no. 1 (2013): 1116, [doi:10.1186/1471-2458-13-1116](https://doi.org/10.1186/1471-2458-13-1116).

47 "City May Have Its 1st Case of Asian Flu," *Milwaukee Sentinel*, August 10, 1957, 1.

48 "AMA Organizes to Fight Flu Epidemic," *Milwaukee Journal*, July 28, 1957: 15; "Flu Epidemic Plans Begun," *Milwaukee Journal*, June 26, 1957, 19; "PHS Studies Plan to Fight Asiatic Flu," *Milwaukee Sentinel*, June 26, 1957, 6; "Ready for Fight on Asiatic Flu," *Milwaukee Sentinel*, July 2, 1957, 1.

49 "How We'll Fight the Asiatic Flu," *Milwaukee Sentinel*, August 18, 1957, 83.

50 "Facts about Asian Flu," *Milwaukee Sentinel*, September 8, 1957, 1; "State Allotted Its Flu Shots," *Milwaukee Journal*, September 8, 1957, 39.

51 "How We'll Fight the Asiatic Flu," *Milwaukee Sentinel*, August 18, 1957, 83.

52 "How We'll Fight the Asiatic Flu," *Milwaukee Sentinel*, August 18, 1957, 83.

efforts to protect the city. In turn, the newspapers consistently published information that positively framed Krumbiegel and his efforts. This then gave him credibility with the public, leading to the public's cooperation with his advised NPIs.

This relationship between Krumbiegel and the newspapers was critical in combating the growing anti-vaccination beliefs during both pandemics as well. For example, during the 1957 pandemic, the *Milwaukee Journal* published an article in support of the health commissioner and vaccines.⁵³ The article drew upon the example of a 1925 smallpox epidemic in Milwaukee to illustrate the consequences of refusing vaccines.⁵⁴ The health commissioner in 1925 used an education-based approach similar to Krumbiegel's but ultimately had to resort to fear-based tactics and quarantine without pay to control the outbreak.⁵⁵ The journalist of the article used persuasive rhetoric to question why members of the public would risk their health rather than receive a well-studied vaccine that had been in practice for decades. The article concluded that the smallpox outbreak did not become an epidemic because of the vaccine and drew a comparison to the incoming pandemic's vaccine.⁵⁶ While it is difficult to determine how persuasive the message was, it was a strategic method. By having journalists take a critical approach to the public's anti-vaccination sentiments, Krumbiegel was able to avoid resistance from the public and have relevant information based on a historic example reach the public.

53 "When Smallpox Scourged Milwaukee," *Milwaukee Journal*, September 16, 1957, 18.

54 "When Smallpox Scourged Milwaukee," *Milwaukee Journal*, September 16, 1957, 18.

55 "When Smallpox Scourged Milwaukee," *Milwaukee Journal*, September 16, 1957, 18.

56 "When Smallpox Scourged Milwaukee," *Milwaukee Journal*, September 16, 1957, 18.

Krumbiegel's willingness to communicate and level of transparency was distinct from each of the other health commissioners and was one way he built trust with the public. He did not limit his transparency during the pandemics to providing information but extended it to his actions and thought processes. After the first deaths caused by the 1957 pandemic, he was candid with the public about the virus's variability and potential danger.⁵⁷ However, instead of inciting panic, he explained what the Milwaukee Health Department (MHD) was doing to understand the pandemic virus and control its spread.⁵⁸ In an article by the *Milwaukee Journal*, he explained that he would continue to order health officials to take samples from symptomatic individuals and their contacts to determine the mode of transmission and relay that information back to the public.⁵⁹ By being transparent about the department's actions and continuously updating information, Krumbiegel prevented pandemic dread and maintained public trust.

Like Ruhland, Krumbiegel's educational campaigns were one of his most impactful NPIs and also facilitated by the network he created through his positive social relationships. Both campaigns and subsequent relationships were similar during these two pandemics, but the success of the 1957 pandemic's response added credibility to his 1968 response. Krumbiegel also refined his communication approach after the 1957 pandemic. In response to an article by the *Milwaukee Sentinel*, a resident wrote to the paper criticizing Krumbiegel's communication,

57 "Two Die of Flu," *Milwaukee Journal*, October 8, 1957, 1.

58 "Two Die of Flu," *Milwaukee Journal*, October 8, 1957, 1.

59 "Two Die of Flu," *Milwaukee Journal*, October 8, 1957, 1.

believing it to leave people feeling helpless in preventing becoming sick until vaccines arrived.⁶⁰ Krumbiegel factored this feedback into his future responses by providing actionable steps the public could take like hand washing, covering coughs, and eating well.⁶¹ To mitigate this feeling of helplessness while waiting for vaccines Krumbiegel provided detailed information that included modeling and vital statistics so residents knew what stage of the pandemic the city was in and when it may end.⁶²

From the first official warning of the 1957 pandemic virus in August until the first serologically confirmed case in Milwaukee on September 27th, Krumbiegel prevented the pandemic from spiraling out of control.⁶³ This success in controlling spread was due to his early efforts to educate and prepare the public for the pandemic.⁶⁴ Still, both newspapers would not have continued to publish his educational campaign throughout the eight weeks leading up to the city's first confirmed case in 1957 without trusting him and having a positive relationship that stemmed from their meetings together. Additionally, Krumbiegel would have run out of funding for the pre-emptive campaign without support from local businesses and organizations because the state did not declare a health emergency until weeks later.

The public's cooperation with any official's advice or mandates depends, in part, on the official's social awareness and acceptance by residents. Krumbiegel was well-liked and had

60 "What Can You Do about Asian Flu," *Milwaukee Sentinel*, October 11, 1957, 15.

61 "Vaccine Delays City Aids' Shots," *Milwaukee Sentinel*, September 27, 1957, 1.

62 "Hunters Not Necessarily Susceptible to Asian Flu," *Milwaukee Sentinel*, November 1, 1957, 16.

63 "City May Have Its 1st Case of Asian Flu," *Milwaukee Sentinel*, August 10, 1957, 1.

64 "First Two Cases of Asian Influenza Confirmed Here," *Milwaukee Journal*, September 27, 1957, 59.

positive relationships with public and private citizens, similar to his predecessor, Health Commissioner George Ruhland. His transparent communication, prompt action, and willingness to adapt his interactions or ways of disseminating information demonstrate his social awareness of the city. These actions fostered trust and strengthened his positive reputation with the public and his peers. As a result, both aspects were essential during the 1957 and 1968 pandemics in gaining cooperation from the public with his NPIs.

Krumbiegel's Cultural Understanding of Milwaukee

Health Commissioner Krumbiegel's actions during both pandemics and his career exemplify his understanding of the culture of public health in Milwaukee. Like previous health commissioners, Krumbiegel held a reform-based approach and focused on progressive action without being influenced by politics or the public.⁶⁵ As health commissioner, Krumbiegel favored conducting research before subjecting the public to health measures.⁶⁶ One such example was the study he conducted with two additional members of the Health Department during the 1968 pandemic.⁶⁷ The researchers tracked absenteeism in the Health Department to follow the pandemic's progression. They assessed the efficacy of the seasonal flu vaccine and the new 1968 pandemic influenza vaccine against the pandemic virus.⁶⁸ The study found the seasonal vaccine ineffective against the novel pandemic virus. Krumbiegel informed the public

65 Edward R. Krumbiegel, "A Philosophical Consideration of Leadership in Public Health," *Bulletin of the American Association of Public Health Physicians* 3, (February 1956), 3.

66 Carpenter, *Reputation and Power*, xiii-xvi; Edward R. Krumbiegel, *The Milwaukee Health Department*, (Milwaukee: Milwaukee Health Department, December 29, 1947), 4; Krumbiegel, "A Philosophical Consideration," 3.

67 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 143, 150.

68 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 143, 150.

that the seasonal vaccine had no preventative basis for the pandemic virus. In doing so, it continued the legacy of health commissioner-based studies and responding appropriately to the pandemic.⁶⁹ The actual pandemic vaccine arrived too late to impact the trajectory of the 1968 pandemic in the city.⁷⁰

Krumbiegel was attentive to the city's health as Ruhland did before him. When Krumbiegel became aware that the 1957 pandemic was affecting high school and college students at higher rates, he researched the causes.⁷¹ He concluded that the higher case numbers in high schools and colleges were due to students changing classrooms throughout the day, exposing them to more people than elementary school students.⁷² This research based approach shows Krumbiegel's efforts to comprehend the cultural disparities among different age groups in schools. He also promptly acknowledged the public's concerns and reasserted the importance of his NPI of social distancing in this case, which the public abided by from then on.⁷³ This instance is one example where Krumbiegel's comprehension of cultural context helped prevent the pandemics from escalating beyond control.

A key component of being a health commissioner in Milwaukee during the first half of the 20th century was advocating for the health of residents.⁷⁴ Krumbiegel did this multiple

69 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 150.

70 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 143, 150.

71 "Health Chief Admits A-Flu Sweeps City," *Milwaukee Sentinel*, October 4, 1957, 1.

72 "Health Chief Admits A-Flu Sweeps City," *Milwaukee Sentinel*, October 4, 1957, 1.

73 "Health Chief Admits A-Flu Sweeps City," *Milwaukee Sentinel*, October 4, 1957, 1.

74 Judith W. Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton: Princeton University Press, 1982), 12-34, <https://www.jstor.org/stable/3787396>.

times during each pandemic. During the 1957 pandemic, Krumbiegel solved the problem of a delayed vaccine shipment by sending a member of the Milwaukee Health Department to Chicago to procure additional vaccines. This action ensured that frontline workers and teachers were vaccinated and protected from the virus.⁷⁵ Additionally, Krumbiegel chose not to order the closing of schools during both pandemics. He and the Milwaukee Public Schools superintendent decided that doing so would cause unnecessary hardship for Milwaukee parents because children were still at risk of contracting influenza at home or school. Moreover, Krumbiegel included that he and the Common Council agreed to have the city's superintendent make that decision instead.⁷⁶

Throughout Krumbiegel's time as health commissioner, anti-vaccination culture persisted in Milwaukee. The Anti-Vaccination Society in Milwaukee had been active for over 50 years, and for Krumbiegel to be successful in vaccinating the public, he needed to understand the cultural significance pressuring the public to take a vaccine could have.⁷⁷ Many of the founding members of the anti-vaccination society were from first- and second-generation immigrant families who came from Germany and Poland, where their government forced vaccines upon them.⁷⁸ Health Commissioner Walter Kempster did not consider the reasons for

⁷⁵ "Rise Is Noted in Flu Cases," *Milwaukee Journal*, October 4, 1968, 32.

⁷⁶ "Asian Flu," *Milwaukee Sentinel*, October 27, 1957, 10; "Flu Closes School, Spreads to Adults," *Milwaukee Journal*, October 3, 1957, 43; "Lutheran High Closed by Asia Flu," *Milwaukee Sentinel*, October 3, 1957.

⁷⁷ Leavitt, *The Healthiest City*, 36.

⁷⁸ John Gurda, "America's Most German-American City: Milwaukee Looks Back on Its Legacy as the Deutsch-Athens." *German Life* 3, no.4 (1997): 42-45; John Gurda, "People of Milwaukee: Polish Milwaukee," *The Making of Milwaukee*, Milwaukee PBS, accessed on November 12, 2022, <https://www.milwaukeepbs.org/the-making-of-milwaukee/people/>; Leavitt, *The Healthiest City*, 42-45; Judith W. Leavitt, "Politics and Public Health:

the anti-vaccination culture in 1894 and failed to mitigate their concerns, resulting in the 1894 smallpox riots due to the NPI of forcible removal that became necessary to control the spread of smallpox amongst the unvaccinated.⁷⁹ Decades removed from the repressive governments, the mid-century Anti-Vaccination Society members based their beliefs on their perception of a vaccine's efficacy and personal freedom to choose.⁸⁰

Months before the 1957 pandemic, health officials in Milwaukee had the opportunity to administer the Cutter Polio Vaccine to the public, making the city one of the first to do so.⁸¹ Rather than subjecting the community to vaccine testing, Krumbiegel announced that he would not allow the administration of the Cutter vaccine because the research did not meet his standards.⁸² Krumbiegel's exacting standards prevented Milwaukeeans from being subjects of a vaccine that introduced a live polio virus to over 220,000 people.⁸³ This action shored up Krumbiegel's credibility with the public prior to the pandemic, as he acknowledged the concerns of the Anti-Vaccination Society and approached the situation from a medical standard. Krumbiegel advised vaccination during both pandemics but never antagonized anti-

Smallpox in Milwaukee, 1894-1895," *Bulletin of the History of Medicine* 50, no. 4 (1976): 553-54, 566-67, <http://www.jstor.org/stable/44450375>.

79 Leavitt, "Politics and Public Health," 553-54.

80 Leavitt, "Politics and Public Health," 553-54.

81 "Fight Against Polio Was Physical, Emotional," *Milwaukee Journal*, May 13, 1984; "Influenza Hits Poland; Thousands Are Felled," *Milwaukee Journal*, March 20, 1957, 3; "April 28, 1955," *Milwaukee Sentinel*, April 28, 1980.

82 "Influenza Hits Poland; Thousands Are Felled," *Milwaukee Journal*, March 20, 1957, 3.

83 Jonathan R. Carapetis, "The Cutter Incident: How America's First Polio Vaccine Led to the Growing Vaccine Crisis," *BMJ: British Medical Journal* 332 (2006): 733.

vaccinationists.⁸⁴ He used logic and had candid conversations instead, which was influential in his vaccine campaign, where he faced little resistance.

Krumbiegel's cultural awareness of Milwaukee during pandemics was not just about including multiple languages or researching housing environments. While those actions were helpful to Ruhland and contributed to his success in gaining public cooperation in 1918, Krumbiegel's advocacy and consideration for the public during the mid-century pandemics won their support. Krumbiegel was born and raised in Milwaukee, educated there, and had worked for the city for decades before the pandemics hit. His grandparents had immigrated to Milwaukee from Germany, so he was a second-generation American with strong ties to the city. This history made him familiar, relatable, and trustworthy to the heavily German-cultured Milwaukeeans. He also became a public health official after witnessing socialist mayors and public health reformers win elections in the city, which informed his approach as health commissioner. Because of his cultural awareness of Milwaukee and his position's precedents, Krumbiegel could embody the culture-based model of a Milwaukee health commissioner and Milwaukee Health Department and effectively address the 1957 and 1968 pandemics with minimal resistance from the public.

Krumbiegel's Historical Understanding of Milwaukee

Health Commissioner Krumbiegel applied his knowledge of Milwaukee's history of pandemics to effectively address the 1957 and 1968 pandemics and gain the public's

⁸⁴ "Mass Flu Shots Draw Warning," *Milwaukee Sentinel*, September 16, 1957, 1; "Vaccination Advised by Health Chief," *Milwaukee Sentinel*, August 3, 1957, 1; "Vaccine Expected Soon for New Flu," *Milwaukee Journal*, November 18, 1968, 3.

cooperation with his implementation of mandatorily reported cases, education campaign, and social distancing NPIs.⁸⁵

Krumbiegel encountered various challenges during the 1957 and 1968 pandemics, such as the lack of a reporting system and mandate by the state health officer to report cases to the state.⁸⁶ Consequently, tracking the first wave of the 1957 pandemic was exceptionally difficult.⁸⁷ However, his historical knowledge enabled him to overcome this challenge through house-to-house canvasses conducted by school and public health nurses and schoolteachers.⁸⁸ Krumbiegel employed this method during both pandemics, as it was one of the most effective ways to report accurate case numbers, and schoolteachers were trustworthy candidates for this work as established during Health Commissioners Ruhland's response. Although Krumbiegel was only ten years old during the 1918 pandemic, the use of this schoolteacher canvass NPI indicates the influence of Ruhland's NPIs on Krumbiegel's pandemic approaches.

During the 1957 pandemic, this method was fundamental because Krumbiegel knew influenza case reports from city doctors were inaccurate. After he sent schoolteachers and nurses to canvass households, they reported that one in seven Milwaukeeans was ill with the pandemic virus.⁸⁹ These canvasses were important to Krumbiegel having an effective response as accurate case reports were vital to determining if further NPIs were necessary. Krumbiegel

85 "Orders Pour in for Flu Vaccine," *Milwaukee Journal*, August 9, 1957, 17.

86 "City Warned by Health Chief to Brace for Lots of Influenza," *Milwaukee Journal*, October 8, 1967, 33.

87 "Hospitals Ask Help in Flu Epidemic," *Milwaukee Sentinel*, December 20, 1968, 5.

88 "Teachers Have Flu, Grade School Closes," *Milwaukee Journal*, December 12, 1968, 18.

89 "One in Seven Has Flu Here," *Milwaukee Journal*, October 5, 1957, 1; "Asian Flu Continues U. S. Gain," *Milwaukee Sentinel*, October 5, 1957, 48.

used the canvasses again in 1968 recruiting healthy public-school teachers whose schools had temporarily closed due to a lack of staff to canvas households.⁹⁰ Their reports showed that the city was near the peak of the first wave and allowed Krumbiegel to provide accurate modeling and information.⁹¹

Moreover, Milwaukee was the only city in the state that promptly and continuously reported influenza cases during both pandemics.⁹² This was critical for the state because Milwaukee is the largest city with the densest population and is an economic epicenter. Therefore, Milwaukee serves as a predictor for how a pandemic will progress through the state.⁹³ The fewer cases that occur in Milwaukee, the lower the number of cases that will spread to other cities and the better the prognosis for the rest of the state.⁹⁴ As a result, public health and school nurses' and teachers' cooperation with Krumbiegel's use of a historical NPI benefited not only the city but also the entire state in addressing the pandemics.

Krumbiegel launched an extensive media campaign for the public focused on education. *The Milwaukee Journal* and *Milwaukee Sentinel* published the campaign, which was similar to the one launched by Health Commissioner Ruhland in 1918.⁹⁵ Given that some residents of the

90 "Teachers Have Flu, Grade School Closes," *Milwaukee Journal*, December 12, 1968, 18.

91 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 143, 150.

92 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 142, 147.

93 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 140.

94 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 140.

95 "Fear Asiatic Disease to Hit in Fall," *Milwaukee Sentinel*, August 2, 1957, 1; James Spaulding, "New Flu Epidemic Feared This Winter," *Milwaukee Journal*, September 15, 1968, 1, 18; "Too Soon to Worry," *Milwaukee Journal*, September 8, 1968, 63; "Warn U. S. of Asia Flu Peril in Fall," *Milwaukee Sentinel*, August 2, 1957, 1; "What You Can Do about the Flu," *Milwaukee Sentinel*, October 11, 1957, 13.

city still remembered the 1918 pandemic and the fear it caused, Krumbiegel was considerate in his references to the historic pandemic for his educational campaigns. He reminded the public that fatalities during 1918 pandemic were not caused from the influenza virus but from a secondary infection that was now treatable with the advent of antibiotics.⁹⁶ The campaign prompted the public to be cognizant of symptoms that could signify a secondary infection from bronchitis or pneumonia so that doctors could treat it before it became life-threatening.⁹⁷ He also used Milwaukee's excellent outcome during the 1918 pandemic to justify his NPIs and gain the public's cooperation with them during both pandemics. Overall, Krumbiegel's history-informed approach to pandemic management led to his prioritization of essential workers for vaccination and effective education-based media campaigns, which were instrumental in controlling the 1957 and 1968 pandemics in Milwaukee.

Conclusion

Health Commissioner Krumbiegel's deployment of NPIs and the lack of resistance he faced were due to several factors, including his social awareness that fostered positive relationships and cooperation, his cultural awareness of the effect of his position within the city, and his use of history to inform his pandemic responses. Krumbiegel focused most on educational NPIs during both pandemics. Education, even when a pandemic virus has a low initial death rate, is important to maintain a low death rate. The severity of each of the 1957, 1968, and 2009 pandemic viruses are similar, but Krumbiegel maintained communication and

⁹⁶ "What You Can Do about the Flu," *Milwaukee Sentinel*, October 11, 1957, 13.

⁹⁷ "2nd Flu Outbreak Hits Here; Children Most Susceptible," *Milwaukee Journal*, March 28, 1969, 1, 3; "What You Can Do about the Flu," *Milwaukee Sentinel*, October 11, 1957, 13.

an extensive educational campaign that contained historical, social, and cultural context. This approach kept the death rate low in Milwaukee and received cooperation from the public. Pandemics with a low mortality can still spiral out of control and have dire consequences.

The 2009 pandemic in Milwaukee is an example of this. Initiating pandemic NPIs is still important to prevent hardships caused by the pandemic and should not be abandoned or not considered because of a perceived low mortality of a novel virus. Health Commissioner Krumbiegel did not mandate NPIs during either midcentury pandemic but was transparent with the public about the possibility of their necessity. Krumbiegel presented NPIs as guidelines and was able to garner cooperation from the public making mandates unnecessary. The cooperation in tandem with his transparency is why both the 1957 and 1968 pandemics did not have the same disastrous impact on Milwaukee as the 2009 pandemic did.

Essential to consider, though, is the fact that Krumbiegel was an established health commissioner before both pandemics. He was from Milwaukee and the second generation born in the city, engraining him in it.⁹⁸ Krumbiegel's familiarity and similarity in a German American cultural background to that of many Milwaukeeans made him more likely to receive support. Too, Milwaukee residents viewed both Krumbiegel's position and the Health Department positively during both pandemics.⁹⁹ He did not face the same scrutiny or distrust from the public and political officials that past health commissioners from differing ethnic backgrounds, such as Dr. Walter Kempster, did. He also worked within a positive legacy that future health

98 Marilyn Marchione, "Longtime Guardian of Health Dies," *Milwaukee Journal*, October 25, 1992.

99 Leavitt, *The Healthiest City*, 72-75.

commissioners, Dr. Jeannette Kowalik and Marlaina Jackson, did not have. Krumbiegel worked to establish positive relationships publicly and privately, which were critical to preventing a more severe outcome of the pandemics. At the same time, it was markedly easier for him to do so because of his background.

Chapter Four: Bevan K. Baker and the 2009 Pandemic

A novel strain of the H1N1 virus caused the 2009 pandemic, colloquially termed “swine flu.” On April 21, 2009, the CDC first identified the pandemic virus's spread in the United States.¹ By April 26, 2009, the CDC declared a public health emergency in response to the virus.² From April 12, 2009, to April 10, 2010, the CDC estimated that there were 60.8 million cases of pandemic influenza in the U.S.³ The virus infected school-aged children more than any other age group and consisted of two waves. The first wave in Milwaukee spanned from April 28, 2009-July 25, 2009, and the second wave occurred from August 31, 2009- January 2, 2010.⁴ During the first wave of the pandemic, Milwaukee County made up 4,029 of the total 6,222 cases in Wisconsin.⁵ This was the highest number in the country. In comparison, Texas had the second most with 5,151 cases.⁶ Confirmed cases and hospitalizations revealed that the city of Milwaukee was responsible for 2,791 of the total cases in the state.⁷ However, modeling

1 Swati Kumar et al., “Epidemiologic Observations from Passive and Targeted Surveillance During the First Wave of the 2009 H1N1 Influenza Pandemic in Milwaukee, WI,” *Viruses* 2, no. 4 (2010): 782, doi.org/10.3390/v2040782.

2 Donald G. McNeil Jr., “US Declares Public Health Emergency Over Swine Flu,” *New York Times*, April 26, 2009, <https://www.nytimes.com/2009/04/27/world/27flu.html>.

3 McNeil, “US Declares.”

4 Kumar et al., “Epidemiologic Observations,” 782; Shaun A. Truelove et al., “Comparison of Patients Hospitalized with Pandemic 2009 Influenza A (H1N1) Virus Infection During the First Two Pandemic Waves in Wisconsin,” *The Journal of Infectious Diseases* 203, no.6 (2011): 834, doi:10.1093/infdis/jiq117.

5 David Haynes, “Understanding the Flu, the Harvard Study of Milwaukee’s Swine Flu Outbreak Should Shed Light on How the Disease Is Spreading. Investigators Can Help the Public Prepare by Sharing What They Know.” *Milwaukee Journal Sentinel*, July 27, 2009, <https://archive.jsonline.com/news/opinion/51816582.html/>.

6 Haynes, “Understanding the Harvard Study.”

7 Kumar et al., “Epidemiologic Observations,” 784.

suggests that 10% of Milwaukeeans or 58,287 people contracted the virus during the first wave.⁸

Along with New York City, Milwaukee became a focal point for researchers during the 2009 pandemic because of its substantial number of cases, and the fact that physicians continued to count mild cases when other cities stopped.⁹ When questioned about the high case numbers, Health Commissioner Bevan K. Baker stated that the number was due to extensive testing.¹⁰ CDC epidemiologist Dr. Marc Lipsitch, who led the Harvard study of Milwaukee during the pandemic, did not find the claim accurate and later revealed that the city had the largest regional outbreak of the virus in the country.¹¹ Scholars have argued that this outcome was due to racial and socioeconomic factors and resulting underlying medical conditions.¹² However, these factors have been present during each pandemic. This chapter shows that Baker's disregard for the culture of city residents, tenuous social relations within his department and local organizations, and lack of addressing historical issues of the city's health resulted in the difference in how the 2009 pandemic affected the city of Milwaukee compared to past pandemics.

8 Kumar et al., "Epidemiologic Observations," 784.

9 Mark Johnson, "Swine Flu Researchers Put Milwaukee under Microscope," *Milwaukee Journal Sentinel*, July 28, 2009.

10 Johnson, "Swine Flu Researchers."

11 Johnson, "Swine Flu Researchers."

12 Truelove et al., "Comparison of Patients Hospitalized," 832-34.

Biography of Bevan K. Baker

Bevan K. Baker was born in Texas in 1962. In 2001, he moved to Milwaukee to become the Chief Operating Officer for the Milwaukee Health Department.¹³ After the Wisconsin governor appointed former Milwaukee Health Commissioner Seth Foldy as state health officer in 2004, Mayor Tom Barrett appointed Baker as the acting health commissioner.¹⁴ The Common Council confirmed Baker to the position in 2006. Baker received his Master of Arts in health administration, making him the second health commissioner in Milwaukee history to hold the position without a medical degree. He served as the health commissioner for the city and county from 2006 through 2018.¹⁵

As Health Commissioner, Baker described his position to the *Milwaukee Times*, stating that he considered himself “an ambassador for the city's health.’ He said the next big issue to be tackled is the ongoing disparities in public health. ‘That's the money ball,’ he said. ‘If we do not get this right, it will be like a herd of elephants in a room, but behavior is always the toughest thing to change.’¹⁶ Despite his efforts, the media and city officials heavily criticized Health Commissioner Baker, particularly for his handling of the 2009 pandemic.

13 Steve Waring, “Greater Milwaukee Foundation Honors Bevan K. Baker,” FACHE,” *The Milwaukee Times*, last modified November 24, 2015, accessed March 26 2022, <https://milwaukeeetimesnews.com/national-local-news-story/greater-milwaukee-foundation-honors-bevan-k-baker-fache>.

14 Waring, “Greater Milwaukee Foundation.”

15 Mary Spicuzza and Mark Johnson, “Milwaukee Health Commissioner Bevan Baker out after Thousands Not Contacted by City After Lead Tests,” *Milwaukee Journal Sentinel*, January 12, 2018, last modified January 11, 2019, <https://www.jsonline.com/story/news/local/milwaukee/2018/01/12/milwaukee-health-commissioner-bevan-baker-out-city-hall/1028152001/>.

16 Waring, “Greater Milwaukee Foundation.”

Baker resigned in 2018 after Mayor Tom Barrett discovered his mismanagement of the Health Department and Milwaukee's lead poisoning crisis. Staff members that collaborated with Baker came out after his resignation and revealed a toxic working environment attributed to Baker. Paul Biedrzycki, who had served under Baker for nearly a decade, including during the 2009 pandemic, said in an interview with the *Milwaukee Journal Sentinel* that “the department's methods of retaliation have included disinviting people from meetings concerning areas they specialize in, and forbidding employees to travel to conferences or to give presentations at conferences.”¹⁷ Future Health Commissioner Jeanette Kowalik expressed similar sentiments and credited the environment for her first departure from the department.¹⁸ Additional allegations included a “gag order” Baker put in place to prevent any members of MHD from discussing the department with anyone, including the Common Council. Baker vehemently denied the allegations.¹⁹

The 2009 Pandemic in Milwaukee

Health Commissioner Bevan K. Baker addressed the 2009 pandemic by implementing two non-pharmaceutical interventions (NPIs), making influenza a mandatorily reported disease and closing schools. Baker and the Milwaukee Health Department (MHD) also focused on a vaccine campaign. The public did not cooperate with Baker's motions, and his approach did not effectively address the virus's spread in Milwaukee. Baker lacked a pandemic plan that considered Milwaukee residents' needs and did not consider their social relationships, culture,

17 Spicuzza and Johnson, “Milwaukee Health Commissioner.”

18 Spicuzza and Johnson, “Milwaukee Health Commissioner.”

19 Spicuzza and Johnson, “Milwaukee Health Commissioner.”

or historical factors. Consequently, the public pressured Mayor Tom Barrett to reverse the school closings around the city, and the pandemic remained unchecked during both waves.

Bakers Social Understanding of Milwaukee

In the first few days of the pandemic, Health Commissioner Bevan Baker took a hands-off approach to addressing the crisis. Mayor Tom Barrett declared a city-wide public health emergency on April 26th, 2009.²⁰ On that same day, Baker activated the city's emergency response plan.²¹ This plan was markedly different from past health commissioners due to the absence of network building and coordinating the testing only of people exhibiting flu-like symptoms.²² Notably, the plan did not include Baker taking preemptive action by speaking with newspaper editors, local organizations, and businesspeople before announcing the pandemic. Still, local organizations, such as the Milwaukee Public School system and hospitals, coordinated efforts but did so independently and without crucial resources available in the past.²³ Without briefing these organizations and businesses before announcing the pandemic to the public, Baker failed to establish himself as a resource to the community, which was vital to the success past health commissioners had.

During the press conference addressing the declaration, Barrett communicated to the public. This habit continued throughout the first wave, with Barrett appearing more often in

20 Patrick Marley et al., "State Officials Prepare for Swine Flu Cases," *Milwaukee Journal Sentinel*, April 28, 2009: 6.

21 Ryan Haggerty, Susanne Rust, and Georgia Pabst, "Global Flu Pandemic Imminent," *Milwaukee Journal Sentinel*, April 30, 2009, 1.

22 Haggerty, Rust, and Pabst, "Global Flu Pandemic Imminent."

23 Mark Johnson, "Monitoring of Swine Flu," *Milwaukee Journal Sentinel*, August 10, 2009, 1.

pandemic news than any other Milwaukee official. Historically, information specific to the virus has come from the health commissioner. Although Baker contributed to pandemic news conferences, the specific information about the virus came mainly from the Chief Health Officer of the Milwaukee Health Department, Doctor Geoffrey Swain. In example, Swain communicated the following excerpt to the *Milwaukee Journal Sentinel*:

Still little is known. As officials race to learn more about the virus, Geof Swain, the city's medical director and chief medical officer, said data indicates people generally show symptoms around four days after they are exposed. He said people remain infectious for seven days after they first show symptoms, or one day after they stop — whichever is longer. Swain said the city was taking the extraordinary step of closing schools because, so little is known about this new virus.²⁴

Baker's background role in communicating with the public meant he could not build a social relationship and familiarity with residents, which is necessary for establishing authority and gaining cooperation with NPIs.

Pandemic scholarship produced by J. Alexander Navarro, Katrin S. Kohl, Martin S. Cetron, and Howard Markel; J. Alexander Navarro and Howard Markel, and Judith Walzer Leavitt has shown the negative impact of political figures and partisan discourse on the outcome of both the 2009 and COVID-19 pandemics.²⁵ Another study conducted by Sandra Crouse Quinn, John Parmer, Vicki S. Freimuth, Karen M. Hilyard, Donald Musa, and Kevin H. Kim on the 2009 pandemic concluded that public health officials are the most trusted official by the

²⁴ Susanne Rust, "34 Cases Here Called Probable Swine Flu Confirmed in 2," *Milwaukee Journal Sentinel*, May 3, 2009, 1.

²⁵ Judith W. Leavitt, "Pandemics and History: Context, Context, Context," *American Journal of Public Health* 111, no.6 (2021): 996, [doi:10.2105/AJPH.2021.306270](https://doi.org/10.2105/AJPH.2021.306270); Navarro, et al., "A Tale of Many Cities," 393- 421; Navarro and Markel, "Politics, Pushback, and Pandemics," 417.

public.²⁶ Therefore, Baker's failures in communicating with the public greatly hindered mitigation efforts.

Mayor Barrett replaced Baker as the communicating official, indirectly adding a political frame during a highly partisan crisis.²⁷ Moreover, Mayor Barrett quoted the Centers for Disease Control and Prevention's guidelines when implementing the NPI of school closures on April 30th rather than framing it as a local decision under the guidance of the city's top health authority, the health commissioner.²⁸ Cases increased substantially two days later, which prompted Barrett to state that "It is not inconceivable at this time that we would face a closure of many more schools or perhaps the whole district."²⁹ Though the Milwaukee Journal Sentinel reported that the mayor would factor the weekends developments before making his final decision to add more school closing, Sunday evening.³⁰

Even though Mayor Barrett, Health Commissioner Baker, and the Milwaukee Health Department collaborated in the decision to close schools, Barrett did not communicate that. Barrett's statement may have been off-putting to the public as he was not a public health authority and was implementing policy from an outside organization. The political connotation of the decision of the school closure coming from a Democratic mayor may have also caused

26 Sandra Crouse Quinn et al., "Exploring Communication, Trust in Government, and Vaccination Intention Later in the 2009 H1N1 Pandemic: Results of a National Survey," *National Library of Medicine* 11, no 2 (2013): 96-106.

27 Haggerty, Rust, and Pabst, "Global Flu Pandemic."

28 Haggerty, Rust, and Pabst, "Global Flu Pandemic."

29 Haggerty, Rust, and Pabst, "Global Flu Pandemic."

30 Mark Johnson, "Concerns Grow in Wisconsin," *Milwaukee Journal Sentinel*, May 2, 2009, 1.

resistance by residents of differing parties. Consequently, the public may not have found the reasoning behind school closings credible or the NPI necessary. Had Baker been the main person communicating to the public about pandemic-related information, the public would have perceived this information as credible as it was during past pandemics, as indicated by Quinn et al. Instead, the NPI of school closures in Milwaukee received a large amount of pushback, and pressure from the public led Barrett to repeal the mandate.³¹

Baker's lack of communication throughout the pandemic did not go unnoticed. Unlike past health commissioners, Baker only provided vague statements and rarely answered journalists' questions. This created a tenuous relationship between the Health Commissioner, the Milwaukee Health Department (MHD), and the *Milwaukee Journal Sentinel* (MJS) staff. Consequently, MJS journalists openly and heavily criticized Baker throughout both pandemic waves. Journalists also pleaded with Baker and MHD employees to provide more information for residents so they could understand the severity of the pandemic through articles such as:

- Mark Johnson, "Concerns Grow in Wisconsin," May 2, 2009.
- Mark Johnson, "1st Swine Flu Death," June 5, 2009.
- Mark Johnson, "Milwaukee Adolescent Dies," June 17, 2009.
- Mark Johnson, "Details Scarce," June 28, 2009.
- David Haynes, "A Proper Balance," June 30, 2009.
- David Haynes, "Understanding the Flu," July 28, 2009.
- Mark Johnson, "Monitoring of Swine Flu," August 10, 2009.
- Mark Johnson, "Falling Short," September 22, 2009.
- Eugene Kane, "In My Opinion," October 24, 2009.
- Mark Johnson and Laurel Walker, "Vaccine Shortage," October 28, 2009.
- Mark Johnson, "Little Rest on Flu," October 31, 2009.

31 Navarro et al., "A Tale of Many Cities," 393-421; Navarro and Markel, "Politics, Pushback, and Pandemics," 423.

The *Milwaukee Journal Sentinel's* strained relationship with Baker led to negative portrayals of him in articles about the pandemic. Despite the criticism, Baker continued to provide limited information in his briefings, forcing journalists to seek outside sources for accurate information. The approach of relying on MHD employees and outside health officials for information had the unintended consequence of undermining Baker's credibility and leaving the public without a designated source of information; furthermore, the *Milwaukee Journal Sentinel* publishing quotes from other health officials further distanced Baker as the mandate's responsible official. This, in turn, fueled resistance to NPIs because the public may not have understood who was deploying them.

Moreover, Baker's lack of positive social relationships with key organizations and his decision not to hold preemptive meetings with businesspeople, organization leaders, and local doctors resulted in a lack of support when the media criticized his response. Without the backing of local journalists, Baker's poor communication skills led to a negative public perception of his efforts, ultimately influencing push-back on his NPIs. As past pandemics have shown, effective communication is essential in gaining residents' social approval and trust, which Baker failed to achieve due to poor sociability.

Bakers Cultural Understanding of Milwaukee

From April 29th- May 5th, Health Commissioner Baker closed eighteen public schools and recommended the closure of eight private schools in Milwaukee due to confirmed cases of pandemic influenza.³² However, Baker's lack of communication with parents immediately drew




























³² Alan J. Borsuk, "Swine Flu- Related Days Off Creating Headaches for Schools at Year's End, Teachers Scramble Feverishly to Recoup Lost Time," *Milwaukee Journal Sentinel*, May 5, 2009; Karen Herzog, "Flu Fears

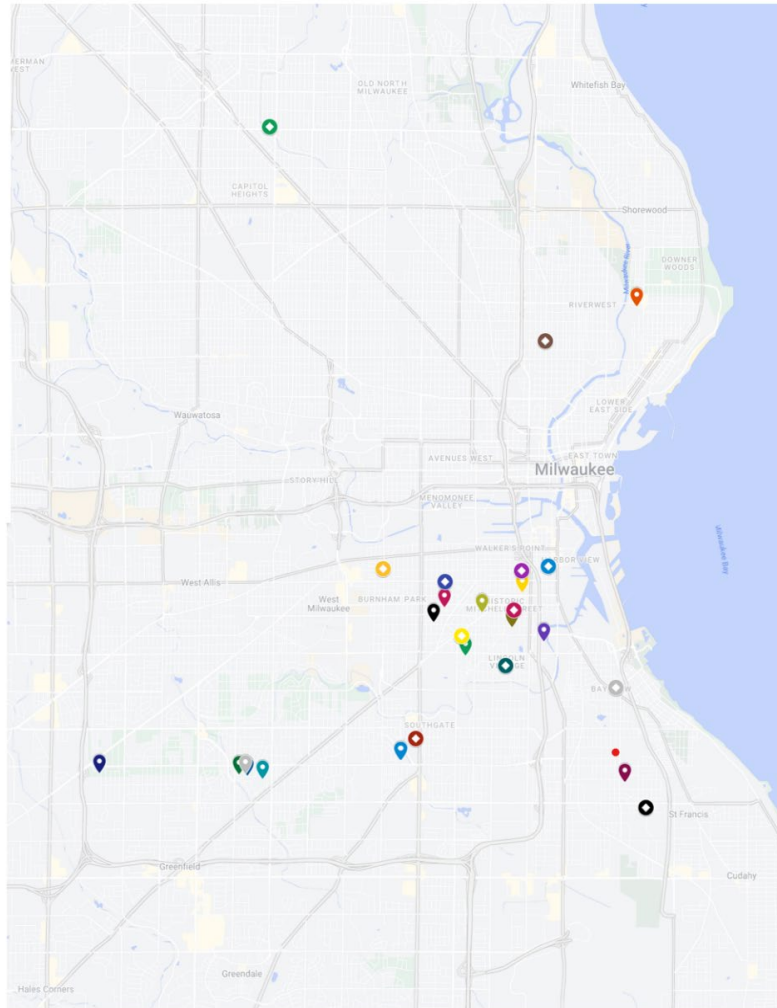
criticism of the NPI. In addition, Baker did not impose any mandates on limiting public gatherings. Although school closures can effectively reduce the spread of a virus, it requires a minimum of six weeks of closing and isolating students, and the order must include the entire district, including private and parochial schools.³³ Baker's implementation of this NPI was ineffective as it did not include these additional measures, and it caused a disproportionate amount of hardship for families. Despite the virus being widespread, school closures only occurred in specific areas of the city, mainly on the southside, as shown in the map below.

Close More Schools," *Milwaukee Journal Sentinel*, May 4, 2009; Johnson, "Concerns Grow"; Navarro et al., "A Tale of Many Cities," 420; Georgia Pabst, "More Schools Close," *Milwaukee Journal Sentinel*, May 1, 2009.

³³ Martin C. J. Bootsma and Neil M. Ferguson, "The Effect of Public Health Measures on the 1918 Influenza Pandemic in U.S. Cities," *Proceedings of the National Academy of Sciences - PNAS* 104, no.18 (2007): 7589-91.

Figure 2: Map of Schools Closed During the 2009 Pandemic in Milwaukee

-  Clement Avenue Elementary School
-  Mitchell Elementary School
-  Riverside University High School
-  Rogers Street Academy
-  Allen-Field Elementary School
-  Kosciuszko Montessori School and Advance...
-  Forest Home Avenue School
-  Honey Creek Elementary School
-  Lincoln Avenue School
-  Hamilton High School
-  Wedgwood Park International School
-  Christ-St. Peter Lutheran School
-  Christ-St. Peter Lutheran School
-  Jeremiah Curtin Leadership Academy
-  El Puente, High, School.
-  Our Lady Queen of Peace Catholic School
-  St. Anthony's Catholic School
-  St Adalbert School
-  Alcott School
-  Guadalupe Head Start South
-  Hayes Bilingual Elementary School
-  Mt Lebanon Lutheran School
-  Clara Mohammed School, Inc.
-  Inland Seas School of Expeditionary Learning
-  Atlas Preparatory Academy
-  Atlas Preparatory Academy
-  Milwaukee Learning Laboratory and Institute



Note. Milwaukee Public Schools are denoted by an upside-down tear drop symbol shape. A circle shape represents private schools.

Sources: Alan J. Borsuk, "Swine Flu- Related Days Off," *Milwaukee Journal Sentinel*, May 5, 2009; Karen Herzog, "Flu Fears Close More Schools," *Milwaukee Journal Sentinel*, May 4, 2009; Mark Johnson, "Concerns Grow in Wisconsin," *Milwaukee Journal Sentinel*, May 2, 2009; Georgia Pabst, "More Schools Close," *Milwaukee Journal Sentinel*, May 1, 2009.

Baker did not understand the impact the closures would have on Milwaukee students and their families. Adam Warner conducted an oral history of Paul Biedrzycki, the director of disease control and environmental health for the Milwaukee Health Department, in 2011. Warner included from his oral interview that Paul Biedrzycki "agreed that health officials

frequently do not understand how closure orders can produce a ripple effect.”³⁴ Warner quoted Biedrzycki about this realization stating, “We had no idea that eighty percent of the kids in the public schools avail themselves of breakfast and free lunch programs. It just blew us away.”³⁵

The 2009 pandemic began just as the great recession was ending. According to this quote, 80% of MPS students and families relied on free breakfast and lunch programs for their children, and the recent economic crisis compounded this need. When Baker shut down the schools, he did not include a plan to continue disbursing meals to students or give parents notice so they could arrange childcare or to be able to stay home with their children. Both factors impacted parents economically because a sizable portion had to miss work without pay due to Baker's short notice.³⁶ Coming off the heels of the great recession, Baker's NPI was poorly planned and showed a lack of sensitivity to city residents. As a result of the public pushback because of the disproportionate effect the NPI had, Mayor Barrett overturned Baker's NPI, even without the legal authority to do so. The legal authority for issuing and enforcing NPIs lies solely with the health commissioner during a public health emergency in Milwaukee.³⁷ While Baker and the Health Department still recommended the closures, they did not oppose

34 Navarro et al., “A Tale of Many Cities,” 404, 420.

35 Navarro et al., “A Tale of Many Cities,” 404, 420.

36 Borsuk, “Swine Flu- Related;” Herzog, “Flu Fears.”

37 Navarro et al., “A Tale of Many Cities,” 415.

Barrett's decision.³⁸ This example shows the critical need to understand residents' culture and context that may be affected by NPIs.

Another method used to control the pandemic was a vaccine campaign and vaccination events. However, these efforts were largely ineffective in mitigating the pandemic's second wave due to a shortage of vaccines and widespread skepticism among residents about receiving the vaccine. The vaccines were not available until just before the second wave began in August 2009, and the Health Department did not order enough vaccines.³⁹ Furthermore, the Health Department did not consider the distrust of the medical system within the African American community in Milwaukee, which made them more vulnerable to the virus.

African American residents of Milwaukee had the highest rate of cases of the pandemic virus and hospitalizations during the first wave due to environmental and economic factors, as well as their distrust of the medical system.⁴⁰ Pat McManus, leader of the African American Health Coalition in Milwaukee, cited the historic mistreatment of African Americans in medical experiments as a reason for the community's skepticism about the vaccine.⁴¹ Eugene Kane, a journalist with the *Milwaukee Journal Sentinel*, also highlighted the community's distrust, referencing past failed vaccine programs, including the Tuskegee Syphilis Experiment and the failed measles vaccine program for low-income minority residents of Los Angeles California.⁴²

38 Navarro et al., "A Tale of Many Cities," 415.

39 Mark Johnson, "Falling Short," *Milwaukee Journal Sentinel*, September 22, 2009; Mark Johnson, "H1N1 Vaccine to Be Available," *Milwaukee Journal Sentinel*, September 25, 2009, 3.

40 Kumar et al., "Epidemiologic Observations," 788-789.

41 Eugene Kane, "In My Opinion," *Milwaukee Journal Sentinel*, October 24, 2009, 2.

42 Kane, "In My Opinion."

Throughout the pandemic, Baker's focus remained on his vaccine campaign, despite facing resistance from the public. He did not change his messaging despite the fact that hundreds of African American residents of Milwaukee felt uneasy about the vaccine and preferred to wait and see its effects before vaccinating themselves. Additionally, Baker limited his engagement with the African American community. During the pandemic, Baker attended just one event hosted by the African American Coalition of Health, which aimed to address their fears and provide information.⁴³ In contrast, previous health commissioners had taken the initiative to advise at-risk groups directly.

Baker's response to the pandemic lacked cultural sensitivity, and he did not consider the known racial disparities within the city and the beliefs of its residents. Baker was aware of the racial disparity seen during the 2009 pandemic, as demonstrated by the *Milwaukee Journal Sentinel* quoting Baker saying, "is it troubling, yes its troubling," though he noted that the disparity is also prevalent during the regular flu season in the city.⁴⁴ As a result, his vaccine campaign failed to address the concerns of the African American community and left them vulnerable to the virus. Baker was the first Black Health Commissioner appointed in Milwaukee, making his lack of cultural sensitivity especially with the community's vaccine concerns, a bit mysterious. This is in contrast to previous health commissioners, who were able to overcome vaccine resistance through a culture-informed approach. Baker failed to anticipate the impact that school closures would have on families, resulting in the failure of his NPI to mitigate the

⁴³ Kane, "In My Opinion."

⁴⁴ Mark Johnson, "Swine Flu Hits Minorities Hard," *Milwaukee Journal Sentinel*, January 8, 2010.

spread of the virus and public opposition. The Milwaukee Health Department did not take steps to address the racial disparities caused by the pandemic until January 2010, after the second wave had ended.⁴⁵ Even then, the only action taken was due to the efforts of the African American Coalition of Health, which established free clinics in predominantly African American and Latine neighborhoods.⁴⁶

Bakers Historical Understanding of Milwaukee

Health Commissioner Baker demonstrated a lack of understanding of the history of Milwaukee throughout his response to the 2009 pandemic. In 2009, Milwaukee was one of the most segregated cities in America.⁴⁷ Geographically, the foundation of the city was based on separation due to settlement patterns of ethnic enclaves, and redlining and urban renewal plans in the 1930s-70s further sectioning city neighborhoods by race.⁴⁸ Each of these factors contributed to the concentration of poverty in specific neighborhoods in the city. This impact is apparent within the Lincoln Village and Sherman Park neighborhoods during the 2009 pandemic.

45 Johnson, "Swine Flu Hits Minorities Hard."

46 Johnson, "Swine Flu Hits Minorities Hard."

47 Bill Glauber and Ben Poston, "Milwaukee Now Fourth Poorest City in Nation," *Milwaukee Journal Sentinel*, September 28, 2010.

48 Brigitte M. Charaus, "What Lies Beneath: Uncovering the Health of Milwaukee's People, 1880-1929" (PhD diss., Marquette University, Fall 2010), 67-89, https://epublications.marquette.edu/dissertations_mu/68/.

Lincoln Village and Sherman Park are neighborhoods in Milwaukee that historically have been epicenters of disease spread.⁴⁹ This is due to the crowded living environments and densely packed neighborhoods, as well as poor infrastructure.⁵⁰ These neighborhoods have fewer resources like grocery stores, pharmacies, clinics, or big box stores to purchase personal protective equipment (PPE) and disinfecting products.⁵¹ Past health commissioners had distributed educational media and information directly to residents in every neighborhood but concentrated efforts where the Sherman Park, Lincoln Village, and Polonia neighborhoods are located today. To combat socioeconomic disadvantage, past health commissioners also sent nurses, volunteers, and doctors to care for residents and coordinated with local organizations to pay for any costs if families could not afford care. Knowing the history of public health in Milwaukee reveals important insight into how to effectively provide resources to address a public health crisis like a pandemic. The history of how epidemics and pandemics spread in the city is also extremely useful in predicting which communities and neighborhoods may become epicenters.

During the 2009 pandemic, density in these specific neighborhoods and households made it difficult to isolate the sick, continuing the historical trend. These neighborhoods did not

49 The 1894 smallpox riots broke out in Lincoln village, and the first H1N1 case was a Lincoln Village resident. Sherman Park was a hotspot for COVID-19 during the first wave with Lincoln Village being the hotspot during the second wave.

50 John Gurda, "People of Milwaukee: Polish Milwaukee," *The Making of Milwaukee*, Milwaukee PBS, accessed on November 12, 2022, <https://www.milwaukeepbs.org/the-making-of-milwaukee/people/>; Judith W. Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton: Princeton University Press, 1982), 36-43, <https://www.jstor.org/stable/3787396>.

51 Jeffrey E. Harris, "COVID-19, Bar Crowding, and the Wisconsin Supreme Court: A Non-Linear Tale of Two Counties," *Research in International Business and Finance* 54, no. 101310 (December 2020): 3-8, doi: [10.1016/j.ribaf.2020.101310](https://doi.org/10.1016/j.ribaf.2020.101310).

receive medical aid initially or any supplies to disinfect resident households. Without assistance from the city, procuring PPE or cleaning products for residents is difficult because of the lack of stores nearby, the availability of products, and the cost. Consequently, the 2009 virus quickly spread through low-income neighborhoods first, leading the pandemic to spiral out of control. Historic health-based inequality contributed to African Americans and Latine Milwaukee residents being susceptible and most affected by the virus as well. Residents were not able to comply with isolation measures and rejected the school closing NPI because of socioeconomic and environmental factors in their neighborhoods that have been present throughout Milwaukee's history. In summary, Baker's response demonstrated a lack of understanding of Milwaukee's history, contributing to the ineffective distribution of resources and exacerbation of the pandemic's impact on low-income neighborhoods.

Conclusion

Health Commissioner Baker's response to the pandemic was generic and lacked social, cultural, and historical adaptation to fit Milwaukee's needs. He followed CDC guidelines without molding them to the communities in Milwaukee. This was not the first time that Baker had taken a non-specific approach. In 2006, the Milwaukee Health Department adopted a pandemic response plan from the State of Florida's Health Department under Baker's leadership.⁵² This plan was used during both the 2009 and COVID-19 pandemics and is available to the public on

⁵² City of Milwaukee Health Department Disease Control and Prevention, *Pandemic Influenza Preparedness and Response Plan*. 4, Milwaukee: Milwaukee Health Department, last modified August 6th, 2007, <https://city.milwaukee.gov/ImageLibrary/Groups/healthAuthors/DCP/PDFs/StateofFlorida.pdf> (accessed September 19th, 2021).

the Milwaukee Health Department's website.⁵³ However, it is unclear whether Baker or any subsequent health commissioner made any changes to the plan to fit it within Milwaukee.⁵⁴ The only evident changes made were the editing of the city's name and substitution of the Milwaukee Health Department, and the plan is still saved on the Milwaukee Health Department's website under "STATE OF FLORIDA."

In contrast to past responses in Milwaukee, Baker did not understand the city's cultural nuances. When he followed the CDC guidelines to address the pandemic, he treated them as law. However, the effectiveness of NPIs, such as school closures, depends on children complying with isolation. Both Ruhland and Krumbiegel had waited to mandate school closures for this exact reason. Moreover, Ruhland's NPI of school closures was successful because he had planned critical infrastructure to support families' needs when he closed the schools. He also put other mandates in place that prevented most children from congregating and spreading the virus. Baker did not do this and did not understand the hardship the NPI placed on residents.

Health Commissioner Baker did not take a quick and involved response to the pandemic. He did not meet with the media or anyone else, which allowed speculation about the virus and mitigation tactics. He failed to take responsibility publicly as the person in charge of mitigating the pandemic, leaving the mayor to navigate public pushback. In the past, health

⁵³ *Pandemic Influenza Preparedness and Response Plan 4*, last modified August 6th, 2007, accessed September 19th, 2021, <https://city.milwaukee.gov/ImageLibrary/Groups/healthAuthors/DCP/PDFs/PanFluV4Public.pdf>.

⁵⁴ The response plan includes non-pharmaceutical interventions consistent with public health policy. The plan clarifies when health officials are supposed to implement NPIs. The implementation suggestions relied on milestones established by a certain number of confirmed pandemic illnesses.

commissioners were a resource to the community, meeting with anyone who had questions or concerns. Baker did not take that approach, and public and private officials did not hold him to that standard.

Baker was not born or raised in the city like past health commissioners were. Therefore, his lack of cultural understanding of the city and its residents is not surprising. Past health commissioners were able to mitigate any lack of personal knowledge by creating a council and network of city leaders. The councils and networks then advised the health commissioners on how their pandemic response would impact city residents. These networks are also crucial because their support of the health commissioner is influential to the public's perception of them and their NPIs. Inevitably, Baker's lack of focus on building positive social relationships throughout the city left him susceptible to criticism and eventual pushback on his NPIs.

Health Commissioner Baker's decision to follow policy and national public health organization recommendations only resulted in the largest regional outbreak of the 2009 pandemic. By comparing Baker and the 2009 pandemic to the previous three pandemics, the social, historical, and cultural understanding of residents' impact on a pandemic is clear. A cultural understanding of the community public health officials serve is key to knowing what resources to provide to prevent negative impacts caused by NPIs. Building social relationships is critical to disbursing information and creating a united front, publicly and privately, with a pandemic response. Finally, historical knowledge can provide key insight into where the pandemic could affect the city most, as well as actions that have worked in the past to gain cooperation.

Chapter Five: Kowalik, Jackson, and Johnson and the COVID-19 Pandemic

The COVID-19 pandemic began in late 2019 in the city of Wuhan, Hubei Province, China.¹ This pandemic was the first non-influenza pandemic in recent history. The pandemic reached Wisconsin on February 6, 2020.² Public health officials diagnosed the first case in Dane County, home to the state's capital.³ Throughout the first wave of the COVID-19 pandemic, state public health officials and Governor Tony Evers determined the non-pharmaceutical interventions (NPIs) and mandates throughout Wisconsin. On March 4th, Governor Evers met with state officials and lawmakers to discuss plans for the pandemic.⁴ On March 5th, a national bill was passed to designate \$8 billion dollars to address the COVID-19 pandemic.⁵ The next day, Milwaukee officials began planning for a COVID-19 outbreak in the city.⁶ The World Health Organization (WHO) declared COVID-19 as a pandemic on March 12th, 2020.⁷ The first case in

1 "CDC Museum COVID-19 Timeline," David J. Sencer CDC Museum: In Association with the Smithsonian Institution, Centers for Disease Control and Prevention, last modified August 16, 2022, [https://www.cdc.gov/mUSEum/timeline/covid19.html#:~:text=January%2010%2C%202020,Coronavirus%20\(2019%2DnCoV\)](https://www.cdc.gov/mUSEum/timeline/covid19.html#:~:text=January%2010%2C%202020,Coronavirus%20(2019%2DnCoV)). As of drafting this thesis there have been five waves of the COVID-19 pandemic.

2 Heim and Marley, "Deadly Virus Hits Dane County."

3 Madeline Heim, "CDC Tests 4 More for Coronavirus after State's First Confirmed Case," *Milwaukee Journal Sentinel*, February 9, 2020; Johnson, "State Investigators."

4 Molly Beck, "Evers Calls Meeting with Lawmakers, State Officials on Coronavirus Planning," *Milwaukee Journal Sentinel*, March 4, 2020, 1, 4.

5 Christal Hayes, "Deal Reached on \$8B Coronavirus Bill," *Milwaukee Journal Sentinel*, March 5, 2020, 1, 9.

6 Alison Dirr and John Diedrich, "Officials Plan for Milwaukee Outbreak," *Milwaukee Journal Sentinel*, March 6, 2020: 1, 9.

7 John Bacon and William Cummings, "Coronavirus Outbreak Declared Pandemic," *Milwaukee Journal Sentinel*, March 12, 2020, 4.

Milwaukee was confirmed March 13th, 2020, the same day national and statewide public emergencies were declared.⁸

Milwaukee was among the first cities to document the disproportionate impact of COVID-19 on minorities, providing crucial data for an effective pandemic response. However, during the pandemic, the first health commissioner, Dr. Jeanette Kowalik, struggled to control the spread of the virus. Over the course of the pandemic, there were three different health commissioners for the city and county of Milwaukee. The first two, Kowalik and interim health commissioner Marlaina Jackson relied on a policy-based approach and faced challenges in meeting the needs of the city. In contrast, the third commissioner, Kirsten Johnson, prioritized community-led cooperation and focused on understanding the social, cultural, and historical context of Milwaukee's residents, resulting in a more successful response. The varying levels of success among the health commissioners reflect a different level of understanding of the city's residents, sensitivity to historical lessons, and difficulty in regaining public trust and approval.

Biographies of Milwaukee's Health Commissioners During the COVID-19 Pandemic

Dr. Jeanette Kowalik, Ph.D.

Jeanette Kowalik was the health commissioner of Milwaukee during COVID, from September 2018- September 2020. Mayor Tom Barrett appointed her to the position, and the Common Council confirmed her following the resignation of Health Commissioner Bevan K. Baker. Kowalik was born in Milwaukee and raised in the Sherman Park neighborhood on the

⁸ Ashley Luthern and Mark Johnson, "School to Close as Cases Increase, Local Public Health Emergency Declared," *Milwaukee Journal Sentinel*, March 14, 2020, 1, 6.

city's north side.⁹ She attended the University of Wisconsin-Milwaukee for her undergraduate degree in healthcare administration as well as her Ph.D. in Health Science. Kowalik began interning for the Milwaukee Health Department in 2002 and served under both Baker and his predecessor Seth Foldy. Kowalik was the first confirmed woman Health Commissioner in Milwaukee.¹⁰ As well as the only Black woman health commissioner confirmed to date. During the Covid-19 pandemic, Kowalik was also the only Black woman health officer in the state of Wisconsin.¹¹

Kowalik served as health commissioner for the first six months of the Covid-19 pandemic before resigning due to the stress and limitations of her position.¹² When Kowalik took over the position after Baker's departure, she inherited a department in shambles. There was little cohesiveness between employees and low public trust levels because of the lead program's mismanagement. Despite this, in 2019, Kowalik led the declaration of racism as a public health crisis in Milwaukee.¹³ This declaration was integral to recognizing the pandemic's disproportionate effects on minority populations in Milwaukee and across the country.¹⁴

9 Jeanette Kowalik, "The Racism I Faced as Milwaukee's Health Boss under COVID-19," *The Daily Beast*, last modified September 8, 2020, <https://www.thedailybeast.com/the-racism-i-faced-as-milwaukees-health-boss-under-covid-19>.

10 Kowalik, "The Racism I Faced."

11 Kowalik, "The Racism I Faced."

12 Ashley Luthern and Mary Spicuzza, "Milwaukee's Health Commissioner Resigns," *Milwaukee Journal Sentinel*, September 2, 2020, 1.

13 Kowalik, "The Racism I Faced."

14 Kowalik, "The Racism I Faced."

Marlaina Jackson

Marlaina Jackson served as interim health commissioner from September 23rd, 2020-January 14th, 2021.¹⁵ Like Kowalik, Jackson was born and raised in Milwaukee. She received her master's degree in public administration from Marquette University in Milwaukee.¹⁶ Before coming to work for the Milwaukee Health Department in the spring of 2020, she worked in local hospitals for 15 years. During the Covid-19 pandemic, she first served as a deputy health commissioner until her appointment.

Kirsten Johnson

Kirsten Johnson was health commissioner from January 2021-January 2023.¹⁷ Johnson was the longest serving health commissioner during the Covid-19 pandemic. During her tenure, she reorganized the Health Department and repaired the city's lead poisoning prevention program.¹⁸ Before coming to Milwaukee, Johnson was the director of the Washington Ozaukee Public Health Department. The department oversees two counties near Milwaukee. There, she was responsible for the county's responses to the pandemic for the first year. Johnson worked within the Milwaukee area and surrounding counties for over 20 years. She received her Master

15 Cassidy Williams and Bill Miston, "Marlaina Jackson," Fox 6 Now Milwaukee, September 22, 2020, last modified March 2, 2023. <https://www.fox6now.com/news/marlaina-jackson-named-interim-milwaukee-health-commissioner>.

16 Williams and Miston, "Marlaina Jackson."

17 Alison Dirr, "Milwaukee Health Commissioner Kirsten Johnson to Resign," *Milwaukee Journal Sentinel*, January 9, 2023, 1.

18 Dirr, "Milwaukee Health Commissioner," 1.

of Public Health from Tulane University in Louisiana.¹⁹ She left in February 2023 for a position in the state's Health Department.²⁰

Kowalik's Social, Cultural, and Historical Understanding of Milwaukee

During the COVID-19 pandemic, Dr. Jeanette Kowalik was the health commissioner of the city and county of Milwaukee from the beginning of the pandemic until September 2020.²¹ Throughout those nine months, Kowalik presided over pre-pandemic planning, the first wave and initial lockdown, the beginning of the reopening period, and the second wave. At that time, Kowalik illuminated the disproportionate impact of COVID-19 on minorities that was later seen throughout the country.²² Milwaukee was an epicenter for the state of Wisconsin during the first wave.²³ The hotspots that contributed to this status were in neighborhoods that were home to most of Milwaukee's African American and Latine residents.²⁴ These neighborhoods were not mitigated as hotspots due to Kowalik's limitations in social, cultural, and historical understanding of residents.

19 Dirr, "Milwaukee Health Commissioner," 1.

20 Matt Martinez, "Two Weeks after Being Ousted, Milwaukee Health Department Leader Wants Answers," *Milwaukee Courier*, March 26, 2021, <https://milwaukeecourieronline.com/index.php/2021/03/26/two-weeks-after-being-ousted-milwaukee-health-department-leader-wants-answers/>.

21 Ashley Luthern and Mary Spicuzza, "City Health Chief Leaves Position," *Milwaukee Journal Sentinel*, September 3, 2020, 1, 7.

22 Kowalik, "The Racism I Faced."

23 Brentin Mock, "The Black Health Commissioner at the Center of the Fight Against COVID-19 Racism," CityLab, Bloomberg (online), July 31, 2020, accessed March 1, 2023. <https://www.bloomberg.com/news/articles/2020-07-31/how-milwaukee-is-fighting-coronavirus-racism>.

24 Mock, "The Black Health Commissioner."

Governor Tony Evers declared a state of emergency on March 12th, 2020.²⁵ On March 13th, Milwaukee had its first case of COVID-19.²⁶ After the emergency declaration Governor Evers gradually ordered more mandates between March 13th and his total closing ban on March 23rd.²⁷ During past pandemics, the health commissioner was responsible for choosing which NPIs to deploy. Due to the morbidity and mortality of COVID-19, the state took swift and severe action instead. In turn, Kowalik did not necessarily need approval from Milwaukee residents for them to comply with NPIs because she did not initiate them. However, this precedent created a limited social relationship with the public and affected her success. Consequently, Kowalik was unable to mitigate the hotspots in Milwaukee during the first wave because she did not build positive social relationships with local organizations, the public, and businesses as swiftly as past health commissioners.

Due to changes in the law pertaining to the city's budget, the Common Council could not allocate funding to address the pandemic.²⁸ Kowalik's approach to this issue lacked the proactiveness exhibited by past health commissioners. She stated, "We were waiting for

²⁵ John Bacon and William Cummings, "Coronavirus Outbreak Declared Pandemic," *Milwaukee Journal Sentinel*, March 12, 2020, 4; "Coronavirus Briefing," *Milwaukee Journal Sentinel*, March 12, 2020, 4.

²⁶ Annysa Johnson, "Closing MPS Would Have Domino Effect," *Milwaukee Journal Sentinel*, March 13, 2020, 6; Mark Johnson, "Hospitals Go through Coronavirus Plan Drills," *Milwaukee Journal Sentinel*, March 13, 2020, 1, 12.

²⁷ Bill Glauber, "How Sports Leagues Acted Swiftly to Protect Health," *Milwaukee Journal Sentinel*, March 13, 2020; Ashley Luthern, "Coronavirus Cancellations Rising," *Milwaukee Journal Sentinel*, March 13, 2020, 1, 11; Ashley Luthern and Mark Johnson, "School to Close as Cases Increase, Local Public Health Emergency Declared," *Milwaukee Journal Sentinel*, March 14, 2020, 1, 6.

²⁸ Per email conversation with Alderwoman Marina Dimitrijevic.

millions of dollars in federal funding to do anything.”²⁹ Past health commissioners met with local organizations to obtain additional funding, whereas during the COVID-19 pandemic, local organizations stepped in weeks after the pandemic's declaration to provide funding, but by then, there was a sharp rise in cases on north side.³⁰ Kowalik faced criticism from Milwaukee residents for the limited response.

The African Americans community was initially upset. They were like, “What is going on? Where’s the help? Where’s the testing?” But there weren’t enough testing kits. The state was really rationing who could get tested. They were making sure that the people who were most at risk for death or disability were getting a test instead of just doing broad-based community testing. Then we started getting questioned about how we’re only doing stuff for the African Americans community, but not the Latine community. We told them that actually the Health Department doesn’t have the bandwidth for that, but that community partners, like the federally qualified health centers, have been stepping up and helping, and so now we’re all communicating and collaborating.³¹

Communication is critical to keeping a community safe during a public health crisis.

Kowalik struggled to deliver information to residents across the city because she did not have community resources to mobilize. She did not have funding for a traditional media campaign during the first wave either. The messaging she did approve was not effective for the city’s Spanish-speaking community and received pushback. In an interview about her response to the pandemic, Kowalik reflected on the criticism she received from the Latine community, quoted below.

We were always behind because as things evolved along the way, we were playing catch-up on the messaging. Of course, with any non-English speaking

29 Kowalik, “The Racism I Faced.”

30 Kowalik, “The Racism I Faced.”

31 Mock, The Black Health Commissioner.”

community, you have to make sure you're not only translating materials, but that they're culturally relevant... I'm not saying all of the Latine community was up in arms. Some people understood, but there was just no messaging for them, or the messaging that we had was not resonating for them. It was, "Stay home, save lives." And they were like, what does that mean? They told us, "Look, the messaging needs to be created for us by us, and not through some white marketing firm," which is what the county had because they were thinking initially, "Oh, this is a general emergency response."³²

Past health commissioners created a board to inform their response plan, communication, and messaging. Kowalik did not. The southside of Milwaukee, where 85% of the city's Latine community resides, became the second hotspot for the pandemic. An appropriate, community-based response with specific messaging has worked during past pandemics to mitigate spread. Kowalik did not create a board of local organizations, businesses, or media members. She did not have positive social relationships to rely on for resources. As a result, she did not have the appropriate messaging, additional support, or funding that were the basis for health commissioner Ruhland's success in 1918.

The hyper-segregation of Milwaukee is part of the city's culture; it affects everything. As studies have shown, residential segregation is one of the main causes of racial disparities in health.³³ Having grown up through these disparities, Kowalik and her chief of staff, Lillian Paine, pushed for racism to be declared as a public health crisis in Milwaukee.³⁴ The ordinance was

³² Mock, The Black Health Commissioner."

³³ Alexandre White, Lingxin Hao, Xiao Yu, and Roland J. Thorpe Jr., "Residential Racial Segregation and Social Distancing in the United States During COVID-19," *EClinicalMedicine* 35, no. 100840 (April 2021): 1-8; David R. Williams and Chiquita Collins, "Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health," *Public Health Reports* 116, no. 5 (2001): 404-406.

³⁴ Fogarty, "How Two Milwaukee Natives."

passed by the county of Milwaukee in May of 2019.³⁵ In an interview conducted in June of 2020, Health Commissioner Kowalik stated, “the city and the county declared racism a public health crisis last year. That framed how we function. We are using data to inform how we adjusted our outbreak response, resource allocation, all of that.”³⁶

The city of Milwaukee was the first city to document COVID-19 data by race and ethnicity.³⁷ The data showed the disproportionate impact of COVID-19 on minority residents along the city's segregated lines.³⁸ However, the Health Department would not have collected this data without Kowalik's cultural understanding of health inequality in the city. The data revealed the first hotspot in Milwaukee to be Kowalik's childhood neighborhood, Sherman Park. This affected the health commissioner heavily as she remarked, “the first hot spot was in our African American community. Was in the same neighborhood where I grew up—Sherman Park. I was horrified to see this and felt helpless because we couldn't stop it from happening so quickly. We simply did not have the resources.”³⁹

35 “Milwaukee County Passes Ordinance to Advance Racial Equity and Improve Health Outcomes,” County Executive, Milwaukee County, April 29, 2020. <https://county.milwaukee.gov/EN/County-Executive/News/Press-Releases/Milwaukee-County-Passes-Ordinance-to-Achieve-Racial-Equity-and-Improve-Health-Outcomes>.

36 Dan Shafer, “In Conversation with Dr. Jeanette Kowalik: How Declaring Racism a Public Health Crisis Helped Milwaukee’s COVID-19 Response,” The Recombobulation Area, June 30, 2020, accessed March 1, 2023. <https://recombobulationarea.substack.com/p/in-conversation-with-dr-jeanette>.

37 Salam Fatayer, “She’s Managing Milwaukee’s Public Health Crisis,” Radio Milwaukee (online), May 4, 2020, accessed May 4, 2020. <https://radiomilwaukee.org/stories/uniquely-milwaukee/2020-05-04/shes-managing-milwaukees-public-health-crisis-heres-why-dr-kowalik-says-communities-of-color-are-being-hit-hardest>.

38 Fogarty, “How Two Milwaukee Natives;” Fatayer, “She’s Managing Milwaukee’s.”

39 Kowalik, “The Racism I Faced.”

Kowalik's position as health commissioner limited her cultural understanding of the city to a health-based lens. As a result, she did not anticipate additional factors outside of health that could contribute to the disproportionate impact of the COVID-19 pandemic on the African American and Latine communities in the city. The statewide stay-at-home order limited opportunities to spread the virus throughout the city. However, the pandemic virus continued to spread through the African American community around the Sherman Park, Sunset Heights, and Saint Joseph's neighborhoods on the city's northside.

When examining the culture of the area, it becomes clear that there were factors contributing to this community becoming a hotspot. These neighborhoods had suffered a negative economic impact and limited resources as byproducts of segregation. Residents also faced a long-standing history of health-based inequality and racism. Approximately 80% of residents of the Sherman Park, Sunset Heights, and Saint Joseph's neighborhoods are African American.⁴⁰ The median income of African American residents in the Sherman Park neighborhood and 53210 ZIP code was \$36,050, compared to a median income of \$85,455 for white residents within the same ZIP code.⁴¹ Residents most often worked for essential businesses like grocery stores and healthcare; by continuing to work with the public, they became agents of pandemic transmission. In response, Kowalik applied the limited resources

40 "Black/African American Population," Milwaukee Health Compass, Cruedent Healthy Communities Institute, last modified March 2022.
<https://www.healthcompassmilwaukee.org/?module=demographicdata&controller=index&action=view&localeId=43924&tagFilter=940&id=1500>.

41 "Black/African American Population," Milwaukee Health Compass.

the Health Department had to test sites and mobile clinics in northside neighborhoods to track the pandemic's spread.

While Kowalik focused on the first community impacted by COVID-19, another became a hotspot. By May, the Latine community on Milwaukee's southside made up one-third of cases.⁴² By June, the community had the highest concentration of cases in the city at 40%.⁴³ Reasons for this spike were like those found in the northside neighborhoods. Most were essential workers in public-facing or manufacturing jobs and had similarly low household incomes.⁴⁴ A unique factor was the number of residents living in households on the southside. The density in southside households and at work prevented proper social distancing and isolation, just as Health Commissioner Ruhland had to navigate in 1918 with the past Polish residents.⁴⁵

The African American and Latine community in Milwaukee would have been more susceptible to contracting the virus because of underlying health conditions and long-standing health inequalities. Under the governor's mandates, both communities were at higher exposure risk because of their type of employment, limited income, and the neighborhoods' limited resources for personal protective equipment and supplies. Kowalik discovered the pattern of

42 Corrine Hess, "One-Third of COVID-19 Cases in Milwaukee Are among Hispanic Residents," *Wisconsin Public Radio*, May 29, 2020, accessed March 3, 2023, <https://www.wpr.org/one-third-COVID-19-cases-milwaukee-are-among-hispanic-residents>.

43 Rich Rovito, "The Pandemic Is Hitting Milwaukee's Latinx Community the Hardest," *Milwaukee Magazine*, June 22, 2020, accessed March 3, 2023, <https://www.milwaukeeemag.com/the-pandemic-is-hitting-milwaukees-latinx-community-the-hardest/>

44 Katie Crowther, "COVID-19 Cases Surge in Young Latino Community," *Milwaukee Journal Sentinel*, June 25, 2020, 1; Hess, "One-Third of COVID-19."

45 Hess, "One-Third of COVID-19"; Rovito, "The Pandemic is Hitting."

the COVID-19 virus impacting minority residents but never anticipated or planned for it as other health commissioners had. Due to a lack of understanding of cultural risk factors beyond health inequalities, Health Commissioner Kowalik was unable to effectively address the virus's impact on minority residents. This lack of understanding prevented compliance with the governor's NPIs and compounded the spread of the virus.

A historical understanding of health emergencies in Milwaukee would have prepared Kowalik for the community spread in the neighborhoods that were the first hotspots. The first ZIP codes affected were the 53210 and 53215. These neighborhoods and ZIP codes have continuously been heavily affected whenever a virus moves through the city. In 1894 wards 8, 11, and 14 had the largest number of smallpox cases.⁴⁶ Like COVID-19, the 1894 smallpox epidemic did not start in the wards that were most severely impacted.⁴⁷ However, due to the lack of ability to isolate in densely populated households in the most impacted wards, smallpox spread quicker in those wards than in homes in wealthier parts of the city. The areas that made up the 8th, 11th, and 14th wards in 1894 made up the majority of the 53215-ZIP code during the COVID-19 pandemic.⁴⁸ Wards 9 and 10 in 1894 also had a considerable number of smallpox cases. During the COVID-19 pandemic, those wards would have been a part of Ward 7, which includes the Sherman Park neighborhood.⁴⁹

46 Judith W. Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton: Princeton University Press, 1982), 56-58, <https://www.jstor.org/stable/3787396>.

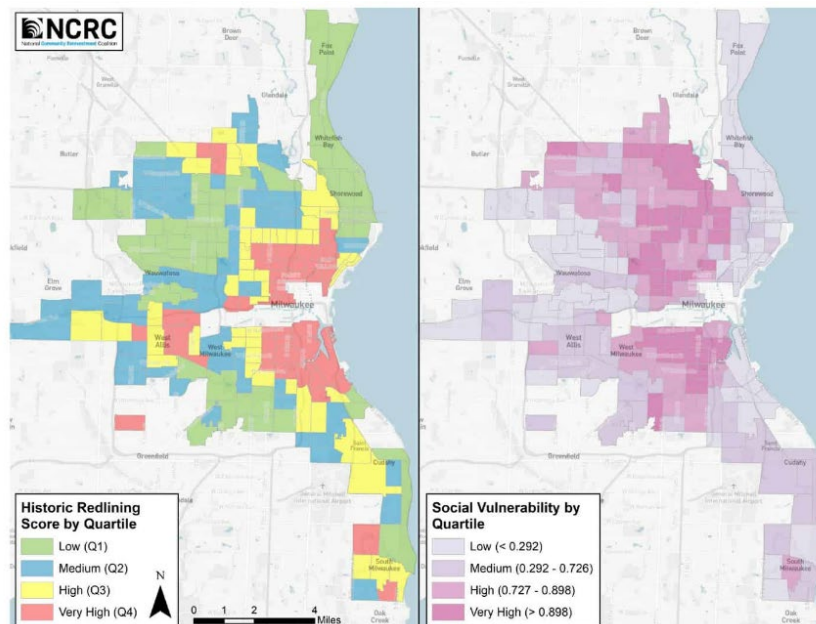
47 Leavitt, *The Healthiest City*, 56-72.

48 Leavitt, *The Healthiest City*, 56-58.

49 Leavitt, *The Healthiest City*, 56-58.

Sherman Park was the first COVID-19 hotspot in Milwaukee. The neighborhood was largely Jewish historically and, as such, was redlined in 1938, decades before it became a predominantly Black neighborhood in the 1980s.⁵⁰ As a redlined neighborhood, the housing quality suffered from the start, and resources were lacking. In the 1960s, Milwaukee participated in urban renewal, blighting many houses on the northside in favor of state highway projects, essentially cutting the neighborhood off, making access to amenities difficult without a mode of transportation. These are factors that determine the social vulnerability of a geographical area. The National Community Reinvestment Coalition mapped cities around the country based on their social vulnerability and compared them to historic redlining. Milwaukee was included in this study as shown in the figure below.

Figure 3: Milwaukee, WI: Social Vulnerability in Relation to Redlined Areas

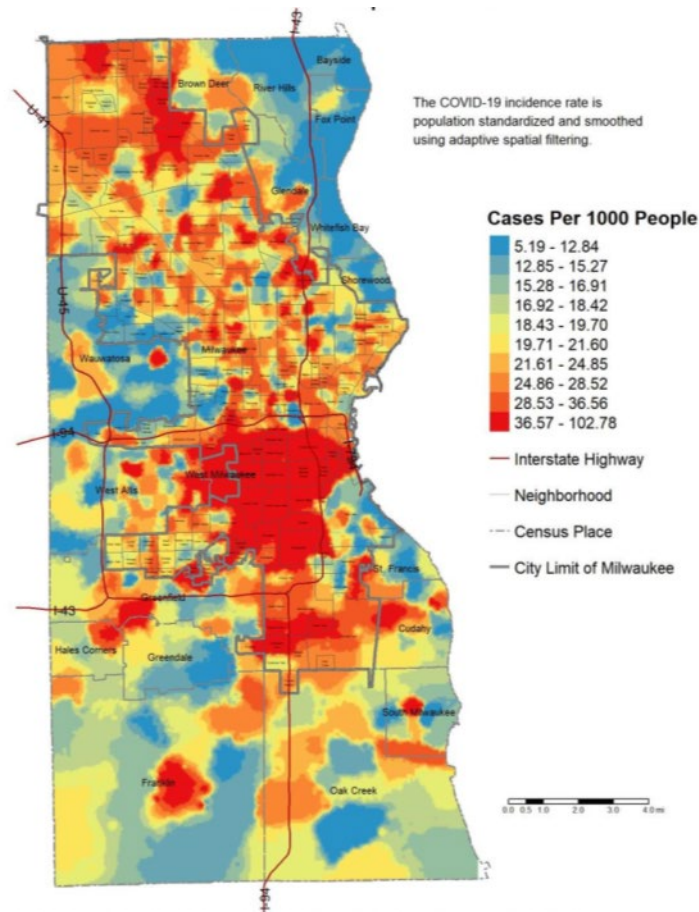


Jason Richardson, Bruce C. Mitchell, Helen C.S. Meier, Emily Lynch, Jad Edlebi, "Redlining and Neighborhood Health," NCRC (September 2020): under Maps & Data, <https://ncrc.org/holc-health/>.

⁵⁰ Maayan Silver, "A Look Back at the Origins of Sherman Park's Diversity," WUWM 89.7 Milwaukee's npr, online, Published June 27, 2017, Accessed May 28, 2022. <https://www.wuwm.com/regional/2017-06-27/a-look-back-at-the-origins-of-sherman-parks-diversity>.

When compared to cases of COVID-19 in Milwaukee during the first six months of the pandemic, there was a clear correlation between redlining, subsequent social vulnerability, and virus epicenters, as indicated in the map below.

Figure 4: COVID-19 Cases During the first Two Waves in Milwaukee, WI



Milwaukee County COVID-19 Epidemiology Intel Team, “Decile Map 1: All Confirmed Cases of COVID-19, COVID-19 Incidence Rate March 6- September 1,” Milwaukee County COVID-19 Data Summary, (September 2, 2020): 15, https://urbanmilwaukee.com/wp-content/uploads/2020/09/WeeklyReport_Sept3.pdf.

Further, this correlation implies that the racial and socioeconomic disparity in burden of Covid-19 and the 2009 pandemic is partially due to historic redlining and the resulting lack of

amenities. Similarly, during the 2009 pandemic, Lincoln Village, the 53215 ZIP code and the Latine population had the highest number of that pandemic's influenza cases. Further, most schools ordered to close in 2009 were within the 53215 ZIP code. Both the ZIP codes were negatively impacted by racially discriminatory laws, but the health of residents in both areas has consistently been negatively affected historically during disease outbreaks. Knowing historically where disease spreads in the city of Milwaukee is immensely beneficial to predict what areas the pandemic virus will affect the most as demonstrated through Ruhland's interventions in 1918. That history-based guidance then allows officials to study the neighborhoods and understand what resources they may need. During Kowalik's time as health commissioner, opposition to NPIs did not cause high case numbers from members of Milwaukee's most affected communities. Instead, the large case numbers were a result of social, economic, cultural, and historical factors that limited their ability to comply.

Jackson's Social, Cultural, and Historical Understanding of Milwaukee

Marlaina Jackson served as interim Health Commissioner from September 2020- January 2021. Jackson faced more public opposition than any other health commissioner during the COVID-19 pandemic. This opposition is partially due to the context in which she accepted the position and a lack of building positive social relationships. Jackson was the health commissioner during the second wave and re-opening period. She faced the most criticism from the hospitality industry.⁵¹ Kowalik had initiated the first round of NPIs for bars and restaurants over the summer for the re-opening period. Jackson increased capacity limits and

⁵¹ Alysson Dirr, Sophie Carson, and Annysa Johnson, "City Aims to Boost Fine for COVID Violations," *Milwaukee Journal Sentinel*, November 13, 2020, 3, 5; "Editorial," *Milwaukee Journal Sentinel*, October 7, 2020, 11.

personal protective equipment requirements when the second wave of the pandemic began in the fall.

Economically, these requirements forced owners to limit the number of customers on their premises, reducing their income. Additionally, the city and state Health Departments required business owners to purchase their safety shields and equipment for their customers and employees.⁵² The Health Department fined bars and restaurants without warning for noncompliance, including costumers ' failure to follow social distancing or masking guidelines.⁵³ The measures Jackson used to prevent the spread while allowing the public to socialize created opposition because they shifted the burden of enforcement onto non-public health officials. The drinking culture in Milwaukee during the COVID-19 pandemic was just as significant as a century prior. Bars and restaurants were places the public could go to for a sense of normalcy. Having stringent measures due to the Health Department also created resentment from the public.

The pushback from the public became volatile at one point.⁵⁴ An event held at a banquet hall on the southside of the city was reported to the Health Department for not following mask and social distancing mandates.⁵⁵ Jackson sent health inspectors to document

52 "Quarantine," *Milwaukee Journal Sentinel*, October 28, 2020, 9.

53 Mary Spicuzza and Alison Dirr, DNC Participants Asked to Avoid Bars and Restaurants," *Milwaukee Journal Sentinel*, August 13, 2020, 12.

54 Alysson Dirr, "Death Threat Slowed COVID Inspections" *Milwaukee Journal Sentinel*, January 1, 2021, 3, 4.

55 Julia Marshall and Stephanie Haines, "Milwaukee Health Inspectors to Be Accompanied by Police Following Harassment Complaints," TMJ4 (online), November 17, 2020, accessed March 7, 2023, <https://www.tmj4.com/news/local-news/milwaukee-health-inspectors-to-be-accompanied-by-police-following-harassment-complaints>.

violations. Event attendees then pushed and harassed the inspectors. As a result, the Milwaukee Police Department accompanied health inspectors on further outings.⁵⁶ Jackson and the Health Department could have prevented this event from happening if they had approached the situation through a historical understanding of Milwaukee's health. Health emergencies have resulted in violence in Milwaukee's history. The 1894 smallpox epidemic resulted in riots due to the health commissioner's enforcement of removal and isolation NPIs.⁵⁷ Walter Kempster, the health commissioner in 1894, did not have a good connection with the public. He failed to establish positive social relationships with local businesses and organizations. Kempster acted within his rights for the city's health, but his lack of connection and understanding resulted in riots. Jackson's approach was similar as it did not include a warning or conversation. Though it was within her rights, she repeated Kempster's approach and had equivalent results.

Jackson did not prioritize public communication through the media or a campaign.⁵⁸ She often deferred to the Milwaukee Health Department's website.⁵⁹ She was present during Mayor Tom Barrett's conferences and town halls but did not lead communication.⁶⁰ During the

56 Marshall and Haines, "Milwaukee Health Inspectors."

57, Judith W. Leavitt, "Politics and Public Health: Smallpox in Milwaukee, 1894-1895," *Bulletin of the History of Medicine* 50, no. 4 (1976): 553-68, <http://www.jstor.org/stable/44450375>.

58 Rachel Piper and Madeline Heim, "Wisconsinites Still Not Told Where COVID-19 Spread," *Milwaukee Journal Sentinel*, March 19, 2021.

59 Mary Spicuzza and Alysson Dirr, "Wisconsin's COVID-19 Vaccine Plan, So Far," *Milwaukee Journal Sentinel*, December 3, 2020, 7.

60 Mark Stewart, "MPS Commissioner Pushes a Positive Mind-Set," *Milwaukee Journal Sentinel*, November 20, 2020, 20; "Tracers," *Milwaukee Journal Sentinel*, October 30, 2020, 8.

vaccine program, Jackson showed a lack of cultural understanding and communication. Jackson's vaccine program had multiple phases.⁶¹ The first was for healthcare and emergency workers, beginning in January. In February, the second phase began, prioritizing the elderly and individuals with pre-existing medical conditions. The third began in March and was for essential workers. By late March of 2021, the COVID-19 pandemic vaccine was widely available to the public.⁶² The health commissioners and MHD required Milwaukee residents to make an appointment for the COVID-19 vaccines. In order to sign up for the vaccines, individuals had to register through the Health Department's website.⁶³ Jackson did not provide an alternative method to coordinating the vaccines. A few months later, pharmacies and other organizations ran their websites to schedule vaccination appointments.

The website was difficult to navigate because of the outdated infrastructure and crashed multiple times during the program.⁶⁴ This made the vaccines less accessible for those who did not have access to the internet or struggled with technology. Due to isolation and risk factors, elderly Milwaukee residents struggled to schedule vaccination appointments themselves.⁶⁵ They could not schedule with their doctors either, as the vaccines were initially

61 "Rollout," *Milwaukee Journal Sentinel*, February 8, 2021, 12; Spicuzza and Dirr, "Wisconsin's COVID-19 Vaccine Plan," December 3, 2020, 7.

62 Tamyra Trice, "We Must Work Together to Show the Importance of Getting Vaccinated," *Milwaukee Journal Sentinel*, June 6, 2021.

63 Jeramey Jannene, "How to Get a COVID-19 Vaccine if You're 65 or Older in Milwaukee," Urban Milwaukee, January 19, 2021, accessed March 7, 2023, <https://urbanmilwaukee.com/2021/01/19/how-to-get-a-COVID-19-vaccine-if-youre-65-or-older-in-milwaukee/>.

64 Jannene, "How to Get."

65 Lauran Neergaard and Ricardo Alonso-Zaldivar, "COVID-19 Vaccine Tested; US Experts Say No Corners Cut," *Associated Press and Milwaukee Journal Sentinel*, September 24, 2020, 7.

available only through the city and Health Department.⁶⁶ Jackson did not consider this limitation when deploying her program.

Johnson's Social, Cultural, and Historical Understanding of Milwaukee

Kirsten Johnson assumed the role of health commissioner in January 2021. In her second week, she fired two top health officials in the department. Both had been instrumental in declaring racism a public health crisis.⁶⁷ Despite the firings of two officials who were integral to the Health Department's understanding of the culture of the city, Johnson faced little criticism.⁶⁸ During her time in the position, she used a community-first approach to address issues regarding the pandemic and the general health of Milwaukee.⁶⁹ Johnson tackled the city's vaccine accessibility issue. Under her direction, the Health Department held 550 mobile vaccination clinics.⁷⁰ The Health Department held the clinics at community-based locations such as schools, churches, and community centers. Johnson mobilized the department to offer in-home vaccination. Like Ruhland, Johnson used door-to-door canvassing. Instead of using the

66 Jannene, "How to Get."

67 Martinez, "Two Weeks after Being Ousted," *Milwaukee Courier*, March 26, 2021.

68 Martinez, "Two Weeks after Being Ousted," *Milwaukee Courier*, March 26, 2021.

69 Matt Martinez, "I Want to Fix It': Health Commissioner Kirsten Johnson Calls Milwaukee's Lead Crisis Her No.1 Priority," *Milwaukee Neighborhood News Service, Diederich College of Communication and Marquette University*, July 21, 2021, accessed March 8, 2023, <https://milwaukeeenns.org/2021/07/21/i-want-to-fix-it-health-commissioner-kirsten-johnson-calls-milwaukees-lead-crisis-her-no-1-priority/>.

70 Erik Bilstad, "WTMJ Wisconsin Standout of the Year: Kirsten Johnson," *WTMJ News*, December 13, 2021, accessed March 8, 2021, <https://wtmj.com/news/2021/12/13/wtmj-wisconsin-standout-of-the-year-kirsten-johnson/>.

canvassing to figure out case numbers, members of the Health Department canvassed to administer 1,500 additional vaccinations in residents' homes.⁷¹

Johnson understood the recent history of the city's health and used it to inform her approach as health commissioner. One example was her focus on the city's health crisis that Health Commissioner Baker had overlooked. She immediately coordinated outside resources, established relationships with local physicians, and pledged to work with city officials. The lead program had significantly impacted minority residents in Milwaukee. Johnson's focus on repairing the lapsed program and focusing on the inequality of health for minority residents created approval from the public. Although the lead program did not directly affect the pandemic's outcome, Johnson's response-built trust in her position and the MHD. The *Milwaukee Neighborhood News Service* published an article that framed Johnson positively for her approach.

Johnson hopes to have a strategic plan to share by spring 2022. In the meantime, she plans to host listening sessions and go into the community. She also wants to use social media to get feedback from residents and members of her department. 'For me as a white woman, it's not my voice that needs to be at the table. My role is to advocate for what people in the neighborhood want,' Johnson said. 'My role is to bring those voices forward at the tables where I sit.'

⁷²

These listening sessions are another example of methods Johnson used to gain social approval from the public. Johnson's understanding of the importance of listening sessions to understand the needs and views of the local community shows a sincere effort to learn about

⁷¹ Bilstad, "WTMJ Wisconsin Standout."

⁷² Martinez, "I Want to Fix It."

the cultural differences in Milwaukee. During the third wave of COVID-19 in January of 2022, Johnson ordered a new mask mandate.⁷³ The only NPI Milwaukeeans criticized Johnson directly for was her mask mandate. Notably, her mandate did not include fines or citations. The mandate did state that restaurants and bars that repeatedly allowed customers to violate the mandate could have their business licenses revoked. The mandate did not result in widespread opposition from the public or business owners because Johnson did not take an authoritative approach to communicate about it. She also lessened the consequences, allowing businesses the opportunity for warnings to correct behavior instead of immediate fines.⁷⁴

Johnson was the longest-serving health commissioner during the pandemic. She faced the least criticism of all health commissioners during the COVID-19 pandemic. Health Commissioner Johnson brought stability, action, and transparency to the position, resulting in public compliance with NPIs. She built relationships throughout the city and held space for residents, so they felt heard. Cases did increase in the city during the third wave. Hospitalizations did not surpass the number from either previous wave, however.⁷⁵ Johnson increased the vaccination and booster shot rate in the city and deployed resources based on need.⁷⁶

73 Ben Wagner, "Milwaukee Common Council Passes Face Mask Ordinance," WISN-12, last modified January 17, 2022, accessed March 8, 2023, <https://www.wisn.com/article/another-mask-mandate-in-milwaukee-a-decision-could-come-tuesday/38796986>.

74 Wagner, "Milwaukee Common Council."

75 Frederica Freyberg, "The Dissonance of Another Rise in COVID-19 Cases," PBS Wisconsin, April 29, 2022, accessed March 8, 2023, <https://pbswisconsin.org/news-item/the-dissonance-of-another-rise-in-COVID-19-cases/>

76 Freyberg, "The Dissonance."

Conclusion

Navigating a pandemic in a densely populated city is a challenging task. However, during the COVID-19 pandemic in Milwaukee, the three health commissioners faced the added disadvantage of navigating a Health Department that was not functioning properly, had lost the trust of private and public residents, and was not up to state or federal standards. As a result, gaining public cooperation was a challenge and led to varying degrees of success among the commissioners. Among the health commissioners, Johnson was the most successful in gaining public cooperation with non-pharmaceutical interventions (NPIs) because she prioritized regaining the public's trust first. In comparison, Health Commissioner Kowalik continued her efforts to reform the Health Department and bring it up to standard throughout the pandemic.

The context under which each health commissioner came into the position during the pandemic is also important. After confirming her as the first health commissioner after Baker's resignation, the Common Council and Mayor Barret tasked Kowalik with fixing the Health Department. She had less than a year of working on this before the pandemic began, which explains her continued focus on the task during the pandemic. The state also took a more significant lead in communicating information to the public and deploying NPIs than during previous pandemics. However, the state Health Department did not tailor their pandemic response plan to Milwaukee's unique social, cultural, or historical elements. As a result, the plan did not effectively mitigate the spread of the virus in Milwaukee, and the city quickly became an epicenter. Kowalik had to take a defensive approach instead of the offense-based approach that had led to the success of her predecessors in slowing the spread of the virus once the Wisconsin state Supreme Court repealed the governor's authority over NPIs. Kowalik

cited a lack of resources and funding as a barrier to the effectiveness of her NPIs. Creating positive social relationships and networks similar to Health Commissioners Ruhland and Krumbiegel could have improved this situation.

After Kowalik resigned, Interim Health Commissioner Jackson inherited a department that lacked stability in leadership and direction. Jackson also had been working within the department for less than a year when Mayor Barrett appointed her to the interim position, which put her at an overwhelming disadvantage under the pressures of improving the department's structure, combatting spread, and dealing with a lack of public trust. Health Commissioner Johnson's approach was the most successful, as she could restructure the department and repair failed programs in under two years while addressing the pandemic. She met with local advocates, organizations, and the media as one of her first actions and expressed an open-door policy to hear the concerns and issues of the public. Through that, she was able to craft a functional pandemic response that deployed resources appropriately. She also provided specific resources to different individuals, allowing residents to comply with her NPIs.

Johnson's success demonstrates the necessity of considering the city's social, cultural, and historical aspects when responding to a pandemic. Through these contextual factors, Johnson could not only mitigate the impact of the pandemic in the city but delegate enough that she could focus on fixing the Health Department without letting her pandemic response lapse. Kowalik and Jackson's pandemic response demonstrate that health commissioners cannot solely rely on policy for an effective response because the policy does not inherently create public compliance.

Chapter Six: Conclusion

This thesis focused on the significance of context in pandemic response, departing from the traditional policy evaluation approach. It examined each health commissioner's adherence to the current standard public health emergency response policy based on the foundation of non-pharmaceutical interventions (NPIs).¹ During a pandemic, public health officials rely on guidance from the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) to determine which Non-Pharmaceutical Intervention (NPI) to use and when. It is important to note that not every NPI is necessary to combat each pandemic virus.²

While the CDC and WHO recognize the importance of cultivating community relationships in their pandemic and public health emergency response field guides, explicit instructions on establishing connections with affected communities were lacking as of 2017.³ This thesis proposes a solution through the lens of social, cultural, and historical understanding. It emphasizes the importance of public health officials considering context to gain trust and compliance with NPIs. Contextual factors have proven critical to success in public cooperation

1 Martin C. J. Bootsma and Neil M. Ferguson, "The Effect of Public Health Measures on the 1918 Influenza Pandemic in U.S. Cities," *Proceedings of the National Academy of Sciences - PNAS* 104, no.18 (2007): 7588-93; World Health Organization Writing Group et al., "Non-pharmaceutical Interventions," 88-94; David M. Morens, Jeffery K. Taubenberger, and Anthony S. Fauci, "A Centenary Tale of Two Pandemics: The 1918 Influenza Pandemic and COVID-19, Part I," *American Journal of Public Health* 111, no. 6 (2021): 1086-94, [doi:10.2105/AJPH.2021.306310](https://doi.org/10.2105/AJPH.2021.306310); World Health Organization Writing Group, David M. Bell, Angus Nicoll, Keiji Fukuda, Peter Horby, Arnold Monto, Frederick Hayden, et al., "Non-pharmaceutical Interventions for Pandemic Influenza, National and Community Measures." *Emerging Infectious Diseases* 12, no.1 (88-94), doi: 10.3201/eid1201.051371.

2 Daniel J. Brencic et al., "CDC Support for Global Public Health Emergency Management," *Emerging Infectious Diseases* 23 no. 13 (2017): S183–89, <https://doi.org/10.3201/eid2313.170542>; Emergencies Preparedness Team, "A Strategic Framework for Emergency Preparedness," *World Health Organization*, January 1, 2017: 1-25, <https://www.who.int/publications/i/item/a-strategic-framework-for-emergency-preparedness>.

3 Brencic et al., "CDC Support," S183–89; "Emergency Preparedness," *World Health Organization*, 4-13; Emergencies Preparedness Team, "A Strategic Framework," 1-25.

and pandemic mitigation, while their absence has hindered health commissioners' efforts, spanning decades apart. By identifying social, cultural, and historical elements during each pandemic, this thesis highlights the significance of understanding these values, which have transcended time and continue to be influential.

From a historical perspective, this thesis provides substantial documentation and insight into the history of pandemics in Milwaukee. Moreover, it challenges the typical historical analysis methodology by comparing current and historic pandemics to find commonalities. The city of Milwaukee is especially significant to the field of pandemic research from a historical public health perspective, given the varying responses and circumstances that each health commissioner has faced during pandemics. The reason for including each of the five most recent pandemics, even though they differed substantially in morbidity and mortality, was to examine the different approaches of the health commissioners and approaches effects on the pandemic's outcome.

Historians and pandemic scholars praised Health Commissioner Ruhland for his initiative in deploying NPIs and his extensive media campaign and attributed these factors to his success. However, this thesis argues that those attributes oversimplify what Ruhland did. During the 1918 pandemic, health commissioners like Ruhland responded, and their actions formed the basis for today's public health emergency/pandemic policy and non-pharmaceutical interventions. As this thesis has shown, deploying policy does not equate to an effective pandemic response. By examining each of the five pandemics, it is also clear that the public's trust in their health commissioners is essential when gaining compliance with NPIs. Further, a

health commissioner can only gain trust by communicating effectively and understanding the social, cultural, and historical factors that affect residents.

One objective of this study was to understand why the city of Milwaukee had the second-lowest excess death rate during the 1918 pandemic but had the most prominent regional outbreak of the 2009 pandemic despite similar response plans. This variance was due to the 2009 health commissioner's lack of social, cultural, and historical understanding of the city and its residents.⁴ After identifying similar effects during the 1957, 1968, and COVID-19 pandemics in Milwaukee, this research substantiates this conclusion. The specific NPIs varied based on each pandemic's virology, morbidity, and mortality. Even so, this research shows that health commissioners who gained the trust of their communities were less likely to resist public health interventions. Therefore, trust is the most crucial factor when successfully addressing a pandemic.⁵

4 Judith W. Leavitt, "Pandemics and History: Context, Context, Context," *American Journal of Public Health* 111, no.6 (2021): 996, [doi:10.2105/AJPH.2021.306270](https://doi.org/10.2105/AJPH.2021.306270); Howard Markel et al., "Nonpharmaceutical Interventions Implemented by US Cities During the 1918-1919 Influenza Pandemic," *JAMA: The Journal of the American Medical Association* 298, no. 6 (2007): 647; J. Alexander Navarro and Howard Markel, "Politics, Pushback, and Pandemics: Challenges to Public Health Orders in the 1918 Influenza Pandemic," *American Journal of Public Health* (1971) 111, no. 3 (2021): 416, <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2020.305958>.

5 Barbara Jester, Timothy M. Uyeki, and Daniel B. Jernigan, "Fifty Years of Influenza A(H3N2) Following the Pandemic of 1968," *American Journal of Public Health* 110, no. 5 (May 2020): 670-73; Edwin D. Kilbourne, "Influenza Pandemics of the 20th Century," *Emerging Infectious Diseases* 12, no. 1 (2006): 670-673, *Gale Academic OneFile*, accessed October 26, 2021, 9-13, <https://link.gale.com/apps/doc/A141048441/AONE?u=milwaukee&sid=bookmark-AONE&xid=5d5e1019>; Kilbourne, "Influenza Pandemics," 9; Frank F. Piraino, Edwin M. Brown, and Edward R. Krumbiegel, "Outbreak of Hong Kong Influenza in Milwaukee, Winter of 1968-69," *Public Health Reports (1896)* 85, no. 2 (1970): 147, [doi:10.2307/4593811](https://doi.org/10.2307/4593811); Cecile Viboud, Lone Simonsen, Rodrigo Fuentes, Jose Flores, Mark A. Miller, and Gerardo Chowell, "Global Mortality Impact of the 1957-1959 Influenza Pandemic," *The Journal of Infectious Diseases* 213, no. 5 (2019): 740-43, [doi:10.1093/infdis/jiv534](https://doi.org/10.1093/infdis/jiv534).

During the 1918 pandemic, Health Commissioner Ruhland set the standard for a pandemic response. Ruhland established a committee, maintained positive relationships with newspaper editors, and recruited local organizations.⁶ Pandemic researchers frequently cite his media campaign because of its comprehensiveness.⁷ The media campaign worked because Ruhland built relationships with people and organizations that he could mobilize to disseminate information.⁸ Ruhland was also an active health commissioner. His 1916 housing study afforded him a culture-based foundation for providing the best care and resources for residents' health during the pandemic.⁹ His transparency and use of normalized power in his communication motivated the public to comply with his NPIs. His cultural and historical understanding provided specific resources so residents could follow the NPIs.

There are similarities between the courses of the 1918 pandemic and the 1957 and 1968 pandemics despite the differences in their severity. The first was the news media's support of both health commissioners. Despite the mid-century pandemics being less deadly, the science editor of the *Milwaukee Sentinel* penned a letter in the article that helped convince and

6 Influenza Encyclopedia, *University of Michigan Center for the History of Medicine, City Essays*, Milwaukee Wisconsin; State Medical Society of Wisconsin, "How Milwaukee Organized Its Fight," *Wisconsin Medical Journal* 17, (1918): 251, <https://archive.org/details/wisconsinmedical1719stat/page/n259/mode/2up>.

7 Leavitt, "Pandemics and History," 996-98; Navarro et al., "A Tale of Many Cities," 393-421; Navarro and Markel, "Politics, Pushback, and Pandemics," 416-22; State Medical Society of Wisconsin, "How Milwaukee Organized Its Fight," 251; Warren T. Vaughan, "Influenza: An Epidemiologic Study," *The American Journal of Hygiene*, (July 1921): 93-95.

8 "Report on Twenty Months of War-time Service in Milwaukee, May 1, 1917, to Jan. 1, 1919," Milwaukee County Council of Defense (United States: Milwaukee County Council of Defense, 1919): 18, 41; "Will Use Children to Check Influenza," *Milwaukee Sentinel*, December 3, 1918, 6.

9 "Housing and Health," Housing, (United States: National Housing Association, 1916) 14-16, 25, <https://www.google.com/books/edition/HoUSing/drhNAAAAMAAJ?hl=en&gbpv=0>.

educate the public to listen to Edward Krumbiegel and do their best to follow his instructions.¹⁰ In 1968, Krumbiegel's vaccine campaign received the most publicity through the *Milwaukee Journal* and *Milwaukee Sentinel*.¹¹ Krumbiegel modeled both pandemics for the public more than any other health commissioner in Milwaukee.¹² This modeling was the crux of his media campaign. It enabled the public to understand when they needed to cooperate and take exceptional care to prevent the spreading and getting the pandemic viruses.¹³ Krumbiegel's transparency, consistent communication, and commitment to Milwaukee's health over several decades won the compliance needed from the public to keep both pandemics under control.

Health Commissioner Bevan K. Baker presided over the 2009 pandemic. Akin to the 1957 and 1968 pandemics, the 2009 pandemic-causing virus spread quickly but was far less deadly than the 1918 or COVID-19 pandemics. Baker did not build a committee or delegate to local organizations like past health commissioners.¹⁴ He promoted a hostile work environment that prevented communication from the Health Department to the public, private

10 "How We'll Fight the Asiatic Flu," *Milwaukee Sentinel*, August 18, 1957, 83.

11 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 147

12 "14,000 Area Pupils Absent as Asian Flu Nears Peak," *Milwaukee Sentinel*, October 11, 1957, 6; "Asian Flu Invades City Grade School Ranks," *Milwaukee Sentinel*, October 10, 1957, 2, 4; "Flu Epidemic Causes a Rush for Hospitals," *Milwaukee Journal*, October 10, 1957, 51; Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 147. Modelling is a form of education in which authorities provide information on when the city is likely to start a pandemic wave, the wave's peak, the time remaining in the wave, and an estimate of how many people may contract and die from the viruses.

13 Piraino, Brown, and Krumbiegel, "Outbreak of Hong Kong Influenza," 143-46.

14 Mark Johnson, "Swine Flu Researchers Put Milwaukee under Microscope," *Milwaukee Journal Sentinel*, July 28, 2009; Navarro et al., "A Tale of Many Cities," 393- 421; Navarro and Markel, "Politics, Pushback, and Pandemics," 417.

organizations, and local government.¹⁵ Finally, his lack of transparent and consistent communication negatively impacted how city residents and workers perceived him.

These actions contributed to his social disapproval, both privately and publicly. Baker faced pushback for his NPI of school closures because he did not understand the economic impact the closure would have on families. This was significant in 2009 because the nation was beginning to recover from the Great Recession.¹⁶ Milwaukee was also the fourth poorest city in the country.¹⁷ Baker did not provide resources for parents of children whose schools he closed, making it difficult for them to comply. His reliance on a generic pandemic response plan demonstrates why public health officials must understand social, cultural, and historical context and mold plans into consideration.

During the COVID-19 pandemic, Health Commissioners Jeanette Kowalik and Marlaina Jackson used a policy-based approach. Kowalik did not have the same influence over the public as past health commissioners because her communication was not consistent or tailored to the city's social context. At the beginning of the pandemic, the state-dominated communication with the public, which led to Kowalik taking a lesser role in communicating. As a result, once the state was no longer the authority on pandemic response measures, the public did not look to

15 Navarro et al., "A Tale of Many Cities," 393- 421; Navarro and Markel, "Politics, Pushback, and Pandemics," 417; Mary Spicuzza and Mark Johnson, "Milwaukee Health Commissioner Bevan Baker out after Thousands Not Contacted by City after Lead Tests," *Milwaukee Journal*, January 12, 2018, last modified January 11, 2019, <https://www.jsonline.com/story/news/local/milwaukee/2018/01/12/milwaukee-health-commissioner-bevan-baker-out-city-hall/1028152001/>.

16 Bill Glauber and Ben Poston, "Milwaukee Now Fourth Poorest City in Nation," *Milwaukee Journal Sentinel*, September 28, 2010, 1; Navarro et al., "A Tale of Many Cities," 393- 421; Navarro and Markel, "Politics, Pushback, and Pandemics," 417, 423.

17 Glauber and Poston, "Milwaukee Now Fourth."

her for guidance.¹⁸ Without an established connection, Kowalik was not able to garner the same social acceptance and unity of NPIs through the language in her communication. Unity is essential to provide resources to residents and mitigate disease spread. Kowalik faced challenges in providing services and resources for residents. In 1918, Ruhland motivated volunteers to conduct these services.

Before the pandemic, Health Commissioner Baker's past errors put Kowalik in a defensive position within the department. This defensive stance influenced her approach to the pandemic.¹⁹ Kowalik often blamed funding issues when criticized for her response. However, she neglected to utilize methods used by previous health commissioners to address funding shortages.²⁰ Kowalik also had a personal attachment to the city's first COVID-19 hotspot, which added to her stress while navigating a disorganized Health Department. These factors contributed to her feeling of helplessness, which may have hindered her focus on seeking aid from local organizations immediately.

Kowalik's successor, Marlaina Jackson, did not prioritize building positive social relationships and struggled to create a presence with the public as interim health commissioner. Without those relationships, her pandemic response did not have the social or

18 Katie Crowther, "COVID-19 Cases Surge in Young Latino Communities," *Milwaukee Journal Sentinel*, June 25, 2020, 3; Ashley Luthern and Cary Spivak, "Health Officials Can Track Where Coronavirus Is Spreading by Interviewing Patients, Some in Milwaukee Say That Never Happened," *Milwaukee Journal Sentinel*, April 23, 2020.

19 Brentin Mock, "The Black Health Commissioner at the Center of the Fight against COVID-19 Racism," CityLab, Bloomberg (online), July 31, 2020, accessed March 1, 2023, <https://www.bloomberg.com/news/articles/2020-07-31/how-milwaukee-is-fighting-coronavirus-racism>; Spicuzza and Johnson, "Health Commissioner Bevan Baker."

20 Jeanette Kowalik, "The Racism I Faced as Milwaukee's Health Boss under COVID-19," *The Daily Beast*, last modified September 8, 2020, <https://www.thedailybeast.com/the-racism-i-faced-as-milwaukees-health-boss-under-covid-19>; Mock, "The Black Health Commissioner."

cultural context necessary for public compliance. Jackson also used more repressive methods to gain compliance, like the fines and capacity limits for bars and restaurants. She also relied heavily on the public to use the Health Department's website for the latest pandemic information rather than conveying information herself.²¹

When Kirsten Johnson became health commissioner, her approach was community centric.²² The third pandemic wave resulted in high case numbers but decreased overall hospitalizations. Johnson focused on making vaccines accessible to the public. The low hospitalizations during the wave were partly due to the city's moderately high vaccination rate.²³ Johnson built relationships with the community, and she allowed social, cultural, and historical context to guide her response.

Although this research offers valuable insights, there are factors that future researchers should take into consideration. During the first three pandemics, public disease epidemics were much more common than today, and Americans better understood their severity. In contrast, modern Americans may underestimate the severity of disease outbreaks due to their familiarity

21 Jeramey Jannene, "How to Get a COVID-19 Vaccine if You're 65 or Older in Milwaukee," *Urban Milwaukee*, January 19, 2021, accessed March 7, 2023, <https://urbanmilwaukee.com/2021/01/19/how-to-get-a-COVID-19-vaccine-if-youre-65-or-older-in-milwaukee/>; "Editorial," *Milwaukee Journal Sentinel*, October 7, 2020, 11; Rachel Piper and Madeline Heim, "Wisconsinites Still Not Told Where COVID-19 Spread," *Milwaukee Journal Sentinel*, March 19, 2021.

21 Mary Spicuzza and Alysson Dirr, "Wisconsin's COVID-19 Vaccine Plan, So Far," *Milwaukee Journal Sentinel*, December 3, 2020, 7.

22 Erik Bilstad, "WTMJ Wisconsin Standout of the Year: Kirsten Johnson," WTMJ News, December 13, 2021, accessed March 8, 2021, <https://wtmj.com/news/2021/12/13/wtmj-wisconsin-standout-of-the-year-kirsten-johnson/>; Martinez, "I Want to Fix It."

23 Tamyra Trice, "We Must Work Together to Show the Importance of Getting Vaccinated," *Milwaukee Journal Sentinel*, June 6, 2021.

with the robust healthcare system and modern science. Moreover, Milwaukee had a solid public health program and more funding during the first half of the 20th century, when public health was a focus of city government, partly due to the presence of multiple Socialist mayors. However, since the 1968 pandemic, the funding of the Milwaukee Health Department has decreased significantly to just 3.5% of the city's budget.²⁴

Further, past health commissioners could ask the Common Council to allocate funds from the city budget toward the city's pandemic response. Since 1968, amendments to state statutes have been passed that prevent the movement of city funds after the Common Council adopts the budget. The health commissioners during the COVID-19 pandemic could have attracted more funding through private donors, as their predecessors did. However, the absence of the initial seed grant that past health commissioners received from the city significantly impacted the initial resources available.

Finally, as this research occurs in tandem with the COVID-19 pandemic, future researchers should examine technology's impact on the current pandemic. Social media and technology created a challenge past health commissioners did not encounter. The rate at which information and misinformation spread through social media and the internet created a challenge for each health commissioner. At times, the public was learning updated information about the COVID-19 pandemic through the CDC or outside resources while government officials were briefing the health commissioners and the MHD. The speed of information prevented the health commissioners during the COVID-19 pandemic from being able to control the narrative

24 Kowalik, "The Racism I Faced;" Mock, "The Black Health Commissioner."

of the pandemic for the public. In turn, the public may have developed their own opinions based on whom they believed to be a credible source.

We often look to the past to inform our present. This project examined hundreds of newspaper articles and archival documents to inform a solution for a future public health emergency. Specific context changes, society grows with advancements, and one thing remains. In times of crisis, consistency is crucial. To provide consistency during a pandemic in Milwaukee, though, requires the commissioner to understand the context.

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Appendices

Appendix A: Health Commissioners of Milwaukee

Health Commissioner	Years Served	Degree Type	Degree Granting University
James Johnson	1867-1877	MD	Berkshire Medical College
Isaac H. Stearns	1877-1878	MD	National Medical College
Orlando W. Wight	1878-1881	MD	Long Island College Hospital
Robert Martin	1881-1889	MD, Homeopathic	Starling Medical College
U.O.B. Wingate	1890-1894	MD	Dartmouth Medical School
Walter Kempster	1894-1898	MD	Long Island College Hospital
H. E. Bradley*	1895	MD	University of Buffalo
F. M. Schulz	1898-1906	MD	Rush Medical College
G. A. Bading	1906-1910	MD	Rush Medical College
William C. Rucker*	1910	MD	Rush Medical College
Frederick A. Kraft	1910-1914	MD, Eclectic	American Medical College- St. Louis
George C. Ruhland	1914-1917	MD	Wisconsin College of Physicians and Surgeons
Louis J. Daniels*	1917	MD	Rush Medical College
George C. Ruhland	1918-1925	MD	Wisconsin College of Physicians and Surgeons
John P. Koehler	1926-1938	MD	Marquette Medical School
Edward Krumbiegel	1939-1972	MD	Marquette Medical School
Constantine Panagis	1973-1987	MD	Marquette Medical School
Paul W. Nannis	1988-1996	MSW	University of Wisconsin-Milwaukee
Seth Foldy	1996-2004	MD	Medical College of Wisconsin
Bevan K. Baker	2004-2018	MA, Health Administration	Medical College of Virginia
Patricia McManus*	2018	PhD, Urban Studies	University of Wisconsin-Milwaukee
Jeannette Kowalik	2018-2020	PhD, Health Science	University of Wisconsin-Milwaukee
Marlaina Jackson*	2020	MPA	Marquette University

Kirsten Johnson	2021-2023	MPH	Tulane University
Tyler Webber*	2023	MPH	University of Minnesota
Michael Totoraitis	April 2023-	PhD, Public and Community Health	Medical College of Wisconsin

Interim Health Commissioners are denoted with an asterisk.

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Appendix B: Pandemic Newspapers

1918 Influenza Pandemic

- "Survey of Malady Made by Official," *Milwaukee Sentinel*, September 14, 1918, 3.
- "Fear Spanish Influenza May Attack America," *Milwaukee Journal*, September 15, 1918, 7.
- "New Disease in Milwaukee," *Milwaukee Journal*, September 16, 1918, 1.
- "Spanish Influenza Cases Reported Here," *Milwaukee Sentinel*, September 17, 1918, 5.
- "Reported Dead of Influenza," *Milwaukee Journal*, September 17, 1918, 1.
- "Spanish Influenza May Stop 'Shore Leave,'" *Milwaukee Journal*, September 18, 1918, 1.
- "No Danger of Epidemic Here, Ruhland Believes," *Milwaukee Sentinel*, September 18, 1918, 5.
- "Jackies Blamed for Influenza," *Milwaukee Sentinel*, September 18, 1918, 11.
- "Urges Quarantine at Naval Station," *Milwaukee Sentinel*, September 19, 1918, 5.
- "Heat Homes to Escape Grippe Ruhland Says," *Milwaukee Sentinel*, September 19, 1918, 7.
- "Blame U-Boats for Epidemic," *Milwaukee Sentinel*, September 19, 1918, 7.
- "Spanish Influenza," *Milwaukee Sentinel*, September 20, 1918, 8.
- "6 Dead and 5,000 Ill from Influenza," *Milwaukee Journal*, September 20, 1918, 1.
- "No Epidemic of Pneumonia," *Milwaukee Journal*, September 20, 1918, 1.
- "Says Worry Can Cause Spanish Influenza," *Milwaukee Sentinel*, September 22, 1918, 6.
- "Watch Your Nose and Smother Your Cough," *Milwaukee Journal*, September 22, 1918, 1.
- "Influenza Causes 45 Army and Navy Deaths," *Milwaukee Sentinel*, September 22, 1918, 6.
- "Dies of Spanish Influenza," *Milwaukee Journal*, September 23, 1918, 1.
- "Moffett Denies Danger in Influenza Epidemic," *Milwaukee Sentinel*, September 23, 1918, 4.
- "Influenza Cases Number 100," *Milwaukee Journal*, September 24, 1918, 1, 4.
- "The 'Flu,'" *Milwaukee Journal*, September 25, 1918, 6.
- "Hundred Ill of Influenza in Milwaukee," *Milwaukee Sentinel*, September 25, 1918, 1, 2.
- "Influenza Wave Reaches Here," *Milwaukee Journal*, September 25, 1918, 1, 3.
- "Report Cases of Influenza," *Milwaukee Journal*, September 26, 1918, 1.
- "Ruhland Seeks Help of Doctors," *Milwaukee Sentinel*, September 26, 1918, 4.
- "Six Influenza Cases Reported to Ruhland," *Milwaukee Sentinel*, September 27, 1918, 6.
- "Fight 'Flu' at Camp Grant," *Milwaukee Journal*, September 28, 1918, 5.
- "To Confer on Spanish Influenza Fight," *Milwaukee Journal*, September 28, 1918, 2.
- "Vote a Million to Fight 'Flu,'" *Milwaukee Journal*, September 29, 1918: 4.
- "Doctors Plan to Stop Influenza," *Milwaukee Journal*, September 30, 1918, 5.
- "Plans Discussed to Curb Spanish Grippe," *Milwaukee Sentinel*, October 1, 1918, 4.
- "'Flu' Is the Grip," *Milwaukee Journal*, October 1, 1918, 2.
- "Influenza Hits Hospital, Attaches," *Milwaukee Sentinel*, October 4, 1918, 4.
- "Widespread Ban on Meetings," *Milwaukee Journal*, October 4, 1918, 1.
- "Influenza Masks Worn Here," *Milwaukee Journal*, October 4, 1918, 19.
- "To Check Influenza," *Milwaukee Journal*, October 6, 1918, 1.
- "Drastic Steps to Check Influenza," *Milwaukee Sentinel*, October 6, 1918, 1.
- "Local Health Boards Can Isolate Patients," *Milwaukee Sentinel*, October 6, 1918, 1.
- "Students Protected Against Influenza," *Milwaukee Sentinel*, October 6, 1918, 1.
- "'Flu' Epidemic Worse," *Milwaukee Journal*, October 7, 1918, 4.
- "Whole City to Fight 'Flu,'" *Milwaukee Journal*, October 8, 1918, 1.
- "Ruhland Sounds Warning on 'Flu,'" *Milwaukee Sentinel*, October 8, 1918, 4.
- "To Open Battle on Influenza," *Milwaukee Journal*, October 9, 1918, 1.
- "Unite Forces to Check Influenza," *Milwaukee Sentinel*, October 9, 1918, 1, 2.

- "Care of Citizens May Stay Malady," *Milwaukee Sentinel*, October 9, 1918, 6.
- "Disinfection of Cars to Prevent Influenza," *Milwaukee Sentinel*, October 9, 1918, 6.
- "City Closed to Fight Flu," *Milwaukee Journal*, October 10, 1918, 1.
- "Defeating the Grippe," *Milwaukee Journal*, October 10, 1918, 8.
- "Disease Peril Rouses Whole City to Fight," *Milwaukee Sentinel*, October 10, 1918, 1.
- "Influenza Peril Arouses the City," *Milwaukee Sentinel*, October 10, 1918, 14.
- "Aldermen Start Warfare On 'Flu,'" *Milwaukee Sentinel*, October 10, 1918, 4.
- "No More Public Funerals," *Milwaukee Journal*, October 11, 1918, 1, 23.
- "City Starts Big Battle on Influenza," *Milwaukee Sentinel*, October 11, 1918, 1, 6.
- "Read This GIMBEL 'Flu-Gram' No. 1," *Milwaukee Sentinel*, October 11, 1918, 5.
- "Theaters Hard Hit by Closing Order," *Milwaukee Sentinel*, October 11, 1918, 6.
- "Amusement Places and Churches Closed to Halt Influenza Spread," *Milwaukee Sentinel*, October 11, 1918, 6.
- "Boxing Show for Friday Is Halted," *Milwaukee Sentinel*, October 11, 1918, 10.
- "New Flu Decree Closes Schools," *Milwaukee Journal*, October 12, 1918, 1.
- "Twins Succumb to Influenza," *Milwaukee Journal*, October 12, 1918, 2.
- "City Extends Grippe Edict on Meetings," *Milwaukee Sentinel*, October 12, 1918, 1, 6.
- "Rumor is False," *Milwaukee Sentinel*, October 12, 1918, 6.
- "Order to Close Because of Influenza Epidemic is Extended by Dr. Ruhland," *Milwaukee Sentinel*, October 12, 1918, 6.
- "Electric Employees Issue 'Flu' Don't's," *Milwaukee Sentinel*, October 12, 1918, 6.
- "Peaceful Sunday Now Inaugurated to Fight Flu," *Milwaukee Sentinel*, October 13, 1918, 1.
- "All Dressed Up No Place to Go," *Milwaukee Sentinel*, October 13, 1918, 1.
- "What Happens to The Sufferer from Spanish Influenza," *Milwaukee Journal*, October 14, 1918, 8.
- "Co-Operation is Helping to Check Grippe," *Milwaukee Sentinel*, October 14, 1918, 1.
- "City Ready to Halt Further Grippe Spread," *Milwaukee Sentinel*, October 14, 1918, 1, 3.
- "Nurses Co-operating with Health Officials," *Milwaukee Sentinel*, October 14, 1918, 3.
- "Candidates Will Use Newspapers," *Milwaukee Sentinel*, October 14, 1918, 8.
- "Fail to Report 'Flu' Cases," *Milwaukee Journal*, October 15, 1918, 1.
- "Ban on Jackies in Milwaukee," *Milwaukee Sentinel*, October 15, 1918, 5.
- "Student Flu Victim," *Milwaukee Sentinel*, October 15, 1918, 5.
- "Many Offering to Fight 'Flu,'" *Milwaukee Journal*, October 16, 1918, 2.
- "Ruhland Reports 2,744 'Flu' Cases," *Milwaukee Sentinel*, October 16, 1918, 4.
- "Influenza Has Ancient History," *Milwaukee Sentinel*, October 16, 1918, 4.
- Gimbel Brothers, Gimbels Advertisement, *Milwaukee Sentinel*, October 16, 1918: 6.
- "Talks Help Fight On 'Flu,'" *Milwaukee Journal*, October 17, 1918, 4.
- "How to Make Influenza Face Mask," *Milwaukee Journal*, October 17, 1918, 4.
- "Public Museum Ordered Closed," *Milwaukee Sentinel*, October 17, 1918, 4.
- "New Cases of Flu Decreasing," *Milwaukee Journal*, October 18, 1918, 1.
- "City Seeks Plan to Care for Tots," *Milwaukee Sentinel*, October 18, 1918, 5.
- "Fewer Cases of Flu Reported," *Milwaukee Journal*, October 19, 1918, 1.
- "Recruiting Staff is out Fighting Influenza," *Milwaukee Journal*, October 19, 1918, 5.
- "Atropine Used to Check Influenza," *Milwaukee Sentinel*, October 19, 1918, 4.
- "Pastors Are Busy in Spite Of 'Flu'" *Milwaukee Journal*, October 20, 1918, 1.
- "Nurses' Bureau is Opened," *Milwaukee Journal*, October 20, 1918, 13.
- "Teachers Canvass Homes to Search Influenza Cases," *Milwaukee Sentinel*, October 20, 1918, 1.

- “Teachers of Sycamore Street School, Equipped with Gauze Masks, Starting Out on Health Tour,” *Milwaukee Sentinel*, October 20, 1918, 1. (16)
- “Physicians Unite to Fight Epidemic,” *Milwaukee Sentinel*, October 20, 1918, 15.
- “Revoke Closing Order Soon,” *Milwaukee Journal*, October 21, 1918, 2.
- “Influenza Cases Show Falling Off,” *Milwaukee Sentinel*, October 21, 1918, 3.
- “Describes Cure Used for Grippe,” *Milwaukee Sentinel*, October 21, 1918, 3.
- “Teachers Will Receive Pay During Epidemic,” *Milwaukee Sentinel*, October 21, 1918, 3.
- “May Soon Raise Influenza Ban,” *Milwaukee Sentinel*, October 22, 1918, 4.
- “Epidemic of Flu Is Worse,” *Milwaukee Journal*, October 22, 1918, 2.
- “Less Influenza, Keep Ban On,” *Milwaukee Journal*, October 23, 1918, 2.
- “Anti-Influenza Mask Worn by Barber Here,” *Milwaukee Sentinel*, October 23, 1918, 4. (16)
- “Influenza Cases Increase in City,” *Milwaukee Sentinel*, October 23, 1918, 5.
- “Flu Lid to Stay on Ten Days,” *Milwaukee Journal*, October 24, 1918, 2.
- “Campaign Plans Not Interrupted,” *Milwaukee Sentinel*, October 24, 1918, 2.
- “Closing Ban Stays Says Dr. Ruhland,” *Milwaukee Sentinel*, October 24, 1918, 5.
- “Closing Order to Remain in Force,” *Milwaukee Sentinel*, October 25, 1918, 5.
- “Rich and Freeman Battle on Nov. 4,” *Milwaukee Sentinel*, October 25, 1918, 8.
- “Epidemic Still Decreasing,” *Milwaukee Journal*, October 25, 1918, 2.
- “Violators of Ban Order Are Warned” *Milwaukee Sentinel*, October 26, 1918, 1.
- “Closing Order Will Continue,” *Milwaukee Sentinel*, October 26, 1918, 3.
- “City’s Influenza Situation is Good,” *Milwaukee Sentinel*, October 26, 1918, 4.
- “Weather Cause of Deaths,” *Milwaukee Journal*, October 26, 1918, 2.
- “Grippe Situation Improves in City,” *Milwaukee Sentinel*, October 27, 1918, 1.
- “Little Sufferers, Gentle Patients,” *Milwaukee Sentinel*, October 27, 1918, 1.
- “Plenty of Boxing in November If Influenza Only Subsides,” *Milwaukee Journal*, October 27, 1918, 1.
- “Flu Death Rate Is Higher,” *Milwaukee Journal*, October 27, 1918, 3.
- “Fewer New Flu Cases Here,” *Milwaukee Journal*, October 28, 1918, 2.
- “Grippe Situation Called Favorable,” *Milwaukee Sentinel*, October 28, 1918, 3.
- “Influenza Cases Decreasing,” *Milwaukee Journal*, October 29, 1918, 2.
- “Early Lifting of Ban Is Expected,” *Milwaukee Sentinel*, October 29, 1918, 4.
- “Influenza May Halt Badger-Beloit Game,” *Milwaukee Sentinel*, October 30, 1918, 12.
- “Flu Decreasing Rapidly,” *Milwaukee Journal*, October 30, 1918, 4.
- “May Lift Closing Order on Monday,” *Milwaukee Sentinel*, October 30, 1918, 5.
- “Flu Ban to Stay This Week,” *Milwaukee Journal*, October 31, 1918, 12.
- “Grippe Epidemic is Under Control,” *Milwaukee Sentinel*, October 31, 1918, 4.
- “Date of Lifting Ban Remains in Doubt,” *Milwaukee Sentinel*, November 1, 1918, 5.
- *The Conveyor*, November 1918, Milwaukee Coke and Gas Company Collection, MCHS.
- “Few Flu Cases Now in City,” *Milwaukee Journal*, November 1, 1918, 6.
- “Candidates Plan Rousing Finish,” *Milwaukee Sentinel*, November 1, 1918, 11.
- “Flu Ban Lifted Monday,” *Milwaukee Journal*, November 2, 1918, 1.
- “Gen. Influenza Surrenders,” *Milwaukee Journal*, November 3, 1918, 1.
- “Flu Ban Curbs Spellbinders,” *Milwaukee Journal*, November 3, 1918, 2.
- “City Gay as Flu Ban is Lifted,” *Milwaukee Journal*, November 4, 1918, 3.
- “All Theaters Reopen to Capacity Crowds,” *Milwaukee Sentinel*, November 5, 1918: 7.
- “Newspapers Praised for Fight on Flu,” *Milwaukee Journal*, November 7, 1918, 4.
- “Fighting Flu is Real Work,” *Milwaukee Journal*, November 7, 1918, 17.
- “Fifty New Cases of Influenza Reported,” *Milwaukee Sentinel*, November 8, 1918, 4.

- "Influenza Hospital to Be Closed," *Milwaukee Journal*, November 12, 1918, 1.
- "4 Die, 49 New Cases of Grippe Wednesday," *Milwaukee Sentinel*, November 14, 1918, 4.
- "Increase is Reported of Influenza Cases," *Milwaukee Sentinel*, November 17, 1918, 6.
- "Ruhland Warns," *Milwaukee Sentinel*, November 19, 1918, 7.
- "New Increase in Flu Cases in City," *Milwaukee Journal*, November 21, 1918, 15.
- "Flu Situation Still Declared Serious," *Milwaukee Journal*, November 23, 1918, 7.
- "Warning is Renewed Against Flu," *Milwaukee Sentinel*, November 23, 1918, 15.
- "Few Flu Cases Now in City," *Milwaukee Journal*, November 27, 1918, 3.
- "160 Influenza Cases Reported Wednesday," *Milwaukee Sentinel*, November 28, 1918, 4.
- "Flu Situation Getting More Serious," *Milwaukee Journal*, November 29, 1918, 1.
- "Influenza Situation is Reported Alarming," *Milwaukee Sentinel*, November 29, 1918, 4.
- "Influenza Situation is Again Serious," *Milwaukee Journal*, November 30, 1918, 2.
- "Influenza Again a Menace," *Milwaukee Journal*, December 2, 1918, 2.
- "More Deaths Reported of Influenza," *Milwaukee Journal*, December 3, 1918, 6.
- "Will Use Children to Check Influenza," *Milwaukee Sentinel*, December 3, 1918, 6.
- "Health Bureau Will Be Clearing House," *Milwaukee Sentinel*, December 4, 1918, 5.
- "Epidemic is Unchecked Twelve More Deaths," *Milwaukee Journal*, December 4, 1918, 7.
- "City to Placard Houses in Flu War," *Milwaukee Journal*, December 5, 1918, 2.
- "22 More Deaths, 331 New Cases of Grippe," *Milwaukee Sentinel*, December 5, 1918: 4.
- "Mobilize Nurses to Fight Epidemic," *Milwaukee Sentinel*, December 7, 1918, 6.
- "Amateur Flu Detectives Get Fines for Zeal," *Milwaukee Journal*, December 8, 1918, 1.
- "Stores Shut if Flu Unchecked," *Milwaukee Journal*, December 8, 1918, 2.
- "Are YOU Doing Your Part to Check the Influenza Epidemic?" *Milwaukee Sentinel*, December 8, 1918, 1.
- "Public Must Aid to Keep Places Open," *Milwaukee Sentinel*, December 8, 1918: 1.
- "Prevent Influenza," *Milwaukee Sentinel*, December 8, 1918, 6.
- "Co-operation with the Health Department Will Prevent Another Serious Influenza Epidemic in Milwaukee," *Milwaukee Sentinel*, December 9, 1918, 1.
- "Many Events Cancelled to Check Grippe," *Milwaukee Sentinel*, December 9, 1918, 1, 2.
- "How to Prevent Epidemic," *Milwaukee Sentinel*, December 9, 1918, 1.
- "Malady is Again Menacing," *Milwaukee Journal*, December 9, 1918, 1.
- "Cheating the Flu," *Milwaukee Journal*, December 9, 1918, 1.
- "Thousands Now Using Anti-Flu Treatment," *Milwaukee Sentinel*, December 10, 1918, 5.
- "Partial Ban Order to be Made Tuesday," *Milwaukee Sentinel*, December 10, 1918, 1, 5.
- "Large Increase in New Cases," *Milwaukee Journal*, December 10, 1918, 1, 6.
- "Details of New Order to Stamp Out Influenza," *Milwaukee Journal*, December 10, 1918, 1, 6.
- "Health Department's Official Influenza Closing Regulations," *Milwaukee Sentinel*, December 11, 1918, 1.
- "Recession of Grippe Cases Will Halt Ban," *Milwaukee Sentinel*, December 11, 1918, 1, 5.
- "All Schools Are Closed," *Milwaukee Journal*, December 11, 1918, 1, 6.
- "Flu Epidemic Wanes," *Milwaukee Journal*, December 11, 1918, 6.
- "Flu Decreases Last 24 Hours," *Milwaukee Journal*, December 12, 1918, 1.
- "City Fights Flu as Lid Goes on," *Milwaukee Journal*, December 12, 1918, 1.
- "City Christmas Tree Depends on Flu," *Milwaukee Journal*, December 12, 1918, 5.
- "Flu a 'Crowd Disease,'" *Milwaukee Journal*, December 12, 1918, 16.
- "City Battling Grippe as Lid is Put in Force," *Milwaukee Sentinel*, December 12, 1918, 1.
- "Order to Close Because of Influenza Epidemic Is Extended by Dr. Ruhland," *Milwaukee Sentinel*, December 12, 1918, 6.
- "Grippe Situation Slightly Better," *Milwaukee Sentinel*, December 13, 1918, 1, 2.

- "Flu in Check, Figures Show; Continue Ban," *Milwaukee Journal*, December 13, 1918, 1, 19.
- "Flu, Bad Water Part of Plague, Adventists Say," *Milwaukee Journal*, December 13, 1918, 2.
- "Co-operation Is Helping to Check Grippe," *Milwaukee Sentinel*, December 14, 1918, 1, 8.
- "Reduce Number of Flu Cases," *Milwaukee Journal*, December 14, 1918, 1.
- "Flu Situation Improved," *Milwaukee Journal*, December 15, 1918, 3.
- "Several Break Flu Rules," *Milwaukee Journal*, December 16, 1918, 1.
- "Banless Holidays Depend on Public," *Milwaukee Sentinel*, December 16, 1918, 4.
- "Tide of Flu on Ebb Now," *Milwaukee Journal*, December 17, 1918, 1.
- "Violators of Ban Order Are Warned," *Milwaukee Sentinel*, December 17, 1918, 1.
- "Flu Outlook Is Brighter," *Milwaukee Journal*, December 18, 1918, 4.
- "266 New Grippe Cases Reported," *Milwaukee Sentinel*, December 18, 1918, 4.
- "Children Allowed on Street Cars During Epidemic," *Milwaukee Sentinel*, December 18, 1918, 22.
- "Ruhland vs Inches," *Milwaukee Sentinel*, December 18, 1918, 10.
- "Few New Cases of The Flu," *Milwaukee Journal*, December 19, 1918, 5.
- "33 Die of Grippe, 177 Are Attacked," *Milwaukee Sentinel*, December 19, 1918, 4.
- "Small Increase in Flu Report," *Milwaukee Journal*, December 20, 1918, 1.
- "May Fix Rule on Holiday Affairs," *Milwaukee Sentinel*, December 21, 1918, 8.
- "Flu Ban Stays; Cases Are Fewer," *Milwaukee Journal*, December 21, 1918, 1.
- "Epidemic Delays Christmas Plans," *Milwaukee Sentinel*, December 22, 1918, 2.
- "Flu Situation Improved," *Milwaukee Journal*, December 23, 1918, 3.
- "Flu Wave Is Ebbing; Other Ills Checked," *Milwaukee Journal*, December 24, 1918, 1.
- "Influenza Order Partially Raised," *Milwaukee Sentinel*, December 24, 1918, 1, 4.
- "Cold, Dry Weather May Be Check on Flu," *Milwaukee Journal*, December 26, 1918, 4.
- "Make it Here Thursday," *Milwaukee Sentinel*, December 26, 1918, 10.
- "Report Only 14 New Cases of Influenza," *Milwaukee Sentinel*, December 27, 1918, 5.
- "Concealed Faces De Rigueur," *Milwaukee Sentinel*, December 27, 1918, 5.
- "Flu Deaths Hit Young Adults," *Milwaukee Journal*, December 29, 1918, 1.
- "Report Six Flu Deaths," *Milwaukee Journal*, December 30, 1918, 1.
- "Thirteen New Grippe Cases Reported Monday," *Milwaukee Sentinel*, December 31, 1918, 6.
- "City Second in Flu Fight," *Milwaukee Journal*, December 31, 1918, 9.
- "Grippe Ban Will Be Raised Jan. 2," *Milwaukee Sentinel*, January 1, 1919, 9.
- "School Promotions Not to Be Delayed by Flu," *Milwaukee Journal*, January 3, 1919, 6.
- "Flu at Hospital During December Cost Thousands," *Milwaukee Journal*, January 7, 1919, 2.
- "City's Health Record Is Good," *Milwaukee Sentinel*, January 8, 1919, 4.
- "Two Regulations Left on Influenza Ban," *Milwaukee Sentinel*, January 10, 1919, 5.
- "Ruhland Heads Hygiene Society," *Milwaukee Sentinel*, January 11, 1919, 15.
- "Milwaukee Flu Death Rate Lowest in U. S.," *Milwaukee Journal*, January 15, 1919, 1.
- "Flu Blamed for Higher Death Rate," *Milwaukee Journal*, February 6, 1919, 1.
- "Fear Flu Epidemic Will Spread Over Country Next Year," *Milwaukee Journal*, February 27, 1919, 3.
- "Influenza Warning by Health Chief," *Milwaukee Journal*, March 6, 1919, 1.
- "13 More Cases of Flu; Warning Issued," *Milwaukee Journal*, March 7, 1919, 1.
- "Dr. Ruhland Issues New Influenza Warning," *Milwaukee Sentinel*, March 8, 1919, 4.
- "Flu' Cases Cause Worry Here," *Milwaukee Sentinel*, March 9, 1919, 33.
- "19 New Cases of Flu," *Milwaukee Journal*, March 10, 1919, 3.
- "Twelve New Cases of Flu; Three Die," *Milwaukee Journal*, March 12, 1919, 7.
- "Grippe on Increase, Precautions Urged," *Milwaukee Sentinel*, March 12, 1919, 5.
- "Influenza Cases in City Now Number 76," *Milwaukee Sentinel*, March 13, 1919, 5.

- "18 New Cases of Flu; Total Now 92," *Milwaukee Journal*, March 13, 1919, 1.
- "Influenza Gains; Warning is Issued," *Milwaukee Sentinel*, March 14, 1919, 7.
- "Influenza Cases Here Total 100," *Milwaukee Sentinel*, March 15, 1919, 6.
- "1,000 Flu Cases in City," *Milwaukee Journal*, March 17, 1919, 1.
- "Funds to Be Asked to Combat Grippe," *Milwaukee Sentinel*, March 18, 1919, 4.
- "Asks \$10,000 To Fight Flu," *Milwaukee Journal*, March 18, 1919, 6.
- "Council Rushes Flu Measures," *Milwaukee Journal*, March 19, 1919, 6.
- "Serum May Bring Influenza Relief," *Milwaukee Sentinel*, March 19, 1919, 4.
- "Ruhland May Map Out Grippe Fight," *Milwaukee Sentinel*, March 20, 1919, 4.
- "Seidel Attacks Flu Plans," *Milwaukee Journal*, March 20, 1919, 2.
- "Expect Common Council to Raise Flu Fund," *Milwaukee Journal*, March 21, 1919, 29.
- "Many New Cases; Few Prove Fatal," *Milwaukee Sentinel*, March 21, 1919, 5.
- "To Stop Influenza," *Milwaukee Journal*, March 21, 1919, 22.
- "Fight on Influenza in Ruhland's Hands," *Milwaukee Sentinel*, March 22, 1919, 4.
- "Influenza! is Again Knocking at Your Door," *Milwaukee Sentinel*, March 22, 1919, 13.
- "Significant Facts About Influenza," *Milwaukee Journal*, March 23, 1919, 5.
- "New Climb Recorded in Influenza Cases," *Milwaukee Sentinel*, March 23, 1919, 4.
- "Serum May Bring Influenza Relief," *Milwaukee Sentinel*, March 19, 1919, 4.
- "Flu Cases Decreasing," *Milwaukee Journal*, March 24, 1919, 7.
- "18 New Grippe Cases Reported on Monday," *Milwaukee Sentinel*, March 25, 1919, 6.
- "New Flu Cases Fewest Reported in Week," *Milwaukee Journal*, March 26, 1919, 19.
- "Vaccination Ordered for Riverside Pupils," *Milwaukee Sentinel*, March 26, 1919, 1.
- "Flu on Ebb; Only 13 New Cases Found," *Milwaukee Journal*, March 28, 1919, 1.
- "Boost Again Recorded in Cases of Influenza," *Milwaukee Sentinel*, April 1, 1919, 6.
- "Three Deaths from Flu," *Milwaukee Journal*, April 2, 1919, 11.
- "Influenza's Origin Laid to Germany," *Milwaukee Sentinel*, April 6, 1919, 9.
- "161 Cases of Flu," *Milwaukee Journal*, April 8, 1919, 17.
- "44 New Cases of Flu With 2 Deaths," *Milwaukee Journal*, April 9, 1919, 2.
- "206 Flu Cases in City," *Milwaukee Journal*, April 10, 1919, 17.
- "Could Only Sit Around in Chair," *Milwaukee Sentinel*, April 11, 1919, 3.
- "Increase in Influenza," *Milwaukee Journal*, April 12, 1919, 8.
- "Boost Of 15 Reported in Influenza Cases," *Milwaukee Sentinel*, April 12, 1919, 5.
- "17 New 'Flu' Cases," *Milwaukee Journal*, April 14, 1919, 1.
- "14 New Flu Cases," *Milwaukee Journal*, April 17, 1919, 21.
- "Flu Report Favorable," *Milwaukee Journal*, April 19, 1919, 8.
- "Preventatives Urged Against Influenza," *Milwaukee Sentinel*, September 13, 1919, 6.
- "Public is Called to Stamp Out Flu," *Milwaukee Sentinel*, January 15, 1920, 1.
- "24 New Influenza Cases are Reported," *Milwaukee Sentinel*, January 17, 1920, 14.

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- "Influenza Hits Poland; Thousands are Felled," *Milwaukee Journal*, March 20, 1957, 3.
- "Nixon Hospitalized with Flu; Leaves for Two Functions," *Milwaukee Journal*, March 23, 1957, 21.
- "Flu Death Rate Low," *Milwaukee Journal*, March 28, 1957, 51.
- "Flu Epidemic Sweeps School," *Milwaukee Journal*, April 11, 1957, 92.
- "Brookfield Pupils Return After Flu," *Milwaukee Journal*, April 23, 1957, 37.
- "Flu Wanes, Schools Reopen in Singapore," *Milwaukee Journal*, May 20, 1957, 66.
- "Epidemic of Flu Reaches Japan," *Milwaukee Journal*, May 24, 1957, 1.

- "Far East Flu Due to New Virus," *Milwaukee Sentinel*, May 28, 1957, 23.
- "Flu Hits 80,000," *Milwaukee Sentinel*, May 31, 1957, 25.
- "Flu Toll Rises," *Milwaukee Journal*, June 1, 1957, 21.
- "10 Dead in India in Flu Epidemic," *Milwaukee Journal*, June 3, 1957, 2.
- "Flu Claims 10 Lives in India," *Milwaukee Sentinel*, June 3, 1957, 3.
- "Fear Flu Bug Headed for U.S.," *Milwaukee Sentinel*, June 4, 1957, 1.
- "Flu Meeting Called by US," *Milwaukee Journal*, June 7, 1957, 13.
- "New Type of Influenza Reaches US From Asia," *Milwaukee Journal*, June 10, 1957, 2.
- "Some Flu Cases Here May be Asiatic Type," *Milwaukee Journal*, June 11, 1957, 33.
- "Flu Epidemic Plans Begun," *Milwaukee Journal*, June 26, 1957, 19.
- "PHS Studies Plan to Fight Asiatic Flu," *Milwaukee Sentinel*, June 26, 1957, 6.
- "Ready for Fight on Asiatic Flu," *Milwaukee Sentinel*, July 2, 1957, 1.
- "Great 'Flu' Epidemic of 1918," *Milwaukee Journal*, July 5, 1957, 14.
- "AMA Organizes to Fight Flu Epidemic," *Milwaukee Journal*, July 28, 1957: 15.
- "Tests Here Negative," *Milwaukee Journal*, July 28, 1957, 15.
- "Major Flu Epidemic Predicted for the US," *Milwaukee Journal*, August 2, 1957, 3.
- "Fear Asiatic Disease to Hit in Fall," *Milwaukee Sentinel*, August 2, 1957, 1.
- "Asian Flu Spreads Rapidly," *Milwaukee Sentinel*, August 2, 1957, 2.
- "Warn U. S. of Asia Flu Peril in Fall," *Milwaukee Sentinel*, August 2, 1957, 1.
- "Major Flu Epidemic Predicted for the US," *Milwaukee Journal*, August 2, 1957, 3.
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