

The 1918 Influenza Pandemic in Philadelphia's African-American and Immigrant Neighborhoods

Matthew Breier (CAS '26),¹ Katya Korendiy,¹ Nicholas Bonneau, Ph.D.,² David S. Barnes, Ph.D.¹

¹ Health and Societies Program, College of Arts & Sciences, University of Pennsylvania, Philadelphia, PA

² University of Maryland, Baltimore County and Franklin and Marshall College



Background

- The 1918 influenza pandemic killed 50 million people and infected approximately 500 million people, or 30% of the world's population.
- The 1918 influenza pandemic disproportionately affected/killed people between 25-40 years old, unlike other flu pandemics, seasonal flu, and COVID-19, which preferentially kill mostly the very old and very young.
- Philadelphia was hit harder than most other US cities, with an estimated death toll of 20,000 lives lost to the 1918 influenza pandemic (including an estimated 12,000 people in one month).
 - On September 19, 1918, influenza came to Philadelphia aboard a British merchant ship that docked at the city's Navy Yard; within days, 600 sailors became ill.
 - On September 28, 1918, 200,000 people (about one-ninth of Philadelphia's population) gathered for a parade, a Liberty Loan Drive meant to boost morale for the war and to encourage the purchase of war-financing bonds.
 - Days after the parade, another 635 cases of influenza were reported. 1,100 deaths were reported one week later.
 - Hospitals were quickly overwhelmed. Emergency hospitals were set up throughout the city and church and lay volunteers pitched in to care for those affected.
 - The death rate peaked in the week of October 16, 1918, when 4,597 people died in one week.
 - Because of the rapid rate of deaths, cemeteries could not keep up and the dead were piled in sheds and on open ground.
 - The streets of the "poorer sections" of Philadelphia were described as "reeking with the smell of putrefying corpses" and deaths there may not have been systematically reported.
 - The pandemic abated by October 27, 1918, though small outbreaks continued into spring 1919.
- The unusual age distribution of Influenza deaths has led scholars to assume that it was an "equal-opportunity killer."
- This assumption, however, has not been fully evaluated or proven in past studies.

Hypothesis

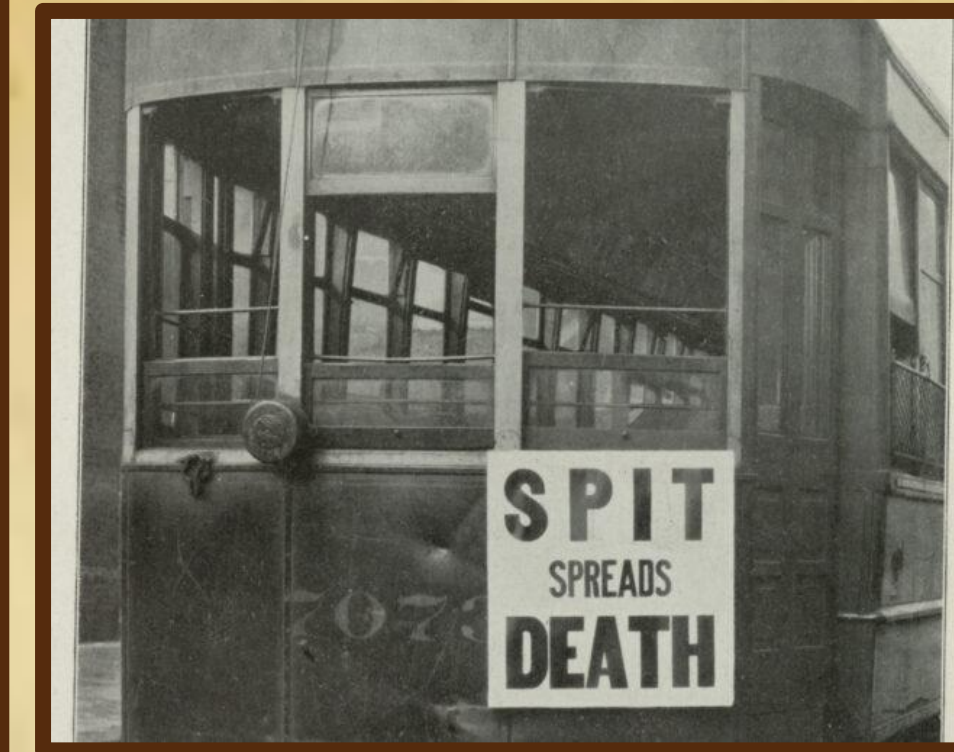
Given that poor, working-class, and marginalized populations have suffered disproportionately from other documented pandemics, we plan to explore primary data from the 1918 influenza pandemic in Philadelphia to identify patterns of illness and death from influenza in African-American and immigrant neighborhoods.



Men dig a mass grave in Philadelphia to bury victims of influenza in this photo from a newspaper clipping.

Methods

- Our team created a database of a sample of Philadelphia residents who died from influenza in 1918 and 1919 and analyzed the demographic data for qualitative patterns.
- We used primary and secondary resources including death certificates, Philadelphia City directories, Ancestry Library, and Philadelphia City Censuses.
- We recorded fifteen pieces of data. These included name, age, sex, race, marital status, occupation, Philadelphia Ward of residence, birthplace, father's birthplace, mother's birthplace, and date of death.
- We created a second database to assess the population composition of the 48 Wards of Philadelphia regarding race and nation of birth.
- We also performed research on various ethnic neighborhoods, ethnic communities, and institutions in Philadelphia in the early twentieth century.



An anti-spitting sign posted on a streetcar in Philadelphia, October 1918

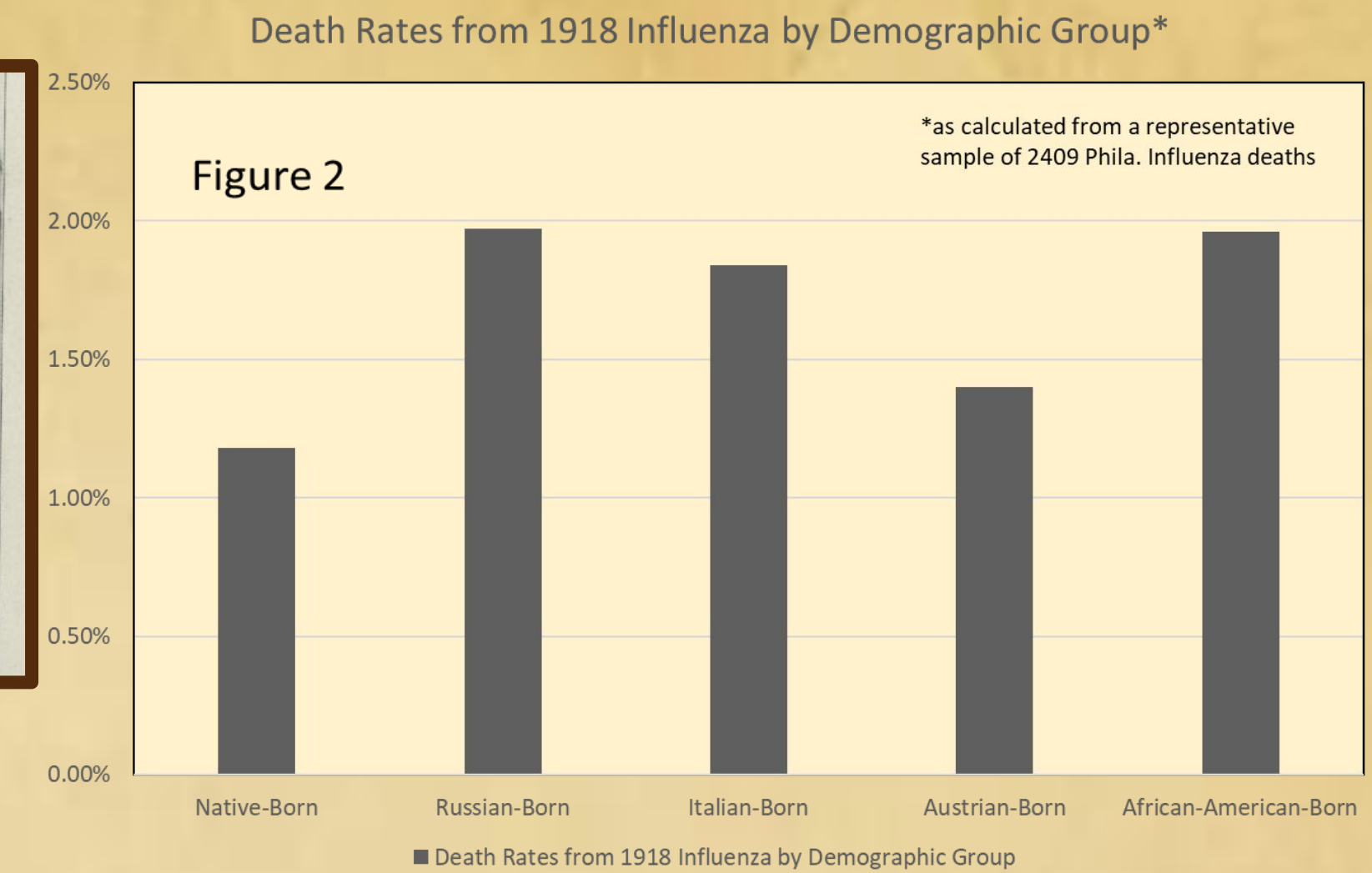
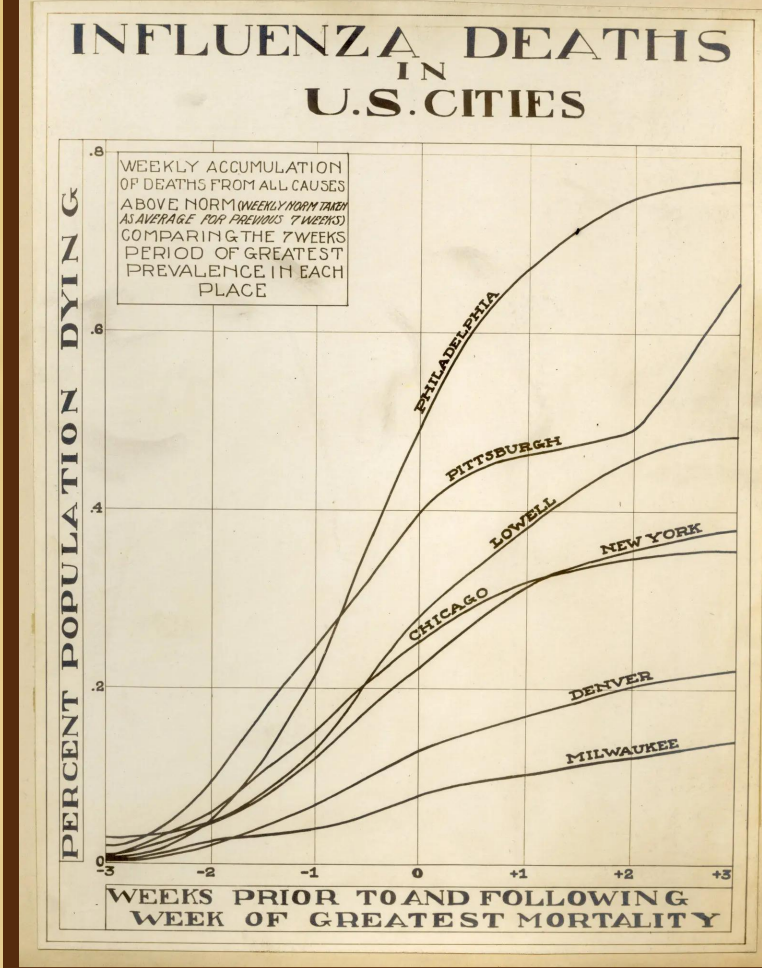
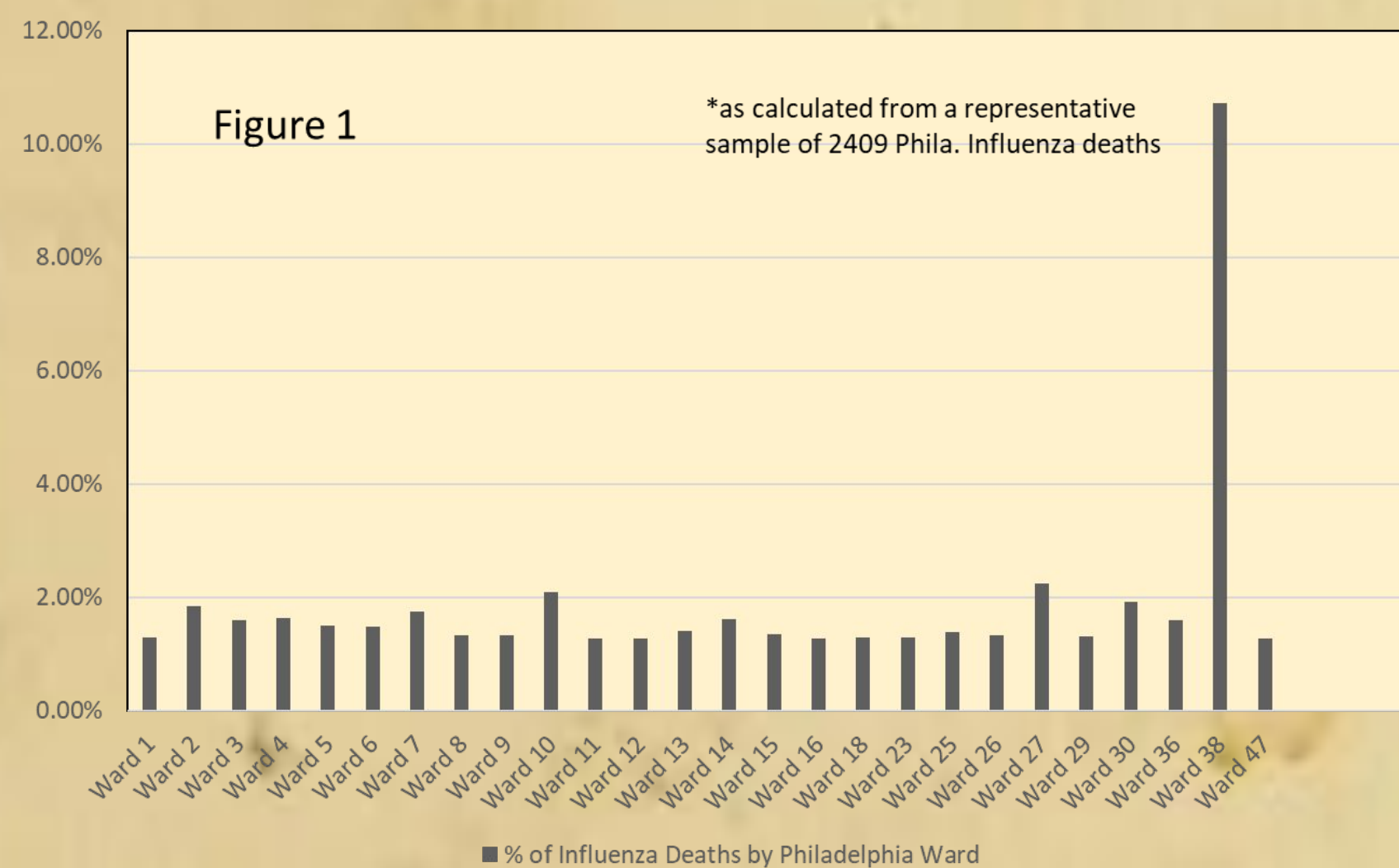


Figure 2 suggests that immigrant and African-American residents had higher rates of death than native-born residents.

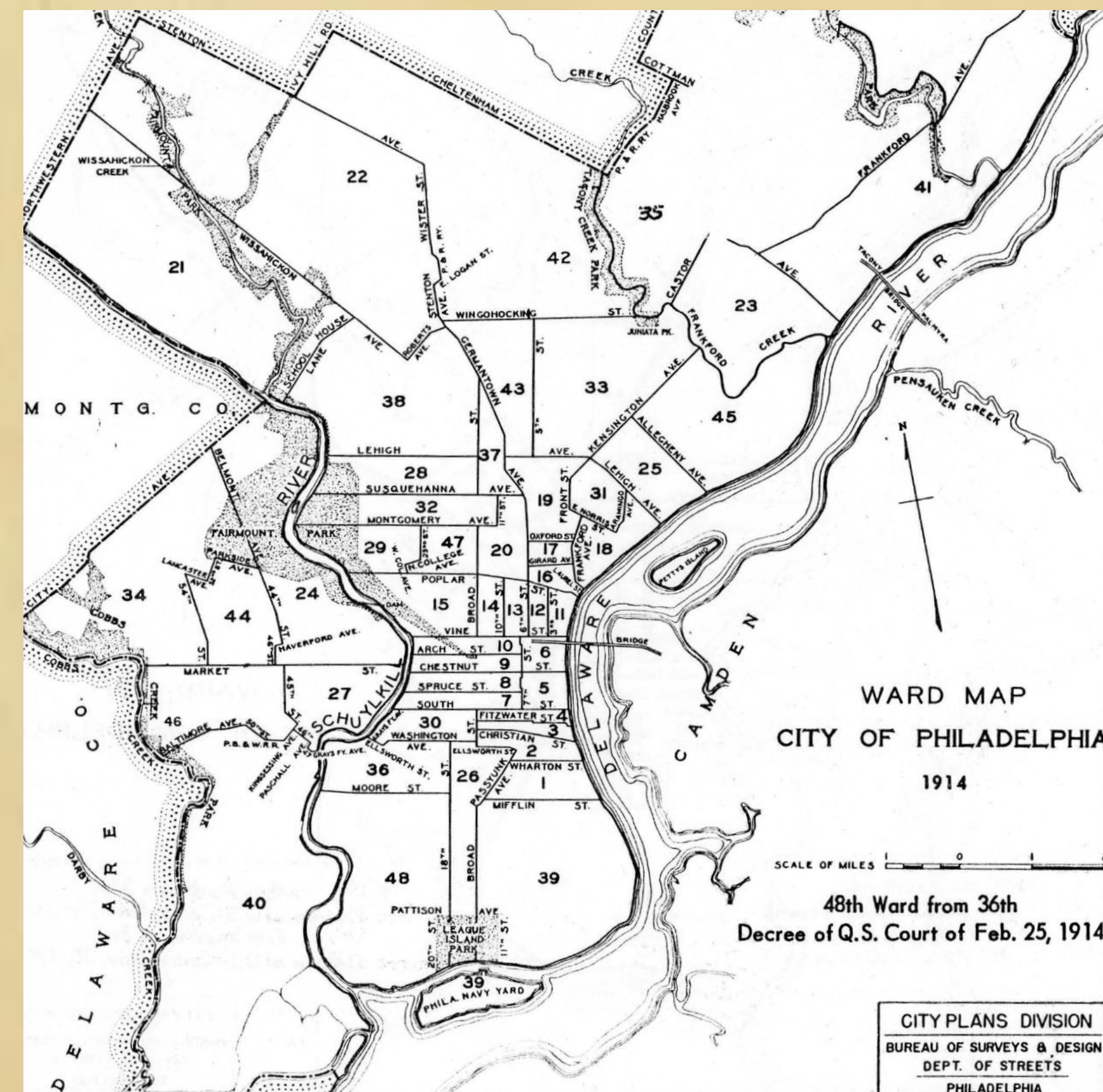


A chart from approximately 1919 shows the climbing death toll in several US cities.

% of Influenza Deaths by Philadelphia Ward*



There are no obvious geographical patterns in the influenza mortality rates within the city. Differential mortality rates by ward, including the extremely high mortality rate in Ward 38, require further research and analysis.



Results

- The demographic data of this sample of 2,409 people who died of influenza in 1918-1919 (approximately 12% of the total number who died) from the 48 Wards of Philadelphia was as follows:
 - Age: 29.6 ± 17.3 years, range: 0-98 years
 - 56.7% male, 43.3% female
 - Marital status: 44.5% single, 40.1% married, 5.2% widowed, 0.2% divorced
 - Race: 90.0% white, 8.3% African-American, 0.2% Asian, 0.3% Latino
- There were 267 individual occupations noted in this sample of 2,409 people who died of influenza. The most common were housekeeper (10.17%), laborer (8.55%), and housewife (7.43%). Of note, machinist (1.83%), teacher/school (1.83%), clerk (1.58%), nurse (1.25%), and fireman (1.16%) were the next most common reported occupations.
- The greatest number of deaths occurred in October 1918 (70%).

Conclusions

The Philadelphia population that died of influenza is consistent with worldwide findings that many of the victims were young and male and the death rate followed an episodic pattern. This sample suggests that African-American and immigrant populations were more adversely affected by influenza than their white, native-born counterparts: their rates of death were higher. This finding, in addition to the ward disparities, requires further and more extensive study.

Future Directions

We plan to analyze more death certificates to capture a greater sample size to minimize sampling errors. We will explore other avenues to ascertain information about the deaths of poor and marginalized populations, which may have been unreported, as the Historical Society of Pennsylvania manuscript and History Matters radio interviews suggest.

"My patients who often entered the ward with what appeared to be a minor illness became in a few days delirious and incontinent, gasping for breath and deeply cyanotic. After a day or two of intense struggle, they died. When I returned to duty at 4 p.m., I found few whom I had seen before. This happened night after night."

- Isaac Starr, a third-year medical student at the University of Pennsylvania in 1918

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