

Pittsburg State University

Pittsburg State University Digital Commons

Electronic Theses & Dissertations

5-25-2016

GERMS KNOW NO COLOR: RACIAL SEGREGATION IN BALTIMORE DURING THE INFLUENZA PANDEMIC OF 1918-1919

Victoria L. Michalski
Pittsburg State University

Follow this and additional works at: <https://digitalcommons.pittstate.edu/etd>



Part of the [Philosophy Commons](#)

Recommended Citation

Michalski, Victoria L., "GERMS KNOW NO COLOR: RACIAL SEGREGATION IN BALTIMORE DURING THE INFLUENZA PANDEMIC OF 1918-1919" (2016). *Electronic Theses & Dissertations*. 82.
<https://digitalcommons.pittstate.edu/etd/82>

This Thesis is brought to you for free and open access by Pittsburg State University Digital Commons. It has been accepted for inclusion in Electronic Theses & Dissertations by an authorized administrator of Pittsburg State University Digital Commons. For more information, please contact digitalcommons@pittstate.edu.

GERMS KNOW NO COLOR:
RACIAL SEGREGATION IN BALTIMORE
DURING THE INFLUENZA PANDEMIC OF 1918-1919

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

VICTORIA L. MICHALSKI

PITTSBURG STATE UNIVERSITY

PITTSBURG, KANSAS

MAY 25, 2016

GERMS KNOW NO COLOR:
RACIAL SEGREGATION IN BALTIMORE
DURING THE INFLUENZA PANDEMIC OF 1918-1919

VICTORIA L. MICHALSKI

APPROVED:

Thesis Advisor:

Dr. Kirstin L. Lawson, History, Philosophy and Social Science

Committee Member:

Dr. John L.S. Daley, History, Philosophy and Social Science

Committee Member:

Dr. Mark Peterson, History, Philosophy and Social Science

GERMS KNOW NO COLOR:
RACIAL SEGREGATION IN BALTIMORE
DURING THE INFLUENZA PANDEMIC OF 1918-1919

An Abstract of the Thesis by
Victoria L. Michalski

The influenza pandemic in 1918-1919 killed more people worldwide in a shorter period than any other known historical epidemic. Wartime conditions and gatherings of large groups of people aided disease transmission. Racial segregation in Baltimore and other cities created overcrowding, and poor living and economic conditions for black citizens. These conditions affected black health and proved conducive to increased viral transmission and subsequent influenza infection. Higher influenza infection rates coupled with lower resistance led to higher mortality rates from secondary complications like pneumonia.

In my work, I examine the pandemic flu in Baltimore and especially racial segregation policies that ultimately affected black health and mortality during the event. Segregation caused overcrowding and poor living conditions. It also decreased the ability of blacks to receive medical or nursing care in the civilian and military sectors. Eugenic assumptions about African-American capabilities, in addition to the overwhelming demands of the pandemic emergency, allowed Baltimore's white community to justify their disregard of the crisis in the African-American community.

TABLE OF CONTENTS		
CHAPTER		PAGE
I.	INTRODUCTION	1
II.	LITERATURE REVIEW	6
III.	INFLUENZA IN 1918	23
IV.	PANDEMIC FLU COMES TO BALTIMORE	38
V.	EARLY TWENTIETH CENTURY SEGREGATION IN BALTIMORE	65
VI.	SEGREGATION AND UNEQUAL HEALTH CARE	87
VII.	SEGREGATION IN AN UNEQUAL MILITARY	109
VIII.	CONCLUSION: LESSONS LEARNED?	122
	BIBLIOGRAPHY	129

CHAPTER I

INTRODUCTION

In 1918 while America focused on fighting a difficult war in Europe, another challenge in the form of a highly infectious and often deadly influenza virus loomed on the horizon. The influenza outbreak in 1918-19, also known as the “Spanish” flu, was more than an epidemic; this disease spread globally and so was a pandemic.¹ The disease thrived in wartime conditions as troop movements, hunger, and poor living conditions facilitated the virus’s spread. This influenza pandemic was the last one prior to the 1930s, the decade in which scientists discovered the virus that causes influenza.²

In the years during the war, Baltimore was a thriving manufacturing and trading center. Shipbuilding, war industries, and their ancillary services provided jobs for black and white city residents as well as for both domestic and foreign migrants. Baltimore city had a high proportion of black citizens in comparison to most American cities at that

¹ Michael B.A. Oldstone, *Viruses, Plagues, and History: Past, Present, and Future*, (New York: Oxford University Press, 2010), 306. Outbreaks of disease involving a large regional area are epidemics; however, in this work, I have used both pandemic and epidemic. Primary sources referred to the event of 1918-19 with either term, sometimes using both terms in the same paragraph. Most local newspapers used the term “epidemic.”

² Gerald F. Pyle, *The Diffusion of Influenza: Patterns and Paradigms* (Totowa: Rowman and Littlefield, 1986), 37.

time, and so it experienced considerable racial tension, much of it visible. Black migrants found that poor living conditions existed in most segregated neighborhoods. City ordinances kept them from moving to better housing, and racial discrimination kept them from filling many of the higher paying jobs available to whites. As in other cities, racial segregation and legal and extra-legal discrimination became common well before the pandemic, as did race-based violence. Baltimore was the first city to legislate residential segregation ordinances that kept black war-workers and other citizens in sub-standard and crowded apartments and tenements.³

For Baltimoreans, racial segregation proved to be more than just a separation of races. Segregation created a severe health disparity for black residents, especially during the influenza pandemic. The city's black population suffered a high infection and death rate during the pandemic, likely due to poor living conditions and lack of access to health care professionals and facilities. Furthermore, while racial stereotyping and segregation directly affected black influenza morbidity and mortality in the city of Baltimore, it also led to higher death rates for whites. Though mentioned in passing in other historical works, no historian has published research of the black experience with the pandemic in Baltimore in relation to segregation.

Chapter II reviews pandemic related historical literature. Much of the existing literature focuses on origin theories, disease symptoms, the search for the responsible virus, and concerns regarding a future pandemic. Medical historians examined the pandemic's impact on society, public health theory and practice, and the connections between living conditions and morbidity during the era.

³ Antero Pietila, *Not in My Neighborhood: How Bigotry Shaped a Great American City* (Chicago: Ivan R. Dee, 2010), 6.

Chapter 3, “Influenza in 1918,” presents general information about the 1918 influenza pandemic as a historical event, particularly in the United States. This section describes the disease itself, including symptomology; morbidity and mortality including that from complicating diseases; public and official complacency at the outset of the epidemic; later shock at the scope of the disease; the public health response; the role of the war in spreading the disease; and the impact the pandemic had on society.

Chapter 4 “Pandemic Flu comes to Baltimore,” examines the pandemic experience specific to the city of Baltimore. Events unfold from the very first reported victim of the fall wave to the end of that most virulent autumn season. The pandemic hit this highly urbanized and industrialized city hard, as munitions, shipbuilding, and other industries put many workers in close contact, helping to spread the disease. In nearby military training camps, newly inducted men from many areas of the country brought a variety of germs, that spread quickly in overcrowded conditions. The city’s segregated and overcrowded black neighborhoods experienced a similar increased likelihood of disease transmission. Black residents of those neighborhoods then carried the disease to their workplaces and on public transportation. Inattention to living conditions in segregated black areas increased influenza spread to other populations. Finally, the chapter includes an examination of the responses of public health officials, civilians, and other Baltimoreans during the event as well as statistical data about morbidity and mortality gathered by the US Public Health Service during and after the event.

Chapter 5, “Early Twentieth Century Segregation in Baltimore,” examines the long history of forced racial segregation in the city of Baltimore. Racial segregation permeated every aspect of black lives in Baltimore, including the schools they could

attend, areas in which they could live, employment opportunities, and the likelihood they would become sick or die with any illness. The chapter discusses neighborhood segregation ordinances, *de facto* segregation after the Supreme Court declared official ordinances unconstitutional, local segregation strategies, housing conditions resulting from segregation, and elements of eugenic thinking and white fear as justification for enforced racial segregation.

Chapter 6, “Segregation and Unequal Health Care,” examines segregation’s role in unequal health care for black citizens, the routine racial segregation of black patients, doctors, nurses, and medical schools, and the access to care and to health professionals available to black citizens. Racial stereotyping and segregation resulted in restricted black access to health care, health professionals, and facilities; it also caused increased mortality in the black community. Health officials acted on germ theory long before the pandemic hit Baltimore, but that understanding of disease transmission intensified white fear during the event.

Chapter 7, “Segregation in an Unequal Military,” examines institutional racial segregation affecting black troops, with particular attention to black units in Baltimore and at nearby military camps. Overcrowded conditions in military camps and medical facilities promoted disease spread. Black inductees were typically assigned to work units in which they endured long hours of hard physical labor. Differences in living conditions and rations for black soldiers also led to decreased resistance to influenza and complicating pneumonia. Racial prejudice kept many black doctors, dentists, and nurses from serving in the military, resulting in a shortage of military health professionals of any color.

The conclusion to this thesis compares the hopes for improvement in segregation policy with the reality of continued medical and economic stereotyping. This chapter weighs the possibility of a modern pandemic from a virulent influenza virus similar to the 1918 germ; the potential global impact of a modern pandemic; and conjectures by historians and scientists about survival during a future pandemic.

Baltimore's pandemic experience demonstrates that black health affects white health and that segregation leads to higher morbidity and mortality. Poor living conditions, inadequate medical and nursing care for blacks in both the city and in the military, and eugenic assumptions about African-American capabilities resulted in diminished conditions for the population as a whole.

CHAPTER II

LITERATURE REVIEW

During the Influenza Pandemic of 1918-19, an exceptionally virulent version of a seemingly familiar and commonplace disease killed more people in that short time than any other known pandemic. An estimated 500,000 to 675,000 Americans died from influenza and associated conditions, while over twenty million took ill. It is impossible to provide accurate estimates of the number of people affected by the pandemic, as some communities did not report the disease and others lacked the ability to keep accurate records. Despite enormous human loss and societal impact, surprisingly few historians produced substantial works about the pandemic until the 1980s. The first histories of that event often focused on scientific or statistical reports, although some examined how the pandemic affected families, communities, and society. As later influenza epidemics emerged, historical inquiries began to focus on the pandemic virus itself and the disease's effect on the population. Recent historical literature approached the pandemic by examining and expanding upon medical and scientific data regarding the event. This historical material included symptomology, death rates, and global spread; examined the pandemic's sociological impact; surveyed efforts to determine the virus' origin characteristics, and looks at the possibility of its recurrence.

Scientists and doctors reported influenza epidemics for centuries before William

Osler wrote *Principles and Practice of Medicine* in 1892. Published more than two decades before the pandemic began, doctors examined Osler's book during the 1918-1919 event, and historians consulted it afterwards. Osler observed that influenza was a specific virus, even though some medical professionals and lay people believed the germs emanated from miasmatic material or that a bacillus caused the disease. Osler correctly claimed that bacteria did not cause influenza and noted that influenza epidemics appeared at twenty to thirty year intervals, spreading so rapidly they infected an entire continent in a few weeks. He also observed that the disease spread rapidly along travel routes, as it would in 1918.¹

Osler described influenza as a serious disease, urging supportive treatment including confining the patient to bed, keeping them from too much stress while carefully feeding and nursing them until the fever completely disappeared. He listed influenza symptoms and noted that the disease often resulted in severe bronchitis, pneumonia, and nephritis.² Patients often suffered delirium and took a long time to recover fully. Influenza survivors frequently experienced cardiac weakness, causing later mortality from heart failure. Many survivors also reported symptoms of depression well after their physical issues improved.³

Contemporary pandemic researchers focused primarily on documentary and statistical aspects of the disease. The United States Public Health Service produced some

¹William Osler, *The Principles and Practice of Medicine: Designed for the Use of Practitioners and Students of Medicine*, (1892; repr., Birmingham: Classics of Medicine Library, 1978), 87.

² Nephritis is an inflammation of the kidneys.

³ Ibid., 88, 90.

early scholarly articles addressing the pandemic. These works contained medical and scientific data and analysis written during the event and in the decades to follow. Many published health service reports compiled death and infection rates, while others analyzed data, drawing comparisons to earlier reports concerning the epidemic.⁴ Many statisticians and writers contributed to USPHS material, but Edgar Sydenstricker's 1931 analysis linking poverty with infection proved especially significant. His article, "Incidence of Influenza among Persons of Different Economic Status during the Epidemic of 1918," analyzed period living conditions and morbidity from data collected house-to-house in ten variously sized cities. Statistical study revealed that the influenza rate directly correlated to the individual and family economic status. This disease to economic status correlation persisted even when adjusted for the respondent's color, sex, and age.⁵ Another Sydenstricker survey in eighteen communities compared community size with weekly fatality rates during the second influenza wave. This data revealed a higher fatality rate in large cities like Baltimore compared to smaller towns and counties in Maryland and other states.⁶

About a generation after the pandemic, authors focused on dramatizing the pandemic and the horrors experienced during the event. Eighteen years after the pandemic ended, author Katherine Anne Porter published the first novel about the

⁴ "Epidemic Influenza: Prevalence in the United States," *Public Health Reports (1896-1970)* 33, no. 4 (November 1, 1918): 1859.

⁵ Edgar Sydenstricker, "The Incidence of Influenza among Persons of Different Economic Status during the Epidemic of 1918," *Public Health Reports* 121, 2006 S1 (January 23, 1931): 191.

⁶ Edgar Sydenstricker, "Variations in Case Fatality during the Influenza Epidemic of 1918," *Public Health Reports (1896-1970)* 36, no. 36 (September 9, 1921): 2206.

epidemic, *Pale Horse, Pale Rider*. She described an influenza victim's suffering modeled on her personal experiences as well as those of her fiancé. Porter survived to write her book in 1936, but complications killed her fiancé. Her story outlined typical symptoms, including delusional episodes and mental challenges.⁷ She wrote about patients' inability to find hospital beds, ambulances, and nursing care during the height of the pandemic; the terrors they suffered during the illness; and the positive effect of palliative care, which was vital to survival.⁸ Survivors struggled with self-pity, painful grief, and deep depression. Porter wrote that even after her recovery, everything in her life felt meaningless, dull, and dead.⁹ Few other contemporary works covered post-recovery depression or mentioned the mental suffering of influenza victims.

Nearly two generations after the event, historical literature presented medical information about pandemic influenza as a background to other narratives, but began to also examine related social issues. These issues included hospital bed and medical care shortages; individual, societal, and government responses to the disease; and disease spread in civilian and military populations. Most historians, however, ignored the pandemic until 1961, when A.A. Hoehling published *The Great Epidemic*, a narrative drawn from medical, public health, social, and statistical records. He outlined difficulties encountered by medical professionals in diagnosing influenza despite earlier documented

⁷ Katherine Anne Porter, *Pale Horse, Pale Rider* (1936; repr., Chapel Hill: The University of North Carolina Press, 2009), 191.

⁸ *Ibid.*, 183, 196.

⁹ *Ibid.*, 204.

influenza epidemics like the pandemic in 1889-1890.¹⁰ Hoehling described flu remedies of the era, such as tobacco juice, bloodletting, and purgatives, noting that impoverished victims sometimes recovered simply because they could not afford remedies that harmed more than they helped. He dismissed rumors that Germans deliberately spread influenza of 1918 to turn the war, pointing out that wartime shortages of food, space, and sanitation endemic, especially in military camps, facilitated disease transmission. Germs traveling on troop transports helped spread the epidemic quickly throughout the world.¹¹

Hoehling wrote about social and official pandemic responses, reporting that some public health officials denied the epidemic while others did not admit to disease related fatalities. To alleviate public fear, some officials released statements that inadvertently aided disease spread through promoting group activities. The virus often killed people between the age of twenty and forty, but no one yet knew why. Hoehling believed that the pandemic completely burned out at the end of 1918, though later authors identified a third wave of influenza in the spring of 1919.¹² He outlined the Public Health Service's appeals for help from medical professionals, and described the role the Red Cross played in organizing nursing efforts, producing facemasks, and mobilizing volunteers.¹³

The 1970s ushered in new pandemic interest, influenced by waves of influenza

¹⁰ A.A. Hoehling, *The Great Epidemic: When the Spanish Influenza Struck* (Boston: Little, Brown, and Company, 1961), 4. The pandemic of 1889-1901 reference was from a chapter of: K. David Patterson, *Pandemic Influenza 1700-1900: A Study in Historical Epidemiology* (Totowa: Rowman and Littlefield, 1986), 49-82.

¹¹ Ibid., 4,5.

¹² Ibid., 8-9.

¹³ Hoehling., 53, 93.

between 1967 and 1969.¹⁴ Richard Collier's 1974 work approached the pandemic horror in 1918 with a military focus, possibly influenced by anti-war sentiment in the Vietnam era. He recounted soldiers' suffering with influenza in military camps, while on transports, and while serving overseas. Collier noted that raw recruits, particularly from wide-open spaces such as the Great Plains states, fell ill and died at an alarming rate. However, men from densely populated cities often recovered due to acquired respiratory disease immunity.¹⁵ Collier covered the pandemic's social impact, focusing on hunger, overcrowding, and the lack of running water and sewage facilities that plagued the military as the war stretched resources.¹⁶

Alfred Crosby's often cited work *Epidemic and Peace: 1918* (1974) contained in-depth information about the mutating and increasingly dangerous virus.¹⁷ Compared to Collier, Crosby went further in assessing military conditions contributing to the pandemic. He explained that overcrowding in military camps greatly contributed to flu infection, and he noted severe nursing shortages in both military and civilian hospitals. Hospitals overflowed at home and abroad, pushing overwhelmed doctors to exhaustion, though nothing controlled the disease.¹⁸ Public officials actually helped spread the virus through initial denial of the epidemic and then by allowing Liberty Bond parades, door-

¹⁴ Pyle, 137.

¹⁵ Richard Collier, *The Plague of the Spanish Lady: The Influenza Pandemic of 1918-1919*, (1974; repr., London: Macmillan London, 1996), 8, 9.

¹⁶ *Ibid.*, 18.

¹⁷ Alfred W. Crosby, *Epidemic and Peace: 1918* (Westport: Greenwood Press, 1976) was renamed *America's Forgotten Pandemic: The Influenza of 1918* when re-released.

¹⁸ *Ibid.*, 46, 50.

to-door bond drives, and other gatherings to continue. Crosby explained that it was difficult to estimate the disease's scope because influenza reporting in cities did not begin until late in the pandemic, and much of the population lived in areas without health agency reporting at all.¹⁹

In the same historiographic era, historians studying public health response to epidemic diseases in general approached the influenza epidemic from other perspectives. Some examined responses to the influenza pandemic, while others shared theory and techniques of public health but did not necessarily apply them directly to experiences in the 1918 pandemic. In the compilation *Sickness and Health in America* (1978), for example, historians Judith Walzer Leavitt and Ronald Numbers declared influenza and pneumonia “ever-present in society.”²⁰ Paul Starr's *Social Transformation of American Medicine* (1982) said little about the 1918-1919 pandemic, focusing instead on the medical profession's development during that era.²¹ He championed medical authority as the driving force behind effective public health measures against infectious disease.²² Starr's work highlights the role physicians played as authority figures during the pandemic.

The emerging AIDS pandemic in the 1980s and periodic epidemics such as the Hong Kong flu in 1997 reinvigorated historians' research into the epidemic experience in

¹⁹ Ibid., 53, 101, 56.

²⁰ Judith Walzer Leavitt and Ronald L. Numbers, ed., *Sickness and Health in America: Readings in the History of Medicine and Public Health*, 3rd rev. ed. (Madison: The University of Wisconsin Press, 1997), 5.

²¹ Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books Inc., Publishers, 1982), 87-88.

²² Ibid., 138, 247.

general, often focusing on modern scientific interpretations based on new research abilities.²³ Authors increasingly asked why the 1918 pandemic was so fatal and what could prevent another killer influenza virus. They explained the search for the pandemic's viral origin and specific form and causes for its unprecedented mortality rates. Most modern works present a "crime-scene investigator" character, as historians present the scientific efforts identify the killer of 1918 and prevent it from killing again.

The disease's virulence and high mortality pushed scientists to begin research on active influenza and pneumonia cases even while the pandemic continued. Many major health and medical associations in America and Europe launched studies in 1918, and influenza research dominated every medical meeting and journal for years, even after the pandemic ended. Flu research funding came from insurance companies, the federal government, and universities.

In 1997, immunologist Jeff Taubenberger extracted the 1918 influenza virus from a warehoused and forgotten preserved lung tissue sample and read its genetic information.²⁴ Taubenberger had joined the Armed Force Institute of Pathology (AFIP) in 1993; the eventual success of his influenza project validated the need for the Institute to continue to maintain millions of tissue samples in warehouses at taxpayer expense.²⁵

²³ J.C. De Jong, E.C.J. Claas, A.D.M.E. Osterhaus, R. G. Webster, and W. L. Lim. "A Pandemic Warning?" *Nature* 389, no. 554 (October 9, 1997): 554.

²⁴ Oldstone, 319; John M. Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History* (2004, repr., New York: Penguin Books, 2005), 407.

²⁵ Pete Davies, *The Devil's Flu: The World's Deadliest Epidemic and the Scientific Hunt for the Virus That Caused It* (New York: Henry Holt and Company Publishers, 2000), 208, 211-212.

The 1918 virus was an influenza form no one had previously seen.²⁶ The new research revitalized interest in the pandemic, prompting a surge in historical works for the popular audience.

One example of this approach to influenza history was Gina Kolata's 1999 work, *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It*.²⁷ Kolata explained and expanded on Taubenberger's work, describing the virus as an avian strain that jumped directly to humans with few genetic changes. Countering other authors' warnings about possible future virulent and lethal pandemics, Kolata explained that after re-creating and studying the 1918 virus, Taubenberger's group found all available anti-viral drugs completely stopped the killer virus. Most people carry partial immunity to the 1918 microbe because today's flu viruses are direct descendants. The antibodies against more recent viruses partially block the pandemic one.²⁸

Pete Davies' *The Devil's Flu: The World's Deadliest Epidemic and the Scientific Hunt for the Virus That Caused It* (2000) was another of these popular histories. He provided detail about Hemagglutinin and Neuraminidase proteins in influenza viruses, explained virus classification, how viruses work, and how various viral strains contain different proteins. He questioned pandemic fatality estimates due to reporting deficiencies in Africa, China, and Latin America and in rural areas worldwide. Discoveries in the new millennium revealed that the 1918 virus, like most viruses, caused

²⁶ Ibid., 217, 219.

²⁷ Gina Kolata, *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It* (1999; repr., New York: Touchstone Books, 2005).

²⁸ Ibid, 313-14.

“cytokine storm” which explained many victims’ purple appearance and the fluid that effectively drowned their lungs. Cytokine storm complications killed many strong and young people in the prime of their lives. Dismissing Taubenberger and Kolata’s optimism, Davies argued that one-hundred million people could die in a pandemic influenza outbreak with similar virulence to 1918.²⁹ Davies wrote that respiratory disease, particularly pneumonia common with the 1918 influenza, took a greater toll among the poorly fed.³⁰ He debunked previously held theories that the influenza originated at Camp Funston in Kansas, describing an influenza outbreak in Spain a month before the flu hit Funston. He cautioned readers not to take influenza lightly, as even in a non-pandemic year it killed from ten- to fifteen-thousand Americans, and more than 40,000 in a bad year. Antigen-shift and problems with virus mutation made effective inoculations difficult to produce, especially with new and quickly emerging flu strains. Davies remained cautionary about a new pandemic, arguing that anti-viral drugs were not especially effective even when administered in time.³¹

At the same time that there was a surge in these popular histories, medical historians were expanding on their social history approach to disease. Nancy Tomes’ 1998 work about germ theory, for example, proved vital information for understanding microbe combatting techniques used by public and public health officials, though she provided little specific to the 1918 pandemic. However, the work explored disease-related class and social interactions in the early twentieth century; one of the first

²⁹ Davies, 44.

³⁰ Ibid., 47.

³¹ Ibid., 69.

histories to do so in detail. Tomes noted that middle-class Americans associated poor, immigrant, and non-white people with germs. These stereotypes resulted in class prejudice, nativism, and racism.³² She also argued that some converts to germ theory believed in a “chain of disease” linking all Americans in the entire society together. These reformers worked to address poor, minority, and immigrant health problems because they believed that one group’s problems affected everyone. As pandemic fear gripped the nation, some people abandoned sick relatives and neighbors to die, revealing anxieties connecting contagion and infection with widespread germ theory education.³³

In 2004, John Barry wrote an in-depth pandemic account that brought together the various new historiographical interpretations. He examined the evolution of scientific medical research, medical school standards and improvements, and era leaders in medical science and public health relative to the pandemic, but he also explained political and sociological factors. He discussed political maneuvering in military, medical, and scientific circles, including how those actions affected soldiers and civilians during the pandemic. He criticized preventable deaths from overcrowding in military camps and from large group activities such as Liberty Bond rallies.³⁴ In addition, Barry described the little-examined 1919 influenza wave. He noted the meagre period literature about the pandemic, surmising that intense fear and helplessness kept survivors from reliving and

³² Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge: Harvard University Press, 1998), 11-12.

³³ *Ibid.*, 246.

³⁴ Barry, *The Great Influenza: The Study of the Greatest Pandemic in History*, 213.

writing about their experience.³⁵ Barry wrote that scientists and public health officials still disagreed with research results concerning the 1918 microbe's origin and virulence. He explained that from 1918 on, most pandemic researchers believed their own work even if it was wrong.³⁶

In a reconsideration of Collier's and Crosby's arguments, Carol Byerly focused her 2005 work on the pandemic's impact on the American military in World War I and on how army medical officers and other government officials responded to the crisis.³⁷ Like Collier and Crosby, Byerly linked the epidemic's spread with military mobilization and overcrowding, but she added an analysis of race. In 1918 and 1919, medical professionals sought to reinforce their elite and superior status by defining all medical officers as white males.³⁸ Over concern that medical officer commissions would put female or black physicians in a position to command white males, the military excluded them.³⁹ Byerly wrote that some physicians, medical officers, and other officials writing after the pandemic scapegoated minority groups for the disease outbreak. These reports blamed minority soldiers' racial characteristics for their infection rather than admitting that Army facilities provided poor and overcrowded living conditions. Byerly surveyed the scientific literature and data, finding that the determining factors for infection and

³⁵ Ibid. 392-4.

³⁶ Ibid., 417.

³⁷ Carol R. Byerly, *Fever of War: The Influenza Epidemic in the U.S. Army during World War I* (New York: New York University Press, 2005), 7.

³⁸ Ibid., 15.

³⁹ Ibid., 30.

death during the pandemic were economic, social, political, and physical, not racial.⁴⁰

In 2006, Taubenberger and Morens published their scientific work on the 1918 virus in a concise report. They wrote that almost all cases of influenza A worldwide since 1918 descended from the pandemic microbe, even human infections from avian viruses. These descended viruses included “drifted” and re-assorted or mutated viruses. Genetic material isolated from Taubenberger’s original tissue sample confirmed that all four known human and swine lineages probably descended from the 1918 virus. Avian flu versions contained virus genes from 1918 combined with avian virus genes. The “mother of all pandemics,” all later influenza viruses descended from the 1918 pandemic virus. Taubenberger and Morens discussed competing virus origin theories, dismissing each in turn. They mentioned recent genetic testing suggested the 1918 virus originally derived from an avian-like influenza virus, though the authors insist there is not enough data to know definitively.⁴¹

Taubenberger and Morens cited research suggesting that the pandemic virus of 1918 was novel and unique to humans, jumping from an animal host through mutation. Unprecedented fatalities resulted because the virus was new, so no human had immunity to it. Unfortunately, with no pre-1918 influenza tissue samples available, the theory remains unprovable.⁴² As in other twenty-first century works, the authors discussed a future pandemic. They wrote that even with modern antiviral and antibacterial drugs, flu

⁴⁰ Ibid., 156, 170.

⁴¹ Jeffery K. Taubenberger and David M. Morens, “1918 Influenza: the Mother of All Pandemics,” *Emerging Infectious Diseases* 12, no. 1 (January 2006): 15-17.

⁴² Ibid., 17-18.

vaccines, and prevention techniques, a 1918 virus pandemic could likely kill in excess of one-hundred million people worldwide.⁴³

Pandemic questions continue to attract scientists and researchers from many different disciplines. In 2007, anthropologists and biologists Cassidy, Palmer, and Sattenspiel studied virus immunity and disease spread on the island of Newfoundland.⁴⁴ They addressed various transportation modes as viral distribution agents between communities, examining shipping, boat, and railroad travel, and accounting for immunities gained during exposure to the less fatal spring 1918 influenza outbreak. Writing in 2008, Pettit and Bailie described the viral to bacterial interactions that made influenza and pneumonia together nearly impossible to survive in 1918. They also added to the few historical works listing disproportionate depression as a pandemic symptom.⁴⁵ The historians described unusually high death rates in twenty to forty-year-old people in comparison to other epidemics when the oldest and youngest people died in larger numbers. They argued that the cytokine storm, which Davies had described, caused strong young people to die because they had the strongest immune response to the virus. Pettit and Bailie listed post recovery issues like vascular and nervous system damage, fatigue, psychosis, tachycardia, encephalitis, and related sudden death.⁴⁶ The authors discussed particularly high pneumonia rates among black troops in the military. The

⁴³ Ibid., 22.

⁴⁴ Chris Cassidy, Craig T. Palmer, and Lisa Sattenspiel, "Boats, Trains, and Immunity: the Spread of the Spanish Flu on the Island of Newfoundland," *Newfoundland and Labrador Studies* 22, no. 2 (2007): 476.

⁴⁵ Dorothy A. Pettit and Janice Bailie, *A Cruel Wind: Pandemic Flu in America 1918-1920* (Murfreesboro: Timberlane Books, 2008), 3.

⁴⁶ Ibid., 11, 30.

military commission accepted no blame, stating that black soldiers had lower resistance to pneumonia after their typhus vaccinations and ignoring that racial segregation and overcrowding caused the disease to spread quickly in black barracks.⁴⁷

In 2010, Patricia Fanning examined sociological and physical pandemic effects in a small Massachusetts town and particularly in the immigrant enclaves.⁴⁸ Social division between different neighborhoods based on immigrant group membership, affluence, and job category, created stratified neighborhoods. Businessmen, bankers, and officials lived in one area, while everyone else including the poor and immigrants lived outside that area.⁴⁹ Progressive era reformers believed immigrants required training into “right” American thinking and behavior, while social Darwinists believed the poor and immigrants were simply unfit. The pandemic exacerbated anti-immigrant fear and divisiveness. Quarantines, disinfection, and preventative health regulations imposed on the poor and immigrants but not the wealthy represented control strategies and political backlash against already marginalized victims. Public health workers often assessed blame for their own sickness on immigrants and minorities or judged assistance needs based on era morality ideals. Influenza provided an excuse to implement discriminatory policies. The poor and immigrants resisted regulations, ignored quarantines, and disregarded bans on assembling, and in response, the elite viewed lower class resistance

⁴⁷ Ibid., 91.

⁴⁸ Patricia J. Fanning, *Influenza and Inequality: One Town's Tragic Response to the Great Epidemic of 1918* (Amherst: University of Massachusetts Press, 2010).

⁴⁹ I used the male gender for “businessmen” because in 1918, business positions as opposed to clerical, secretarial, or labor positions, were overwhelmingly held by men.

as proof that inherent disorder, evil, and lawlessness caused disease.⁵⁰ Seeming to validate these prejudices, marginalized groups had higher morbidity and mortality rates during the pandemic. However, the poor and immigrants were often less knowledgeable about disease and had less access to medical care. Along with poverty and overcrowding, these issues accounted for the higher infection and death rates. Fanning characterized likely epidemic victims as young adults, lower class, foreign born or minority.⁵¹

Other recent works continued a social and cultural approach to the disease. In 2010, Nancy Tomes wrote about pandemic era public health measures including disease control strategies and public resistance, school closures, facemask regulations, and public venue closures.⁵² Nancy Bristow's 2012 work described the actions of public health officials who created initiatives to help avoid the flu.⁵³ However, progressive era health care activism and efforts did not apply to everyone in American society. White supremacist notions resulted in sub-standard health care and aid for the poor and minorities affected by the pandemic. Race, class, and gender differences shaped public responses, as poor and lower class citizens suffered prejudice, indignities, and inequalities.⁵⁴ Echoing Bristow, Adams and Butterly argued that in an increasingly global society, poor public health conditions create conditions perfect for new pathogens

⁵⁰ Ibid., 4, 6-8.

⁵¹ Ibid., 24.

⁵² Nancy Tomes, "'Destroyer and Teacher': Managing the Masses During the 1918-1919 Influenza Pandemic," *Public Health Reports* (1974-) 125, S3 (April 2010): 48.

⁵³ Nancy K. Bristow, *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic* (New York: Oxford University Press, 2012), 11-12, 23, 33.

⁵⁴ Ibid., 8, 17, 43.

to arise, increasing the chance of diseases spreading to other populations.⁵⁵

Overall, pandemic influenza histories examined and expanded upon medical and scientific data regarding the event including symptoms, death rates, and worldwide distribution. They examined the sociological impacts of the pandemic, and presented research into the virus origin, characteristics, and recurrence prevention. Modern understanding of pandemic disease reveals that class, ethnic, and racial prejudices only serve to alienate sufferers and do not protect elite or majority groups from infection. A “them” and “us” mentality will cost lives when another infectious disease pandemic arises. Any disease that affects the smallest, poorest, or most downtrodden can ultimately spread to infect all people.

⁵⁵ Lisa V. Adams and John R. Butterly, *Diseases of Poverty: Epidemiology, Infectious Diseases, and Modern Plagues* (Hanover: Dartmouth College Press, 2015), 4.

CHAPTER III

INFLUENZA IN 1918

In 1918, many people became observably sick, but “silently infected” individuals also helped spread the virus since they remained well but unaware of their potential as carriers.⁵⁶ It is important to relate the details of this frightening disease, including its possible origin, effect on society, and resulting public health response to understand the effect that racial segregation wrought on the segregated black population in Baltimore.

Historical records of influenza epidemics spanned many centuries prior to the pandemic in 1918, including notable outbreaks in 1833, 1847-8, and 1889-90.⁵⁷ In classical times, Hippocrates recorded a flu-like infection that spread sickness and killed off most of an Athenian army in 412 BCE.⁵⁸ In modern times, the pandemic of 1889 90 remains the first well-documented influenza epidemic, although the influenza of 1918 was more virulent and caused more deaths. The 1889 pandemic came as a complete surprise at a time of major socio-economic adjustments from rapid urbanization and industrialization, spreading rapidly from cities to the countryside via new canals and

⁵⁶ Dorothy H. Crawford, *Deadly Companions: How Microbes Shaped our History* (New York: Oxford University Press, 2007), 24, 211.

⁵⁷ Osler, 88.

⁵⁸ Hoehling, 4.

roads, assisted by the growth of railroads and steamship lines. Doctors realized that a microorganism caused the disease, and they looked to Pfeiffer's bacillus as a possibility. Yet even though the 1889 pandemic occurred so recently, the 1918 pandemic seemed to catch the world unprepared.⁵⁹

The 1918 Spanish flu pandemic took the name "Spanish Flu" because reports of the disease came first from Spain, one of the only countries in the world not censoring wartime news.⁶⁰ World War I hastened the spread of the disease, and the drift and mutation of the viral strain made it increasingly dangerous as it spread via international travel. The spring influenza wave attracted little attention until the fatal fall wave took far more lives, including disproportionate numbers of young adults.⁶¹

The disease hit people quickly, weakening and then prostrating them. In the first wave of 1918, newly infected felt weak and tired, as if coming down with a cold. About two days later, they developed a cough and felt pain behind the eyes, in the ears, and along the spine. Drowsy numbness invaded as the fever began to rise, often topping one-hundred four degrees. Patients experienced unstable pulse, and the muscle pain became nearly unbearable. In the spring wave, most patients recovered after three horrible days, but in the fall second wave, the disease changed.⁶²

Like the spring wave, the fall influenza wave struck rapidly. The sick

⁵⁹ K. David Patterson, *Pandemic Influenza 1700-1900: A Study in Historical Epidemiology*, (New York: Rowman and Littlefield, 1986), 49-50.

⁶⁰ Leonard B. Berman, review of *The Great Epidemic* by A. A. Hoehling, *The Washington Post Times Herald*, March 12, 1961.

⁶¹ Pyle, 39-40.

⁶² Collier, 7.

experienced sudden nosebleeds, bloody sputum, and extreme lethargy. Some people fell ill and died within hours, while others remained sick for three or four days to a few weeks. For many, pneumonia soon overtook the influenza, as lungs filled with fluid and caused a blue or purple coloring on the patient's limbs and face; the appearance of a blue or gray tint to the skin signified impending death.⁶³ Even those who survived endured long-term health problems.⁶⁴

The 1918 influenza disproportionately killed young people in their prime, unusual as influenza normally kills mostly the very young and very old. Overall fatality rates in this epidemic spiked higher for young adults, indigenous, and other relatively closed populations such as segregated blacks and immigrant groups, and certain military and occupational subgroups than for the majority population.⁶⁵ Scientists disagreed over reasons why some groups suffered higher mortality. Some scientific studies in the new millennium postulated that a dangerously strong immune response called cytokine storm set off a lethal over-reaction in those infected with the flu and pneumonia. However, scientists investigating at the Universities of Arizona and Edinburgh have argued that people born after about 1900 gained immunity to the new virus because of exposure to a weaker version circulating for at least ten years prior to the pandemic. A similar flu strain circulating in the early to mid-1800s likely protected older people from the 1918 virus. The twenty to forty year olds were victims of timing, as they did not develop

⁶³ Crosby, 7, 10.

⁶⁴ Nancy K. Bristow, "'It's as Bad as Anything Can Be': Patients, Identity, and the Influenza Pandemic," *Public Health Reports* 125 S3 (2010): 135.

⁶⁵ John F. Brundage and G. Dennis Shanks, "Deaths from Bacterial Pneumonia during 1918-19 Influenza Pandemic," *Emerging Infectious Diseases* 14, no. 8 (August 2008): 1194.

adequate defenses to the 1918 flu, even if exposed to the 1889 virus.⁶⁶

Many scientists, doctors, and historians continue to work to identify reasons for the unusual mortality characteristics of the pandemic virus. Scientific analysis of cytokine storm theories led some researchers in the twenty-first century to determine that most deaths from the H1N1 strain in the 1918-1919 pandemic occurred not from an over-active immune response, but from hemorrhagic pneumonia that caused the patient to go into acute respiratory distress. Healthcare providers, medical experts, and data published in the pandemic period suggest that such deaths occurred because of secondary bacterial pneumonia and not from the influenza virus. Further, most people who suffered from the pandemic influenza without secondary pneumonia recovered from the disease.⁶⁷

Though many scientists searched for the cause of mortality patterns seen in 1918, others looked for the origin of the virus. The most repeated, yet now disputed, origin theory is that the virus made its first appearance in Haskell County, Kansas, in January 1918. From this sparsely populated area, the virus spread three hundred miles west to Camp Funston and caused an outbreak in the overcrowded army training camp.⁶⁸ In this concentrated population of young men with new germs constantly arriving from all over the region, influenza spread quickly, resulting in an epidemic in March of 1918. As many as five hundred soldiers reported to the camp hospital within a week. Most patients

⁶⁶ Carl Zimmer, "In 1918 Flu Pandemic, Timing Was a Killer," *The New York Times*, April 30, 2014.

⁶⁷ Brundage and Shanks, 1193-94.

⁶⁸ Camp Funston was later renamed Fort Riley.

recovered within a month, and it seemed that the flu outbreak passed.⁶⁹ However, from Camp Funston the infection spread as the soldiers traveled and interacted with other soldiers.⁷⁰

The second and more virulent wave struck America in the fall of 1918.⁷¹ Many historians believe that overcrowded conditions in army camps, bunkers, transport ships, and European military installations produced fertile environments that promoted widespread influenza transmission during both the spring and fall waves. War mobilization and transportation meant that soldiers spread infectious disease microbes overseas and back to America, killing more people with influenza than war.⁷²

Some scientists argued that the pandemic originated in Asia; the virus spread when Chinese or Vietnamese laborers came to the United States or went to France to work during the war. Another theory is that the pandemic began in a British Army post in France in 1916 from an outbreak of “purulent bronchitis” resembling the 1918 influenza. These and other origin theories are still in contention, and work on discovering the pandemic origin continues.⁷³ Some lay people and physicians, presented

⁶⁹ Haydan Vosburgh, “Flu Epidemic of 1918.” Kansapedia; Kansas Historical Society, posted June 2012, updated February 2013, <http://www.ksks.org/kansapedia/flu-epidemic-of-1918/17805> (accessed November 8, 2014).

⁷⁰ John M. Barry, “The Site of Origin of the 1918 Influenza Pandemic and its Public Health Implications,” *Journal of Translational Medicine* 2004, no. 2 (2004): 3.

⁷¹ Pyle, 40-1.

⁷² Iezzoni, 33.

⁷³ Barry, “The Site of Origin of the 1918 Influenza Pandemic,” 2.

doubtful evidence that the same microbe had caused the Black Death plague in Europe.⁷⁴ Others reverted to older miasmatic theories, believing the disease cause as “bad air.”⁷⁵ Still others studying the pandemic agreed that the epidemic started in Asia, probably China, but blamed initial transmission on workers imported to British army camps in Madagascar.⁷⁶

One fifth of the world’s population got the flu in 1918-19, with a twenty-eight percent infection rate in the United States. Estimates put worldwide deaths from 20 million to more than 100 million, but since some places kept no records and no definitive tests for the flu existed, the actual number remains unclear.⁷⁷ Between twelve and thirteen million people died in India alone during the winter of 1918-1919.⁷⁸ The influenza pandemic killed about one of every three hundred thirty-three people in the United States.⁷⁹ By December 1918, the Public Health Service estimated that at least 370,000 Americans had already died in the epidemic.⁸⁰ The metropolitan centers of

⁷⁴ Arthur C. Jacobson, “The ‘Flu’ Germ Mystery Revealed by a Rat’s Bite,” *The Washington Post*, June 22, 1919.

⁷⁵ Y.S., “If the Influenza is the Result of ‘Celestial Influence,’ then the Heavens are Behaving in a Hellish Manner,” *The Sun*, October 13, 1918.

⁷⁶ Barry, “The Site of Origin of the 1918 Influenza Pandemic,” 2.

⁷⁷ Kolata, 7.

⁷⁸ “India Lost 12,000,000 Persons in the 1918 Epidemic,” *The Sun*, May 11, 1924. *The Sun* was largest Baltimore daily newspaper during the pandemic. Some archives cite the paper as *The Baltimore Sun*, or add the name of the publisher as *The Baltimore Sun-Tribune* or *Sun Papers*. *The Sun* also published an evening edition called the *Evening Sun*, but archives list both editions as *The Sun*. All citations in this work will use *The Sun* to maintain consistency.

⁷⁹ “Combatting Influenza,” *The Washington Post*, December 10, 1940.

⁸⁰ “Influenza Kills 370,000 in U.S.,” *The Washington Post*, December 5, 1918. These numbers do not include those of the third influenza wave, which would arrive the following spring.

Philadelphia, Baltimore, Washington D.C. and San Francisco suffered most in mid to late September, and New York City joined them in October with high mortality reports.⁸¹ The flu claimed more lives in a few months than World War I did in four years of fighting.⁸² Experts today estimate conservatively that over 675,000 Americans died in the pandemic, 500,000 more than died from influenza in a typical season. Prior influenza pandemics killed about one-tenth of one percent of those infected, while the 1918 pandemic fall wave killed about two and a half percent of those infected. Most deaths resulted from bacterial pneumonia.⁸³

The flu infected people from every occupation. Soldiers died in great numbers, people of every class, nationality, and color died in the streets and in their homes, and doctors and nurses helping the ill died from the disease. Even President Woodrow Wilson became gravely sick, and doctors gave him orders to take a long rest to rehabilitate. On October 12, alarmed citizens questioned Wilson's level of disability amid concerns that advisors and others actually stepped in to run the country.⁸⁴ By October 18, newspaper reports noted that Wilson might not resume his duties.⁸⁵

The public felt especially disturbed that so many people died in the pandemic's fall wave because advances in bacteriology and public health encouraged them to believe that doctors and scientists could cure almost everything. By 1918, scientists had

⁸¹ Pyle, 49.

⁸² Hoehling, 4.

⁸³ Bristow, *American Pandemic*, 4.

⁸⁴ "Wilson Must Take Long Rest," *Afro-American*, October 12, 1918.

⁸⁵ "Wilson May Not Resume Duties," *Afro-American*, October 18, 1918.

developed vaccines for some diseases, identified the bacteria responsible for tuberculosis, and reduced infections from insect spread diseases like malaria and yellow fever.⁸⁶ The public expected scientists and doctors to help them by quickly identifying the germ and making a vaccine to cure it. However, doctors knew so little about the disease that even properly diagnosing patients became nearly impossible.⁸⁷

Medical professionals admitted that they did not know exactly what caused the illness, as this influenza did not look like other flu strains. In fact, doctors attending a 1918 meeting of the American Public Health Association in Chicago disagreed vehemently over the best methods to stop the disease spread, and those in attendance admitted they had no effective strategy to combat influenza.⁸⁸ They could only advise people to avoid excesses and strains to their resistance and to rest if they felt any symptoms. The doctors also offered divergent opinions regarding the various influenza and pneumonia vaccines in production or use at the time; many doctors opposed indiscriminate use of “stock vaccines,” saying that vaccines should be limited to medical study until fully verifying their effectiveness.⁸⁹ Unfortunately, no vaccines produced for this influenza worked despite contradictory claims of effectiveness, and no criteria existed for valid vaccine trials.

Researchers studied tissue and fluid samples, often revealing Pfeiffer’s *Bacillus*, so many doctors believed it the probable cause of influenza and vaccinated against the

⁸⁶ Iezzoni, 16-17.

⁸⁷ Crosby, 18.

⁸⁸ “The Influenza Puzzle,” *The Sun*, December 14, 1918.

⁸⁹ “The Influenza Puzzle,” *The Sun*, December 14, 1918.

bacillus accordingly. However, even before the turn of the twentieth century, doctors like Osler found compelling evidence against Pfeiffer's bacillus as an influenza cause.⁹⁰ Doctors inoculated thousands of people with dozens of different newly developed vaccines, but none slowed the disease. People often turned to folk cures because mainstream medicine offered no cure, but again, nothing seemed to help.⁹¹ Doctors with limited experience and learning sometimes prescribed tobacco juice, limejuice, emetics, purgatives, and in desperation even resorted to the obsolete practice of bleeding patients until they looked pale. Historian Hoehling wrote that impoverished patients seemed to recover more easily from the flu because they could not afford to seek care that often harmed more than helped.⁹² Those suffering from bacterial pneumonia rarely survived with or without treatment.

As the fall wave wore on, the pandemic caused great disruptions in communities as it caused more sickness; continued to spread quickly, and killed many more people. Families struggled to deal with the sickness and death of loved ones, and society attempted to deal with the confusion and chaos the epidemic caused. The pandemic paralyzed vital services like police and fire departments as so many people got sick that the rest could not pick up the slack. Other services like public transportation, telephone service, sanitation, railroads, factories, mills, merchants, and others suffered similar problems as employees fell ill. Doctors and nurses normally available to help tend the

⁹⁰ John M. Eyler, "The State of Science, Microbiology, and Vaccines Circa 1918," *Public Health Reports (1974-)* 125, S 3 (April 2010), 27-31.

⁹¹ Iezzoni, 17.

⁹² Hoehling, 5.

sick were overseas assisting in the war effort.⁹³ Medical professionals remaining in the country found themselves overwhelmed by the number of patients as the disease moved through military bases, towns, and cities.⁹⁴ Some families had multiple members sick at the same time, all bedridden and unable to get up whatsoever. The Baltimore Red Cross reported several cases when nurses encountered two or three sick patients in one bed at a time, sometimes along with a dead body. Sometimes family members were so sick they did not know a loved one died. Children in homes with sick parents sometimes succumbed to lack of heat or food.

Eyewitness accounts described bodies piled up in coffins on street corners or stacked like cordwood in morgues. Gravediggers, undertakers, and coroners were overwhelmed, and casket shortages further complicated the situation. Larger cities like Baltimore encountered problems with bodies decomposing in the mortuaries and morgues because of flu related delays.⁹⁵ Many of the dead, especially in poor families, remained in their homes for days as cemetery officials sometimes charged burial fees and then made families dig the graves themselves. Undertakers took advantage of the dire situation by hiking their prices.⁹⁶ Some bodies lay unclaimed because other family members remained too sick to claim them. Even the military experienced a casket shortage. Since casket companies could not furnish the government with the number of caskets required to bury soldiers who died, the Fort McHenry military hospital devised a

⁹³ Bristow, “‘It’s as Bad as Anything Can Be’,” 135, 136.

⁹⁴ Kolata, 18.

⁹⁵ Bristow, “‘It’s as Bad as Anything Can Be’,” 135.

⁹⁶ Kolata, 19.

storage solution. The corpsmen assigned to move the dead soldiers took the bodies to a designated “peace chamber” in the fort for storage until their family claimed or buried them.⁹⁷ This chamber kept the bodies relatively cold to help slow decomposition.

Children orphaned by the pandemic became the responsibility of the whole community. Older orphaned children often took charge of their own lives and assumed care of their younger siblings. Communities put some orphans into institutionalized care, but most became the responsibility of extended family members. Orphaned children sent to these extended family members often reported feelings of poor treatment, abandonment and helplessness. Custom at the time discouraged older men from living alone in a household with young children, so in cases when the mother died, children frequently went to other relatives or, in cases when the father had financial means, to boarding schools. For countless children, the death of their mothers caused uprooting compounded by the loss of their fathers. A mother who lost her husband, however, generally struggled, often doing menial labor or piecework to keep the family from becoming destitute. Sometimes children became breadwinners at young ages.⁹⁸

The influenza pandemic pushed many marginal families into destitution while poor families already destitute found their situations made even worse by hunger and need. The poor generally possessed no savings, so when a working family member became sick even for a short time, the whole family would experience hunger, cold, and

⁹⁷ Emily Raine Williams, “Memoirs,” 1918, quoted in “View from Fort McHenry,” *Baltimore Sun Online*, October 6, 2015, <http://www.baltimoresun.com/health/bal-ftmchenryflu-story.html> (accessed October 6, 2015). Corpsmen stacked the bodies in cool underground rooms in the fort built to store and protect gunpowder.

⁹⁸ Bristow, “‘It’s as Bad as Anything Can Be’,” 135-36.

perhaps homelessness. Sometimes the breadwinner had to stay home from work to take care of sick family members, compromising the family's ability to buy food, secure heat, and pay rent. Sometimes employers fired workers unable to work due to their own or family members' illness. Unfortunately, charitable organizations also targeted the poor as problems, attempting to change their behavior as a condition of granting them aid. Aid organizations educated the working class poor on cleanliness, sanitation, ventilation, and isolation in preventing and fighting illness, as if the poor had caused their illnesses themselves.⁹⁹

Many influenza sufferers and their families looked to health officials to help them deal with medical and social issues caused by the spreading disease. The Public Health Service, founded in the late eighteenth century, contained a mobile cadre of uniformed and ranked medical professionals by 1918. At the time, health service physicians were all commissioned officers and all white males. Women and minorities worked in the health service only as civil servants in roles as physicians, nurses, biologists, pharmacists, and sanitary engineers. The corps' main mission focused on disease prevention. Under Surgeon General Rupert Blue, the public health service oversaw scientific research, domestic and foreign quarantines, marine hospitals, and undertook statistical studies in its mission to prevent disease. Public Health officers worked with state and local health departments to limit disease spread and especially its importation into the country. During 1918, US Public Health battled not only influenza, but also polio, typhus, typhoid, smallpox, and other diseases. Public Health doctors understood, in general, how disease

⁹⁹ Ibid., 137.

spread, but they could do little to fight it.¹⁰⁰

Despite an already established national public health service, at the time of the first pandemic wave, no effective, well-financed federal, state, or local public health network existed to gather available data about influenza and pneumonia. The public health service proved so ineffective that it could not even recognize the spring influenza epidemic.¹⁰¹ Few health departments in the US made influenza a reportable disease prior to the fall of 1918, so few health officials realized that an epidemic existed.¹⁰² Only one mention of the spring wave exists in medical literature because Dr. Loring Miner believed this influenza seemed somehow different and worthy of notice by public health officials.¹⁰³ By late summer, the virus spread to Europe with 1.5 million American soldiers; they also brought influenza back home upon their return to the states. The public health service, finally realizing that port cities needed to take action, ordered medical officers in charge of seaport quarantine stations to be especially alert for flu patients on ships from Europe. However, federal health authorities did not have the power to quarantine influenza patients because until 1918, health authorities previously considered influenza a common and mild disease.

Later in the pandemic, the public health service became more effective at record keeping and establishing quarantines. By the middle of the fall, public health officials

¹⁰⁰ The Public Health Service, "The Great Pandemic: The United States in 1918-1919," *United States Department of Health and Human Services*, http://www.flu.gov/pandemic/history/1918/life_in_1918/healthservice/index.html (accessed November 7, 2014).

¹⁰¹ Crosby, 18.

¹⁰² Crosby, 5.

¹⁰³ Barry, "The Site of Origin of the 1918 Influenza Pandemic," 3.

used quarantine as a tool to control the epidemic even though these came too late to be effective. The service began to publish weekly health reports with disease outbreak information. Unfortunately, until late in the second wave of the pandemic, influenza was not a reportable disease, so records remain incomplete.¹⁰⁴ Still, public health reports give historians a window into American health during the pandemic.

Local public health officials made decisions concerning quarantines, closures, and gathering bans for their own areas. Health records reveal that infection and mortality rates were significantly lower in large cities with public officials who closed schools, canceled public meetings and gatherings, and instituted isolation and quarantine measures. However, while quarantine and other interventions helped, they did not cure or prevent the disease spread. These tactics simply bought time.¹⁰⁵

Health departments in large cities took the lead in developing strategies to protect and help citizens during the pandemic. In New York at the beginning of the fall pandemic wave, the city had available hospital beds but not enough nurses to care for sick patients. The public health service advised hospitals to admit only essential patients and to postpone non-essential procedures. Since the city experienced nursing shortages, the New York Red Cross conducted a door-to-door canvas to find trained nurses to serve

¹⁰⁴ The Public Health Service, "The Great Pandemic: The United States in 1918-1919," *United States Department of Health and Human Services*, http://www.flu.gov/pandemic/history/1918/life_in_1918/healthservice/index.html (accessed November 7, 2014).

¹⁰⁵ Anna Maria Gillis, "The Devastation of 1918: Finding Pockets of Hope in the Great Flu Pandemic," *Humanities* 35, no. 2 (March/April 2014), <http://www.neh.gov/humanities/2014/marchapril/feature/the-devastation-1918> (accessed October 1, 2015). The CDC study mentioned here was headed by Dr. Howard Markel, a physician and medical historian at the University of Michigan.

in city hospitals and to do home health care.¹⁰⁶

The influenza pandemic remains significant because of additional problems felt long after the flu seemed forgotten. Some scientists and medical researchers believe that the 1918-19 influenza pandemic affected medical outcomes of people for many years beyond the wane of the disease. Since about one-third of pregnant women contracted influenza during the outbreak, Almond and Mazumder argued that the pandemic affected children in utero during the fall of 1918 and spring of 1919 waves. They believed these children displayed reduced educational abilities and increased disability rates, resulting in lower income and socioeconomic status.¹⁰⁷ Children born during the second quarter of 1919 showed especially noticeable health problems as they developed as fetuses during the height of the pandemic. Limitations in these children included trouble hearing, speaking, lifting, and walking, and diabetes and stroke incidence appeared more often than expected.¹⁰⁸ These findings reveal children born after the pandemic as likely to have long-term health issues that affected them into their adult years, also affecting the type of medical care they required as they aged. Communities that suffered disproportionately from the influenza would suffer disproportionate consequences long after the epidemic had passed.

¹⁰⁶ “Gorgas Would Put Soldiers in Huts: Pneumonia Deaths Increased, He Says, by Assembling Men in Barracks,” *The New York Times*, December 7, 1918.

¹⁰⁷ Almond and Mazumder, “The 1918 Influenza Pandemic,” *American Economic Review* 95, no. 2 (May 2005): 258.

¹⁰⁸ *Ibid.*, 260-62.

CHAPTER IV

PANDEMIC FLU COMES TO BALTIMORE

The influenza pandemic ravaged the densely populated and industrialized city of Baltimore. Large munitions plants and public transportation put many workers into close contact, facilitating disease transmission. The Baltimore area was also home to a significant number of military training camps, where overcrowded conditions aided the spread of influenza. City health officials tried to minimize the epidemic's seriousness, closing only some public gatherings while allowing others to continue, confusing residents about the seriousness of the problem. While officials banned some crowd activities, they did nothing to confront overcrowded and poor living conditions in poor and segregated black areas. Poor housing conditions contributed to higher infection and death rates from influenza and related complications.

During World War I, Baltimore became an industrial center for the war effort. Newspapers printed pages of job advertisements for positions in war munition plants, at the shipyards and dry docks, and for businesses like the numerous oyster and vegetable canning facilities, textile mills, and manufacturing plants in the city.¹⁰⁹ Classified advertisements also sought men and women for jobs in support industries such as

¹⁰⁹ Classified Employment Advertisements, *Baltimore American*, August 14, 1918.

transportation, retail, and clerical businesses. Advertisements in the primarily white *Baltimore American* and *Baltimore Sun* newspapers sought “colored” employees for jobs as porters for the Baltimore and Ohio Railroad or for unskilled and labor positions.¹¹⁰ Baltimore’s population grew as many people migrated to the city to follow wartime employment opportunities.

The war effort occupied most Baltimoreans’ minds, as newspapers gave little space to anything else even after the epidemic began to sicken and kill soldiers in nearby Camp Meade and smaller cantonments.¹¹¹ The daily papers listed war casualties, paying special attention to the Maryland fallen.¹¹² Newspapers advised readers about the military’s need for 3039 more Maryland men to enlist. They also printed local military camp news, especially about the largest training camp, Meade.¹¹³ The first influenza epidemic cases in Maryland appeared at Camp Meade on September 17, 1918. However, the *Baltimore American* paper ignored the flu until October 1 when the disease neared epidemic proportions in army camps and in the city.¹¹⁴ The army classified the many soldiers who died from influenza and pneumonia in camps as “dying on the field of honor,” yet few in Baltimore knew of the many deaths in the army camp just south of the city. Because the disease hit Camp Meade so early and with such high infection rates, the

¹¹⁰ Classified Employment Advertisements, *Baltimore American*, October 7, 1918.

¹¹¹ “Suffrage Forces Not Confident: Failed to Ask for Vote despite Wilson’s Aid,” *Baltimore American*, October 1, 1918.

¹¹² The two largest and most popular white mainstream Baltimore newspapers in 1918 were the *Baltimore American* and *The Sun*. The black newspaper was the *Afro-American*.

¹¹³ “Maryland Must Send More Men: The Last Call is for 3039 from State at Large,” *Baltimore American*, August 14, 1918.

¹¹⁴ “‘Flu’ Kills 14 more at Meade,” *Baltimore American*, October 1, 1918.

Public Health Service believed that future infections would prove less virulent. However, as the disease spread along the state's transportation networks to civilian communities, it proved no less virulent elsewhere than at Camp Meade.¹¹⁵

On September 19, only two days after the outbreak at Camp Meade, downtown Baltimore hosted a carnival at the Fort McHenry hospital to benefit soldiers recuperating from war wounds and disabilities. The carnival attracted thousands of people who likely spread the disease to city residents and visitors.¹¹⁶ While the *Baltimore American* still did not mention the flu, the *Afro-American* devoted front-page space on September 24 to the disease spreading to twenty-five military camps. The Army reported 20,211 soldiers infected in various training camps, with 2,225 new cases reported that day.¹¹⁷ Seven new camps reported influenza outbreaks for the first time on September 23. On that day alone, Camp Meade reported eighty-nine new cases. By September 25, the *Afro-American* reported three thousand additional cases in Army camps; bringing the nationwide total to nearly 23,000. Bacteriologist Colonel William Welch stated that most late September deaths in Army facilities seemed due to pneumonia that often followed influenza infection.¹¹⁸

The outbreak at Camp Meade continued to grow, causing officers to consider

¹¹⁵ "The Great Pandemic: The United States in 1918-1919, Maryland," *United States Department of Health and Human Services*, http://www.flu.gov/pandemic/history/1918/your_state/northeast/maryland/index.html (accessed November 7, 2014).

¹¹⁶ "Carnival Attracts Throng: Thousands of Persons Crowded into 1700 N. Broadway," *Baltimore American*, September 19, 1918.

¹¹⁷ "'Flu' in 25 camps: 20,211 Soldiers Suffering from the Disease," *Afro-American*, September 24, 1918.

¹¹⁸ "Flu Claims 112 Victims," *Afro-American*, September 25, 1918.

actions to limit disease spread. By September 26, the influenza epidemic affected the entire training facility, prompting a quarantine to indefinitely prohibit visitors from entering the camp without prior permission. Commanders restricted regiments to their quarters and closed the hostess house, YMCA, and bungalows where enlisted men congregated. Camp officials admitted that some units they hoped to keep healthy showed influenza symptoms. Doctors continually stated that the worst was over.¹¹⁹ Yet on October 1, the *Baltimore American* reported that fourteen more soldiers died at Camp Meade.¹²⁰

The military hospital complex at Fort McHenry in Baltimore City served local army camps by providing nursing and hospital care for their worst cases. Nursing superintendent Emily Williams organized efforts to bring Fort McHenry nurses to the nearby army camps to address the crisis. Despite two hundred thirty cases and four influenza deaths in a single day, Fort McHenry Hospital posted no quarantine. The nurses moved the worst camp cases to the Fort hospital, effectively spreading the disease from infected soldiers to other soldiers and staff. The hospital closed its operating rooms for lack of healthy staff, causing doctors and nurses to do rib resections bedside in the wards.¹²¹ Nurse Williams reported that most flu patients became dull and apathetic and slept anywhere they could - on chairs, in doorjambs, or in beds. The sick often slept from

¹¹⁹ “Meade is Quarantined: Spread of Spanish ‘Flu’ Leads to Indefinite Ban,” *Afro-American*, September 26, 1918.

¹²⁰ “‘Flu’ Kills 14 more at Meade,” *Baltimore American*, October 1, 1918.

¹²¹ Rib resection surgery removed a section of rib bone, allowing doctors access to the chest cavity to insert a chest tube to drain pus or fluid, or in some advanced pneumonia cases to allow removal of damaged lung sections. From “Rib Resection,” *MD Guidelines* <http://www.mdguidelines.com/rib-resection> (accessed November 7, 2015).

twelve to twenty-four hours at a time. If fever persisted for more than four days, the patients nearly always had fatal broncho-pneumonia. Frequently when wives and relatives came to Baltimore to see sick loved ones, they fell ill themselves. Nurse Williams and volunteers helped these sick relatives find places to stay in Baltimore.¹²²

Despite the growing mortality rate in local camps, Baltimore health officials took no precautions to prevent influenza spreading to the civilian population. Health Commissioner John Blake described the disease as the “same old influenza that physicians recognized and treated for a good many years.”¹²³ However, on the next day, September 26, the disease killed six more soldiers at Fort McHenry and infected two-hundred men at nearby Edgewood Arsenal. Four soldiers from Fort Holabird in northeast Baltimore County also died. As motor-truck depot drivers, these four soldiers traveled between camps, interacting with soldiers and civilians along the way and likely spreading the disease. Another 1,500 soldiers at Camp Meade also fell ill that day. The *Afro-American* warned that the epidemic was sweeping the country, especially affecting soldiers in Baltimore area army camps.¹²⁴

Camp Meade officials again reassured the public with falsely optimistic statements. However, on October 1, medical personnel reported 1,280 new cases at the facility. Military officers said the epidemic situation was improving, and they expected a significant decrease in cases. Officials re-stated that Camp Meade’s medical officers had

¹²² Williams, “Memoirs, 1918,” quoted in “View from Fort McHenry.”

¹²³ “Meade is Quarantined: Spread of Spanish ‘Flu’ Leads to Indefinite Ban,” *Afro-American*, September 26, 1918.

¹²⁴ “Six More Soldiers Dead,” *Afro-American*, September 27, 1918.

taken action to prevent disease transmission by examining all troops and enacting a quarantine.¹²⁵ Unfortunately, many local civilian contractors worked and traveled in and out the military installation daily, despite the quarantine. These workers spread the influenza virus to their families and associates in Baltimore.¹²⁶

The quick spread of influenza cases in army camps demanded finding additional nurses and aid workers to help the army medical corps. Nurses from St. Joseph's, Mercy, and Bon Secours convents in Baltimore went to Camp Meade on October 4, where they assisted the medical corps with influenza patients and did sanitary work. The Knights of Columbus also provided relief volunteers who worked with the civilian nurses.¹²⁷ Since Camp Meade did not hold nurses and aid workers to the quarantine, these workers brought the virus into the camp and then back to Baltimore each time they entered or left. Aberdeen Proving Grounds and Camp Edgewood just north of Baltimore also needed assistance with two hundred cases of influenza and pneumonia requiring nursing.¹²⁸ An article in the *Baltimore American* praised organizations cooperating in aid efforts in military camps located in France and at home. They thanked the Red Cross, YMCA, Knights of Columbus, and Salvation Army all of whom worked to make life easier for the "boys." The newspaper mentioned "Protestant and Catholic, Jews and Gentiles" working

¹²⁵ "'Flu' Kills 14 more at Meade," *Baltimore American*, October 1, 1918.

¹²⁶ Influenza Encyclopedia, "Baltimore, Maryland and the 1918-1919 Influenza Epidemic," *The University of Michigan Center for the History of Medicine and Michigan Publishing: University of Michigan Library*, <http://www.influenzaarchive.org/cities/city-baltimore.html> (accessed November 7, 2014).

¹²⁷ "Sisters go to Meade," *Baltimore American*, October 4, 1918.

¹²⁸ "Epidemic Serious in Wicomico City: Hits Proving Ground," *Baltimore American*, October 1, 1918.

together for a common cause, but there was no mention of black groups or individuals.¹²⁹

Many citizens in Maryland towns and rural areas looked to Baltimore administration to provide information about the growing epidemic, but health officials often misinformed the public. Despite the many deaths at Camp Meade and other local camps, Baltimore's Health Commissioner continually assured the public that "no special reason to fear an outbreak in our city" existed. However, by the end of September, the situation became more serious as influenza cases continued to multiply. City officials remained reluctant to take action, resisting school closures and public gathering bans and insisting that anything more drastic would cause panic and lower people's resistance to sickness. Commissioner Blake continued to say that he did not worry about an outbreak in the city, and the Maryland Board of Health Chief of Communicable Diseases, Dr. C. Hampson Jones stated that the Baltimore situation did not alarm him.¹³⁰

Other Maryland cities and towns provided inconsistent public health responses to the epidemic. Nearby Salisbury called a public meeting at city hall on October 1 for citizens, city council members, and health officers. Officials at the meeting announced the closure of all churches, schools, and theaters until further notice.¹³¹ Ironically, the town called an assembly to announce bans on other assemblies. Congregating in any capacity served to spread the disease. Baltimore still took no action to implement closures or prohibit assembling.

¹²⁹ "War Work Forces Harmonious Unit," *Baltimore American*, October 4, 1918.

¹³⁰ "The Great Pandemic: The United States in 1918-1919, Maryland."

¹³¹ "Drastic Measures taken at Salisbury," *Baltimore American*, October 1, 1918.

As in other large cities, Liberty Loan events and Liberty Bond rallies continued, putting people into crowd situations to promote war bonds. On October 1, despite the growing influenza epidemic, organizers held a huge Liberty Loan event at Laurel Park Race Track near Baltimore. This special event paid all winning bets in Liberty Bonds.¹³² The thousands who attended this rally, the people who worked at Laurel Park Race Track, and the people who attendees encountered on public transportation likely helped spread the disease to the previously uninfected. Health Director Blake still took little action, even though he reported one hundred seventy-seven new cases that same day. Blake did write to the United Railways and Electrical Company operating Baltimore's streetcar system requesting that all streetcar windows stay open when possible to promote ventilation. Blake's office also reported that he would survey city public schools to outline preventive measures.¹³³

On October 2, the city reported thirty-one more victims died, with 2,222 more cases reported on that day alone. Although Philadelphia already acted to forbid public dances along with other crowd events, Dr. Blake remained reluctant to order crowd restrictions for Baltimore.¹³⁴ Sickness continued to spread throughout Baltimore and the surrounding area, finally prompting Dr. Blake to institute more public health measures. Though Blake requested streetcar windows opened for ventilation just the day before, on October 2 the death rate increased enough to prompt him to change his request to an

¹³² "Liberty Loan Events Daily: Col. Winn Prepares for 4th Drive," *Baltimore American*, October 1, 1918.

¹³³ "'Flu' Kills 14 more at Meade," *Baltimore American*, October 1, 1918.

¹³⁴ "Flu Claims 31 more Victims," *Baltimore American*, October 2, 1918.

order. He also ordered any moving picture or other theater to ventilate their building properly or close, and he closed all public dances and other meetings in buildings not properly ventilated.¹³⁵ By October 4, newspapers reported six hundred new influenza cases in the city, listing pneumonia as a serious and frequent complication. Baltimore Mayor Preston gave Health Commissioner Blake a “free hand” to use any means necessary to stop the epidemic. The epidemic spread so quickly that the *Baltimore American* wrote that the disease became more serious by the hour; it had already pushed hospital facilities and medical personnel to their limits. On the same day, the Johns Hopkins University’s Student Army Training Corps, the Johns Hopkins University Homewood main campus, and their Medical School all reported that the epidemic spread to their facilities.¹³⁶

During World War I, Baltimore became a major center for war industries. Many people came to the city seeking industrial jobs. New arrivals mingled with long time Baltimore residents in the factories and shipyards, spreading new germs and lowering immunities. Large industrial plants put workers, supervisors, and others in very close proximity to one another just like in army and navy training camps, spreading germs and causing new influenza infections.¹³⁷ Workers took the influenza virus onto streetcars, busses, and trolleys, infecting fellow passengers and then infecting their families and others in their residential neighborhoods. Baltimore shipyards also employed many people, and as expected, these facilities reported many worker absences during the

¹³⁵ “177 New ‘Flu’ Gases (sic),” *The Sun*, October 2, 1918.

¹³⁶ “‘Flu’ Spreading: 22 More Victims,” *Baltimore American*, October 4, 1918.

¹³⁷ “Plants Hard Hit,” *Baltimore American*, October 4, 1918.

epidemic. The Bethlehem Shipbuilding Company at Sparrows Point in Baltimore, reported that nearly six-hundred men left work with influenza on October 4, seriously hampering work output at the plant.¹³⁸ Similarly, the United Railways and Electric Company reported more than two hundred motormen and conductors out sick with the flu, affecting the Baltimore streetcar system's ability to run smoothly and on time.¹³⁹ Keeping the streetcars well ventilated as per Health Commissioner Blake's orders did not prevent the virus from spreading.

By October 5, the epidemic became so serious that Liberty Loan program organizers cancelled meetings in Baltimore and other eastern cities. Hundreds of canvassers and speakers involved in prior loan drive activities became sick, and many died. Rather than continuing their mass meetings, Liberty Loan officials in Baltimore decided to undertake a house-to-house campaign to raise funds for the war effort.¹⁴⁰ Canvassers likely spread the disease between infected residential households. Despite meeting cancellations, organizers held the Baltimore Liberty Loan Parade as scheduled. This parade featured 2500 women war workers and mothers passing in review plus sixty organizations and seven bands marching to promote Liberty Bond sales. Health Commissioner Blake protested before the parade, saying that the women marchers would tire themselves needlessly and become susceptible to the flu, and that the overcrowding of public transportation bringing parade watchers to the parade would menace the health

¹³⁸ "'Flu' Spreading, 22 More Victims," *Baltimore American*, October 4, 1918.

¹³⁹ "Influenza Becoming More Serious by Hour," *Baltimore American*, October 4, 1918.

¹⁴⁰ "Influenza One Handicap," *Baltimore American*, October 5, 1918.

of thousands.¹⁴¹ Since Maryland remained far from meeting its goal in the loan drive, organizers still held the parade.¹⁴²

Health authorities again postponed a decision to close schools and gathering places to slow flu spread while still allowing other crowd events to continue. Dr. Blake initially hesitated to close schools because he felt that parents would not keep their children confined at home. He believed children mingling with playmates at school was no worse than children mingling on the streets, using streetcars, and going to movie theaters, if any remained open.¹⁴³ On October 7, Blake said that the “flu” was not serious enough to close the theatres, adding that the City Health Department policy not to alarm people remained in effect. Blake inaccurately reported a decrease in city cases, though city influenza and associated pneumonia deaths continued to increase. Influenza also sickened physicians, nurses, and clergy in contact with the sick, killing many.¹⁴⁴ Partially prompted by Dr. Blake’s flu decrease reports, the Navy held a carnival and recruitment event at the Fifth Regiment Armory downtown. The Naval traveling party arrived at Baltimore’s Union Station in three special railcars carrying five officers and fifty-five men from ships in the Atlantic fleet. The carnival offered free entertainment for the public.¹⁴⁵ The carnival crowd and naval personnel provided free flu germs, too.

Despite Blake’s reluctance to close schools and other gathering places, other

¹⁴¹ “2500 Women in Parade Today,” *Baltimore American*, October 5, 1918.

¹⁴² “Maryland’s Goal in Loan Drive Still Long Way Off: McAdoo Speaks Here Today,” *Baltimore American*, October 5, 1918.

¹⁴³ “‘Flu’ Now Epidemic,” *The Sun*, October 3, 1918.

¹⁴⁴ “Blake will not Close Theaters,” *Baltimore American*, October 7, 1918.

¹⁴⁵ “Navy Carnival Tonight,” *Afro-American*, October 7, 1918.

officials called for closures. On October 8, the United States Public Health Service Surgeon General Rupert Blue publicly warned that the disease continued to spread and urged cities to close their schools and places of amusement.¹⁴⁶ The Baltimore school board then took action to close all public schools, though Health Commissioner Blake still objected. Thirty thousand students and two-hundred eight teachers were absent on October 7, so the school superintendent said the schools could not be kept open or functional anyway.¹⁴⁷ Blake finally relented and officially ordered Baltimore public schools closed, prohibiting public gatherings soon after.¹⁴⁸ Eventually most of the white city schools closed for a time. Some black schools remained closed into February of 1919 when the spring epidemic wave diminished.¹⁴⁹

The city death toll prompted Health Commissioner Blake to close churches and some other gathering places. On October 11 as the death rate climbed, Blake banned public funerals, allowing only immediate family members to attend limited funerals for influenza victims. Blake finally closed theaters, shortened store hours, and ordered all public places keep their windows open.¹⁵⁰ Blake ordered public gatherings cancelled or

¹⁴⁶ “New Call for Fight on ‘Flu,’” *Baltimore American*, October 8, 1918.

¹⁴⁷ Influenza Encyclopedia, “Baltimore, Maryland and the 1918-1919 Influenza Epidemic.”

¹⁴⁸ Anna Maria Gillis, “The Devastation of 1918: Finding Pockets of Hope in the Great Flu Pandemic,” *Humanities* 35, no. 2 (March/April 2014), <http://www.neh.gov/humanities/2014/marchapril/feature/the-devastation-1918> (accessed October 1, 2015).

¹⁴⁹ “Many Sick at Denton: Flu Wanes at Greenspring,” *Afro-American*, February 7, 1919.

¹⁵⁰ “City in Grip of ‘Flu’: 36 Reported Dead in 2 Days,” *Afro-American*, October 11, 1918.

postponed and closed all city churches to slow the disease's spread.¹⁵¹ Dr. Blake did not close saloons, since the public believed quinine and whiskey effective in fighting colds and fevers associated with flu.¹⁵² He closed poolrooms and did reduce hours for the saloons, hinting that he might close them if the infection continued to grow. Blake also ordered dentists to wear gauze masks while with patients.¹⁵³

Churches in rural Baltimore County, the Maryland Eastern Shore, and bordering Wilmington, Delaware all remained closed for Sunday services on October 16 and 24. The closures made burial services for some black flu victims' home churches impossible. Some churches circumvented closure regulations by meeting at non-church locations, and some congregations met in chairs on the street outside their church building to get around closures.¹⁵⁴ Some Christians, like evangelist Billy Sunday, argued the epidemic began as God's punishment for the nation's evil ways. To believers, churches needed to stay open to help steer the country away from evil and toward Christian salvation, thus encouraging God to end the epidemic.¹⁵⁵ Some people believed prayer the only answer to curing patients, so evangelists did their part to help "pray down" the epidemic.¹⁵⁶ Even with

¹⁵¹ "'Flu' Closes Churches, *Afro-American*, October 11, 1918.

¹⁵² "City in Grip of 'Flu': 36 Reported Dead in 2 Days," *Afro-American*, October 11, 1918.

¹⁵³ Influenza Encyclopedia, "Baltimore, Maryland and the 1918-1919 Influenza Epidemic."

¹⁵⁴ Correspondence: 'Flu' Victims Buried at Catonsville," *Afro-American*, October 18, 1918.

¹⁵⁵ Bristow, "It's as Bad as Anything Can Be," 136.

¹⁵⁶ Thomas V. DiBacco, "1918 Flu Epidemic was the World's Worst," *The Washington Post*, October 5, 1993. This article commemorated the seventy-fifth anniversary of the pandemic.

closures, weekly church newsletters continued to publish lists of the many sick and deceased congregation members.¹⁵⁷

Church closures and the public health regulations negatively affected many Baltimore residents. Family members often needed their religious community to help them grieve after their loved ones' deaths. Church members believed that orders limiting funerals to immediate adult family and keeping the influenza victim's body out of the building prevented proper and respectful treatment of deceased family members.¹⁵⁸ A Baltimore editorial writer complained that many people did not agree with closing churches at a time when other gathering places such as City Hall, mills, shops, railway trains, and trolleys remained open. Others argued that prior epidemics of smallpox, yellow fever, and influenza never required church closures. Some saw governmental actions as attempts to turn people away from God. The editorialist noted the many angry, amazed, shocked, and panic stricken people affected by the epidemic, and that churches remained the best place to help with their fears.¹⁵⁹

The growing epidemic prompted more public health closures. In addition to churches, Baltimore City closed many governmental buildings. City officials even ordered the popular Free Colored Library in Baltimore City closed.¹⁶⁰ Throughout the severe 1918 fall influenza wave, the city prohibited baseball games, horse racing at

¹⁵⁷ "Correspondence: 'Flu' Victims Buried at Catonsville," *Afro-American*, October 18, 1918.

¹⁵⁸ Bristow, "It's as Bad as Anything Can Be," 135.

¹⁵⁹ A.E.P., "The Order Closing the Churches Has Probably Greatly Helped to Spread the Influenza," *The Sun*, October 21, 1918.

¹⁶⁰ "Correspondence: Frederick Boy Dies at Camp," *Afro-American*, October 25, 1918; and Gillis, "The Devastation of 1918: Finding Pockets of Hope in the Great Flu Pandemic," 4.

Laurel Park, and Halloween events.¹⁶¹ Epidemic sufferers overwhelmed medical facilities. Civilian hospitals filled past capacity, the military suffered high death rates in overcrowded military camp medical facilities, and people requesting care overwhelmed druggists and physicians, yet the epidemic continued to grow. All Maryland counties reported new cases daily during the fall of 1918.¹⁶²

Despite closures and gathering bans, Baltimore death rates continued to climb throughout October. The highest pandemic death rate for Baltimore City occurred on October 12, according to records collected and analyzed after the event. On October 13, slightly fewer city deaths prompted newspapers to report that the flu was diminishing, though influenza reporting proved difficult and spotty. Baseball game and horseracing bans continued, while saloons and hotel bars remained open with reduced hours.

Pneumonia deaths increased in patients previously infected with influenza. Military camps near Baltimore reported high death tolls from influenza and pneumonia, as did city hospitals and the Bayview Asylum, a tuberculosis facility.¹⁶³ The same day, John Phillip Sousa's band cancelled a Liberty Loan tour because the influenza epidemic continued to spread through military training camps, particularly the Great Lakes Naval Training camp. The band's promoters feared that sick sailors coming for the concert might carry the disease to civilian communities.¹⁶⁴

¹⁶¹ Jacques Kelly, "1918 Epidemic Sent Many to Final Rest on Flu Hill," *The Baltimore Sun*, October 17, 2009.

¹⁶² "'Flu' Now Epidemic," *The Sun*, October 3, 1918.

¹⁶³ "'Flu' Epidemic Believed on Wane," *The Sun*, October 13, 1918.

¹⁶⁴ "'Flu' Blocks Sousa," *Afro-American*, October 13, 1918.

If recorded statistics are correct, the epidemic hit Baltimore city harder than the surrounding rural county. An examination of yearbooks from Baltimore County's oldest high school in rural Reisterstown revealed that only one person, a teacher, got the flu between the fall of 1918 and spring of 1919. Student attendance records for the period noted a lack of absences other than the school's closure on October 8, 1918 due to the epidemic. The teacher fell ill in January 1919, as noted in the yearbook's "day by day news" section, but later recovered and returned to work. However, the fall epidemic wave presented a different experience in the city.

As Baltimoreans fell ill, the city slowed down. Public servants, merchants, telephone operators, and gravediggers became ill and could not come to work.¹⁶⁵ In the worst cases, the patients died, adding to disruption of services and society. As infections and deaths continued to increase, medical professionals faced more difficulties coping with victims. The scope of the epidemic so overwhelmed the city's hospitals, that even Johns Hopkins Hospital closed its doors because the wards overflowed with influenza and pneumonia patients. Three physicians, three medical students, and six nurses employed at Johns Hopkins died in the fall epidemic wave.

So many bodies arrived at the morgue that Baltimore health officials could not keep up with the death rate so they gave up cataloguing incoming epidemic victims. Newspaper reporters estimated mortality numbers from undertaker receipts, making exact death tolls elusive.¹⁶⁶ Funeral homes overflowed, causing them to stack bodies outside

¹⁶⁵ "Franklin High School Yearbook, 1918-1919," and "Franklin High School Attendance Records for September and October, 1918," Baltimore County Public Library Reisterstown Branch, Local History Room Archives; Reisterstown, MD.

¹⁶⁶ "Influenza and Pneumonia Claims Many Victims," *Afro-American*, October 18, 1918.

until burial.¹⁶⁷ Undertakers had trouble keeping up, and cemeteries became overwhelmed with bodies arriving faster than gravediggers could dig. At Mount Auburn, one of the largest colored cemeteries in Baltimore, the overcrowded vaults necessitated stacking one-hundred fifty caskets on the ground. The church associated with the cemetery appealed to Mayor Preston for help, so he offered to pay volunteers to dig graves. Despite five dollars a day pay rather than the usual three, few people accepted the grave digging jobs. The Red Cross also appealed to the mayor to help with bodies overwhelming the various white cemeteries, so Preston brought the situation to military authorities in nearby camps. On November 1, the military called out three-hundred fifty soldiers to dig graves for Mount Auburn, reducing the backlog from one-hundred fifty caskets to thirty. The military helped other city cemeteries, where civilian volunteers and cemetery staff could not keep up with burials.¹⁶⁸

Due to the volume of bodies, it was nearly impossible to identify all the Baltimore flu victims. Some died without surviving family members, and some unknown people died in the free flu hospital the city set up in 1918. Still others dropped dead in the street. A *Sun* newspaper writer presumed these unidentified victims were homeless people with no relatives or friends to identify them or claim their bodies. The city interred white unknowns in the burying grounds at Eastern and Western Potter's fields and black unknowns at Laurel cemetery and other locations. The city appointed an administrator to care for the small sums of money found on the bodies. The administrator tried to identify

¹⁶⁷ "Situation Clearing at Mount Auburn," *Afro-American*, November 1, 1918.

¹⁶⁸ *Ibid.*

and locate family members of the unknown dead, occasionally finding relatives.¹⁶⁹ Some family members also suffered with influenza during the pandemic, making it impossible to claim their loved one's body before burial.

Influenza and complicating pneumonia infections spread quickly through crowded Baltimore area insane asylums. In 1918, insane asylum facilities housed the insane, feeble minded, drug and alcoholic addicts, and some indigent people. Three area insane asylums at Spring Grove, Springfield, and Crownsville housed these patients. Two insane asylums, Spring Grove and Springfield, housed white patients while Crownsville, housed blacks. In 1918, the state lunacy commission recorded that 599 patients died in a total population of 5,156 patients in all facilities. In 1919, 740 patients died from a total population of 5,071. These reports indicated 1918 death rates in the asylums at higher than ten percent from all causes including influenza and pneumonia. The 1919 death rate from all causes was over fourteen percent. The Lunacy Commission report attributed the death rate increase in 1919 over 1918 to the influenza epidemic. The report explained that state institutions experienced rapid disease spread among the large patient population and stated that mortality rates in the asylums remained comparatively low compared to high epidemic fatalities elsewhere.¹⁷⁰ This explanation speaks to the Lunacy commission reporting favorable conditions in state asylums to mask the fact that the asylum death rate was higher than in the general Maryland population. Statistical information gathered by

¹⁶⁹ “\$710, In Sums from 42 Cents Up, Left by Homeless ‘Flu’ Victims,” *The Sun*, May 10, 1920.

¹⁷⁰ State of Maryland, State of Maryland Lunacy Commission, *Biennial Report of the Lunacy Commission: December 1, 1917 to November 30, 1919* (Baltimore: Fleet-McGinley Company, 1919), 7-10. Accessed from the Maryland State Archives, megafire, msa, special SC5300-SC5339. See data in table 1.

the census bureau in the years after the pandemic proved the report misleading. Death rates in asylums, when calculated similarly to census bureau death rates per thousand in population, amount to 116.2 in 1918 and 145.9 in 1919. The asylum death rate proved significantly higher than death rates of 26.8 per thousand in the city of Baltimore for 1918, the worst of any city in the worst pandemic year.¹⁷¹ This high death rate likely reflected overcrowding and poor living conditions that asylum inmates endured.

Washington D.C. faced similar challenges during the epidemic. Dr. W.C. Fowler, health officer for the District of Columbia and National Capital area including all areas between Baltimore and Washington, warned people not to come to the capital region, especially to visit sick relatives. Like Baltimore, district health officials banned most meetings, closed churches, and restricted public funerals. Compliance with health department orders in Washington was generally high, but police closed three churches because the church members willingly disobeyed closure orders, stating that they kept their church open to support their community's spiritual needs. The Library of Congress and most other government buildings closed to the public during the height of the pandemic.¹⁷² The public health service made Washington a "sanitary zone" to combat influenza, requiring the city to institute mandatory closures, stagger open hours for merchant establishments, and create temporary hospitals for war workers and others in need.¹⁷³

¹⁷¹ "111,688 Die from 'Flu' in 46 Cities," *The Washington Post*, January 7, 1919.

¹⁷² "'Flu' Kills 24 More," *The Washington Post*, October 7, 1918.

¹⁷³ "Theaters Closed to Stay Influenza," *The Washington Post*, October 4, 1918.
"Washington Made Sanitary Zone to Combat Influenza," *Evening Star*, October 3 1918.

Nearby New Jersey also encountered closure complaints similar to Maryland and Washington. In New Jersey, only the churches and saloons protested closures and bans, prompting the health department director to state that “germs were not particular” and that “saints carry disease like sinners.” Churches foiled closures by using chairs in the street for meetings, and saloons offered to remain closed at night but received permission to open for shorter hours during the day.¹⁷⁴ Disease transmission continued despite the best intentions of public health officials.

Since many people traveled and shared germs, public venue closures did not slow the disease. A black community information column from Elkton, near Baltimore, revealed that many people decided to visit relatives in New Jersey, Pennsylvania, and Delaware during the pandemic. Two Baltimore public school teachers traveled out of town during the school closures, presumably to visit relatives.¹⁷⁵ Travelers spread germs to relatives, friends, and random people they contacted. During the epidemic’s height, influenza sickened so many local Baltimore and Ohio Railroad employees that the railroad’s chief medical officer brought in engineers, fire-men and brakemen from other cities to keep the railroad running. Rail yard employees in the Western railroad terminus of Cumberland, Maryland, suffered so many influenza illnesses and deaths that the resulting slowdown caused both freight and passenger traffic in the state to grind nearly to a stop.¹⁷⁶

¹⁷⁴ “Germs Not Particular: Saints Carry Disease Like Sinners,” *Afro-American*, November 1, 1918.

¹⁷⁵ “Elkton Schools Closed,” *Afro-American*, October 11, 1918.

¹⁷⁶ “Epidemic Well in Hand: State Hospital Train to Leave Cumberland Today,” *The Sun*, October 29, 1918.

Most Baltimore residents lacked access to medical services during the pandemic. Even affluent Baltimoreans rarely found doctors to help them for two or three days, if at all, during the height of the epidemic. Because of influenza fears, many people looked for “emergency prescription” drugs and remedies to safely lessen fevers and keep sufferers comfortable until seen by a physician. Newspaper requests carefully mentioned that these drugs could save lives, but only until a doctor attended to the patient. Patients still wanted “true” medical attention, but understood the difficulties in finding physicians to treat them.¹⁷⁷

Newspapers frequently printed advice columns intended to help people avoid getting sick. General advice included avoiding crowding, covering coughs and sneezes, and curtailing germs by not spitting on the ground. Articles also advised washing hands before eating. Doctors and health officials promoted opening windows to keep people well, even in cold conditions. Articles advised drinking plenty of clean water and avoiding cups, utensils, or napkins previously used by others. Articles also recommended avoiding tight clothing, shoes, and gloves, and breathing deeply in clean air to help prevent the flu.¹⁷⁸ Some articles told citizens to sneeze or cough into a handkerchief to avoid spreading germs, but others warned people not to constantly worry about germs flying in the air.¹⁷⁹ Advice columns warned that any excesses, unsanitary habits, worry, undue fatigue, or contact with the infected broke down physical defenses and made it easier for the disease to attack. Some health care workers in Baltimore wore

¹⁷⁷ “First Aid for Influenza,” *The Washington Post*, October 18, 1918.

¹⁷⁸ “Influenza Don’ts,” *Afro-American*, September 27, 1918.

¹⁷⁹ “Some Flu Advice,” *Baltimore American*, October 8, 1918.

gauze masks to prevent influenza infection, but mask use was not mandatory for most people.¹⁸⁰

Despite much advice, many people became infected. Since sick and dying patients and their families found few doctors to help them, many people sought miracle cures. The *Baltimore American* on October 8, 1918 promised hope in an article, which said that doctors found a preventative “serum” so the flu would soon disappear.¹⁸¹

Unfortunately, no effective flu serum or vaccination existed in 1918, though researchers worked in earnest to find ways to prevent and cure the disease. Many physicians and pharmacists promoted folk and patent remedies because they did not know what else to do. Advice columns in newspapers constantly related old home remedies and cures to readers. Camphor became difficult to find in drug stores, as some people believed it prevented the flu if worn in a little bag on the chest. Doctors promoted castor oil, rest, milk, and brandy as helpful remedies. In addition, advice columns suggested leaving onion slices exposed in rooms in the house, and hanging small bags of asafetida on the neck to prevent infection from miasmatic vapors.¹⁸² Miasmatic theorists believed that infectious diseases came from vapors rising from dirt into the atmosphere. People breathed the vapors, causing their infection. Strong smelling items like asafetida, onion, or camphor countered these vapors, rendering them incapable of creating infection.¹⁸³

¹⁸⁰ “Let Us All Help to Check the Influenza,” *The Sun*, October 5, 1918.

¹⁸¹ “Serum has been Found,” *Baltimore American*, October 8, 1918.

¹⁸² “Camphor and the Flu,” *Afro-American*, October 18, 1918.

¹⁸³ Jane Eliot Sewell, *Medicine in Maryland: The Practice and the Profession, 1799-1999* (Baltimore: Johns Hopkins University Press, 1999), 122.

Still others endeavored to call attention to the “real” cause of the pandemic as punishment for the world’s sinfulness, or because people worked on the Sabbath. They offered to help “pray down” the disease.¹⁸⁴

Newspapers mentioned that the public would try anything to cure the flu, so crank cures continually appeared in advertisement pages and advice columns, despite the cures being ineffective and often unsafe.¹⁸⁵ Baltimore papers containing multiple advertisements for patent medicines included advertised relief from cough symptoms in twenty-four hours using a simple home medicine called “Mentho-Laxene” supposedly made from all herbal ingredients and therefore safe. Users just had to mix it with simple syrup in the home.¹⁸⁶ Another patent medicine advertisement stated, “Catarrh is not incurable,” telling people not to rely on sprays and inhalers but to buy the advertised product. This patent medicine product advertised its ingredients as “vegetable blood.”¹⁸⁷ An article in the black newspaper during a later influenza outbreak looked like news, but the story actually advertised a product called “Herbs of Life,” sold by a patent medicine company in the city. The ad included testimony about the product’s effectiveness from a

¹⁸⁴ “Sure Cures for Influenza,” *Public Health Reports* 33, no. 45 (November 8, 1918). Reprinted in *Public Health Reports* 91, no. 4 (July-August 1976): 380.

¹⁸⁵ “Camphor and the Flu,” *Afro-American*, October 18, 1918.

¹⁸⁶ Advertisement: “Relief in 24 Hours: Simple Home Medicine did it,” *Baltimore American*, October 8, 1918.

¹⁸⁷ Advertisement: “Catarrh is not Incurable,” *Baltimore American*, October 8, 1918. Catarrh refers to the build-up of thick phlegm or mucus in the airways or sinuses caused by an immune system reaction to an infection or irritation, such as with an influenza infection. National Health Service, “Catarrh,” <http://www.nhs.uk.conditions.catarrh/Pages/Introduction.aspx> (accessed November 9, 2015).

community physician.¹⁸⁸ Patent medicine sellers placed multiple advertisements for various products during the pandemic and in outbreaks in the 1920s.¹⁸⁹ Unfortunately, a number of patent medicines sold during the pandemic caused more harm than help. At the epidemic's height, pharmacies prescribed habit-forming drugs such as opium and morphine for flu symptoms.¹⁹⁰

Baltimore experienced high mortality rates during the pandemic compared to other large cities. It recorded the second highest death rate of any city for the nine worst weeks during the fall wave with a mortality rate of 6.7 per thousand. Philadelphia suffered 7.4 deaths per thousand in population, the only city to exceed Baltimore. By November, influenza and complicating diseases killed more Americans than military action during the current war.¹⁹¹ After the census bureau tallied data for the entire year, it found that all cities reported a cumulative death rate of 19.6 per thousand. For the entire year, Baltimore's death rate proved highest in reporting cities at 26.8 per thousand. In Washington DC, the death rate was 23.6 per thousand. Even Philadelphia, where the epidemic was unusually severe during September and October, had a lower yearly total than Baltimore at 24.2 deaths per thousand.¹⁹²

Statistics notwithstanding, the death toll for influenza and related conditions

¹⁸⁸ "'Flu' and Pneumonia Still Increasing: Doctors and Druggists Praise Good Work of Double Strength Herbs of Life," *Afro-American*, January 12, 1923.

¹⁸⁹ "'Flu' and Pneumonia Sweeping Country Epidemic Predicted," *Afro-American*, January 6, 1923.

¹⁹⁰ Gillis, 3.

¹⁹¹ "Flu Kills More Than War," *The Washington Post*, November 18, 1918.

¹⁹² "111,688 Die from 'Flu' in 46 Cities," *The Washington Post*, January 7, 1919.

remains an estimate. Health department records did not reflect the true number of influenza sick or deceased, as officials did not require reporting influenza deaths until well into the pandemic. Health authorities in nearby Washington estimated that reports accounted for only about sixty percent of actual influenza deaths.¹⁹³ Most cities and towns likely inaccurately reported influenza and rural areas did not report at all. Statistics did not reflect flu survivors who suffered later cardiac and pulmonary complications from the disease, the many victims taking months or years to convalesce completely, or others who died from their complications long after the pandemic.¹⁹⁴

The pandemic took a significant toll in Baltimore. The Public Health Service estimated that at least 75,000 Baltimore residents got sick during the epidemic, and more than 2,000 died.¹⁹⁵ In total, about 5,160 Marylanders perished in total in the 1918 influenza epidemic.¹⁹⁶ Record surveys estimate the City of Baltimore alone suffered 4,125 deaths from September 1918 through March 16, 1919, the first day since the epidemic's fall wave with no new flu cases.¹⁹⁷ The public health service published many statistical reports during and directly after the pandemic including ages, numbers of cases, and deaths.¹⁹⁸ Their door-to-door field studies in Baltimore and other localities

¹⁹³ "Influenza Epidemic Took Toll of 2,028 Lives in District," *The Washington Post*, December 6, 1927.

¹⁹⁴ DiBacco, "1918 Flu Epidemic was the World's Worst."

¹⁹⁵ "The Great Pandemic: The United States in 1918-1919, Maryland."

¹⁹⁶ Jacques Kelly, "1918 Epidemic Sent Many to Final Rest on Flu Hill," *The Baltimore Sun*, October 17, 2009.

¹⁹⁷ Gillis, 4.

¹⁹⁸ Edgar Sydenstricker, "Preliminary Statistics of the Influenza Epidemic," *Public Health Reports* 33, no. 52 (December 27, 1918), 2319-20.

examined household disease incidence and economic condition. Canvassers covered eighteen districts in Baltimore City asking residents if any household member suffered influenza, pneumonia, an unknown illness, or if they stayed healthy. Collected data reflected variations in infection incidence among different areas examined.¹⁹⁹ Canvassers listed the number of rooms occupied by the household, their impression of the family economic situation, information gathered about disease onset and duration, if the sick obtained medical care, and the presumed diagnosis. The rate for all ages per 1000 white persons with “very poor” economic status had the highest influenza infection rate, while those in the “well-to-do” category had the lowest.²⁰⁰ The report did not present any data for black people.

The relationship between economic status and influenza infection remained consistent in each locality surveyed outside Baltimore. According to public health reports, families listed as “poor” had a death rate more than thirty-three percent greater than “well to do” and “moderate economic status” families, while Baltimore families listed as “very poor” suffered death rates nearly three times as high as the upper two economic statuses. The chief health service statistician found that a continued unfavorable environment resulted in higher influenza infection risk. The poor household members’ living and working conditions and less medical and care availability likely caused the higher infection risk. The statistics show that disease introduction and

¹⁹⁹ Sydenstricker, “The Incidence of Influenza among Persons of Different Economic Status during the Epidemic of 1918,” 191.

²⁰⁰ Ibid., 192-93.

infection in poorer households occurred more frequently than in richer ones.²⁰¹ Racial segregation in Baltimore contributed to poverty, therefore leading to more frequent infections and deaths.

²⁰¹ Ibid., 195, 197.

CHAPTER V

EARLY TWENTIETH CENTURY SEGREGATION IN BALTIMORE

After the Civil War, ex-slaves and freedmen in Maryland experienced a slightly easier time than blacks further south experienced, but they still struggled against racial hatred and segregation; that struggle increased in the early twentieth century. Race-based housing segregation in Baltimore spread to all aspects of life for black citizens by the time the pandemic arrived. Segregation continued past the mid-twentieth century, and though no longer sanctioned by law, de-facto segregation still exists in Baltimore. Baltimore was the first large American city to pass segregation housing legislation to restrict where black citizens could live.²⁰²

By the pandemic era, white citizens embraced popular eugenic theories to justify segregation, unequal living conditions, and substandard medical treatment. The eugenics movement based its efforts on perceived innate white superiority and natural black inferiority, and it promoted similar discrimination against many immigrant groups. While some whites used eugenics to rationalize their racial hatred, others used fear of disease transmission as an excuse to legislate and strengthen segregation. Segregation and discrimination permeated every aspect of black citizens' lives in Baltimore including

²⁰² Janny Scott, "Rethinking Segregation Beyond Black and White," *The New York Times*, July 29, 2001.

what schools they could attend, areas where they could live, and employment opportunities open to them. Segregation also increased the likelihood that black citizens would become ill or die in 1918 and 1919 from the flu or other complicating diseases.

Eugenics was widely accepted in American society from the late nineteenth century to well after World War II, having emerged and risen to popularity first in Europe. Theories derived from interest in Darwin's study of plants and animals created both social Darwinism and eugenics movements. Eugenacists believed that selective breeding would improve human stock just as it did domesticated animals. Eugenacists advocated birth control, castration, forced sterilization, and even euthanasia to keep the "unfit" from breeding, and they studied skin, hair, skull, brain size, and buttock characteristics to produce judgements about innate intelligence and tendency to commit crimes based on physical and racial characteristics.²⁰³

Eugenic theory was popular in the United States, drawing industrialists, physicians, and politicians to the movement. Eugenic views became similarly popular in Europe, where related ideas about improving humankind and developing a superior human race through selective breeding and controlling reproduction later appealed to the Nazi party. The Danes enforced eugenic laws from 1929 to 1967, sterilizing about 11,000 citizens during that time, more than half of them against their will.²⁰⁴ Sweden sterilized over 60,000 people, including children of mixed-raced parents, people with gypsy features, unwed mothers with many children, and habitual criminals. In the United

²⁰³ Pietila, 42.

²⁰⁴ Adrian Wooldridge, "Eugenics: The Secret Lurking in Many Nations' Past," *The Los Angeles Times*, September 7, 1997.

States by the time of the pandemic, twenty-two states passed laws legalizing sterilization for people society deemed unfit.²⁰⁵

This pseudoscientific and racially motivated movement influenced federal and state government policies and actions.²⁰⁶ Wisconsin enacted eugenic marriage laws in 1914 that required prospective grooms to obtain a certificate from a reputable physician attesting “physical fitness” for marriage. A *Washington Post* article about this law noted that people interested in the “betterment of the human race” watched Wisconsin closely to see the results of their law.²⁰⁷ Eugenacists published hierarchical rankings of various ethnic groups that then legitimized neighborhood segregation laws protecting whites from “biologically inferior people.” White biological supremacy over other races appeared in some manner in most biology texts from 1914 to 1948, though none mentioned race overtly.²⁰⁸

Baltimore’s elite white citizens embraced the eugenics movement and the work done by researchers at the Cold Spring eugenics office in New York. Many doctors and scientists went directly from eugenic research to high positions in the Johns Hopkins School of Medicine and Hospital. While eugenacists made some important discoveries about chromosomes and heredity, they also produced anti-immigrant and anti-black books advocating strict controls including segregation.²⁰⁹

²⁰⁵ Ibid.

²⁰⁶ Pietila, xii.

²⁰⁷ “Eugenic Marriage Laws,” *The Washington Post*, January 15, 1914.

²⁰⁸ Pietila, 45. Steven Selden was the University of Maryland professor who surveyed high school and college biology textbooks for the study mentioned.

²⁰⁹ Pietila, 44-5.

Eugenic thinking was widely accepted in Baltimore. Prominent writer, editor, and opinion leader H. L. Mencken, a Baltimorean, illustrated common eugenic theories in his memoirs, writing that through careful breeding, supervising black environments, and with education extending over many generations, he felt it might be possible to make an appreciable improvement in the American Negro.²¹⁰ However, he believed it impossible that the highest black “stock” could ever come close to the lowest of white “stock.” Mencken, like many of his contemporaries, believed the educated black a failure, not because he had to deal with difficulties in life, but just because he was black. Many of Mencken’s readers saw all blacks as inherently low-caste, remaining inert and inefficient until living in and influenced by a higher civilization. Even then, the “superior” white race would be fifty generations ahead of them so they would never be equal.²¹¹

Because of widely accepted eugenic theories, most Americans did not consider the overcrowded living conditions blacks endured as a contributing factor to their higher rates of disease and death. Eugenics labeled blacks as inherently weaker than whites or other European immigrants. As a result, higher death rates from infectious diseases were understandable and a condition of the black race. Racial discrimination based in eugenic belief also influenced black health care access. White health care professionals often believed blacks weaker, so better healthcare would not help.

The City of Baltimore did not always have segregated housing. In 1880, there was no formal segregation of any group in city residential housing. Black citizens lived

²¹⁰ Both black and white period newspapers commonly used the terms Negro and Colored. This work uses both terms interchangeably with black to indicate African-Americans.

²¹¹ “Men versus the Man,” A Correspondence between Robert Rives La Monte, Socialist, and H.L. Mencken, Individualist [1910], 116, Enoch Pratt Free Library, Baltimore, Maryland.

in many areas of Baltimore, co-existing and mixing into white and Jewish populations. Prior to 1890, there was no specific or predominately black residential area in Baltimore at all. At that time, the city encompassed twenty wards. Though blacks made up ten percent or more of the population in three-fourths of the wards, no single ward had more than one-third black citizens. Many blacks came to Baltimore during the Great Migration, and migration from rural areas in Maryland brought many blacks to urban areas in search of work.²¹² Urbanization and industrial opportunities contributed to racial mixing in most cities. In 1860, just over four percent of all American blacks lived in cities, but by 1890, the number rose to almost twenty percent. In Baltimore, by 1900 the black population grew from 54,000 just twenty years prior to 79,000. The increase amounted to forty-seven percent while the white population in the city increased by fifty-four percent. The black population increased by 25,000, while the proportion of blacks in the city actually declined slightly.²¹³ This made blacks a smaller and easier to marginalize percentage of Baltimore society.

As the black population in Baltimore grew, so did segregation. Limited job opportunities caused many black migrants to seek inexpensive housing. They rented shanties and shared small houses with others in similar situations, creating slum areas. Those who found steady work often moved from slum areas into better, yet still poverty-stricken areas. Not only blacks lived in the Baltimore slums, at least initially. Russian

²¹² Karen Olson, "Old West Baltimore: Segregation, African-American Culture, and the Struggle for Equality," in *The Baltimore Book: New Views of Local History*, ed. Elizabeth Fee, Linda Shopes, and Linda Zeidman (Philadelphia: Temple University Press, 1991), 57.

²¹³ Garrett Power, "Apartheid Baltimore Style: the Residential Segregation Ordinances of 1910-1913," *Maryland Law Review* 42, no. 2 (1982), 290.

Jews and Poles immigrated to the city in large numbers in the late nineteenth century, initially facing the same lack of money, housing, and jobs. They found similar slum housing areas. However, jobs open to white immigrants rarely opened to blacks. Growing immigrant populations often displaced blacks from neighborhoods on the eastern side of the city, pushing them west.²¹⁴

Many blacks lived in sub-standard housing in the western “alley districts” of town. Alley districts, as the name implies, consisted of large numbers of houses and buildings located in alleys and minor streets. These homes were poorly ventilated, dark, damp, and dilapidated with little light or sanitation. A study undertaken by charity workers in 1907 noted that overcrowding represented a significant problem in the Baltimore alley districts. The houses were generally old and originally built for only one family. However, three or more families occupied most houses, called “tenant-houses” by black residents and tenements by the researchers examining housing conditions.²¹⁵ Commonly, two houses of three or four families each shared one outdoor toilet, and the only fresh water came from outdoor hydrants since a third of alley district houses had no running water. Water mixed with waste often overflowed from the outdoor toilets, especially during rain. Dampness from this liquid oozed into basements and walls and collected in the small yards.²¹⁶ Poor sanitation caused disease; it would later reduce resistance to pandemic influenza.

²¹⁴ Ibid., 291.

²¹⁵ Janet E. Kemp, *Housing Conditions in Baltimore: A Report of a Special Committee of the Association for the Improvement of the Condition of the Poor and the Charity Organization Society* (1907, Reprint, New York: Arno Press, 1974), 12.

²¹⁶ Karen Olson, 61.

Many black individuals and families settled initially in South Baltimore in one of the two “alley districts.” However, between 1885 and 1904, half of the black population moved from the alleys to an area known as “old west Baltimore” because of overcrowded conditions, frequently polluted shallow wells, and poor sanitation in the alley district. Not surprisingly the alley district’s epidemic disease rate was significantly higher than in any other neighborhoods in Baltimore.²¹⁷ The first black alley district bordered Hughes Street, appearing in housing reports as the “Hughes Alley District.” After the pandemic, poor German immigrant families began to move there as black families moved to poor western city neighborhoods.²¹⁸ The second became the Biddle Street alley district.²¹⁹ Charity workers examining housing issues in Baltimore found that unmarried men and women lived together and the men sometimes gambled; the charity workers passed moral judgement, stating that these men and women “reached the bottom level of degeneracy” with an “entirely undeveloped moral sense.” The workers believed that gambling and cocaine also contributed to low standards, using their opinions to blame black morality in the alley district for the “poor, wretched, conditions in the district.” Some alley district families maintained clean and moral homes, giving housing workers more reason to pass judgements of immorality and misbehavior on residents living in shabby dwellings.²²⁰ Workers felt that if one family could clean, so could others.

Segregation became the norm in housing nationwide after the turn of the century,

²¹⁷ Ibid., 59.

²¹⁸ Kemp, 16.

²¹⁹ Karen Olson, 61.

²²⁰ Kemp, 18.

and Baltimore was no different. On December 10, 1910, the Baltimore City Council passed a “drastic plan” to enforce racial segregation in residential neighborhoods. Other cities watched the ordinance carefully, some enacting similar laws. This ordinance prohibited blacks from moving to blocks consisting of more than half white residents. Blacks or whites already living in mixed blocks did not have to leave their homes. The ordinance provided penalties for people violating the law, assessing one hundred dollar fines and jail sentences from thirty days to a year. The law closed neighborhoods to racial change, keeping black residents, particularly those with professional degrees, employment, and funds, from pushing into white neighborhoods.²²¹ Baltimore Mayor J. Barry Mahool signed the residential segregation ordinance into law on May 15, 1911, making it the first such segregation law in the country. Mahool believed the law “necessary for preserving peace, preventing conflict and ill feelings between black and white races, and promoting the general welfare of the city.”²²²

The mayor, like many citizens, believed the slums responsible for most of society’s ills. Most whites thought slum environments housed criminals and “disturbing” elements who threatened health and morals, and thus needed constant scrutiny.²²³ Housing investigators rarely distinguished between slum area homes and habits of people living in them. To white society, filth characterized slums and poverty, whereas

²²¹ “Baltimore Tries Drastic Plan of Race Segregation,” *The New York Times*, December 25, 1910.

²²² Power, 289.

²²³ Sherry H. Olson, *Baltimore: The Building of an American City* (Baltimore: Johns Hopkins University Press, 1980), 270. This information came from the Mayor’s Message of February 1, 1903 as per Olson’s notes.

cleanliness defined success in the working-class. Higher-class citizens categorized the poor alley slum-district dwellers as shiftless and irresponsible, overwhelmingly associating filth with foreigners and blacks.²²⁴ Many poor citizens in 1918 still lived in the slums of Baltimore, shut away from working class neighborhoods. Housing investigators classified two types of slums; the tenement houses where recently arrived immigrants lived, and the alley shacks and dwellings where blacks resided.²²⁵

Nevertheless, some blacks did rise from poverty and into the black middle class. The black community considered education, hard work, and home ownership as mechanisms allowing people to move from poverty to a more comfortable life. Education and home ownership became a way for black citizens to join the clean and well-scrubbed larger society and to show their ambition and rising status. However, the white community did not want blacks, even black physicians and professionals, to move into their neighborhoods.²²⁶

Prejudice in Baltimore included a strong anti-Jewish element. In addition to developing separate housing markets to segregate blacks from whites as in most cities, in Baltimore, an additional market developed to cater to Jews. The city divided into specific black, white, and Jewish neighborhoods and blocks. Occasionally, real estate agents did rent or sell to blacks even though a block was determined to be white. This rare practice of “breaking the block” usually occurred after white owners tried to sell to other whites

²²⁴ Sherry H. Olson, 270-71.

²²⁵ Ibid., 269.

²²⁶ Ibid., 272-3.

but had no offers.²²⁷

Black citizens, lawyers, and the NAACP helped fight racial segregation in Baltimore.²²⁸ In 1913, an effort to repeal the Baltimore residential segregation ordinance went to the State of Maryland Court of Appeals. The Court ruled that the Mayor and City Council could legally pass ordinances to segregate colored and white races without conflicting with the Constitution of the United States. However, the court rejected the Baltimore residential ordinance, but only because the particular wording of the law was faulty, not because the court found it unconstitutional. The court of appeals wrote that another valid segregation law would pass scrutiny. The black community believed the residential segregation ordinance unsustainable because it did not afford proper protection for a person acquiring the legal right to occupy a residence by valid contract prior to the date of the ordinance. Indeed, the Supreme Court gave similar reasoning in its decision to invalidate the segregation legislation in 1917, but it took four long years of effort by the black community to hear that ruling.²²⁹

Mayor Preston continued to press for new ways to segregate the races. Buoyed by the 1913 ruling, in 1914 Baltimore Mayor Preston condemned the entire courthouse area downtown because of his fear that blacks living there would spread to the affluent white Mount Vernon area. Over the next few years the city acquired the neighborhood

²²⁷ Pietila, xi.

²²⁸ NAACP refers to the National Association for the Advancement of Colored People. Founded in 1909, this organization fights for social justice for black Americans through the legal system. <http://www.naacp.org/pages/naacp-legal-history> (Accessed March 8, 2016).

²²⁹ “Segregation Law Decided Invalid: Court of Appeals Upholds the Contention of Lawyer W. Ashbie Hawkins, *Afro-American*, August 9, 1913.

properties, including three churches, law offices, and the office of Harry S. Cummings, who was the first black elected to the City Council in 1890.²³⁰ Most blacks living and working in the condemned area were renters with no recourse in the matter. As the buildings emptied, Preston promptly razed them, creating a park rather than allowing new construction.

Poor health conditions plagued many early twentieth century inner cities. In Baltimore City, more than one in ten newborns died before their first birthday, and residents often suffered from endemic disease such as tuberculosis.²³¹ Since the black mortality rate from tuberculosis was 260.4 percent higher than for whites in the years just prior to the pandemic, Mayor Preston declared health conditions as justification for segregating and relocating blacks from areas near white areas. He considered blacks a menace to white health and advised quarantining them.²³² Preston convened a committee and tasked it to write legislation dividing the city between races; the committee failed to agree on appropriate bills so whites looked to other methods to keep blacks out of white areas.

White Baltimoreans looked to other states' attempts to legislate segregation. By 1915, in agreement with the Circuit Court of Maryland, the Kentucky Court of Appeals held that segregation did not constitute discrimination, upholding a similar segregation law to Baltimore's. The court ruled the law fair because it also prohibited whites from moving into a block with a majority of black residents. The Court of Appeals judge

²³⁰ Pietila, 51.

²³¹ Bristow, "It's as Bad as Anything Can Be," 136.

²³² Pietila, 51.

countered that if black people considered themselves confined to less desirable sections of the city, they should take measures to beautify their neighborhoods. The judge further ruled that anyone could purchase land or homes anywhere in the city, but they could not reside in an area with a majority on that block being a different color.²³³

Individual black citizens tried to fight segregation. For example, when black physician, Dr. W. T. Coleman moved into a rental unit in a white Baltimore block in 1917, white neighbors called the police and the state's attorney to force the doctor and his family to vacate the home. However, Dr. Coleman fought the action with the help of the NAACP.²³⁴ A Louisville Court ruling deemed segregation legislation including the Baltimore segregation law constitutional, and laws prohibiting minorities from moving into white blocks legal. The NAACP appealed the case and vowed to take it to the Supreme Court.²³⁵

The case of residential segregation finally went to the U.S. Supreme Court, which decided the case of *Buchanan v. Warley* on November 11, 1917. This decision struck down segregation laws from Louisville, Kentucky that required blacks and whites to live in separate areas. The court said that states could not restrict or officially segregate blacks in residential districts. The court upheld the "civil right of a white man to dispose of property as he saw fit, and the colored person to do the same." Justice Day wrote that colored people were citizens and thus had the right to purchase property and use it without discrimination based on their color. The court also dismissed white resident fears

²³³ "Segregation Law Valid," *Afro-American*, June 26, 1915.

²³⁴ "Resent Negro Invasion," *The Sun*, November 18, 1917.

²³⁵ "Segregation Law Valid," *Afro-American*, June 26, 1915.

of property value depreciation when blacks moved into neighborhoods because property owned by “undesirable white neighbors” would do the same.²³⁶

While the *Buchanan v. Warley* decision was a positive step against segregation, it did not lead to integration or even truly help to prevent segregation in the short run.

White community boards formed and enacted restrictive covenants to prevent racial mixing in neighborhoods, though these covenants often failed. Later, the court reversed itself by confirming general residential zoning constitutional in *Euclid v. Ambler Realty* in 1926. Various states again passed residential segregation laws after the *Euclid* decision, though the court invalidated these state segregation laws in 1927 and 1930.²³⁷

Unable to justify legal segregation but still desiring black and white separation, Baltimore now followed two strategies: clearance and containment. Clearance removed black slums from locations “too” near white areas, and containment prevented the spread of black residential areas.²³⁸ Neighborhood corporations and associations formed to resist the movement of blacks and Jews into white neighborhoods. These groups filed lawsuits and obtained injunctions based on agreements prohibiting owners from allowing blacks to use or occupy their property.²³⁹ The Baltimore Real Estate Board added clauses in their sales contracts requiring white buyers to sign an agreement that prohibited them from selling to blacks and kept whites from allowing those of African “extraction or

²³⁶ Erin Miller, “The Neglected Case of *Buchanan v. Warley*,” in *SCOTUS Blog*, February 10, 2010, <http://www1.scotusblog.com/2010/02/the-neglected-case-of-buchanan-v-warley/> (accessed August 14, 2015).

²³⁷ Ibid.

²³⁸ Power, 316.

²³⁹ “Injunction Forbids Negro to Move to White Block,” *The Sun*, November 23, 1920.

ancestry” to occupy the premises or land. The city used zoning laws as another way to segregate blacks. One white real estate board and neighborhood corporation official after another urged legislation based on the “welfare” of the city. These officials believed their stated concern for the public’s health would make racial laws pass the constitutionality test. Overcrowding led to increased disease transmission, as evidenced by high tuberculosis rates. The Biddle Alley tenement slum area contained one black neighborhood that earned the nickname of “lung block” because the death rate there from tuberculosis was 958 per 100,000 compared with a citywide rate of 131.9.²⁴⁰

Keeping blacks segregated in housing because of a disease threat overlooked the large number of black domestic, laundry, and food supply workers who traveled to labor in white homes and businesses.²⁴¹ Additionally, whites and Jews composed the majority of grocers and retailers in black neighborhoods, and blacks often worked in white neighborhoods catering to white society’s demand for food and entertainment.²⁴² Residential segregation laws intended to keep blacks from living with whites, but whites did not want to limit contact with blacks for economic purposes whenever it benefitted them. Many people in both black and white communities believed Baltimore’s segregation practices intended to intentionally degrade and humble blacks. One editorial writer to the New York Times found the Baltimore segregation law a strange way to remedy racial antagonisms. She spoke against whites intending to crush the Negro spirit

²⁴⁰ Pietila, 53-4; Karen Olson, 61.

²⁴¹ Pietila, 56.

²⁴² Sherry H. Olson, 273-4.

to build up white standards, saying that it would help whites rise if they would help the blacks improve and rise too.²⁴³ Unfortunately, the white community did not agree.

During and immediately after World War I, the black community in Baltimore underwent significant growth. The war industries created a need for more housing for black families. Since many black families migrated to Baltimore, a conference of black men met to study ways to help the migrants. The Conference on Negro Migration aimed to help make sure that no one unfairly exploited these migrants and that they had clothing and shelter. The conference asserted that if property owners and local governments did not maintain housing standards, people living in poor housing were likely to suffer poor health.²⁴⁴ As blacks continued to migrate into Baltimore, many white and immigrant citizens moved from the city to the suburbs. The black percentage of the city's population increased from fifteen to thirty, while the white population in the "old" city of Baltimore decreased by half. This helped with housing overcrowding but did not decrease segregation or health and sanitation problems in the poor black neighborhoods. Black citizens continued to live with poor conditions that lowered their resistance to infectious diseases.²⁴⁵

Black children in Baltimore attended segregated schools. During the 1830s, Frederick Douglass, a former Maryland slave who later became a writer, speaker, and well-known abolitionist, encouraged slaves and freed blacks to learn to read. He pursued

²⁴³ Ruth Hampton, "Baltimore's Segregation Law (Editorial)," *New York Times*, April 10, 1911.

²⁴⁴ "Conference on Negro Migration," *Afro-American*, February 3, 1917.

²⁴⁵ Power," 317.

reading lessons on the streets of Fells Point harbor in Baltimore before escaping to the North.²⁴⁶ Free-black traditions in Baltimore helped black citizens make gains in the city in employment and in life. As early as 1869, Baltimore black citizens began to demand the vote, an end to legal discrimination, and the opening of more professions and trades to them.²⁴⁷

In the early twentieth century, Baltimore had the largest percentage of black citizens of any city in the state of Maryland.²⁴⁸ Baltimore's white population grew unhappy about the increasing black presence and the state's responsibility to provide schools for black children. From the beginning, black and white students went to separate but certainly not equal schools. Funding guidelines for Baltimore schools stipulated that taxes paid by whites would go to white schools, and taxes paid by blacks would go to black schools. Limited access to higher paying jobs due to racial discrimination perpetuated black poverty. Insufficient wages meant less tax revenue, so black schools remained underfunded and inferior. White teachers and principals ran black schools until 1900, when administrators began to hire black teachers at lower wages than whites. Overcrowding added to black school problems.²⁴⁹

The black community came together to provide educational opportunities for older black children when the state only provided blacks education through elementary

²⁴⁶ Karen Olson, 63.

²⁴⁷ Robert J. Brugger, *Maryland: A Middle Temperament 1634-1980* (Baltimore: Johns Hopkins University Press, 1988), 310.

²⁴⁸ "For Negro Tubercular," *The Sun*, May 17, 1919.

²⁴⁹ Karen Olson, 63.

school. Continued education for black children began in 1865 when a group of forty black citizens pooled their meager funds to buy a building they named the Douglass Institute. The institute improved and advanced educational and intellectual offerings available to Baltimore's black youth. The institute eventually became Douglass High School, though initially named the Colored High and Training School. Black students who attended high school in the pandemic era went to this school, the only colored high school in Baltimore at the time.²⁵⁰ Colored High remained the only high school for black students until Baltimore opened a second black school on the other side of town in 1937.²⁵¹

Although Douglass originally served as a source of pride for the black community, Baltimore school officials as late as 1913 remained resistant and fearful of educating blacks. School Commissioner Richard Biggs warned to “stop at once the so-called higher education that unfits (Negroes) for the lives that they are to lead and which makes them desire things they will never be able to reach.” As late as 1934, a reformer reported that public schools did not teach black students any skills that would allow them to work in trades or professions held by whites.²⁵² By 1918, Douglass high school suffered continued neglect with an inadequate building for class work and had no space

²⁵⁰ Karen Olson, 64.

²⁵¹ Maryland Historical Trust, “Frederick Douglass High School,” *Maryland's National Register Properties*.
<http://www.mht.maryland.gov/nr/NRDetail.aspx?NRID=1034&COUNTY=Baltimore%20City&FROM=NRCOUNTYList.aspx> (accessed June 16, 2015).

²⁵² Karen Olson, 63-4.

for any athletic activities.²⁵³

Baltimore City's proposed budget of 1919 illustrated the reason for colored schools' inability to attract good black teachers. Black teachers and department heads earned far less than their white counterparts, even those working in the same school doing the same jobs. The school superintendent made public statements to the effect that he did not expect to get good teachers to come to the black schools. Only black teachers who did not want to leave Baltimore would teach in the city's colored schools. Other good black teachers left Baltimore city schools for better pay elsewhere, including Baltimore county schools.²⁵⁴ Racial discrimination continued as the norm in education, but a few white educators did realize that conditions, not race, affected educational success. In 1919, Dr. Charles B. Thompson of Baltimore, a white physician, undertook a study of children in the school system classified as "atypical" or developmentally challenged. He reported that he avoided the Negro schools because of racially caused differences between the intelligence of black children and the white. Although he claimed that no accurate scale existed for measuring Negro intelligence, Dr. Maxwell of the University of Pennsylvania found ways to measure the intelligence in both races and found no difference. Dr. Maxwell noted that economic and social causes explained any differences in intelligence, when they existed at all. Maxwell stated that children of either race would differ little in terms of mentality if raised by parents of the same social

²⁵³ "School Board Perpetrates Gross Discrimination," *Afro-American*, November 22, 1918.

²⁵⁴ Ibid.

standing and equal incomes.²⁵⁵

Nonetheless, not all black citizens believed racial segregation was negative. Dr. Ernest Lyon spoke about the good of self-imposed segregation in reference to Baltimore segregation laws, arguing that sometimes segregation served as a blessing because it forced blacks to come together. He noted that if black men could get service in white barbershops, the colored barbershops would have trouble staying in business. Similarly, he said that very few colored pastors and churches would exist if white churches would accept blacks into their membership with full privileges. Dr. Lyon promoted the establishment of businesses and banks in the black community that would keep profits separate from whites, thus helping blacks to prosper even under racial segregation.²⁵⁶ Many black run businesses did take advantage of these economic opportunities, and the black community in Baltimore formed its own organizations and institutions. They wanted a news source to print news pertinent to their interests since white newspapers rarely, if ever, printed much about them at all, so Baltimore became home to one of the oldest black news periodicals in the nation, the *Baltimore Afro-American*. In 1892, former slave John H. Murphy, Sr. put his and two other churches' weekly pamphlets into one periodical that eventually became the *Afro-American* newspaper. This newspaper represented the opinions, actions, and concerns of the black Baltimore community before, during, and after the epidemic.²⁵⁷

²⁵⁵ "Friday, August 15, 1919: Un-American Propaganda," *Afro-American*, August 15, 1919.

²⁵⁶ "Good in Segregation: Colored Minister Calls Baltimore Law 'Blessing,'" *Washington Post*, January 3, 1911.

²⁵⁷ African-American Registry, "Baltimore Afro-American Newspaper Founded," *African American Registry: A Non-profit Education Organization*,

Practices in the early twentieth century perpetuated racial segregation and discrimination, even in government agencies, such as those in Washington DC, which continued to separate black and white employees until a few politicians and department heads slowly began advocating change. Prior to the pandemic, for example, black women working at the Department of the Treasury remained unwelcome in the large common dining room at lunch hour. These black workers used a crowded, small room in another area containing the "colored" lavatories. This practice did not end until the Bureau of Engraving and Printing of the Department of the Treasury moved to larger quarters and allowed all employees into the same dining room.²⁵⁸

Private employers also kept many qualified blacks from professional and skilled jobs, instead first seeking white men, then white women if they could do the work, and hiring black men only as a last resort.²⁵⁹ Many white employers categorized black women applying for work as only qualified as potential "scrub women" or domestic workers despite education, experience, or refinement.²⁶⁰ When streetcar companies in Baltimore stopped employing white women conductors in the 1918 because the work was "too hard," service slowed as the streetcar companies looked for white men to employ. Even though it was wartime and transporting goods for the war effort remained vital, rail cars sat idle at the United States Railroad Administration because companies would not

http://www.aaaregistry.org/historic_events/view/baltimore-afro-american-newspaper-founded (accessed July 13, 2015).

²⁵⁸ "Segregation is Checked: Federal Employees in Washington are Treated Alike, says Report," *Afro-American*, March 21, 1914.

²⁵⁹ "Colored Conductors?" *Afro-American*, October 18, 1918.

²⁶⁰ William J. Breen, "Black Women and the Great War: Mobilization and Reform in the South," *The Journal of Southern History* 44, no. 3 (August 1978), 424, 425.

hire black crews. The *Afro-American* responded to the situation, asserting that when people got sick and tired of slow service, the railroad would need to hire proper help, white or colored.²⁶¹ The Department of Labor reported such labor shortages that in March 1918, it began to consider importing black or Asian laborers for unfilled jobs in war industries and for other employers. The *Afro-American* responded that black American laborers were ready to welcome “island brothers,” because the “greater the number of colored people, the less easily are they lynched and Jim Crowed.”²⁶²

The black community continued to fight discrimination and segregation, using many different tactics. The *Afro-American* newspaper, for example, carefully suggested that ministers influence their communities to make efforts in improving race relations and urged pastors to counsel their members to do their best under all conditions, helping the white race to see black workers as dependable and efficient, and countering racial discrimination. Additionally, the paper urged black people to continue to improve themselves.²⁶³

In early twentieth century Baltimore, most black men worked as low paid, irregularly employed laborers, or servants for white families, though a few middle class black professionals existed. About half of all black women worked outside their homes, mostly as laundresses or domestic workers.²⁶⁴ In general, domestic workers worked in white households. The poverty that resulted from widespread racial discrimination and

²⁶¹ “Colored Conductors?” *Afro-American*, October 18, 1918.

²⁶² “Labor Importation,” *Afro-American*, March 1, 1918.

²⁶³ “A Word to the Wise,” *Afro-American*, August 2, 1918.

²⁶⁴ Karen Olson, 61.

limited employment opportunities would aid pandemic influenza transmission, infection, and death. Higher infection rates in black communities caused spread of the virus to the white community through black employment in white households, and through black contact with white citizens in places of business and on public transportation.

CHAPTER VI

SEGREGATION AND UNEQUAL HEALTH CARE

Racial segregation contributed to the larger proportion of black Baltimore influenza and subsequent pneumonia victims. However, influenza was not the only disease to affect the community. Segregation in medical care contributed to medical problems for the black community, poor whites and white employers of black domestic workers. Black health affected white health as white employers then spread disease to the white community. Eugenic beliefs that blacks were constitutionally weaker hurt efforts to address the problems of poor housing conditions, hunger, and sub-standard health care in the segregated black community. Many in the black community understood that having good care for black citizens, especially in a city like Baltimore with a large black population, enhanced the well-being of the white race. A few hospitals in the city cared for sick black citizens, yet facilities for blacks were neither extensive nor centralized to the population core of the black community.²⁶⁵ Segregation also restricted black access to medical education, thus limiting the number of black doctors and nurses available to treat black citizens.

²⁶⁵ “Dr. Boyle Says he Stands for a Victory Hospital out of Debt and Fully Equipped for Colored Patients,” *Afro-American*, November 7, 1919.

Germ theory and fear of black diseases as an excuse for continued segregation began during periodic tuberculosis upsurges, long before the influenza pandemic hit Baltimore. Germ theory promoted isolation of infected patients, whatever their illness, so quarantine became a major tuberculosis management strategy for public health advocates. The tuberculosis bacterium spreads through contact with infected bodily secretions, especially through coughing and spitting, and it can pass to infants through mother's milk. Like influenza, tuberculosis proved especially destructive when hunger and poverty, issues endemic to the black community, limited the victim's resistance to the disease.²⁶⁶ Death rates for black sufferers were twice that of whites, and White doctors often used the high tuberculosis death rate in the black community to substantiate eugenic claims that the black population was weak.²⁶⁷ However, evidence suggests that white employers did not worry about infectious disease when hiring black domestic workers.

Tuberculosis served to diminish individual black citizens' rights under the guise of public health. Health department authority excused quarantine, unfavorable land use decisions, nuisance abatement, surveillance, enforcement, and stigmatization of the black community, particularly in the Baltimore's "lung block" area of high tuberculosis incidence, because whites feared black contagion.²⁶⁸ Baltimore's Mayor Preston used this reasoning when he asked City Solicitor Field to draw up another segregation ordinance in 1918. Preston stated that he wanted to prevent the spread of tuberculosis

²⁶⁶ "White Physician's Views of The Negro and Tuberculosis," *Afro-American*, January 20, 1917.

²⁶⁷ Sherry H. Olson, 270.

²⁶⁸ Samuel Kelton Roberts Jr., *Infectious Fear: Politics, Disease, and the Health Effects of Segregation* (Chapel Hill: The University of North Carolina Press, 2009), 108.

among white people through segregating blacks, who had a higher incidence of the disease. The proposal Field wrote limited the rights blacks to buy and occupy property in districts outside the limits set in the measure. This was the same neighborhood racial segregation as the earlier law struck down by the Supreme Court, but it added wording to make it seem like it protected the health of the white community.

The mayor did not hold conditions in alley districts or “lung blocks,” where segregation forced large numbers of blacks to live, responsible for the poor physical condition of black residents. One author in the *Afro-American* wrote of inconsistencies in the Mayor’s segregation proposal. He stated that if the mayor was truly sincere about bettering all Baltimore citizens’ health conditions, he would propose measures to improve living conditions among the poor; secure adequate treatment for black tuberculosis victims; cooperate with educational movements for black people to produce doctors and nurses; and make beautiful, healthful, and habitable residential areas for poor colored and white people. In short, the prevention of tuberculosis among the blacks in Baltimore city was as important as preventing spread of the disease to the white population.²⁶⁹

In his examination of tuberculosis in Baltimore, Samuel Roberts, Jr. pointed out that “medical racism” existed in the city even while public health authorities looked for a way to lessen disease infection and death rates in both black and white poor. However, early twentieth century public health advocates often separated their medical efforts from the larger problem of crowding and poor living conditions in the urban black community, leading to very slow improvements over the years.²⁷⁰ Dr. Carl V. Reynolds, who treated

²⁶⁹ “Segregation Fever Again in the Air,” *Afro-American*, July 5, 1918.

²⁷⁰ Samuel Roberts, Jr., 6.

both Negro and white patients for two decades, spoke in 1917 to an *Afro-American* newspaper reporter. Dr. Reynolds pointed out that in disease reports that comparing poor blacks to poor whites in similar living conditions remained the only way to gather meaningful statistics regarding each race. In his medical practice, Reynolds observed that that whites and blacks alike could prevent diseases including influenza, and that each race responded similarly to treatment in similar care situations. He further discussed the construction of the human body, noting no differences. He further stated that in both “Caucasian and African” people, it required a germ to enter the body in order to cause disease.²⁷¹

Unfortunately, Health Commissioner Blake did not share Dr. Reynolds’ assessment of disease causation. Though he said that Baltimore needed a tuberculosis hospital for blacks, Blake blamed them for spreading tuberculosis at an alarming rate. While many Maryland institutions cared for white tubercular patients, only one colored tuberculosis ward existed. Because only a few beds for black tuberculosis patients existed in Baltimore, most black families cared for tuberculosis patients at home rather than in a quarantined facility.²⁷² The new infectious disease facility at Bayview hospital treated only white patients, making them as comfortable as possible by placing each tuberculosis sufferer living in a separate room opening directly to the outside. Besides Bayview, several other tuberculosis sanatoriums opened for white patients in or near Baltimore. These facilities together provided seven hundred beds for advanced white

²⁷¹ “White Physician’s Views of The Negro and Tuberculosis,” *Afro-American*, January 20, 1917.

²⁷² “Plans Negro Hospital,” *The Sun*, August 16, 1917.

cases. Still there was no facility specifically for black patients and only a few beds in undesirable areas of white hospitals.²⁷³

By 1919, the Maryland legislature grasped the need for tuberculosis facilities to treat black patients. The State of Maryland saw tuberculosis as such an important health issue that the legislature appropriated \$75,000 for the establishment of a sanatorium for Baltimore's black tuberculosis sufferers. An article in *The Sun* pointed out that white sanitariums successfully managed the disease. Those facilities were usually located in restful environments such as the Blue Ridge Mountains, yet the writer said that a facility in or near Baltimore would be more agreeable to black relatives and friends wishing to visit patients. Concern about black tuberculosis sufferers was not entirely humanitarian; according to the article, the legislature took action for the protection of white society. The legislature believed that tuberculosis among the black population threatened the white population when blacks "go into the homes as servants in a variety of ways, and they come into intimate contact with all ages."²⁷⁴ Therefore, building a sanatorium for blacks suffering from consumption was less a humanitarian concern than a measure of protection for whites.²⁷⁵

The Municipal Tuberculosis Commission recommended that the city provide separate facilities, including "superior as well as separate" facilities for whites because it

²⁷³ Sherry H. Olson, 269.

²⁷⁴ "For Negro Tubercular," *The Sun*, May 17, 1919.

²⁷⁵ Sherry H. Olson, 270. Olson quoted a Baltimore *Sun* article from August 6, 1911.

saw black consumption a more serious menace.²⁷⁶ Since Bayview Hospital already housed some black tuberculosis patients in a segregated ward, suggestions included building a new modern building for white patients elsewhere and turning over Bayview to black sufferers. The aging facility badly needed expansion and renovation so the commission promised some money if the plan went forward.²⁷⁷

The city's plan for a black tuberculosis hospital coincided with city health officer Blake and Baltimore mayor Preston's proposal to convert districts where most tuberculosis patients lived into parks and breathing places. To quiet concerns from white citizens about tearing down neighborhoods known for widespread tuberculosis infections, Dr. Blake assured the white public that he would not allow "these people" to move into or infect other neighborhoods. Neither Blake nor Preston mentioned where displaced residents of these "lung blocks" would go. Since the only options for blacks with tuberculosis consisted of home care or a few beds at Bayview Asylum, Blake urged the city to build the hospital as quickly as possible.²⁷⁸ The commission picked a site for the black tuberculosis hospital in Towson, in the Northwest section of the city. Towson residents filed a court injunction against the tuberculosis commission because they did not want the black hospital in their area. However, before the court ruled, the owners sold the proposed property to Black and Decker at a lower price than the state offered,

²⁷⁶ Ibid. Olson cited this material from the 1910 Annual Report of the Municipal Tuberculosis Commission.

²⁷⁷ "For Negro Tubercular," *The Sun*, May 17, 1919.

²⁷⁸ "Plans Negro Hospital," *The Sun*, August 16, 1917.

keeping the hospital out of the area.²⁷⁹

Segregated medical care for influenza, like tuberculosis, negatively influenced patient survival rates. Fear of contagion continued to reinforce segregation along income and ethnic lines, increasing tension in the city. Racial tensions also grew with the false reports that blacks suffered fewer influenza infections than whites did. Reports in the black *Afro-American* newspaper stated that influenza death rates reported from the black community remained consistently lower than white death rates. On October 11, 1918, the health department reported 19 black of 36 deaths total in Baltimore for the day, proving that the black community held no immunity to the disease.²⁸⁰ Still, newspaper reports mislead citizens. One claimed that “there have been many deaths among the whites and few among the colored.”²⁸¹ An editorial by William Pickens of Baltimore related a Charleston, West Virginia post office patron’s belief that “God must be a n**ger because the influenza germ was partial to black people.” Mr. Pickens wrote that that neither the flu germ, nor any other germ, chose victims because of color, as germs look only for opportunity. He was right. While white people suffered more influenza infections in the early days of the epidemic, black people developed more fatal pneumonia complications than whites. Whenever blacks died faster in any disease process, some whites credited black inferiority, but when the notion that influenza did not attack blacks as often as whites began to spread, white commenters began to say that black people were not

²⁷⁹ “Hospital Plans Upset,” *The Sun*, August 10, 1919.

²⁸⁰ “City in Grip of ‘Flu:’ 36 Reported Dead in 2 days,” *Afro-American*, October 11, 1918.

²⁸¹ “Correspondence: Red Cross Flourishing at Havre De Grace,” *Afro-American*, October 25, 1918.

“really” human.²⁸²

Reports that blacks did not suffer from influenza as much as whites possibly reduced panic in the black community, but records of the Baltimore Health Department nevertheless indicate that a reason for panic was still there. An *Afro-American* newspaper examination of Health Department Records from 1901 to 1926 demonstrated that blacks in Baltimore died at about twice the rate as whites during 1918. During the influenza epidemic, the death rate for blacks was 41.5 deaths per 1000 in population, higher than it had been in the fifty years prior to the epidemic, and much higher than the 24 per 1000 death rate of white Baltimore residents for the same period.²⁸³ The article explained the significance of charts graphically noting the rise and fall of death rates in the races, noting that each race tracked similarly to the other. When conditions present in either race caused a rise or fall in mortality for one group, it caused the same rise or fall in the other group. Smallpox, like tuberculosis and influenza, also attacked blacks and frightened Baltimore’s white population because black citizens frequently worked in white homes. A man who worked as a butler for a family in Baltimore County developed smallpox. He came from a North Carolina area with a low vaccination rate, so the Health Department immediately vaccinated anyone he contacted and put him in quarantine to prevent spread of the disease.²⁸⁴ The newspaper report declined to mention if the white family he contacted also served a quarantine period.

²⁸² “God’s a Nigger,” *Afro-American*, December 20, 1918.

²⁸³ “Colored Death Rate in City Double White,” *Afro-American*, March 6, 1926. In addition to influenza, black citizens in this era commonly died from tuberculosis, heart disease, apoplexy, pneumonia, Bright’s disease, syphilis, premature birth, and injury at birth.

²⁸⁴ “Smallpox Suspect Held,” *The Sun*, February 25, 1917.

Baltimore was one of ten cities that the U.S. Public Health Service canvassed door to door after the fall pandemic wave. The USPHS compiled data during and after the pandemic on influenza and pneumonia infections, deaths, along with sex, age, and race, and it studied possible relationships between death rate and family economic condition. The health service also performed a second survey in January 1919 in Baltimore and San Francisco to see if the data remained consistent.²⁸⁵ Baltimore reported an influenza and related pneumonia death rate comparable to, or sometimes higher than other large cities during the epidemic. From September 14, 1918 to March 1, 1919, Baltimore's death rate from influenza and pneumonia was 7.4 per 1000 of population, higher than New York City, including 1956 influenza deaths and 3006 from pneumonia. The health department tracked the extent that influenza and pneumonia increased the normal death rate during the epidemic, classifying Baltimore's excess death rate as 6.1 per 1000, one of the highest for larger cities. The study did not differentiate between death rates for citizens of different races.²⁸⁶

In Baltimore, black influenza patients had few places to go for care and fewer medical professionals to provide it. Prior to the Civil War, white and free black citizens proposed black hospitals where black physicians could practice and black women could learn nursing.²⁸⁷ Black hospitals developed as a continuation of colonial almshouses to

²⁸⁵ Rollo H. Britten, "The Incidence of Epidemic Influenza, 1918-19: A Further Analysis According to Age, Sex, and Color of the Records of Morbidity and Mortality Obtained in Surveys of 12 Localities," *Public Health Reports (1896-1970)* 47, no. 6 (February 5, 1932): 303-39.

²⁸⁶ "City 'Flu' Total 1,956," *The Sun*, March 9, 1919.

²⁸⁷ Vanessa N. Gamble, *The Black Community Hospital: Contemporary Dilemmas in Historical Perspective* (New York: Garland Publishing, 1989), 8.

provide training for the increasing number of medical schools in the country.²⁸⁸ Few of these white established segregated facilities survived reconstruction with the exception of the Howard University Hospital, formerly the Freedmen's Hospital in Washington, DC, and the Meharry Medical College Hospital in Memphis.²⁸⁹

By the end of the nineteenth century, more hospitals specifically for black medical patients began to appear. These medical facilities fell into several categories: Some whites established segregated facilities to serve black patients, while some blacks established black hospitals like Provident Hospital in Baltimore to train and provide clinical practice for black physicians and nurses. Some hospitals served the race demographically determined by the population surrounding the hospital. In many cases, these demographically determined black hospitals were neither black founded nor established to serve black people. Instead, they evolved into black hospitals because of the surrounding black population.²⁹⁰ White people founded facilities to provide medical care in the black community for many reasons. Some whites, motivated by paternalism, genuinely desired to care for black people. Others embraced germ theory, believing that by treating sick black people, especially those working as domestics for white families, they might protect white health. Still other whites built black hospitals to avoid embarrassment for completely neglecting the sick in the black community. Regardless of motivation, white citizens, health care workers, and patients did not want black sick in

²⁸⁸ Reginald L. Peniston, Review of *The Black Community Hospital: Contemporary Dilemmas in Historical Perspective* by Vanessa Gamble, *Journal of the National Medical Association* 84, no. 1 (January 1992): 7.

²⁸⁹ Gamble, *The Black Community Hospital*, 8.

²⁹⁰ *Ibid.*, 3.

the same hospitals as whites.²⁹¹ As in Baltimore, a few hospitals, particularly in the North, maintained separate wards or wings for black patients, but the conditions were certainly not equal.²⁹²

Prior to the twentieth century, black families usually cared for sick relatives at home. The few nineteenth century hospitals treating blacks functioned as welfare institutions housing indigents along with sick people.²⁹³ Despite these rare institutions, most blacks had no access to care facilities at all, even when they existed for white citizens. For example, an in-patient care facility for “feeble minded” white children was established in 1888 in the rural county town of Owings Mills called the Rosewood Training School. This facility housed white children from Baltimore City and county. No facility existed for black children facing the same challenges. Bayview Hospital housed a few severely developmentally challenged black children in the segregated ward that also treated infectious tuberculosis patients; otherwise, black children with developmental problems received care only at home.²⁹⁴

In Baltimore, most hospitals did not accept black patients at all, but a few white hospitals did serve black sick in separate wards or wings away from their white patients. Segregated facilities clearly treated black patients as second-class. In the general hospitals, City Hospital (later renamed Mercy) had a poorly ventilated railroad ward and

²⁹¹ Ibid., 8-9.

²⁹² Peniston, 7.

²⁹³ Gamble, *The Black Community Hospital*, 6.

²⁹⁴ “For Negro Tubercular,” *The Sun*, May 17, 1919. Established in 1888, Rosewood Hospital and Training Center finally opened to black patients in 1956.

a completely unventilated immigrant ward. This hospital housed black patients in an older building considered inferior to those other two inferior wards. The Southern Homeopathic Medical College and Hospital of Baltimore, which closed in 1910 before the pandemic, housed black patients in a “slightly” remodeled stable. The Catholic Saint Agnes Hospital accepted white patients only, while Johns Hopkins and Bay View hospitals supposedly treated white and black equally, but many considered the care at these facilities poor for everyone.²⁹⁵

Black physicians desired an all-black medical facility since white hospitals did not permit black physicians and nurses to practice there, even in the black wards. Further, white medical associations did not allow black doctors to become members, nor did the white journals publish studies and papers by black scientists and doctors. Exclusion from white medical associations and journals caused black doctors to create their own medical association to share information and research, called the National Medical Association. Physicians of the National Medical Association published their findings and studies in the *Journal of the National Medical Association*.²⁹⁶

The first black hospital in Baltimore, Provident Hospital of Baltimore, began in 1894 as a clinic of only ten beds housed in a small private home. Most of its founders were black Baltimore physicians who composed the medical staff and the hospital board of trustees. The hospital quickly ran out of space because of its success, so it moved into a larger private dwelling in downtown Baltimore eighteen months later. The hospital struggled to create enough income to maintain the facility, receiving limited financial

²⁹⁵ Sherry H. Olson, 270.

²⁹⁶ Gamble, *The Black Community Hospital*, 17.

support from patients and little contribution from city and state governments. The small group of founding physicians often provided financial support from their own pockets to keep the hospital open and able to provide care to Baltimore's black population.²⁹⁷

During the 1918-19 pandemic, the medical staff and board of directors kept Provident Hospital open, although they encountered constant fund raising difficulties. Due to the number of black influenza and pneumonia patients seeking care, the hospital was more crowded than ever before. Provident Hospital remained at full capacity during the entire pandemic. The hospital had forty beds, but needed double that number. The administration reluctantly refused requests from the Red Cross and City Charities to serve more patients because it lacked the room. The superintendent hospital physician worked day and night to care for patients and employed extra nurses during the epidemic.²⁹⁸

Provident hospital and the few white hospitals with black wards never kept up with the needs of black citizens during the influenza pandemic. While Baltimore did not provide a flu hospital for blacks, in nearby Washington, the public health service did. It also opened a separate emergency station at the Armstrong Manual Training School to handle black patients exclusively. Black doctors, nurses, and volunteer helpers made up the facility staff. The public health service furnished all supplies and equipment to both the black flu hospital and emergency station. Public health authorities in Washington believed that many black people failed to report needy cases to authorities, so this care

²⁹⁷ Robert L. Jackson, and Emerson C. Walden, "A History of Provident Hospital, Baltimore, Maryland," *Journal of the National Medical Association* 59, no. 3 (May 1967): 157.

²⁹⁸ "Influenza and Pneumonia Claims Many Victims," *Afro-American*, October 18, 1918.

station reached out to those needy sick.²⁹⁹

Black citizens suffered from a shortage of black doctors and nurses. In Baltimore, blacks desiring medical training prior to the pandemic had few schools open to them, decreasing the number of trained black physicians available during the epidemic and for subsequent complicating conditions. One school that did provide this training was the Medico, Chirurgical and Theological College on North Ensor Street, which began training black doctors and nurses in Baltimore in 1900. Led by a black college president, this school also conducted college level training in theology.³⁰⁰ Many of the doctors trained at this school went on to treat patients at Provident hospital, Bayview hospital, and in the few wards in white hospitals allotted to black patients. Howard University in nearby Washington also operated a physician training school for black students, at the time it was the only black medical school to receive federal financial help. An ad in the *Afro-American* noted that Howard was aided by the government and would pay a “boy’s board, lodging, clothing, and pay him one dollar a day while getting his education.” Howard maintained schools of Theology, Medicine, Dentistry and Pharmacy, all open to blacks. In the school year of 1917-1918, Howard University had 1500 students and a faculty of one hundred.³⁰¹

Not surprisingly, white Baltimoreans normally did not seek care from black physicians. In fact, this situation was so rare that the *Afro-American* newspaper published an article about a white man treated by a black physician. Appearing to be an

²⁹⁹ “‘Flu’ Seems on Wane,” *The Washington Post*, October 21, 1918.

³⁰⁰ “Colored Nurses Graduate,” *The Sun*, May 21, 1920.

³⁰¹ “Advertisement for Howard University,” *Afro-American*, September 20, 1918.

advertisement, Thomas Ween said he tried various doctors and hospitals, but only found relief after treatment by Dr. Campbell. Readers, however, never learned the nature of Mr. Ween's medical condition. Ween further praised Dr. Campbell, writing that he experienced such good results that he referred other family members to the doctor. Ween's family also experienced with positive results with the treatment.³⁰² Mr. Ween's treatment by a black physician was not a commonplace occurrence. However, an article written after the pandemic noted some progress in black physicians' opportunities to treat white citizens. According to the article, authorities called a black doctor out of bed after a streetcar crash in Baltimore. Fourteen whites lined up for treatment along with two black women, a significant enough event to merit mention in the newspaper. The doctor, Dr. Fisher, spent an hour dressing and stitching the lacerations and bruises of those hurt, both black and white.³⁰³

Prejudice also caused black nursing shortages during the pandemic. White facilities prohibited the hiring of black nurses, even banning them from working in the black wards in white hospitals. Only black hospitals trained or allowed black nurses to work there. Black women had to obtain their training at black nursing schools since white schools overwhelmingly prohibited their admission. Even after black nurses graduated from nursing school and became "graduate nurses," they could not take the registered nursing board exams required to apply for nursing positions in white hospitals. Since training programs for black nurses remained rare, the Provident Hospital of Baltimore became a nurse training facility, producing graduate nurses in limited numbers.

³⁰² "Victory After a Hard Struggle," *Afro-American*, November 8, 1918.

³⁰³ "Called Doctor Out of Bed," *Afro-American*, July 23, 1920.

Provident built student nurse accommodations complete with a medical library in the hospital building.³⁰⁴

The American Red Cross even excluded black nurses from helping with civilian and military patients until late in WWI, adding to severe nurse shortages during the pandemic. The American Red Cross supplied nurses to the military, organized nursing care for civilians during the influenza pandemic, and helped with other public health and welfare related tasks. The secretary of Howard University wrote to the *Washington Post* to advocate that the Red Cross organize a unit of colored nurses, citing that the Red Cross denied applications of experienced and trained nurses who wished to help in the war effort because of their color. Mr. Cook argued that the war effort required as many nurses as possible and that black nurses would provide “unselfish and patriotic devotion to the nation.”³⁰⁵

By the height of the pandemic, the American Red Cross changed its stance. In the fall of 1918, the Red Cross allowed black women to volunteer as nursing aid workers to help with black civilian patients. The Red Cross Civilian Relief Department comprised both black and white nurses and volunteers who took turns relieving each other in the homes of citizens of either color who applied to the Relief Department for aid. The agency called for civilian volunteers to help, noting that Red Cross nurses encountered entire households sick with influenza or pneumonia. The Red Cross asked anyone that

³⁰⁴ An article in the Afro-American newspaper listed the nursing class of 1951 as the largest class ever. This class consisted of thirty young students from twelve states. “30 Girls from 12 States Make up Largest First Year Class of Nurses at Provident, Baltimore,” *Afro-American*, September 19, 1951.

³⁰⁵ “Asks for Colored Nurses,” *The Washington Post*, April 8, 1917.

could help to volunteer, even if they could spare only a few hours a day. It printed appeals in the *Afro-American* newspaper for women in the black community with any amount of training to help with the sick. Acceptable training included hospital experience and nursing experience gained tending to the sick at home. Mrs. Mitchell, the black graduate nurse in charge of the program, assigned clients to women accepted to work as “nurse’s aides.”

The Red Cross published a similar newspaper appeal in *The Sun* asking volunteers to help with the white community’s sick. This article asked for nurses, nurses’ aides, and visiting health care volunteers to work with the Baltimore Red Cross chapter. Unlike programs for the black community, the Instructive Visiting Nurse Association, Federated Charities, and other charitable organizations joined the Red Cross in the white community efforts. The Red Cross also requested autos for a couple of hours a day to help black nurses and aides to reach needy patients in the community.³⁰⁶ Though the agency accepted both white and black volunteers, it maintained separate and segregated offices and branches where the women of each race went to volunteer. The white headquarters was at Druid Hill and Eutaw Streets, while the Colored Branch was located further away on Druid Hill Avenue.³⁰⁷

The Red Cross would not consider black patients who had available help from family members for volunteer services, and it cautioned the black public not to ask for help in any but the most serious situations. The Red Cross intended to serve only the black sick who had no help or did not know how to help themselves. However, *The Sun*,

³⁰⁶ “Red Cross Needs Helpers,” *Afro-American*, October 18, 1918.

³⁰⁷ “Colored Women are Assisting Red Cross Nurses,” *Afro-American*, October 25, 1918.

serving the white community, quoted a Red Cross promise that nurses would visit everyone asking for care. Unlike the article in the *Afro-American* black newspaper, this article did not caution readers not to call except in dire situations.³⁰⁸

Deep racial tensions permeated every aspect of Baltimore city health care, even that of schoolchildren. The Health Commissioner for Baltimore schools appointed a staff of black physicians and nurses for medical inspections in the black public schools. Commissioner Jones said that black medical personnel would help with the physical improvement of Negro children in the city by instructing the children in public health and sanitary practices. He also stated that since about one-sixth of the population of Baltimore was black, black children's health would be important to the general health in the city as the children grew to adulthood. However, Jones wanted these black doctors and nurses to work without pay for the remainder of the 1919-1920 school year, saying that the department lacked funds to pay them. He promised to ask the legislature to fund black salaries for the following school year.³⁰⁹ White doctors and nurses in the white public schools, on the other hand, received pay for their work that school year and in later years. By 1920, the Baltimore City Health Department employed nurses for each public school. White schools employed and paid registered nurses while black nurses working in black schools worked entirely as volunteers. Black nurses received no pay, and remained ineligible for permanent positions until they passed the registered nurse examination, even if they graduated from nursing programs in the city. Further

³⁰⁸ "To Furnish Nursing Aid: Red Cross and Federated Charities Combine In Work," *The Sun*, October 13, 1918.

³⁰⁹ "Negro Staff Appointed," *The Sun*, February 29, 1920.

discriminating against them, regulations prohibited black nurses from taking the required registered nurse board examinations necessary before applying for paid positions even though they already worked in the schools as professional nurses without pay.³¹⁰

Despite black graduate nurses earning nothing for their work with the school board and public health agencies, a citizen writing an editorial in the *Sun* expressed his disgust that not all black nurses in the public health system were graduate nurses like white nurses. Public Health Department nurse requirements stated that all nurses graduate a nursing program and be registered nurses (RNs) licensed in the State of Maryland.³¹¹ The writer obviously did not realize that racial discrimination made it impossible for black nurses to sit for the state RN exam, or that all black nurses working in the schools graduated from a nursing program.

Baltimore health department records demonstrate that blacks died from all causes at a rate nearly double of the white city residents. The annual black mortality rate from all causes for the preceding year of 1916 per 1000 in population was 33.96% compared to the death rate for the white population of 16.91% for the same period. At this time, the city estimated the Negro population at 90,000 people.³¹² Doctors listed medical conditions like consumption, pneumonia, and heart disease on death certificates, but other factors caused death indirectly. Poorly ventilated, over-crowded, and unsanitary dwellings housing blacks played a large part in allowing disease to take hold, and killed

³¹⁰ “Dr. Buckler Makes Clear the Status of the Colored Nurses Employed In Public School Work,” *The Sun*, March 28, 1920.

³¹¹ “Why is the Same Rule not enforced in the Health Department as to Colored Nurses that is applied to White?” *The Sun*, March 7, 1920.

³¹² “Negro Death Rate High,” *The Sun*, February 25, 1917.

many middle-of-life blacks. Crowded working conditions in industries employing black men also promoted disease. Additionally, some black mothers endangered themselves and their unborn children by working to augment family income. While some poor blacks were ignorant of hygiene, others remained unable to take hygienic measures due to living conditions and poverty even with knowledge. Despite Baltimore's reputation for excellent health and hospital facilities, poor living conditions, poverty, and their color prohibited most black citizens using white medical facilities for care.³¹³

In a report written by health commissioner Blake in 1918, five black Baltimoreans died for every three born. The black community blamed the city administration including Mayor Preston for the high death rate. The administration did nothing to address the unsanitary conditions in colored sections of the city, leaving streets and alleys unpaved, public dining places unsanitary, and theaters unventilated. Additionally, insufficient hospital and nursing facilities existed to serve black areas, and officials did not enforce compulsory school laws in the segregated community. However, the administration spent money completing the municipal waterfront and sunken gardens in the white section, along with other improvements to make the white parts of the city more beautiful.³¹⁴ Black citizens generally could not and did not use improvements made to white sections so the money spent did not benefit them. Rather, sanitary improvements would likely have cut the black sickness and death rate during the epidemic and afterward.

When the local health bureau studied high black mortality in Baltimore, the

³¹³ "Colored Death Rate in City Double White," *Afro-American*, March 6, 1926.

³¹⁴ "Five to Three," *Afro-American*, May 23, 1919.

resulting report noted that the death rate of black citizens reached a peak in 1918 from the influenza pandemic and associated conditions such as pneumonia. The death rate for blacks of all ages exceeded the death rate of whites up to the age of sixty-five. The excessive death rate of blacks compared to whites in Baltimore also existed at approximately the same rate in other cities. The report noted that tuberculosis caused a large portion of black deaths in Baltimore. The city had the power to decrease the death toll by undertaking anti-tuberculosis measures. The report listed cancer as the only disease in which the colored death rate was lower than for whites. For most health conditions, the increased death rate of blacks came from poor living conditions that the black community could not remedy themselves. Black citizens had to wait for property owners to build better housing, for the city to drain the streets in their neighborhoods, and for the government to open up thoroughfares through crowded settlement areas in order to improve their communities. The *Afro-American* newspaper noted that the problems blacks experienced existed citywide, and all agencies, black and white, needed to cooperate to improve health conditions.³¹⁵ Unfortunately, most needed reforms and improvements did not happen until well after the pandemic.

In a study published in 1931, the Public Health Service verified that the popular misconception that the influenza epidemic hit rich and poor people alike was simply not true. Although the epidemic devastated all people in all classes, detailed studies indicated that the lower the economic level, the more likely the person would suffer influenza infection and death from complicating conditions. This relationship between economic level and infection rate persisted even after adjusting for the color, sex, and age

³¹⁵ “High Death Rate is City Problem,” *Afro-American*, January 24, 1925.

of those people studied.³¹⁶ Health care proved far from equal as racial and medical stereotyping and segregation caused black deaths. White citizens restricted black access to health care professionals and facilities, limited black access to medical education which limited the number of black doctors and nurses available to treat black citizens, and did not undertake sanitary and health measures in substandard housing found in black districts.

³¹⁶ “‘Flu’ of 1918-19 Hit Poor More than Rich,” *The Washington Post*, February 23, 1931.

CHAPTER VII

SEGREGATION IN AN UNEQUAL MILITARY

Infectious disease nearly always seems to accompany military conflict. In World War I, influenza helped put an end to a German offensive in June 1918, as nearly half a million German soldiers fell ill. These soldiers suffered poor diets and conditions, causing their resistance and ability to fight off the infection to be lower than that of their allied enemies.³¹⁷ Most modern medical historians agree that military conditions worldwide during WWI led to the quick spread and unusual fatality rate of the 1918-19 influenza pandemic.³¹⁸ Wars brought novel microbes and young soldiers from many different places together, infecting new enlistees with germs not usually found in their home areas and allowing them to spread the germs through military training camps and then to war zones.³¹⁹ A study published in *The Proceedings of the National Academy of Sciences* argued there existed nothing sinister about the 1918 virus, though it infected a third of all people on earth and caused an estimated 50 million deaths. Instead bad timing

³¹⁷ J.N. Hays, *Epidemics and Pandemics: Their Impacts on Human History* (Santa Barbara: ABC Clio, Inc., 2005), 385-6.

³¹⁸ Lexie Verdon, "Frozen Bodies May Reveal Secrets of Deadly Virus," *The Washington Post*, June 18, 1996.

³¹⁹ Carol R. Byerly, "The Politics of Disease and War: Infectious Disease in the United States Army during World War I," PhD diss, University of Colorado at Boulder, 2001, 1.

and luck took the blame.³²⁰ Wartime travel brought people and needed materials to and from the European war zone, while expanding rail systems in America and beyond accelerated transmission throughout the world.³²¹ The Great War caused bad timing and luck, but neither accounted for higher black influenza and complication mortality rates in the military. The higher mortality for black soldiers resulted from segregated, overcrowded, and substandard housing, from assignment to labor battalions with hard physical labor, and from shortages of food, clothing and sleep. Additionally, a general shortage of medical care and the lack of black soldiers' equal access to physicians, nurses, and health care contributed to a higher black infection and death rate.

Even before the influenza pandemic, conditions in the military held potential to encourage and spread disease. The Surgeon General of the Army, Major General William C. Gorgas admitted that fighting men and their commanders knew the importance of good health to the military. During WWI, European military bases set up mobile labs, laundries, and delousing stations to rid soldiers and prisoners of war of the louse-borne disease "trench fever," which incapacitated over a million soldiers during the war.³²² General Gorgas said that military life always favored the spread of septic pneumonia because large numbers of men came together in large numbers and crowded into barracks of up to two hundred men each.

During the 1918 influenza pandemic, influenza and resulting pneumonia caused

³²⁰ Carl Zimmer, "In 1918 Flu Pandemic, Timing Was a Killer," *The New York Times*, April 30, 2014.

³²¹ Hays, 389.

³²² Mary Dobson, *Disease: The Extraordinary Stories behind History's Deadliest Killers* (London: Quercus, 2007), 42.

heavy death rates among all combatants. Historian Carol Byerly examined war department records from World War I, particularly medical records and naval documents, and demonstrated that wartime conditions in the camps, trenches and battlefields in France allowed the pandemic virus pathogen to increase in virulence.³²³ The army death rate during the pandemic was approximately five times that of the civilian population of New York City. General Gorgas admitted that conditions on troop transports added to the influenza pandemic; each ship suffered about seventy pneumonia deaths and about three-hundred cases of influenza. Overcrowding at military installations remained a concern, and the Surgeon General reasoned that putting soldiers into smaller huts of six men or less rather than in large barracks could cut infection rates in units.³²⁴ Americans back home became alarmed over the poor health conditions in military camps and advocated congressional attention to the situation. In doing so, they pushed the War Department to make reforms.³²⁵ Despite calls for change, the war ended before positive reforms materialized.

The influenza pandemic prevented filling quotas for enlisted men going to training, as the widespread disease delayed medical boards from examining new volunteers and draftees. By November after the worst of the epidemic passed, local draft boards found themselves inundated with men unable to reach the medical examiners during September and October. Draft boards delayed examining and inducting some

³²³ Carol R. Byerly, "The U.S. Military and the Influenza Pandemic of 1918-1919," *Public Health Reports* 125 (April 2, 2010): 83.

³²⁴ "Gorgas Would Put Soldiers in Huts: Pneumonia Deaths Increased, He Says, by Assembling Men in Barracks," *The New York Times*, December 7, 1918.

³²⁵ Byerly, "The Politics of Disease and War," 3.

registrants from September 12 and later until November, despite medical officers examining three hundred men a day in the interim to try to clear the backlog.³²⁶

Once accepted for the service, the military rarely treated black soldiers the same as white ones. A study of army rations issued in training camps Grant, Dodge, and Funston over four months indicates that troops of the 366th Infantry Unit of the all-black 92nd Division received less protein and fewer calories than white infantrymen. This practice continued despite the fact that the black troops were taller and heavier on average than white troops and thus required more protein and calories to remain healthy and strong.³²⁷ Neither blacks nor whites likely realized the difference in rations because they were either assigned to separate camps or separate areas within larger camps.

There were several military camps in the Baltimore area during WWI; Camp Meade being the largest. From these Baltimore area camps, soldiers formed units who then dispersed to other camps. The first of these, the First Separate Company from Baltimore went with the Separate Battalion from the District of Columbia to Camp McClellan in Alabama. The Army used the term “separate” to designate black units. The troops staged at Camp McClellan were among the first to ship out to France.³²⁸

Military camps became major centers of influenza spread, especially those camps housing new recruits. Recent arrivals to military training camps got sick in higher numbers than did men of similar age who had served longer. During the war, soldiers in

³²⁶ “Hard to Fill Quotas: Local Draft Boards Delayed by Influenza Epidemic,” *The Washington Post*, November 6, 1918.

³²⁷ Byerly, “The U.S. Military and the Influenza Pandemic of 1918-1919,” 88.

³²⁸ “Fight Influenza Here,” *The Washington Post*, September 25, 1918.

service less than four months made up sixty percent of all military influenza and related pneumonia deaths.³²⁹ Historian Alfred Crosby explained that an important factor in flu transmission in both military camps and civilian cities was overcrowding, and military camps were greatly overcrowded.³³⁰ By December of 1918, the Public Health Service estimated that there were at least 20,000 deaths in army camps in the United States alone from the influenza epidemic.³³¹ Historian Richard Collier wrote of the pandemic's social impact relative to poor military conditions, focusing on hunger, overcrowding, and lack of running water and sewage facilities that became more significant as the war stretched resources.³³²

Camp Devans near Boston, suffered the highest loss of life of all military camps in the fall influenza wave. Because of transmission from soldiers and civilians working at the camp, the disease quickly spread to nearby communities. Camp Meade near Baltimore also suffered with influenza sickness and death, reporting five hundred new cases of influenza on a single day in September of 1918.³³³ By October 5, the virus was spreading rapidly in military camps throughout the country, with nearly thirteen thousand new cases reported just among the soldiers in training. Many influenza sufferers developed complicating pneumonia that significantly decreased the patient's likelihood of recovery. The army reported that pneumonia cases nationwide nearly doubled in just

³²⁹ Brundage and Shanks, "Deaths from Bacterial Pneumonia," 1195.

³³⁰ Crosby, 46.

³³¹ "Influenza Kills 370,000 in U.S.," *The Washington Post*, December 5, 1918.

³³² Collier, 18.

³³³ "Fight Influenza Here," *The Washington Post*, September 25, 1918.

one day from nine-hundred thirty on October 4 to 1854 on the fifth. The military reported that public health officials and the Red Cross were working together in civilian cities and army camps to help decrease the number of new cases.³³⁴ Just over the Mason-Dixon line, the small Camp Colt in Gettysburg, Pennsylvania even reported eleven deaths in one day, with twenty one new cases reported between October fourth and fifth.³³⁵ Camp Meade reported hundreds of new influenza cases and many deaths on the same days, including six young men from Baltimore.³³⁶

In her work on military aspects of the pandemic, Byerly argued that black soldiers had lower morbidity but higher mortality than white soldiers. Some army reports credited the blacks' higher mortality to racial weakness and susceptibility to illness. Nevertheless, racially segregated housing in army camps might actually have kept some black units from initial influenza infection and thus lowered morbidity rates, but inferior living conditions, lack of access to and poor medical care would account for their higher mortality. For example, the soldiers of the 803rd Pioneers, a black unit, had only one medical officer to care for several hundred sick men in the regiment.³³⁷

Local black units in the Baltimore area included those assigned to Camp Holabird on the eastern bay-view side of the city. After diagnosing several cases of influenza in the fall of 1918, commanding officers quarantined the entire camp. This "strict quarantine" applied to the thousand or so black soldiers there, though the white officers

³³⁴ "Rapidly Spreading Throughout Country," *Baltimore American*, October 5, 1918.

³³⁵ "Deaths at Camp Colt," *Baltimore American*, October 5, 1918.

³³⁶ "Flu Unchecked at Camp Meade," *Baltimore American*, October 6, 1918.

³³⁷ Byerly, "The U.S. Military and the Influenza Pandemic of 1918-1919," 88.

were exempt from quarantine regulations.³³⁸ These officers were able to go and come from the camp as they deemed necessary, bringing influenza virus microbes with them as they went.

Nearby Camp Meade housed the 408th Labor Battalion, made up entirely of black soldiers. These men did all the hard manual work necessary at the large military installation; the unit's training did not include any military tactics other than learning "squads left" and "squads right" because the army never intended it deploy to the war zone.³³⁹ Camp Meade also housed other units composed of white soldiers training for combat. During flu quarantines in the fall of 1918, blocks in the camp containing black soldiers stayed closed for four weeks, even after the military lifted the quarantine for white soldiers. Visitors then could come on base and see the local white troops, yet the military allowed no black soldiers visitors or furloughs. Era black newspapers reacted with surprise that so few colored soldiers became sick or died from influenza, noting that deaths of black soldiers numbered only about two dozen during the quarantine.³⁴⁰ Public Health reports issued well after the pandemic passed revealed the incidence of respiratory diseases reported in Army hospital admissions as per 1000 was 310.4. The comparable rate per 1000 for the city of Baltimore was 246.³⁴¹ No data disclosed military influenza infection rates by race.

³³⁸ "Camp Holabird Quarantined," *Afro-American*, September 27, 1918.

³³⁹ Franklin F. Johnson, "Not Much Training in the Labor Battalions," *Afro-American*, November 8, 1918.

³⁴⁰ "Camp Meade Bulltlen (sic)," *Afro-American*, October 25, 1918. The white death rate was much higher. See thesis chapter IV, "The Flu comes to Baltimore."

³⁴¹ Rollo H. Britten, "The Incidence of Epidemic Influenza, 1918-19," 309-10.

All soldiers, regardless of race, suffered because of widespread physician and nurse shortages in the military, especially overseas. Substandard care resulted in great measure from the refusal of the military to utilize black doctors and nurses despite their desire to serve. In June 1917, the War Department stated that it required two hundred black physicians to accompany the colored troops to Europe. However, the War Department did not commission those black doctors until 1918, after the influenza pandemic sickened and killed many soldiers and even doctors. The army also did not commission any black surgeons despite need, and some of those commissioned in 1917 and 1918 did not receive appointments to units. Britain lost so many physicians by 1917 that a British Colonel urged the Americans to push the social bar aside and accept black doctors.³⁴²

Even after the military permitted them a commission, it allowed neither black dentists nor black doctors to serve in white regiments, despite a great need for medical personnel in all units. Additionally, the medical corps commonly did not utilize black medical personnel to treat the black regiments. In 1918 at the height of American troop strength in France, the military commissioned one-hundred twenty black dentists but left them back in the states on the medical personnel inactive list while white dentists treated black soldiers when available. The Department of the Army, queried about the practice of commissioning and making available black doctors ready to serve and then not using them, said that the “Department does not find it practicable to have colored dental officers and white officers of the line in the same regiment.” Additionally, drafted black physicians, including a Baltimore Doctor, Dr. Boley, received assignments to regular

³⁴² “Next?” *Afro-American*, June 16, 1917.

units along with other non-medical degreed draftees even though a severe shortage of doctors existed in military camps at home and in Europe.³⁴³

Shortages of doctors and dentists plagued the military throughout the war, especially during the worst of the pandemic. Nursing care remained the most effective treatment for the pandemic flu, however a preventable but critical nursing shortage also existed during the war. In May 1918, New York City hosted a large patriotic meeting in which an influential black group launched a movement to get black nurses to France to nurse the sick and wounded troops. The chair of the meeting, George Battle, who was white, said that the American Red Cross continually “passed the buck” to the war department when black nurses asked to go to the European front. Mr. Battle noted that trained nurses ready and willing to go to the front could not help the troops, only because of their race. He called for a Universal Red Cross rather than a black Red Cross and a white Red Cross.³⁴⁴ Similarly, a citizen writing an editorial to the *Washington Post* echoed the sentiment that the Red Cross should accept black nurses fully in their nursing organization. The writer, Mr. Cook, argued that colored nurses in the United States fully qualified by “nature and training to meet the call for loyalty, teamwork, and professionalism.”³⁴⁵ These pleas went to the American Red Cross because the organization remained in charge of supplying nurses to the military during the entire war.

³⁴³ “BPO Elks Coming to Baltimore Next Week: Only 20 Per Cent of Colored Troops Trained to Fight,” *Afro-American*, August 23, 1918.

³⁴⁴ “Want Colored Nurses to Care for Wounded Soldiers in France,” *Afro-American*, May 17, 1918.

³⁴⁵ George William Cook, “Readers of the Post Express their Views on Current Topics: Would have colored nurses enrolled in the Red Cross,” *The Washington Post*, April 16, 1917.

The Red Cross undertook a major recruitment campaign in 1917 looking for more nurses for the Armed Forces Nurse Corps, an arm of the military that the organization managed. No regulations specifically banned black nurses, but the military required that nurse applicants graduate from a school associated with a hospital of fifty beds or more. This effectively eliminated most black nurses because they graduated from segregated hospital training schools with fewer than the required fifty beds as white facilities with more beds rarely accepted black nursing students. As a result, both military and civilian hospitals experienced serious nurse shortages by the time of the pandemic, when flu patients overwhelmed hospital facilities.³⁴⁶

In 1918, the Colored Nurses' Convention held in nearby Washington DC pointed out that over two thousand professional nurses wanted to provide their service to the army. The Colored Nurse group asked Surgeon General Gorgas on May 27, 1918 to state the real reason that he did not allow the black nurses to serve. Gorgas cited the lack of housing facilities, as white nurses refused housing with blacks. Some black nurses saw his response as a disingenuous attempt to use white nurses as a foil for the Army's own institutionalized racism.³⁴⁷ Over three hundred black women managed to get to France to serve as military nurses during the war; however, these light-skinned black women went as whites. Reports at the time claimed that the military never knowingly accepted black nurses to serve in France.³⁴⁸ At the time of the nurse convention, the military continued

³⁴⁶ Arlene W. Keeling, "'Alert to the Necessities of the Emergency': US Nursing During the 1918 Influenza Pandemic," *Public Health Reports (1974-)* 125, Supplement 3 (April 2010): 107.

³⁴⁷ "Colored Nurses' Convention," *The Washington Post*, July 7, 1918.

³⁴⁸ "Not A Black Nurse in France," *Afro-American*, March 7, 1919.

to reject black nurses despite the loss of nurses to flu and pneumonia during the pandemic, the high sickness rate among troops from the disease, wartime injuries and other sickness, and the high overall need for nurses throughout the war.

During the pandemic, medical personnel frequently got sick from exposure to infectious troops. After eleven of eighty-one medical officers fell ill, and three civilian and three Army nurses died at Camp Grant in Illinois, the Army Medical Department finally dropped its total prohibition of black nurses. This action allowed Camp Grant to allow black nurses to help care for the many influenza patients there. The black nurses, however, had to wait until the camp built separate, segregated housing for them, causing a delay in getting much needed nursing care to the stricken soldiers.³⁴⁹ The arm sent another group of black nurses finally allowed to serve to Camp Sherman in Ohio. There, black nurses cared for both black and white patients, yet the army required their assignment to segregated living quarters. Some of the black nurses fell ill from the pandemic and many died. In total, one hundred twenty-seven total Army nurses died in the pandemic. The military did not record mortality statistics by race.³⁵⁰

After returning home, many wounded veterans still required nursing and hospital care. The U.S. Army constructed General Hospital No. 2 at Fort McHenry in Baltimore for that purpose. The Fort McHenry hospital complex began in August 1917 with fewer than twenty buildings and grew to over one hundred by the end of 1919. The hospital

³⁴⁹ Byerly, "The U.S. Military and the Influenza Pandemic of 1918-1919," 87.

³⁵⁰ Keeling, "'Alert to the Necessities of the Emergency'," 108.

accommodated about 3500 patients at its peak.³⁵¹ The American Red Cross, YMCA, Salvation Army, and others joined with the Army to help these wounded men, dealing with many injuries and incorporating job and life-skills training.³⁵² Supplying additional help for disabled veterans, the Red Cross created a facility in North Baltimore for blind soldiers where they learned woodworking, poultry farming, and received musical training. Though unusual for the time, photographs preserved at the Maryland Historical Society give evidence of racial integration at the facility. Hospital No. 2 at Fort McHenry also served black soldiers, though there is little mention of them even in Baltimore's *Afro-American* newspaper.³⁵³

Drives for private hospitals to serve black war wounded began in numerous cities toward the end of the war. Dr. William A. Sinclair directed the New York hospital drive, which he viewed as a great opportunity for black physicians to assist in caring for returning soldiers of their own race. He further maintained that black troops proved their bravery and work ethic as good soldiers in battle and demonstrated themselves as good citizens and law-abiding men while stationed at camps throughout the country.³⁵⁴ Philadelphia also launched a drive to fund a hospital for black war wounded. The hospital planned to use funds raised to purchase, equip, and maintain a base hospital and convalescent home staffed with black physicians and nurses. The drive's slogan was

³⁵¹ David Armenti, "Facing the Great War," *Maryland Historical Society News*, Spring 2015, 22.

³⁵² Armenti, "Facing the Great War, 25.

³⁵³ Ibid., 26. The photographs reside in the collection at the Maryland Historical Society, Evergreen-Red Cross Institute of the Blind Photograph Collection, 1918-1920, PP148.24.

³⁵⁴ "Negro Soldiers to Have Hospital," *The Washington Post*, June 30, 1918.

“help Negro help his own,” in an attempt to draw in white benefactors and to presumably appeal to those who wished to keep the black and white war wounded separate.

Maryland Governor Harrington presided over the first mass fund-raising meeting for the Philadelphia hospital committee.³⁵⁵

A hospital specifically for Baltimore or Maryland black war wounded never materialized, perhaps because the Fort McHenry hospital accepted black patients. Though separate facilities never provided equal care, lack of access to even inferior facilities forced families of black soldiers to provide care for their injured returning family member, often with limited economic means. Other soldiers returned to Baltimore without families to go home to as the pandemic caused so much death and disruption. The overcrowded Baltimore alley districts many black soldiers left prior to the fall pandemic wave in 1918 often bore little resemblance to the areas to which they returned. Segregated conditions in the military, like segregated conditions in the civilian city, negatively affected the lives of black citizens. Higher influenza and related pneumonia infection and mortality for blacks resulted from segregated, overcrowded, and substandard housing, having less food and clothing than supplied to whites, and assignment to labor battalions with hard physical labor and shortages of food, clothing, and sleep. These issues all affected the black soldiers' likelihood of infection. Additionally, shortages of physicians in the military, in part because of the exclusion of black doctors and nurses, and lack of black soldiers' equal access to physicians, nurses, and health care contributed to a higher black infection and death rate.

³⁵⁵ “‘Help Negro Help His Own’ Hospital Slogan,” *Afro-American*, June 7, 1918.

CHAPTER XIII

CONCLUSION: LESSONS LEARNED?

Heath Department statistics compiled after the pandemic proved that poverty, crowding, poor living conditions, and lack of equal access to medical professionals and facilities inherent in segregated communities increased infection and mortality rates during the influenza pandemic of 1918 and 1919. Yet the black community of Baltimore heralded the end of 1918 as a year of positive racial advances. Higher wages brought prosperity to black and white war industry workers, and they passed along the windfall, allowing their local churches to pay off much of their debt.

Many of the three-hundred-thousand black soldiers serving in the wartime military thought they experienced racial progress during the war. Some black soldiers felt that their bravery and hard work had broken racial prejudice. The Army even reversed its earlier ban of black officers, training a thousand of them at Fort Des Moines and other camps later in the war. At home, black citizens worked hard in Liberty Loan activities, Red Cross Drives, and War Savings Stamps Campaigns. They worked voluntarily but hoped their activities proved black patriotism despite the racial inequalities and segregation they experienced. In industry, black riveters set the world record for shipbuilding, black pile drivers won the record at Hog Island, Virginia, and Detroit automakers employed 16,000 black workers in their shops and factories, up from

a few hundred at the beginning of the war. Racial tensions eased, and progress seemed to increase during the war and the worst times of the pandemic.³⁵⁶

Nevertheless, segregation, racial hatred, and discrimination in Baltimore did not diminish, it just changed in strategy. Although the U.S. Supreme Court ruled in 1917 that neighborhood segregation was unconstitutional, efforts to maintain segregated neighborhoods in Baltimore continued in the years after the pandemic. The state government in Annapolis rejected some attempts of white citizens to get around the repeal of segregation laws, but it did not stop all efforts to continue to segregate blacks, whites, and in many cases, Jews. With legal residential segregation denied by the court, whites formed neighborhood associations and corporations to resist black migration to white areas. When blacks filed court cases to fight these racially discriminating groups, white associations tended to prevail.³⁵⁷

Segregation remains a problem in Baltimore going into the twenty-first century. In 2003, 14,000 black families living in public housing sued the Federal Government, arguing that Baltimore worked to sustain segregation by building new public housing right next to old structures thus keeping black tenants in the worst neighborhoods in the city. A similar case in 1996 provided a partial settlement to tenants, awarding some of them rental assistance vouchers that allowed them to move to surrounding suburban areas with better schools. In the lawsuit, the city government noted that it already supplied rental assistance vouchers to tenants in public housing. Further, replacing the older high-rise buildings with low-density mixed-income communities caused a net loss to the

³⁵⁶ "A Review of the Year, 1918," *Afro-American*, December 27, 1918.

³⁵⁷ "Injunction Forbids Negro to Move to White Block," *The Sun*, November 23, 1920.

number of public assistance units, thus shrinking the size of the segregated areas and allowing any citizens to move elsewhere if they chose to, black or white.³⁵⁸

Segregation traditionally affected immigrant groups as well as blacks, yet most immigrants and their descendants assimilated and eventually moved from their enclaves whereas blacks remained locked into segregated areas. Immigrant groups tend to segregate themselves voluntarily because friends and family already live in specific areas, yet blacks still face forced housing segregation because of external reasons including violence, restrictive covenants, and racial steering by real estate agents. Immigrants generally gain English fluency, become educated, and have the option to move out of the immigrant neighborhood, but black residents in segregated neighborhoods rarely have similar options to move.³⁵⁹

Like other states, Maryland made a few improvements to educational facilities for blacks during 1918, establishing government classes in several larger schools such as Tuskegee, nearby Howard University, and Hampton University. After the war, a number of schools offered black students vocational training and college studies at government expense. Maryland's Governor Harrington promoted black education by opening black public high schools outside Baltimore city to educate rural students. This action, while positive in some ways, received many complaints because it overlooked the neglected local black Baltimore schools in favor of opening new schools outside the city. Building

³⁵⁸ Mary Otto, "Baltimore Sustaining Segregation, Suit Says," *The Washington Post*, December 2, 2003.

³⁵⁹ Janny Scott, "Rethinking Segregation Beyond Black and White," *The New York Times*, July 29, 2001.

rural schools also hurt city schools because city black teacher pay remained so low that many qualified teachers refused to teach in black Baltimore schools.³⁶⁰

Baltimore did accomplish a few improvements in the area of cleanliness and public health after the pandemic waned, especially in segregated black neighborhoods. Health Commissioner C. Hampson Jones believed that the best way to influence public health was to inspect public schools, particularly black schools, and he appointed a number of black doctors and nurses for these medical inspections. Dr. Jones and the head of public school health, Dr. Buckler, were some of the first white physicians to approve black physicians and nurses for this work and for following up with the children in their homes.³⁶¹ In this way, though segregated, public health officials hoped to improve conditions for black city schoolchildren.

Race relations in military installations in the Baltimore area did not markedly improve in the years after the pandemic. After the war, about a hundred white soldiers visiting Baltimore from Camp Meade started a potentially a serious race riot when they accused a black resident of throwing a bottle out a window at a smaller group of Camp Meade soldiers in East Baltimore. The large and growing mob dared the residents to come out of their homes. Some of the group began shooting at any blacks they could find in the neighborhood. Police responded to the shootings, resulting in a fight between the police and the soldiers. In two separate brawls, the police arrested several soldiers while

³⁶⁰ "A Review of the Year, 1918," *Afro-American*, December 27, 1918.

³⁶¹ "Negro Staff Appointed," *The Sun*, February 29, 1920.

the others ran away and disappeared.³⁶² This event among many illustrated that neither the pandemic nor the war meaningfully improved racial tensions. Moreover, military officials reversed the few race relations improvements they made prior to the war's end by reintroducing segregation in units and installations after the armistice. Additionally, the military continued to require segregation of nurses up to the conclusion of World War II, twenty-seven years later. The NAACP and a council of the National Alpha Kappa Alpha Sorority pushed to include a clause in legislation ending discrimination and segregation in the drafting of nurses for the military.³⁶³

After the war, Veterans Administration medical director Dr. Paul R. Hawley continued to defend his policy of racially segregating doctors and veterans in VA hospitals. He stated that it remained better for their race that black doctors practiced only in black hospitals. Dr. Hawley advocated that blacks practice at hospitals such as Howard University and Meharry Medical College, and he added that black doctors could either work in all black facilities or fall behind the white medical profession by continuing to fight segregation. He further stated that he personally was opposed to the mistreatment of black soldiers and wanted them to get them the medical excellence that they deserved. Dr. Hawley acknowledged that black medical facilities, especially in the South, lagged in quality behind those caring for white patients, but promised the black hospitals would be "made adequate."³⁶⁴ Dr. Hawley's thinking proves that even as late as

³⁶² "Camp Meade Men Attack Baltimore Negro Section," *The Washington Post*, October 3, 1919.

³⁶³ "NAACP, Council Wants Ban on Nurse Draft Segregation, *Afro-American*, January 20, 1945.

³⁶⁴ "Hospital Segregation Upheld by VA Official," *Afro-American*, April 6, 1946.

1946, racial segregation and discrimination practices continued to use old paternalistic logic as validation that segregating black patients and doctors benefitted the entire race.

Unfortunately, medical care for black citizens did not improve in the years following the pandemic. By 1973, less than five percent of medical students in the country were black. Black dental and nursing students comprised only 4% of total enrollments, despite conferences and efforts encouraging black youth to enter health care careers. Many black students cited fear that they would not be able to handle the natural sciences as reason for not entering the health fields. Teacher attitudes and experiences instilled this fear in the students in the earlier grades. The shortage of black medical personnel continues to affect health care in America. Additionally, medical research studying conditions that affect the black community continue to receive less funding and personnel than research into other diseases and problems. By the early 1970s, funding for study of black hypertension remained at half of that allocated for the study of sickle cell anemia, even though hypertension kills double the number of black citizens as sickle cell. Most big medical school hospitals in Baltimore like Johns Hopkins and the University of Maryland teaching hospital and Shock Trauma, were located in the middle of or next to black neighborhoods, but they rarely treated black patients.³⁶⁵ Baltimore continued to need more black doctors and nurses and more funding for medical schools and facilities to treat blacks and research black health issues into the twentieth and then twenty-first century. Though no longer mandated by residential segregation laws,

³⁶⁵ Larry King, "Inadequate Medical Care for Blacks Scored at Session Here," *Afro-American*, February 3, 1973.

overcrowded, poverty-stricken areas with high unemployment and substandard housing still exist in many of Baltimore's black neighborhoods.

Another large influenza outbreak would negatively affect the residents of these areas because of their poor conditions, just as in the pandemic of 1918. Studies published in leading medical and public health journals argue that an influenza pandemic similar to the 1918-1919 outbreak would kill upwards of sixty-two million people, with more than ninety-five percent of those deaths in third world countries. The WHO medical report estimated that since per capita income is higher now worldwide there would be fewer deaths on a percentage basis of world population than seen in 1918. This is because the higher the income, the lower the risk of dying of influenza.³⁶⁶

The influenza pandemic of 1918-19, in conjunction with racial segregation and unequal treatment of black citizens in housing, the military, and in health care access, caused high infection and mortality in the black population of Baltimore. The very segregation intended to keep blacks from infecting whites likely led to higher death rates in both communities during the influenza pandemic. Neither disease nor health care could be, nor can be, isolated, despite the artificial lines people draw around communities or populations.

³⁶⁶ David Brown, "World Death Toll of a Flu Pandemic Would be 62 Million Study Examined 1918-19 Outbreak," *The Washington Post*, December 22, 2006.

Bibliography

Primary Sources

Newspapers

Afro-American. Baltimore, MD. 1918-1951.

Baltimore American. Baltimore, MD. 1918.

Evening Star. Washington, DC. 1918.

The New York Times. New York, NY. 1911, 2001.

The Sun. Baltimore, MD. 1917-1996.

The Washington Post. Washington, DC. 1917-1996.

Manuscript Collections

Franklin High School (Reisterstown, MD). Attendance records for September and October 1918. Baltimore County Public Library, Reisterstown Branch, Local History Room Archives; Reisterstown, MD.

A quick look at the senior class attendance records notated in tabular form shows a lack of unusual absences for the fall of 1918 during the worst of the influenza pandemic. October 8, 1918 did feature an entry stating “school closed for flu.”

Franklin High School (Reisterstown, MD). Yearbooks, 1918-1919. Baltimore County Public Library, Reisterstown Branch, Local History Room Archives: Reisterstown, MD.

The Franklin High School yearbooks published during the epidemic provide student and teacher reactions to the crisis. This high school served the white community, though there were colored people living in nearby Emery Grove who worked within the white community.

Maryland Council of Defense, Woman's Section for Worcester County, MD. Handy Collection. Maryland State Archives, Annapolis, MD. MSA SC4062-0-1-11. 1916-1919.

This short article discussed canceling meetings because of the influenza outbreak. This material supports the discussion in the thesis on closures of schools, churches, and other assemblies.

Books

Kemp, Janet E. *Housing Conditions in Baltimore: A Report of a Special Committee of the Association for the Improvement of the Condition of the Poor and the Charity Organization Society*. 1907. Reprint, New York: Arno Press, 1974.

Kemp's study contains pertinent information about Baltimore's alley district, in which much of the black population lived. This area had a higher rate of epidemic disease than other neighborhoods in Baltimore. Kemp describes the alley districts and gives some insight into what period charity workers and reporters believed caused the destitution and poor conditions in the areas, including immorality, drug use, and laziness.

Osler, William. *The Principles and Practice of Medicine: Designed for the Use of Practitioners and Students of Medicine*. 1892. Reprint. Birmingham: Classics of Medicine Library, 1978.

While Osler published his work over twenty years before the pandemic occurred, doctors consulted his book during the pandemic for symptomology and treatment. Osler wrote that bacteria did not cause influenza, the disease was serious, and treatment should be supportive with complete bed rest. He noted that the disease often resulted in bronchitis, pneumonia, and nephritis, and further described delirium and cardiac weakness in people who had survived a difficult bout of the disease. He also noted that depression was a common result of the disease, information repeated by a number of historians studying the pandemic.

Sweeney, W. Allison. *History of the American Negro in the Great World War*. 1919. Reprint, Oxford: Benediction Classics, 2012.

This book contains a recitation of blacks who fought in previous wars but focuses mainly on WWI. The author writes in detail about the racial prejudice that blacks encountered. Black military personnel countered these poor white attitudes by proving that they could do everything asked of them with great bravery. The author points out that every time there was a call to draft black soldiers, or to have blacks join fighting units or have units created for them, Southern politicians cried out against it. Those blacks allowed into the Navy performed only menial jobs despite their work experience or aptitude.

Chapters

Cartwright, Samuel A. "Report on the Diseases and Physical Peculiarities of the Negro Race (1851)." In *The Nature of Difference: Sciences of Race in the United States from Jefferson to Genomics*, ed. Evelyn M. Hammonds and Rebecca M. Herzig, 67-86. Cambridge, MA: The MIT Press, 2008.

Cartwright wrote in antebellum New Orleans about the differences and deficiencies in the Negro physical and mental attributes in comparison to white people. He wrote that the Negro's brain and nerves, that the "chyle" (digestive fluid) and humors were all a darker shade, that every part of a black person's body was different than the white's, and that the brain of the Negro was also different. He blamed a deficiency of cerebral matter in the cranium as the cause of the black's "debasement of mind." In fact, the author says that this problem in the Negro brain rendered the people of Africa unable to take care of themselves. This article represented "making excuses" for black medical problems; those assumptions created difficulties for blacks in their attempt to obtain equal health care during the pandemic, and certainly during the tuberculosis epidemics.

Articles

Association of Schools of Public Health. "Epidemic Influenza: Prevalence in the United States." *Public Health Reports (1896-1970)* 33, no. 41 (October 11, 1918): 1729-31.

This report presents the influenza's prevalence in each state and municipality in the United States.

Association of Schools of Public Health. "Epidemic Influenza: Prevalence in the United States." *Public Health Reports (1896-1970)* 33, no. 44 (November 1, 1918): 1859-65.

This Public Health Service report contains a compilation of death and infection rates and some analysis of data. This report drew comparisons with earlier reports on the state of the epidemic.

"Epidemic Influenza and the United States Public Health Service." *Public Health Reports* 33, no. 43 (October 25, 1918): 378-80.

The public health service needed a reserve organization to mobilize in times of emergency. There were no nurses available, and when the influenza hit, all available regular officers of the health service went to the stricken communities, but there were very few available doctors, and no nurses. When the surgeon general called on the Volunteer Medical Service Corps, the Red Cross, and the medical and nursing professions as a whole, they had to get a special appropriation of funds to meet the expenditures. The Volunteer Medical Service Corps compiled a list of over 1000 names classified by state. The Public Health Service appointed these doctors, who in 48 hours

were on their way to the communities needed. Nurses were more difficult because the nurses and trained attendants were already extremely busy on urgent medical work. Nurses were training teachers as volunteer workers to try to relieve the emergency.

Frost, W.H. "The Epidemiology of Influenza." *Public Health Reports* 34, no. 33 (August 15, 1919), Repr. *Public Health Reports* 121, sup. 1 (2006), 148-159.

Frost's reports the characteristics of influenza in the 1918-1919 pandemic, including the broad and rapid expansion, high morbidity rates, and mortality rates. He notes that there is a constant relation between prevalence of influenza and the mortality rate from pneumonia. Since records exist from Massachusetts' prior epidemics including the period from 1887-1916 these records were used in the study. Frost also used some statistics of New York, Cleveland, and San Francisco. Frost charted regular mortality from influenza and pneumonia in non-pandemic years.

Lumsden, L. L. "Influenza: Avoid it and Prevent its Spread." *Public Health Reports (1896-1970)* 33, no. 41 (October 11, 1918): 1731.

The USPHS surgeon wrote this document during the fall wave of the pandemic. It includes the usual precautions about needless crowding, staying in the open air whenever possible, and covering up when sleeping to keep warm were included. Coughing sneezing, or snuffling people should take care not to cough or sneeze on others by staying at least three feet away from the infected droplets. Wearing gauze masks when working with infected people and washing hands would to keep people from getting sick. However, if a person gets sick, s/he is to drink plenty of water, take a laxative, and eat plain foods.

State of Maryland. State of Maryland Lunacy Commission. *Biennial Report of the Lunacy Commission: December 1, 1917 to November 30, 1919*. Baltimore: Fleet-McGinley Company, 1919. Maryland State Archives (available online), MSA, megafire, special collections, SC5300-SC5339.

This document from the Maryland State Archives contains patient reports from the Maryland state asylums, in particular those in Baltimore. It references the influenza epidemic causing a "great number of deaths" at these institutions where the disease spread rapidly. Additionally, the report lists the insane asylum at Crownsville State Hospital as it housed colored people, noting statistics of total population at the other hospitals, and population at the Crownsville facility for comparison. This gives some statistical information on the number of whites and the number of black patients housed, and how many of each died.

"Sure Cures for Influenza." *Public Health Reports* 33, no. 45 (November 8, 1918). Reprinted in *Public Health Reports* 91, no. 4 (July-August, 1976): 380. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1440534/> (accessed November 11, 2014).

In this article, most of the methods were for lay people. Hundreds of editorials with cures came to local newspapers. There were several groups: First, individuals with a specific remedy, the formula of which the author is ready to give to the world for a price. Congress appropriated a million dollars for combating influenza; these people offer to sell their secrets for a “reasonable price.” The article also included pseudoscientific treatments such as “isotonic sea water, ozone therapy, and “harmonic vibrations.” One writer who proposed these was a resident in the NY State Hospital for the insane. Another type of “helper” is the individual who gives freely of his advice to spare humanity from the pestilence. These were remedies such as “sprinkling a little Sulphur in every shoe every morning.” “Add 10 cents worth of asafetida to half a pint of brandy; give a tsp every 2-3 hours.” Patent medicines are in this group, using various formulation. People were also calling attention to the “real” cause of the epidemic, such as “desecration of God’s Sabbath which he said to keep holy” or punishment of the world for its sinfulness.

Sydenstricker, Edgar. “Preliminary Statistics of the Influenza Epidemic.” *Public Health Reports (1896-1970)* 33, no. 52 (December 27, 1918): 2305-21.

This December 1918 public health report attempted to make some sense of the statistics coming out of the influenza pandemic, even though the disease process continued in a less severe form than in the fall of 1918. It noted a decrease in cases at army military camps and the surrounding civilian areas, though some naval and port areas reported slight increases in the number of cases in and around them. Public health officers were not required to report influenza until telegrams went to all of them on September 18, 1918 advising them to keep records of appearance and prevalence of the disease. The health service changed its position on October 1 when telegrams went out requesting daily reports of the number of deaths in each principle city. This continued for three weeks until the epidemic began to decline, and because of the high cost of telegrams. Localities where the epidemic had not passed the peak did not telegraph their information to the health service. The data, thus, was indicative of the severity of the epidemic but was by no means complete or reliable. Luckily, one of the field studies analyzing the type of disease, economic conditions, and severity was undertaken in Baltimore and several other localities. The data gathered in this study clearly suggested that disease infection rates rose as the socio-economic conditions of the family surveyed, fell.

Sydenstricker, Edgar. “Variations in Case Fatality during the Influenza Epidemic of 1918.” *Public Health Reports (1896-1970)* 36, no. 36 (September 9, 1921): 2201-10.

This Public Health Service report revealed data obtained in a survey of eighteen localities. Analysis compared weekly fatality rates during the second and more fatal wave of influenza with community size. This data revealed a higher fatality rate in large cities such as Baltimore as compared with smaller towns and counties in Maryland and other states.

Williams, Emily Raine, "Memoirs," 1918, quoted in "View from Fort McHenry," *Baltimore Sun*, October 6, 2015, <http://www.baltimoresun.com/health/bal-fmchenryflu-story.html> (accessed October 6, 2015).

This article excerpts personal recollections written in 1918 by the superintendent of nurses at the Military Hospital at Fort McHenry.

Secondary Sources

Books

Adams, Lisa V., and John R. Butterly. *Diseases of Poverty: Epidemiology, Infectious Diseases, and Modern Plagues*. Hanover: Dartmouth University Press, 2015.

Adams and Butterly argued that because of an increasingly global society, poor public health conditions created conditions perfect for new pathogens to arise, increasing the prevalence of diseases easily spread to other populations. The authors offer information on the scientific definition of epidemic and pandemic diseases as per the CDC. In 1918-19, high mortality rates occurred in the population that had no previous immunity to the disease. The virus weakened the body, causing complicating pneumonia and cytokine storm symptoms. The authors also explained "cytokine storm," which refers to an overly robust immune reaction causing secondary and fatal bacterial pneumonias.

Barry, John M. *The Great Influenza: The Study of the Greatest Pandemic in History*. New York: Penguin Group, 2004.

John Barry wrote an in-depth account of the pandemic in 2004 in introducing many leading era personalities in medical science and public health. Barry's focus was political and sociological. He was especially critical of the preventable loss of life from overcrowding in military camps and promotion of large group activities such as Liberty Bond rallies even though health workers warned officials against them. In addition to a comprehensive study of the influenza pandemic, he discussed the little examined third influenza wave in 1919. Barry noted the absence of historical literature about the pandemic. He surmised that with the intense fear and helplessness of survivors, they would rather not remember it.

Beveridge, William Ian. *Influenza: The Last Great Plague, an Unfinished Story of Discovery*. Rev. ed. New York: Prodist, 1978.

In the late 1970s, Beveridge wrote about the 1918 pandemic as a disease of horrible mortality and social disruption, but he added the context of reported influenza epidemics going back to 1793. He outlined attempts to discover the cause of the pandemic virus, settling on the swine flu virus jumping to humans. His work outlined effects of common influenza seasons and compared those influenza strains to the particularly virulent strain in 1918. Unlike other authors who focused on the horrible

death rates, he focused on the eighty-percent of patients who recovered from what he termed a “characteristic picture of influenza.” He explained that most epidemic influenzas come in waves like the pandemic of 1918-19, and that even less extreme influenza events cause economic and social disruption of administration, industry, and services in the nation and in the world.

Bristow, Nancy K. *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic*. New York: Oxford University Press, 2012.

Bristow wrote about the shock and disbelief among citizens and public health officials in the pandemic. She cited period optimism in opposition to the harsh reality of the pandemic. Optimism waned when people realized that the disease was incurable and that health care professionals did not know what caused it. Cleaning and disinfecting did not seem to work, nor did the advice coming from public health officials. Though Progressive era activists did help create the FDA and the Children’s bureau, they could do little but create public health initiatives to help avoid the flu.

Brugger, Robert J. *Maryland: A Middle Temperament 1634-1980*. Baltimore: Johns Hopkins University Press, 1988.

This book provided background information on Baltimore and Maryland, including material on segregation, Jim Crow laws, and high tuberculosis rates due to poor living conditions. This information adds introductory information on how segregation affected the black community, then working into the necessity for black hospitals and health care workers.

Byerly, Carol R. *Fever of War: The Influenza Epidemic in the U.S. Army during World War I*. New York: New York University Press, 2005.

Byerly focused her work on the impact of the influenza pandemic on the US military in World War I. She analyzed how army medical officers and other government officials responded to the influenza crisis. Influenza hit at a time when medical professionals sought to reinforce their status within medical and military hierarchies. The military did not accept women and blacks as physicians because of a concern that a medical commission would put them in a position to command white males. Byerly also studied how some physicians, medical officers, and other officials scapegoated certain groups. Racial stereotyping placed blame on minority groups for falling victim to the disease. Ultimately, the military controlled living conditions that affected black infection rates.

Collier, Richard. *The Plague of the Spanish Lady: The Influenza Pandemic of 1918-1919*. 1974. Reprint, London: Macmillan London, 1996.

Collier recounted the experiences and symptoms of the ill in military camps, on transports, serving in Europe, and of civilians affected by the pandemic. Collier wrote of inabilities of doctors to diagnose influenza victims, of the frightening symptoms, and of

the widespread denial of the disease's seriousness. Collier noted that raw recruits, particularly from wide-open spaces such as the Midwest or Montana, fell ill and died at an alarming rate while those from densely populated cities often recovered, due to some immunity to respiratory disease. Collier wrote of the pandemic's social impact, focusing on hunger, overcrowding, lack of running water, and lack of sewage facilities that plagued the military during 1918 as the war stretched resources.

Crawford, Dorothy H. *Deadly Companions: How Microbes Shaped our History*. New York: Oxford University Press, 2007.

Crawford wrote her book about all microbes, but there is good information in the book of a general nature that applies to the pandemic flu. She includes background information on immunity, the way that strains change and mutate, and the way that an epidemic flu can keep going around in a population.

Crosby, Alfred W. *America's Forgotten Pandemic: The Influenza of 1918*. 2nd ed. Cambridge: Cambridge University Press, 2003.

Crosby's revision of his often-cited work *Epidemic and Peace: 1918* contained new information about the influenza virus and the mechanism by which it invaded the body. While his work initially concentrated on military interests, men, camps, transports, and spread by troops, Crosby explained that overcrowding was an important factor in flu spread in military camps and civilian cities. He noted severe shortages of nurses both in military and civilian hospitals. Palliative care was the only thing at all effective, making nurses vital. Lacking ability to control the disease, public officials likely helped to spread the virus through initial denial of the epidemic, and allowing Liberty Bond parades, door-to-door bond drives, and other gatherings to continue. Crosby mentioned patent medicines, folk cures, and the use of ineffective masks. He outlined difficulties in estimating of the scope of the pandemic because influenza was not reportable until the pandemic was at its height, and a significant portion of the population did not live in an area that reported to any agency.

Davies, Pete. *The Devil's Flu: The World's Deadliest Epidemic and the Scientific Hunt for the Virus That Caused It*. New York: Henry Holt and Company Publishers, 2000.

Davies provided detail about Hemagglutinin and Neuraminidase proteins in influenza viruses. He questioned pandemic fatality estimates due to lack of reporting in Africa, China, and Latin America, and spotty reporting in rural areas worldwide. He debunked old theories of the flu originating in Kansas with news of an influenza outbreak in Spain a month before it hit Camp Funston, Kansas. He believed waterfowl and swine were responsible for the pandemic, possibly because of cross infection between birds and pigs.

Dehner, George. *Influenza: A Century of Science and Public Health Response*. Pittsburgh: University of Pittsburgh Press, 2012.

Dehner focused his work on pandemic public health response with focus on why the government did not enforce quarantines and closures. He argued that era international health organizations' purpose was keeping illness "over there" and out of the home country, though pandemic influenza in 1918 made containment impossible.

Dobson, Mary *Disease: The Extraordinary Stories behind History's Deadliest Killers*. London: Quercus, 2007.

Dobson wrote a broad historical overview of diseases with high mortality rates. She also featured a bit of background information on health concerns during WWI in Europe, including the loss of labor from those serving due to the louse fever they carried. This is notable, as it explains that there were already laboratory and medical facilities set up in Europe to help when the influenza pandemic hit.

Duffy, John. *From Humors to Medical Science: A History of American Medicine*. 2nd ed. Urbana: University of Illinois Press, 1993.

Duffy's chapter, Minorities in Medicine, related the history of blacks in medicine. He briefly discusses medical schools for blacks and black medical societies in this chapter, but he also discusses the Flexner report. Flexner's recommendations acted to reduce the number of black medical schools to include only two by the time of the pandemic. Duffy explains that the Howard Medical faculty integrated in the 1880s, though Jim Crow laws later forced it to serve only black students. Duffy also discussed segregation as a barrier to the entry of blacks in medical professions and as an obstacle to the profession.

Duncan, Kirsty. *Hunting the 1918 Flu: One Scientist's Search for a Killer Virus*. Toronto: University of Toronto Press, 2003.

Duncan outlined symptoms and data about the 1918 pandemic virus and then recounted her own efforts to exhume corpses frozen in Norway since the pandemic with hopes of finding usable virus in their tissues.

Fanning, Patricia J. *Influenza and Inequality: One Town's Tragic Response to the Great Epidemic of 1918*. Amherst: University of Massachusetts Press, 2010.

Fanning stepped outside the usual medical histories by examining the sociological and physical effects of the pandemic in the small town of Norwood, Massachusetts. She studied the social division between different neighborhoods based on immigrant group membership, affluence, and even job category, creating divided and stratified neighborhoods. Families of businessmen, bankers, and officials lived in one area, and everyone else lived outside that area. Fanning discussed Progressive Era efforts to bring immigrants into "right" American thinking and behavior, though social Darwinists believed that the poor were simply unfit. She argued that fear and divisiveness in this community, like other small communities in America, was exacerbated by the pandemic.

Control and political backlash against poor and immigrant victims included regulations like quarantines, disinfection, and preventative measures enforced in the immigrant enclaves, while the same regulations did not apply to the wealthy. Public health responses were morality and judgement based, often assessing blame or need upon immigrants and minorities. The poor and immigrant communities resisted these regulations, ignored quarantines, and disregarded bans on assembling. The elite saw lower class resistance as proof that the disease itself occurred because of their disorder, evil, and lawlessness. Seeming to validate these prejudices, the morbidity and mortality of marginalized groups during the pandemic was higher than for elites. Poor and immigrant people were less knowledgeable about disease, and they had less access to medical care. Along with poverty and overcrowding, these issues accounted for higher infection and death rates. Fanning characterized the archetype of an epidemic victim as young adult, lower class, foreign born or minority.

Fox, William Lloyd. "Social-Cultural Developments from the Civil War to 1920." *In Maryland A History: 1632-1974*, ed. Richard Walsh and William Lloyd Fox, 499-589. Baltimore: Maryland Historical Society, 1974.

Fox provides background information from a Maryland perspective. Baltimore had a high rate of mortality from the Civil War to the turn of the century from consumption, which was an important part of the Public Health program for Baltimore going into the influenza pandemic.

Gamble, Vanessa N. *The Black Community Hospital: Contemporary Dilemmas in Historical Perspective*. New York: Garland Publishing, 1989.

Gamble provides a good overview of the operations of black hospitals. Some black hospitals in the south were established by whites while some hospitals like Baltimore's Provident Hospital were black controlled and established to train and provide clinical opportunities for black physicians and nurses with a mandate to serve black people. Most black establishments were inadequate with small facilities, ill equipped and without clinical training programs.

Hays, J.N. *Epidemics and Pandemics: Their Impacts on Human History*. Santa Barbara: ABC-CLIO, Inc., 2005.

Hays's work outlines the world's most significant epidemics and pandemics, looking at social interaction, the significance of the event in history, and how the event was understood in its own era.

Hoehling, A. A. *The Great Epidemic: When the Spanish Influenza Struck*. Boston: Little, Brown, and Company, 1961.

Hoehling's work contained a narrative drawn from medical, public health, social, and statistical records. Hoehling reported the early use of harmful flu remedies such as tobacco juice, blood-letting, and purgatives, noting that impoverished victims sometimes

recovered simply because they could not afford remedies that often hurt more than helped. He dismissed era rumors of Germans spreading disease to turn the war, pointing out that shortages of food, space, and sanitation endemic in wartime, especially in military camps, were what spread influenza and other diseases. Germs traveling on troop transports and fighter planes helped spread the epidemic quickly throughout the world.

Iezzoni, Lynette. *Influenza 1918: The Worst Epidemic in American History*. New York: TV Books, LLC, 1999.

Iezzoni's book included vignettes about individuals affected by the pandemic. She wove memories of people about the event into her narrative, adding commentary about people in variously sized communities throughout the country.

Kent, Susan Kingsley. *The Influenza Pandemic of 1918-19: A Brief history With Documents*. Boston: Bedford/St. Martin's, 2013.

Kent argued that the extremely quick spread and high death rate in 1918 as a product of the world war. The virus took advantage of people who were crowded into military camps and hospitals, as they constantly had contact with new people. A virus usually diminishes in infectiveness with lack of new hosts, but because of the war, new hosts were always available.

Kolata, Gina. *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It*. 1999. Reprint, New York: Touchstone Books, 2005.

Kolata reported that doctors in 1918 provided elixirs and vaccines that were ineffective because no one knew what caused the flu or how to treat it. Her work outlined limitations to scientific inquiry at the time of the pandemic.

Laver, W.G., ed. *The Origin of Pandemic Influenza Viruses: Proceedings of the International Workshop on the Molecular Biology and Ecology of Influenza Virus held in Peking, China, November 10-12, 1982*. New York: Elsevier Science Publishing, Inc., 1983.

This book functions as a compilation of articles relevant to pandemic influenza viruses including the H1N1 swine flu virus associated with the 1918 pandemic. Articles delve into the immune responses possibly responsible for the high young adult death rate in 1918, and the role of cytotoxic T-cells examined by Shanks and Gagnon in articles reviewed in this bibliography.

Leavitt, Judith Walzer, and Ronald L. Numbers, ed. *Sickness and Health in America: Readings in the History of Medicine and Public Health*. 1978. Reprint, Madison: University of Wisconsin Press, 1997.

This work is a collection of articles on medicine and public health first published in 1978. Many of the articles examined germ theory, poor living conditions, and health

of Americans. Influenza and pneumonia appeared in the overview as ever-present in society, increasingly attacking crowded urban centers.

Markel, Howard. *When Germs Travel: Six Major Epidemics that Have Invaded America and the Fears They Have Unleashed*. New York: Vintage Books, 2004.

Markel discusses how easy it is for infectious diseases to spread via the growing and international transportation system. One of the six diseases he covers in detail is tuberculosis, which was a significant cause of death in overcrowded black areas of Baltimore even before the pandemic in 1918.

Oldstone, Michael B. A. *Viruses, Plagues, and History: Past, Present, and Future*. New York: Oxford University Press, 2010.

Oldstone supplies some background information on the 1918 disease, discussing mortality rates and the effect upon the war effort. He, like others before him, discussed the fact that many young and seemingly healthy adults died from the disease, mentioning that the disease seemed to be indiscriminate in the victims it chose. He compared the infection and death rate for St. Louis and Philadelphia, noting that since Philadelphia allowed public gatherings, kept schools and churches open, and allowed assemblies including citywide Liberty Bond parades, it had twice the death rate of St. Louis. In stark contrast to Philadelphia, St. Louis began to register influenza cases within two days of the first cases, and their government closed schools, churches, theaters, and public gatherings. St. Louis also required infected people to stay in their homes.

Olson, Karen. "Old West Baltimore: Segregation, African-American Culture, and the Struggle for Equality." In *The Baltimore Book: New Views of Local History*. Ed. Elizabeth Fee, Linda Shopes, and Linda Zeidman, 57-79. Philadelphia: Temple University Press, 1991.

The author examines the history of blacks in the old western neighborhoods and alley districts and outlines the beginnings of segregation in the city during the Great Migration. The author also examines the migration from the original black neighborhoods to other neighborhoods to escape crowding and filth in the alley districts in 1885. She points out that the frequently-polluted wells in South Baltimore led to a significantly higher rate of epidemic disease than in other neighborhoods. She also looked at racism in the city and era attitudes about minority groups.

Olson, Sherry H. *Baltimore: The Building of an American City*. Baltimore: Johns Hopkins University Press, 1980.

This comprehensive history of Baltimore city includes portions about slums as breeding grounds for disease, criminality, and disturbing elements. The period from about 1900-1918 reveals Mayor Preston's attitude toward blacks. He urged a close watch on such "blotches" or "dark spots" like slums on the character of the city. Additionally,

the book provides more information about tuberculosis infections blacks “deserved” because of the filth that they lived in.

Patterson, K. David. *Pandemic Influenza 1700-1900: A Study in Historical Epidemiology*. Totowa: Rowman and Littlefield, 1986.

This book contained information about the influenza pandemic of 1889-1890. Transportation networks spread the 1889 pandemic, and doctors believed that it was an infectious microorganism, perhaps Pfeiffer’s bacillus. Doctors and health officials kept good data and statistics regarding spread and infection rate. The last major epidemic before this was 1847-1848, yet many health officials did not recognize the 1889 epidemic was from the same disease.

Pettit, Dorothy A., and Janice Bailie. *A Cruel Wind: Pandemic Flu in America 1918-1920*. Murfreesboro: Timberlane Books, 2008.

Petit and Bailie described the viral to bacterial interactions that made influenza and pneumonia together nearly impossible to survive in 1918. They also added to the few historical works that listed depression out of proportion to the severity of the disease as a pandemic symptom. They also mentioned post recovery issues such as vascular and nervous system damage, fatigue, psychosis, tachycardia, encephalitis, and related sudden death.

Pietila, Antero. *Not in My Neighborhood: How Bigotry Shaped a Great American City*. Chicago: Ivan R. Dee, 2010.

This book contains information about forced segregation in Baltimore. This work explains the legislation and methods of segregating the black population from whites and Jews in Baltimore city. The author talks about eugenics, Jim Crow laws, and living, working, and transportation conditions in the city relative to segregation and the bigotry that caused it. Antero also talks about the “lung block” of tuberculosis infection.

Porter, Katherine Anne. *Pale Horse, Pale Rider*. 1936. Reprint, Orlando: Harcourt Brace and Company, 1967.

Author and newspaper reporter Porter wrote this work as a fictionalized yet autobiographical story of the sufferings of an influenza victim. The work is important because it outlined symptoms Porter suffered during her bout with the illness from a personal perspective. Her narrative influenced later historical writers to offer more descriptions of victims suffering rather than writing sterile recitations of numbers infected and listing symptoms. Few other memoirs included information about the depression suffered after recovery or mentioned the mental suffering that influenza victims encountered while they were ill.

Pyle, Gerald F. *The Diffusion of Influenza: Patterns and Paradigms*. Lanham: Rowan and Littlefield, Publishers, 1986.

Pyle believed that a new era of interest in the pandemic began in the 1970s because of worldwide pandemics of influenza in 1967-1968 and 1968-1969. Pyle examined the disbursement of the infection throughout the country, using some of the Public Health Reports but adding additional analysis and charts not reported in the era.

Roberts, Dorothy. *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-First Century*. New York: The New Press, 2011.

Roberts covered many aspects of race in her work, including scientific and sociological differences in the definition of race. Roberts argues that race is socially and politically constructed, or in her words, “manufactured.” She discussed eugenics and the disparities in health between black and white people in the United States, including Baltimore in her chapter on medical stereotyping.

Roberts, Samuel Kelton, Jr. *Infectious Fear: Politics, Disease, and the Health Effects of Segregation*. Chapel Hill: The University of North Carolina Press, 2009.

This book contains a study of how the racial stereotyping, prejudice, and segregation in Baltimore assisted the spread of tuberculosis. Before 1920 and during the pandemic, white physicians, economists, and statisticians expressed mainly negative views of the relation between race, urbanization, and tuberculosis. Many whites believed that blacks’ desire to flee the rural agricultural work for the urban setting meant that they were leaving the area where their Negro physiology and intellect was best suited, thus tuberculosis was a result of blacks being where “they do not belong.”

Rosen, George. *A History of Public Health*. 1958. Reprint, Baltimore: Johns Hopkins University Press, 1993.

Though he does not specifically discuss influenza, Rosen does cover the bacterial revolution and the idea that specific microorganisms cause contagious, epidemic disease. He also discusses animal vectors, another concept involved in understanding the origin and spread of the pandemic influenza microbe

Sewell, Jane Eliot. *Medicine in Maryland: The Practice and the Profession, 1799-1999*. Baltimore, Johns Hopkins University Press, 1999.

This work covers medicine in Maryland with special attention paid to differences in care in the diverse population of the state. Sewell covers medical institutions and professionals who were important in the development of medicine. She covers the defunct black Medical and Chirurgical Academy of Maryland, teaching hospitals, along with medical theory pertinent to the epidemic. Sewell also covered changes in medical thinking and teaching in the state since 1799.

Shilts, Randy. *And The Band Played On: Politics, People, and the AIDS Epidemic*. New York: St. Martin’s Press, 1987.

This work contains information specific to the politicizing and stereotyping occurring in the AIDS epidemic but also applicable to the influenza pandemic. Political forces worked to quell fears in the public over influenza while public officials still tried to keep the disease from spreading. Unfortunately, HIV also served to alienate and target groups as causing and/or spreading the disease.

Starr, Paul. *The Social Transformation of American Medicine*. New York: Basic Books, Inc., Publishers, 1982.

The work examined medical history, including how medicine and physicians affected American society. He devoted a chapter to 1850-1930, covering the influenza pandemic era, yet he wrote little about it. Starr championed physicians, writing that “he” was sovereign, powerful, and threatened by the lay public’s desire to learn the contents of drugs and the techniques of the physician. Thus, the public might no longer need doctors and could even become competitors to medical professionals. Starr discussed stresses and insecurities of physicians that could render them powerless to cure. Starr does not mention the pandemic itself, likely because it was a time when doctors felt powerless over disease and were powerless to cure. Starr continued to champion medical authority, writing that medicine was the driving force behind the effectiveness of public health measures against infectious diseases. Starr’s work illustrates the societal role physicians played and thought they held during the pandemic.

Tomes, Nancy. *The Gospel of Germs: Men, Women, and the Microbe in American Life*. Cambridge: Harvard University Press, 1998.

Tomes wrote about germ theory 1998. Tomes noted that to middle-class Americans, poor, immigrant, and non-white people were associated with disease germs. These stereotypes further resulted in class prejudice, nativism, and racism. But Tomes also argued that some converts to germ theory believed in a “chain of disease” that linked all Americans in society together, and worked to address the health problems of the poor, minorities, and immigrants because their problems affected everyone. Tomes wrote that during the pandemic, fear gripped the nation. Sick relatives and neighbors abandoned the sick to die alone, owing to anxieties about contagion and escaping infection rooted in widespread germ theory education. Since people did not know what caused the disease, some were afraid they would catch it if they cared for the sick.

Zimmerman, Barry E., and David J. Zimmerman. *Killer Germs: Microbes and Diseases that Threaten Humanity*. New York: McGraw Hill and Companies, 2003.

This work outlines historical accounts of infectious diseases from antiquity to the present, explaining how the discovery of the microscope aided medical researchers to learning about microbes and their role in disease. Pertinent to the study of influenza, the chapter “Viruses that kill” covered the disease that killed perhaps forty million people in 1918-19.

Articles

Almond, Douglas, and Bhashkar Mazumder. "The 1918 Influenza Pandemic and Subsequent Health Outcomes: An Analysis of SIPP Data." *American Economic Review* 95, no. 2 (May 2005): 258-62.

This article looked at health outcomes for babies who were in utero during the 1918 pandemic. The authors found that the pandemic affected outcomes of the children of pregnant mothers carrying them during the height of the pandemic for years to come by reducing the children's educational attainment, by increasing rates of disability, and by those issues resulting in lower socio-economic status during the rest of their lives. About a third of pregnant women contracted the virus during the pandemic, affecting many children. Previous studies focused on nutrition as the largest factor affecting subsequent health. This study found abrupt health declines for individuals born in 1919. This data suggests that the pandemic was even more far reaching than otherwise noted.

Armenti, David. "Facing the Great War: World War I and the Beginnings of Modern Rehabilitation." *Maryland Historical Society News* (Spring 2015): 22-6.

This article contains information on the rehabilitation hospital built at Fort McHenry for injured soldiers. The hospital served both black and white veterans of the war, and it provided job training, disability accommodation, and rehabilitation for the wounded veterans.

Barry, John M. "The Site of Origin of the 1918 Influenza Pandemic and its Public Health Implications." *Journal of Translational Medicine* 2004, no. 2 (2004): 3. DOI: 10.1186/1479-5876-2-3. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC340389/> (accessed November 8, 2014).

Barry writes that recent scholarship estimates from 50-100 million dead in the pandemic of 1918. Barry presents evidence for the site of origin of the epidemic as Haskell County, Kansas, in January 1918. He believes that public policy implications are likely if this hypothesis is correct. Other hypotheses presented are that the pandemic began in Asia, specifically in China and spread by Chinese or Vietnamese laborers either crossing to the US or working in France, and that the pandemic originated in a British Army post in France where what British physicians called "purulent bronchitis" erupted in 1916. Barry states that those deaths bear a striking resemblance to the influenza of 1918. Barry debunked those theories, citing studies that found no hard evidence or data of them being true. Barry sites Dr. Edwin Jordan's work as identifying the lethal diseases of the past as pneumonic plague rather than influenza. Barry remained committed to the origin of the pandemic being put firmly in the United States and spread by the movement of troops to Europe. This article provides much information for the background on the pandemic's origin.

Breen, William J. "Black Women and the Great War: Mobilization and Reform in the South." *The Journal of Southern History* 44, no. 3 (August 1978): 421-40.

Breen's article follows Southern women through the period of the war, commenting on their mobilization as a group to help in the home war effort, and at the continuing discrimination and segregation they encountered. Important to my work, he found that Red Cross canteen workers in the south excluded southern black women, as they did not want blacks to wear the canteen worker uniform. In other areas, some white and black women worked together, but in the south black women faced more racial discrimination.

Bristow, Nancy K. "'It's as Bad as Anything Can Be': Patients, Identity, and the Influenza Pandemic." *Public Health Reports* 125, S3 (2010): 134-44.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2862342/> (accessed November 11, 2014).

Bristow supplied background information on pandemic, and much of it specific to Maryland. Bristow notes a sense of disturbance in society with the influenza epidemic. The Red Cross in Baltimore reported that several cases reported by nurses were of two or three sick patients in one bed at a time, sometimes with a dead body. Larger cities such as Baltimore had decomposing bodies in the mortuaries and morgues because they could not bury them quickly enough. Some bodies lay unclaimed because family members were too sick to claim them.

Britten, Rollo H. "The Incidence of Epidemic Influenza, 1918-19: A Further Analysis According to Age, Sex, and Color of the Records of Morbidity and Mortality Obtained in Surveys of 12 Localities." *Public Health Reports (1896-1970)* 47, no. 6 (February 5, 1932): 303-39.

Public health reports outlined a re-canvassing of various localities; especially important were the re-canvassing of Baltimore, some small towns in Maryland, and the Maryland rural area of Charles County. These re-canvasses accomplished after the autumn wave of the epidemic to see if things had changed since the earlier fall canvassing. These studies recorded name, color, sex, and age at last birthday, and if the person had gotten sick with influenza or other illness. Important, inspectors recorded their impression of the economic status of the family as "well to do," "moderate," "poor" or "very poor." The study also recorded pneumonia incidence. The study found that mortality statistics gave results similar to those derived from morbidity statistics. In all, one out of every three or four people in the canvassed populations including Baltimore reported that they had influenza during the fall wave of the epidemic and later recurrence. Importantly this study provided the army incidence figures during the fall wave in order to compare that figure with that of Baltimore during the same period.

Brundage, John F., and G. Dennis Shanks. "Deaths from Bacterial Pneumonia during the 1918-19 Influenza Pandemic." *Emerging Infectious Diseases* 14, no. 8 (August 2008): 1193-99.

This study of secondary bacterial pneumonia deaths dispels the myth that the influenza germ itself was especially virulent and fatal. Rather, the authors present data to prove that the bacterium responsible for pneumonia was the real culprit.

Byerly, Carol R. "The US Military and the Influenza Pandemic of 1918-1919." *Public Health Reports* 125 (April 2, 2010): 81-91.

This article contains statistical information on the influenza infection rate in the military during 1918. According to their most conservative counts, the Army counts 26% infection rate and more than 30,000 deaths before the troops arrived in France for the war effort. The naval statistics also reflect how intertwined the influenza pandemic was with the war.

Cassidy, Chris, Craig T. Palmer, and Lisa Sattenspiel. "Boats, Trains, and Immunity: the Spread of the Spanish Flu on the Island of Newfoundland." *Newfoundland and Labrador Studies* 22, vol. 2 (2007): 473-504.

Cassidy, Palmer, and Sattenspiel studied virus immunity and its relevance to the spread of the flu on the island of Newfoundland. They specifically addressed various transportation modes as causative agents of the spread, examining shipping and boat travel, railroad travel, and immunities gained during exposure to the less fatal spring 1918 influenza outbreak.

De Jong, J.C., E.C.J. Claas, A.D.M.E. Osterhaus, R.G. Webster, and W. L. Lim. "A Pandemic Warning?" *Nature* 389 (9 October 1997): 554. DOI: 10.1038/39218 (accessed December 16, 2014).

According to the authors, works published in the 1990s and early twenty-first century often contained new questions. Authors increasingly asked why the 1918 pandemic was so fatal. This short article examined renewed interest in the 1918 pandemic that occurred in conjunction with deaths in Asia from Hong Kong flu in 1997, and the continuing AIDS pandemic.

Erkoreka, Anton. "Origins of the Spanish Influenza Pandemic (1918-1920) and its relation to the First World War." *Journal of Molecular and Genetic Medicine* 3, no. 2 (December 2009): 190-4.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2805838/> (accessed November 7, 2014).

The article contained general information about the pandemic and the author's hypothesis about where it initially came from. Unlike most other works about the pandemic, this author attributed a wave of influenza early in 1920 as the fourth wave of the pandemic virus. In Europe, the total mortality for the entire pandemic event was between 1.1% and 1.2%. This information might be pertinent for the general influenza facts chapter. The author argued that the 1918-1919 epidemic evolved from the pandemic virus of 1889-90. He further presented evidence that there was an earlier first

wave than commonly accepted, in December 1916-March 1917. This earlier influenza event had the heliotrope cyanosis and purulent bronchitis so commonly reported in the 1918 pandemic. During WWI, French colonial troops from Indochina, Africa, and Oceania helped to spread the virus to the rest of the world. Reports note that Indochinese troops experienced an epidemic in April 1918. An epidemic was reported in France in the 3rd Army from April 20 to November 1918.

Eyler, John M. "The State of Science, Microbiology, and Vaccines Circa 1918." *Public Health Reports* (1974-) 125, S3 (April 2010): 27-36.

Many vaccines were developed and administered during the 1918-1919 pandemic, but there were conflicting claims of their success. Pfeiffer's bacillus was thought to be the probable cause of influenza in 1918, and people had high hopes of a vaccine being developed. There were already successful vaccines against rabies, typhoid, and diphtheria. Drug manufacturers promoted their stock vaccines as working for the influenza virus, often keeping the ingredients of their concoctions secret. Price gouging and kickbacks became common as the epidemic grew. Some researchers developed what they purported to be a vaccine against Pfeiffer's bacillus using techniques learned in previous vaccine development. The vaccines were widely used, and those reporting on the vaccine efficacy nearly always reported that the vaccine was effective in preventing influenza.

Fraser, Christophe, Derek A. T. Cummings, Don Klinkenberg, Donald S. Burke, and Neil M. Ferguson. "Influenza Transmission in Households During the 1918 Pandemic." *American Journal of Epidemiology* 174, no. 5 (July 11, 2011): 505-14.

The author examined and extrapolated the data in the Frost study cited in "primary sources" above, finding that up to 22% of the population of Baltimore may have been immune from earlier influenza waves before the especially virulent fall wave of influenza. Frost based his findings on the survey of 7187 Maryland households conducted in the fall of 1918. The authors stated the significance of Frost's data reporting that Frederick, Maryland, suffered a higher influenza attack rate in the fall wave than Baltimore suggested that partial immunity in Baltimore's population was due to the influx of war workers from other areas carrying immunity from mild influenza infections they suffered in the spring wave. Frederick had no such influx of workers, thus their attack rate was higher than in Baltimore.

Gagnon, Alain, Matthew S. Miller, Stacey A. Hallman, Robert Bourbeau, D. Ann Herring, David JD Earn, and Joaquin Madrenas. "Age Specific Mortality During the 1918 Influenza Pandemic: Unravelling the Mystery of High Young Adult Mortality." *Plos One* 8, no. 8 (August 2013): 1-9.

Gagnon and his group studied the high mortality rates for young adults during the 1918 influenza pandemic. They believed that T-cell dysregulation from exposure to an earlier and dissimilar strain of influenza in the Russian flu epidemic of 1889-90 is to

blame for the high death rate. Peptides in the Russian virus created a higher level of anti-viral action in the body, leading to the person being especially prone to fatal bacterial pneumonia as a secondary complication of influenza. This bacterial pneumonia is what killed the young and strong individuals. The authors then discussed their data analysis leading to their argument that “original antigenic sin” meant that 1918 influenza victims with Russian flu exposure revealed little immunological response against the 1918 strain, but rather a strong response directed toward the Russian strain they encountered as children.

Gamble, Vanessa Northington. “‘There Wasn’t a Lot of Comforts in Those Days:’ African Americans, Public Health, and the 1918 Influenza Epidemic.” *Public Health Reports* 125, sup. 3 (2010): 114-22.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2862340/> (accessed November 11, 2014).

By 1918, medical and public health reports documented that blacks suffered higher morbidity and mortality rates than whites for several diseases like tuberculosis, pneumonia, diarrheal diseases. The death rate was slightly less for scarlet fever, cancer, and liver disease. The overall black death rate was 2 or 3 times higher than white. Blacks lived in the least desirable and most disease-ridden neighborhoods. Blacks had to make their own separate hospitals, facilities, and organizations to take care of themselves. Racism, legalized segregation restricted black patients, and doctors to health care facilities. Racist scientific theories operated on notions of blacks’ biological, physiological, and moral inferiority. Black immorality, intemperance, and congenital poverty were seen in era society as inherent race traits. Contradicting prevailing theories exist about blacks having increased susceptibility to disease. It appears that incidence of influenza in the 1918 epidemic was lower in blacks. However, according to other authors, pneumonia incidence and fatality was greater in blacks than whites, upping the death rates of blacks. In Baltimore, black public health activists viewed actions against housing segregation as inextricably linked to efforts to fight tuberculosis. Black health professionals created programs to teach personal hygiene and sanitation, especially to the poor blacks and to recent migrants from the South. Nationwide, hospitals either denied blacks admission or accommodated them, almost universally, in segregated wards, often placed in undesirable locations such as unheated attics and damp basements.

In Baltimore, the epidemic overwhelmed the capacity of the 40-bed Provident Hospital, the only facility for black patients, and the hospital had to turn patients away. The Baltimore Afro-American criticized the situation as the pitiable result of the Jim Crow policy practiced in white hospitals in the city, and the woeful lack of larger quarters in Provident. Observations that blacks had lower morbidity and mortality rates from the influenza epidemic were not universal.

Gibbs, Mark J., and Adrian J. Gibbs. “Molecular Virology: Was the 1918 Pandemic Caused by a Bird Flu? Was the 1918 flu Avian in Origin?” *Nature* 440, no. 7088 (April 27, 2006): E9-10.

The authors discuss the Taubenberger sequencing of the genes of the pandemic virus. Taubenberger, et al, assert that the virus crossed from birds to humans just prior to the start of the pandemic, and that the virus did not emerge from gene re-assortment. However, the Gibbs' argue that the evidence in the study does not support the conclusion that the pandemic virus came from birds. Rather, they believe that the virus evolved in mammals and that evidence proved it developed through re-assortment. Gibbs' also disputed the Tauberger group's assertion that the 1918 virus is traceable through all viral descendent trees. The Gibbs paper says that the results do not prove the virus to be avian at all, rather the virus evolved in people or pigs for quite a while prior to the pandemic beginning in 1918.

Gillis, Anna Maria. "The Devastation of 1918: Finding Pockets of Hope in the Great Flu Pandemic." *Humanities* 35, no. 2 (March/April 2014).
<http://www.neh.gov/humanities/2014/marchapril/feature/the-devastation-1918>
(accessed October 1, 2015).

Gillis added research from the CDC to analyze actions taken during the pandemic to see what worked and what did not. She found that cities that made early decisions to close schools, cancel public gatherings, and isolate and quarantine, and were consistent in these efforts did better in terms of mortality than those who did not. Gillis looked into Baltimore closing their public schools on October 8 and prohibiting public gatherings in some cases, finding that the pandemic persisted there until March 16, 1919, the first day that no flu cases reported in the city since the beginning of the fall wave the previous September. Baltimore suffered 4125 deaths

Gover, Mary. "Negro Mortality: I. Mortality from All Causes in the Death Registration States." *Public Health Reports (1896-1970)* 61, no. 8 (February 22, 1946): 259-65.

The report lists mortality rates for geographic sections for black citizens, and life expectancy tables. Gover does say that immediately following the influenza epidemic, black mortality was exceptionally low for several years. This low mortality for 1919-21 resulted in a greater life expectation at certain ages, but life expectancy dropped again for 1929-31 to more average death rates. Mortality dropped for blacks and whites of all ages from 1910 to the 1940s, though the rate of mortality is higher for blacks than whites in every decade.

Hobday, Richard A., and John W. Cason. "The Open-Air Treatment of Pandemic Influenza." *American Journal of Public Health* 99, no. 52 (October 2, 2009): S236-42.

Hobday and Cason discuss the theories of open-air treatment used by some practitioners during the H1N1 Influenza pandemic of 1918-19. Any type of therapy for those suffering from bacterial pneumonia was futile. A common practice in 1918 was to put sick patients outside in tents or open wards. Dr. John Lettsom established the "open-air" treatment method for children suffering from TB. He treated the children with fresh

air, gentle exercise, and a nutritious diet with good results. Florence Nightingale also supported sunlight and fresh air as part of hospital cures for patients, though the idea gained little approval at that time.

Howard, Jennifer. "Big Data Project on the 1918 Flu Reflects Key Role of Humanists." *Chronicle of Higher Education* 61, no. 25 (March 6, 2015): A12.

Howard records the research project undertaken by E. Thomas Ewing at Virginia Tech to look at how reporting on the pandemic flu spread in 1918, and especially at the influence that Royal Copeland, health commissioner of New York City, had in shaping influenza responses in the rest of the country.

Humphries, Mark Osborne. "Paths of Infection: The First World War and the Origins of the 1918 Influenza Pandemic." *War in History* 21, no. 1 (January 2014): 55-81.

Humphries examined the effect of the First World War on the influenza pandemic's outcomes. He noted that other deadly historical epidemics occurred when new transportation modes or routes brought formerly isolated populations with each other. The Great War brought disease from one area to another that likely would not otherwise spread. The first wave over deaths and sickness would have gone unnoticed except for the fatal second wave causing most of the pandemic's deaths. But the first wave caused the world's armies to suffer from influenza, whereas the second wave brought death from secondary pneumonia infections. Battlefield disease have always been intertwined, but the great war's mobilization of giant armies coming together on foreign battlefields likely helped the fatal second wave to develop. Humphries likens this movement of large groups of people to the outward movement of people from Europe to the New World and eventual European colonies, causing epidemics that killed off large numbers of indigenous people at that time.

Jackson, Robert L., and Emerson C. Walden. "A History of Provident Hospital, Baltimore, Maryland." *Journal of the National Medical Association* 59, no. 3 (May 1967): 157-65.

Provident Hospital was the only medical facility in Baltimore during the pandemic founded, staffed, and run by black physicians and lay people. It was a small facility housed in a former row house in the City; few other facilities treated blacks. Other hospitals that had black wards put black patients in sub-standard wings or in their basements. White hospitals with black wards rarely utilized black physicians. Provident unfortunately suffered from chronic funding difficulties and did not have many up to date medical items that the white hospitals had.

Jones, Marian Moser. "The American Red Cross and Local Response to the 1918 Influenza Pandemic: A Four-City Case Study." *Public Health Reports* (1974-) 125, S3 (April 2010): 92-104.

The American Red Cross coordinated nursing for military and civilian cases, produced and procured supplies and food, transported patients, health workers, and bodies, and victim's families. The local character of the response found significant differences in the effectiveness of Red Cross help.

Keeling, Arlene W. "Alert to the Necessities of the Emergency": U.S. Nursing During the 1918 Influenza Pandemic." *Public Health Reports (1974-)* 125, S3 (April 2010): 105-12.

The best care for influenza was good nursing. The nursing profession did not fully utilize black nurses in the war, and did not use any nursing aides in Europe at all. In 1918, there was little understanding of the nature of the disease, and no anti-viral medicines or inoculations, also there were no antibiotics for bacterial infections. Nursing was the best relief for the influenza epidemic, but nurses also used Vick's Vapo-Rub, aspirin, bed rest, sponge baths, whiskey, cough medicines, clean beds, and hot soups as therapy. Graduate nurses were the most effective tools as they had learned to administer these therapies in nursing school. Nevertheless, many white nurses did not have the training they needed, and the nursing shortage worsened by not accepting trained black nurses.

Leavitt, Judith Walzer. "Medicine in Context: A Review Essay of the History of Medicine." *The American Historical Review* 95, no. 5 (December 1990): 1471-84.

Leavitt admonishes historical researchers and writers to follow the advice of Henry Sigerist of Johns Hopkins' Institute of the History of Medicine, to move the focus of historical research and writing from the big physicians and medical discoveries to an examination of the context and social environments of health care practices. Social and cultural concerns aid historians in asking different questions about health care and medicine by adding the stories of healers other than physicians, and by looking at the impact of health on race, class, and gender. Focusing on social groups show how medical practiced because of the advocating of patient groups, and how social groups changed because of medical practice.

Mills, Christina E, James M. Robins, and Marc Lipsitch. "Transmissibility of 1918 Pandemic Influenza." *Nature* 432 (December 16, 2014): 904-6. DOI: 10.1038/nature03063.
<http://www.nature.com/nature/journal/v432/n7019/full/nature03063.html>
(accessed November 7, 2014).

The authors treated the 1918 pandemic as their worst-case scenario to study the likelihood of another similar epidemic with quick and widespread transmission. They believed that opportunities for newly mutated and developed subtypes based on the 1918 virus likely expanded since the close of the pandemic in 1919.

Morens, David M., Jeffery K. Taubenberger, and Anthony S. Fauci. "Predominant Role of Bacterial Pneumonia as a Cause of Death in Pandemic Influenza: Implications for Pandemic Influenza Preparedness." *Journal of Infectious Diseases* 198, no. 7. (2008): 1-9. <http://jid.oxfordjournals.org/content/198/7/962.short> (accessed November 11, 2014).

Morens and Taubenberger referenced the Shanks and Brundage article hypothesizing that the high mortality in 1918 resulted from cellular level immune responses coming from earlier influenza variants. The authors clearly did not agree or disagree with the theory, but rather presented further data about missing pieces of the 1918 puzzle. Morens and Taubenberger studied post influenza cases of pneumonia to find that those influenza victims vaccinated with the antibacterial vaccines in use at that time died at a nearly insignificant rate compared to other post-influenza pneumonia victims. Secondary bacterial pneumonia complications overwhelmingly were the most often seen fatal component in flu deaths. The authors believed that the most important question is why the 1918 virus brought on so many secondary bacterial pneumonias, and if the virus had some type of co-factor of a bacterial type. Morens and Taubenberger believe that bacterial pneumonia was actually the problem as almost all of the autopsies in 1918 found bacterial pneumonia as the prominent complicating factor in death.

Murray, Christopher J. L., Alan D. Lopez, Brian Chin, Dennis Feehan, and Kenneth H. Hill. "Estimation of Potential Global Pandemic Influenza Mortality on the Basis of Vital Registry Data from the 1918-20 Pandemic: a Quantitative Analysis." *Lancet* 368, no. 9554 (December 23, 2006): 2211-18.

Murray's study explored the mortality data gathered from the influenza pandemic of 1918-20 to estimate the highest probable estimate of mortality in a future pandemic. Murray reported a strong relation between income and mortality in the 1918-20 pandemic that could be mediated through better nutrition, treating concurrent illnesses, and making supportive care available.

Murray, Paul T. "Blacks and the Draft: A History of Institutional Racism." *Journal of Black Studies* 2, no. 1 (September 1971): 57-76.

Murray examines racial segregation, profiling, and other items of interest beginning in World War I and extending through the beginning of the Vietnam War. Discrimination led to overcrowding and more difficult work assignments, leading to increased morbidity and mortality when the influenza pandemic appeared in military camps and installations worldwide.

Myrskiyla, Mikko, Neil K. Mehta, and Virginia W. Chang. "Early Life Exposure to the 1918 Influenza Pandemic and Old-Age Mortality by Cause of Death." *American Journal of Public Health* 103, no. 7 (July 2013): 83-90.

The study looked at people infected with the 1918 pandemic influenza A virus (H1N1) to see if there were any differences in their mortality in later life or in their

causes of death. This study found that exposure to the pandemic virus did increase old-age mortality from non-cancerous causes including respiratory and cardiovascular disease.

Noymer, Andrew, and Michel Garenne. "The 1918 Influenza Epidemic's Effects of Sex Differentials in Mortality in the United States." *Population and Development Review* 26, no. 3 (September 2000): 565-81.

Noymer and Garenne studied the relationship between tuberculosis and the 1918 pandemic. Those infected with influenza and tuberculosis were more likely than others to die in the pandemic. The sex differences in mortality came from the fact that TB morbidity in the United States was overwhelmingly male.

Numbers, Ronald L. "The History of American Medicine: A Field in Ferment." *Reviews in American History* 10, no. 4 (December 1982): 245-63.

Numbers asks researchers to include non-physicians in their study of medicine and health care. The field comprises irregular and non-traditional physicians such as folk remedy healers and proponents of alternative therapies promoting preventative and curative actions. He notes that most medical historians throughout the history of this specialty researched and wrote with the interests of the medical profession in mind. Numbers also notes that early American historians did not always see medicine as a subject for historical study.

Pearl, Raymond. "Influenza Studies: I. On Certain General Statistical Aspects of the 1918 Epidemic in American Cities." *Public Health Reports (1896-1970)* 34, no. 32 (August 8, 1919): 1743-83.

This report highlighted the general information gained from statistics gathered during the pandemic. The author estimated deaths in the United States conservatively at no less than 550,000 while 111,1179 Americans soldiers lost their lives in military service from all causes during world war I. Dr. Pearl noted the differences of medical opinions regarding reportable cause of death for people dying after influenza infection, rather than just reporting those deaths as influenza or pneumonia.

Peniston, Reginald L. Review of *The Black Community Hospital: Contemporary Dilemmas in Historical Perspective* by Vanessa Gamble. *Journal of the National Medical Association* 84, no. 1 (January 1992): 7, 30, 40, 78, 88.

According to Peniston, Gamble notes that the resources available to black medical establishments have historically been limited, and that fact has not changed whatsoever. Majority white institutions frequently did not meet black patient needs, so black hospitals and black practitioners were vital to the community. Peniston cites the large number of indigent cases that brought no reimbursement as a reason that primarily black hospitals struggle even in the modern era. The hospital has to have funding to attract excellent

professionals. Peniston remained positive in his review of Gamble's work, saying that her writing was superb and her research reflected brilliance.

Power, Garrett. "Apartheid Baltimore Style: the Residential Segregation Ordinances of 1910-1913." *Maryland Law Review* 42, no. 2 (1983): 289-329.

This work studies the residential segregation ordinance and its effect on the black population of Baltimore within a historical perspective. Power writes of black migration, population percentages, housing conditions, impact of immigrant populations on black and white communities, and follows up with reports on segregation policies in effect for nearly half a century after the ordinance was signed into law. Power's work held vital information about the alley districts, segregation, and the impact upon black lives that racial hatred held.

Rosner, David. "'Spanish Flu, or Whatever It Is': The Paradox of Public Health in a Time of Crisis." *Public Health Reports (1974-)* 125, S3 (April 2010): 38-47.

Rosner examined the role of local health departments during the influenza epidemic of 1918. He covers public health roles prior to the epidemic and the evolution of those roles during the disease. He looked not only at available techniques and technologies but also at the authority of public health professionals to use the available tools. He notes that practitioners in various localities employed quarantine, isolation of the infected, public propaganda, warnings, campaigns against spitting and sneezing onto others, closures of commercial business, inspection of people, surveillance, and identification of sick people.

Sattenspiel, Lisa, and D. Ann Herring. "Simulating the Effect of Quarantine on the Spread of the 1918-19 Flu in Central Canada." *Bulletin of Mathematical Biology* 65 (2003): 1-26.

Sattenspiel and Herring studied the effects of quarantine on the spread of the 1918 influenza virus using fur trappers in central Canada, particularly Manitoba. They discussed past quarantines instituted during plague epidemics in Europe and other quarantines during the nineteenth and twentieth centuries that aimed to control infection spread from the maritime trades to the civilian populations. Quarantines attempted to control spreading cholera, plague, yellow fever, smallpox, and typhus from ships to the healthy population in nearby cities and towns. Though the original research direction believed that low mobility, or travel, rates in an area kept disease spread to a minimum, but the authors concluded after studying data that the fur trappers had not spread the virus because harsh winter conditions caused their journey to take one or two extra days to transit from one community to the next. The authors argue that in order for normal quarantines to be effective against infectious disease, the limitation on travel must be started early and last a long time. Introducing quarantine at the earliest possible time can lead to great reductions in disease spread, but it is difficult in a disease process to know when to institute quarantines, and if they are warranted at all.

Savitt, Todd. "Abraham Flexner and the Black Medical Schools." *Journal of the National Medical Association* 98, no. 9 (September 2006): 1415-24.

Savitt wrote about the Flexner report relative to the black medical schools. Only two schools remained open by 1923, Meharry Medical College and Howard University Medical School. The author notes that Howard had congressional funding in addition to support from individual donors, whereas the proprietary medical colleges that subsequently closed did not. The American Medical Association and Association of American Medical colleges pressured schools to improve education in all medical schools, not just the black ones. Baltimore contained one of the proprietary medical colleges that closed - the Medico-Chirurgical and Theological College of Christ's Institution. This school was an independent school that operated from 1900 to about 1908. Schools like Medico-Chirurgical had hard times raising funds as few black graduated doctors made enough money to help support their schools, and black philanthropists were unable to help them much, either. Though interest in admission to black medical schools rose during the era prior to the Flexner Report, the schools did not have enough facilities or money to handle higher numbers of students.

Schoch-Spana, Monica. "'Hospital's Full-Up:' The 1918 Influenza Pandemic." *Public Health Reports* (1974-) 116, S2 (2001): 32-3.

Health care workers died of influenza at the same rate as their patients, and some caregivers stayed away from the sick from fear of infection. Doctors and nurses faced overwhelming caseloads, making it difficult for physicians and public health officials to report deaths or to evaluate proposed strategies to lessen the epidemic. Hospitals could not handle the numbers of cases coming in, so they began to accept only urgent patients.

Shanks, G. Dennis. "Insights from Unusual Aspects of the 1918 Influenza Pandemic." *Travel Medicine and Infectious Disease* 13, no. 3 (April 14, 2015): 217-22.

This recent article outlines unique characteristics from the 1918 pandemic. The author discussed the high death rate of young adults, but explained that the death rate was highly variable in its mortality in similar groups located in the same area at the same time. He mentions that the final, lethal event for most patients was secondary bacterial pneumonia rather than a viral pneumonitis or acute lung injury seen in current bird flu infections. The 1918 viral event also caused heliotrope cyanosis, a blue skin color, and bleeding from the mouth and nose from excess fluid in the lungs.

Shanks, G. Dennis, and John F. Brundage. "Pathogenic Responses among Young Adults During the 1918 Influenza Pandemic." *Emerging Infectious Diseases* 18, no. 2 (February 2012): 201-7.

The authors examined the potential reasons that young and strong adults died in substantially higher numbers than seen in the usual elderly or infant influenza victims, pointing to competing theories of cytokine storm and bacterial pneumonia. They undertook their research due to fears of a global pandemic similar to 1918 occurring.

This 2012 article counters the earlier Taubenberger work that claims to unlock the genetic basis of the 1918 virus, and the theories that the pandemic came from a suddenly emerging highly virulent strain of influenza.

Shyrock, Richard H. "The Significance of Medicine in American History." *The American Historical Review* 62, no. 1 (October 1956): 81-91.

Shyrock's article points out the importance of studying the entire society, community, expectations of patients, and all healing therapies, in any study of medicine or health care from a historical perspective. Studying only the achievements of a few practitioners or scientists ignores the social impacts on those developments and improvements. For example, when medical and public health improvements cause a rise in life expectancy, it changes society and can cause overpopulation. This in turn creates tensions in international relations. Societal factors and science are interrelated, thus science and health care issues must include an examination of social issues.

Stern, Alexandra M., Martin S. Cetron, and Howard Markel. "Closing the Schools: Lessons from the 1918-19 U.S. Influenza Pandemic." *Health Affairs* 28, no. 6 (November/December 2009): 1066-78.

In 1918, many schools were closed for as long as fifteen weeks as part of a group of non-pharmaceutical actions such as quarantines, isolating sick people, public gathering bans, facemasks, and staggered opening and closing times for businesses. School closures tend to be a reaction to the worst of an epidemic event, long after the disease has already spread through the community. If school closures were undertaken quickly when the first cases appeared, data suggests that the closures could lower the mortality rates during pandemic or seasonal flu events.

Stern, Alexandra Minna, Mary Beth Reilly, Martin S. Cetron, and Howard Markel. "'Better Off in School': School Medical Inspection as a Public Health Strategy during the 1918-1919 Influenza Pandemic in the United States." *Public Health Reports* (1974-) 125, S3 (April 2010): 63-70.

Stern and her group examined the practice of keeping schools open during the influenza pandemic in New York City, Chicago, and New Haven rather than closing them as most other cities did to prevent infection spread. The 1918 pandemic coincided with the year all states passed attendance laws for public schools. This fact made school closures a challenge as thousands of additional children then attended schools unequipped to handle them. Urban schools in the early twentieth century were often sub-standard poorly lit and poorly ventilated buildings. Some classes met in basements, corridors, and temporary structures with inadequate plumbing and sewage. Improvements were a high priority in the years before the pandemic, and part of the improvements included school hygiene programs. Knowledge of bacteria and pathogenic diseases encouraged experts in the three cities mentioned to monitor the students in their schools during an epidemic to ensure their health. Contagious diseases, if discovered, were contained by quarantine by doctors, nurses, and schoolteachers. Colored schools

did not undertake these programs because of “personnel shortages.” By the second pandemic wave, most white schools had full time nurses on staff and were versed in isolation plans for children with contagious disease. Some nurses conducting school inspections also involved making judgements of the health conditions of the students’ families and homes and make judgements about which students should be sent home for care and which would pose an infection risk to other students and staff.

Summers, Jennifer A. “Pandemic Influenza Outbreak on a Troop Ship-Diary of a Soldier in 1918.” *Emerging Infectious Diseases* 18, no. 11 (November 2012): 1900-02.

Summers studied the diary of a soldier leaving Wellington New Zealand on his voyage to Europe in 1918. The soldier experienced an outbreak of influenza on the ship in the crowded quarters where each inch of space below decks was used. The soldiers slept in hammocks suspended over the mess tables where the soldiers also sat to write. They lived in the below decks areas when weather was rough, and whenever they were not on duty. The soldier contracted the disease as did 90% of the unit and all those onboard the transport ship. The crowded environment created a perfect environment for the influenza outbreak. The unit had one of the highest mortality rates of New Zealand military units, likely because the soldiers stayed so closely together without any ventilation in the areas where they lived, ate, and slept.

Summers, Jennifer A., James Stanley, Michael G. Baker, and Nick Wilson. “Risk Factors for Death from Pandemic Influenza in 1918-191: a Case-Control Study.” *Influenza and Other Respiratory Viruses* 8, no. 3 (May 2014): 329-38.

Summers and her group found that the transportation of thousands of troops worldwide likely helped the pandemic influenza spread quickly. The study examined possible control measures to use for future pandemics, focusing on New Zealand’s population. The study looked at medical and military factors in 1918, again focused on New Zealand’s troops. The study found that larger chest sizes in men resulted in higher pandemic-related mortality, possibly because of lung capacity reduction in body builders and other larger men.

Sydenstricker, Edgar, and Arthur J. Lawrence. “The Incidence of Influenza among Persons of Different Economic Status during the Epidemic of 1918 (1931) [with Commentary].” *Public Health Reports (1974-)* 121, S1 (2006): 190-204.

This analysis was especially significant because the data Sydenstricker examined linked poverty with infection. In this report, Sydenstricker analyzed pandemic period data about living conditions and illness incidence collected house to house in ten cities of various sizes including Baltimore. The statistical data showed that the attack rate of influenza directly related to the economic level of the individual. The relationship between disease and economic level persisted even when adjusted for race, sex, and age of the respondent.

Taubenberger, Jeffery K., and David M. Morens. "1918 Influenza: the Mother of All Pandemics." *Emerging Infectious Diseases* 12, no. 1 (January 2006): 15-22. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4181817/#_sec2title (accessed November 7, 2014).

This article contains a concise report of scientific findings on the 1918 virus. The authors wrote that almost all cases of influenza A worldwide since 1918 were caused by descendants of the 1918 microbe, even human infections from avian viruses. These descended viruses included "drifted" and re-assorted or mutated versions of the 1918 flu. Avian versions were composed of virus genes from 1918 but also incorporated avian virus genes. Because later viruses descended from it, the 1918 pandemic was truly the "mother of all pandemics." Genetic material isolated from a preserved tissue sample confirmed that the 1918 virus is likely the ancestor of all four known human and swine lineages. Like other twenty-first century works, the authors discussed "what if" of another pandemic. Even with modern antiviral and antibacterial drugs, flu vaccines, and prevention techniques, a 1918-virus pandemic could still kill in excess of one-hundred million people worldwide.

The JBHE Foundation, Inc. "Taking the Pulse of Blacks in Academic Nursing." *The Journal of Blacks in Higher Education* 34 (Winter 2001-2002): 22-44.

The article surveyed nursing schools in the US since the end of the 1800s; nearly all of them declined to admit black students. The New England Hospital for Women and Children, however, allowed black students, graduating Mary Eliza Mahoney in 1879 as the first black graduate. Especially in the south, blacks were not allowed in white hospitals, so black physicians opened their own hospitals to care for black patients. These black hospitals had to open their own schools of nursing as there was a need for black nurses and no schools to train them. Further, the white professionals were unwilling to serve black people, thus black doctors, barbers, funeral directors, and other professional and business people had to find other ways to receive their required training.

Tomes, Nancy. "'Destroyer and Teacher': Managing the Masses during the 1918-1919 Influenza Pandemic." *Public Health Reports (1974-)* 125, S3 (April 2010): 48-62.

The pandemic necessitated bans on assembly to keep the population healthy. Though many officials denied that the epidemic existed and some civilians refused to alter their behavior, communities that limited gatherings lost fewer lives in the pandemic.

Wakefield, Julie. "Flu, Fetuses, and Schizophrenia." *Environmental Health Perspectives* 112, no.17 (December 2004): A986.

This article outlined a research project in which researchers from Johns Hopkins Medical School in Baltimore undertook a long-term research study to test the theory that viruses or other infectious agents could trigger schizophrenia. They looked at the large number of people who caught influenza in 1918 and developed symptoms similar to

those of schizophrenia and other manic illnesses after they recovered from the flu. Antibodies to certain viruses exist in the spinal fluid of schizophrenic patients. This theory was more popular in the 1920s and 1930s than when the study began in the 1994, but since this illness has 1.5 million sufferers in the United States alone, any links to disease causation would be significant. Indeed, evidence has surfaced that suggests the children of women who get the flu while pregnant are at higher risk of developing schizophrenia.

Newspapers

The Los Angeles Times. Los Angeles, CA. 1997.

The Wall Street Journal. New York, NY. 2012.

The Washington Post Times Herald. Washington, DC. 1961, 2001.

Other Sources

African-American Registry. "Baltimore Afro-American Newspaper Founded." *Afro-American Registry: A Non-Profit Education Organization*.
http://www.aaregistry.org/historic_events/view/baltimore-american-newspaper-founded (accessed July 13, 2015).

This short article provides needed information on the founding of the black Baltimore newspaper the *Afro-American*. It explores another facet of segregation, a fully black run newspaper with mostly black readers.

Bardi, Jason Socrates. "Rapid Response was Crucial to Containing the 1918 Flu Pandemic: Historical Analysis Help Plan for Future Pandemics." National Institutes of Health. <http://www.nih.gov/news/pr/apr2007/niaid-02b.htm> (Accessed August 14, 2015).

Bardi argues that the response rate in various cities accounts for the variety of severity of the influenza pandemic in them. He believes that the difference, according to two independent studies, had to do with the public health measures instituted, but also with how rapidly the city responded to the disease. Cities that imposed public gathering bans and other containment measures within just a few days after the first cases emerged cut their death rates by up to half when compared with cities that waited a few weeks to institute the same measures.

Berman, Leonard B., reviewer. "Doughboys Took 'Flu' Overseas." (Book Review of *The Great Epidemic* by A. A. Hoehling). *The Washington Post* (March 12, 1961).
<http://search.proquest.com/docview/141319920?accountid=34685> (accessed November 8, 2014).

Berman said that the pandemic killed 500,000 Americans in a few weeks, but this is not what Hoehling's book related.

Billings, Molly. "The Influenza Pandemic of 1918." Stanford University. Updated February 2005. <https://virus.stanford.edu/uda/> (accessed November 7, 2014).

Billings wrote a generalized narrative of the high points of the 1918 pandemic, including the Great War in Europe, the unusual morbidity that killed off young people from age 20 to 40, as opposed to the elderly and young children, its usual victims. Billings argues that an estimated 675000 Americans died of influenza, ten times as many as died in the war. An estimated 43000 servicemen involved in WWI died from influenza. The virus caused the average life span in the US to decrease by 10 years during 1918. The mortality rate amounted to 2.5% compared to previous epidemics of less than 0.1%.

Byerly, Carol R. "The Politics of Disease and War: Infectious Disease in the United States Army during World War I." PhD diss, University of Colorado at Boulder, 2001. <http://library.pittstate.edu:2826/docview/304687445?accountid=13211> (accessed June 19, 2015).

Byerly's study examined infectious diseases during World War I through records left by army medical officers working during the war. These officers often decided upon public health policies for the military, but their role was quite complicated. Medical officers were also soldiers, so they were bound to the army's war machine and understood that soldiers would necessarily have to die for their country to secure a victory in the war. However, these men were also physicians who were committed to trying to improve the health of the soldiers they served. These officers reported to the army command but also advocated health policy to elected officials.

"Film Shows Baltimore School Struggling Despite No Child Left Behind Law." *Mason City Globe Gazette* (June 21, 2008). http://globegazette.com/entertainment/television/film-shows-baltimore-school-struggling-despite-no-child-left-behind/article_ece5cfd3-e574-54ed-866e-fe6d6d588b84.html (accessed June 16, 2015).

This article follows a documentary made about the historic Frederick Douglass High school that began as the first colored high school in Baltimore. The filmmakers named their film "Hard Times at Douglass High: A No Child Left Behind Report Card." The film was made for HBO. The article contained quite a bit of historical information about this segregated school.

Lloyd, Sterling M., Jr. "A Short History of Howard University College of Medicine." Howard University Department of Health Sciences. <http://healthsciences.howard.edu/education/colleges/medicine/about/mission/short-history> (accessed July 5, 2015).

Since Howard University was one of only two black medical schools in the country to remain open after the Flexner report hit in 1910 and owing to its close proximity to Baltimore, many of the black physicians in practice in Baltimore gained their medical education at Howard. The article provides background information on the founders and history about the school, as well as information about the associated Howard University teaching hospital.

Maryland Historical Trust. "Frederick Douglass High School." *Maryland's National Register Properties*.

<http://www.mht.maryland.gov/nr/NRDetail.aspx?NRID=1034&COUNTY=Baltimore%20City&FROM=NRCountyList.aspx> (accessed June 16, 2015).

This piece provides background information on the city of Baltimore's first Colored High School.

Miller, Erin. "The Neglected Case of *Buchanan v. Warley*." *SCOTUS Blog*. February 10, 2010. <http://www.scotusblog.com/2010/02/the-neglected-case-of-buchanan-v-warley/> (accessed August 14, 2015).

This article discusses the Supreme Court case that invalidated residential segregation laws in effect in Baltimore and many other communities. This case is vital to understanding how residential segregation occurred in Baltimore and other cities. In this case, the court ruled that whites could sell their property to whomever they wanted to, and that included to black people. Conversely, blacks could sell their property to whites. The decision prompted neighborhood corporations, covenants, and other ways of continuing segregation, but these methods were often ineffective. The decision did not create integrated neighborhoods, but kept communities and states from passing more restrictive segregation laws.

US Department of Health and Human Services. "The Great Pandemic: The United States in 1918-1919; Maryland."

http://www.flu.gov/pandemic/history/1918/your_state/northeast/maryland/index.htm (accessed November 7, 2014).

This article presented specific information about the pandemic's affect in Maryland, outlining that the first cases of influenza in Maryland appeared at Camp Meade. The virulence of the disease was strongest in the areas where the disease appeared first, thus Fort Mead was hard hit. The article discussed the effect of the pandemic in Cumberland MD because this town was the western center for rail travel in the Baltimore area. It also talked about the deaths rate in Baltimore, and the reluctance of city health officials to take any action.

US Department of Health and Human Services. "The Great Pandemic: The United States in 1918-19; The Public Health Service."

http://www.flu.gov/pandemic/history/1918/your_state/northeast/thepublichealthservice/index.htm (accessed November 7, 2014).

This article contained background information on the founding of the Public Health Service as well as the mission of the service. Additionally, it provided specific information to the nature of the health service in 1918, outlining the fact that all officers were white males, yet women and minorities could work in the PHS as civil servants. Many did so as physicians, nurses, biologists, pharmacists, and sanitary engineers. The author admitted that in 1918, the federal and state authorities consistently battled for supremacy, limiting the powers of the PHS. Suspicion by local and state authorities meant that the PHS had to fight with these authorities even when the local authorities had themselves called in the PHS. This further complicated the work that the PHS tried to accomplish.

University of Michigan Center for the History of Medicine. "Influenza Encyclopedia: The American Influenza Epidemic of 1918-1919: Baltimore, Maryland." University of Michigan Library. <http://www.influenzaarchive.org/cities/city-baltimore.html#> (accessed November 7, 2014).

This article contains background on the epidemic coming to the Baltimore area. The first cases came to Camp Meade and then moved rapidly to the other military installations and through the civilian contract laborers to shipyards and families in the city.

Vosburgh, Haydan. "Flu Epidemic of 1918." Kansapedia; Kansas Historical Society. Posted June 2012, updated February 2013. <http://www.kshs.org/kansapedia/flu-epidemic-of-1918/17805> (accessed November 8, 2014).

This article discusses the theory of the flu epidemic originating in Kansas, particularly Haskell County and Fort Riley. The article discusses the outbreak and the disease making its way to Europe and then back to Kansas, and the public health campaign to educate the public about the flu and to close individual cities and public gathering places.