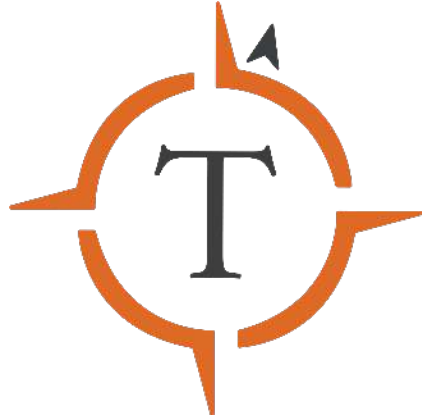


Tahoe Expedition Academy



Investigating the Impact of Pandemics on Lower-Income Populations

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June 1, 2020

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Introduction:

In the spring of 2020, Earth was struck by a global pandemic caused by a strain of coronavirus named Covid-19. Governments around the world have enforced stay at home orders and implemented rules such as requiring people to wear masks in public and people to distance each other by 6 feet. Non-essential businesses, such as retail stores, hair salons, and places of amusement have closed down around the world. Restaurants have only been allowed to do delivery and pick up orders to reduce social gatherings. This has put millions of small businesses at risk of permanently closing in the near future (CNBC). Many Americans with low incomes are struggling to pay for food, bills, and rent (NPR). Furthermore, Government unemployment services are lacking the resources to deal with the massive volume of claims coming in; the U.S has hit more than 40 million jobless cases as of May 28 (New York Times). As my family and I are dealing with similar issues, it got me to think if it is possible to better prepare ourselves as a country for future pandemics. To answer this question I researched three previous times an infectious disease has hit the U.S.: the 1918 Pandemic (Spanish Flu), the polio epidemic, and the 2009 H1N1 Pandemic.

The 1918 Pandemic (Spanish Flu):

In 1918, the world was hit with a severe pandemic (a pandemic disease is an epidemic that has spread over a large area, that is, it's prevalent throughout an entire country,

continent, or the whole world) caused by an influenza H1N1 virus. The virus infected about 500 million people worldwide and killed about 50 million people, including 675,000 in the United States. The virus did not leave anyone out; it infected people in both urban and rural areas. Additionally, it infected multiple age groups, including young adults between ages 20-40. The plague was hit twice in 1918, with the second wave being more severe. Symptoms included fever, nausea, aches, severe pneumonia, dark spots, turning blue, and suffocating from filled lungs with blood. The US implemented restrictions to slow down the spread, such as closing non-essential businesses and schools, enforcing no spitting ordinance, requiring masks in public, and using disposable tissues. Yet the U.S was in the middle of World War I and needed to meet supply demands. Many factories and mining facilities were still open for business. Negative effects on the economy tended to be short as it resulted in a shortage of labor that caused wages to go up (Garrett). Although the effects on the economy did not last for too long, it did affect those with low income.

Low-income citizens were affected the most due to living and working in smaller rooms than their wealthier counterparts (PMC). This caused them problems such as getting ill, financial struggles and caring for those who are sick.

Lessons learned from the 1918 virus were planned ahead of time to lessen the impact of the spread and provide clear instructions for health infrastructures. It is important for the government to share its reasoning behind health measures to increase cooperation

from the public (PMC). If people know the reason why, they will be more willing to follow guidelines.

The Polio Epidemic:

Although the first major polio epidemic (affecting many persons at the same time, and spreading from person to person in a locality where the disease is not permanently prevalent) in the U.S was in 1894, it was not until the 1950s that polio became one of the most feared diseases in the U.S. According to NPR, "In 1952 alone, nearly 60,000 children were infected with the virus; thousands were paralyzed, and more than 3,000 died. Hospitals set up special units with iron lung machines to keep polio victims alive" (NPR). People started calling late summer polio season as cases rose during warmer times. Polio spread either by droplets from a sneeze or cough of a diseased person or contact with feces of an infected person. Local governments shut down public swimming pools and urged moviegoers to distance themselves to avoid spreading the disease. Non-essential meetings, schools, and camps were mandated to be closed or canceled in the meantime. Parents were urged to keep their children clean, well nurtured, and away from crowds (Smith). The major concern about polio is that it could leave you paralyzed. Children were the most affected by the disease, causing panic to rise among parents.

In 1995, the first polio vaccine became available in the United States. Widespread use led to the eradication of polio in the United States in 1979. Yet after the vaccine was invented, polio started to target poorer neighborhoods. According to The Atlantic, "epidemics were concentrated in 'lower socioeconomic' areas and younger children were affected more frequently than older school kids" (The Atlantic). This was due to the fact that lower-income families could not afford the vaccine, and although laws were created to administer free vaccines, the U.S failed to reach out to these communities.

According to The Atlantic:

a team of behavioral scientists argued that educated mothers with 'white-collar' spouses were more likely than mothers with less education and 'blue-collar' spouses to vaccinate their children because it was more convenient for them and because peers and community groups encouraged them. Moreover, when lower-income people read the papers, they read only about "crime, disaster, and sports" and therefore missed the news on public and social affairs, science, and politics—and, it followed, free polio vaccines (The Atlantic).

The takeaways that we could learn from the Polio epidemic are the negative effects that could happen when vaccines are not available for everyone and the importance of awareness to all social groups. People from low-income communities work and live in more concentrated areas compared to their richer counterparts. This increases the chance of contracting the virus. The U.S government needs to expand its awareness

efforts to reach those in the low-income class and to provide them with fact-based information about the virus and safety precaution they can use to limit infections. The U.S government also needs to prioritize low-income communities when it comes to vaccine shortages since they are more likely to get infected.

2009 H1N1 Pandemic (Swine Flu)

In the spring of 2009, The world was hit with a new influenza virus dubbed as influenza A (H1N1) pdm09 or swine flu. It was referred to as swine flu because lab testing showed similar gene segments to influenza viruses found among pigs (CDC). It was first detected in the United States and soon spread throughout the country and world.

According to the CDC, "from April 12, 2009 to April 10, 2010, CDC estimated there were 60.8 million cases (range: 43.3-89.3 million), 274,304 hospitalizations (range: 195,086-402,719), and 12,469 deaths (range: 8868-18,306) in the United States due to the (H1N1) pdm09 virus" (CDC). The H1N1 virus primarily affected children, young adults, and middle-aged adults. Nearly one-third of people over 60 years old had antibodies against this virus, likely from older H1N1 virus they encountered earlier in their lives (CDC). Seasonal flu shots were ineffective against H1N1 because it was different to circulating H1N1 (*a virus that is a subtype H1N1 of the orthomyxovirus causing influenza A, that infects birds, pigs, and humans, and that includes strains which may occur in seasonal epidemics or sometimes pandemics*) virus at that time.

The United States' response was more conservative than what many expected.

According to the Center For Strategic and International Studies,

officials avoided their more extreme options. They did not use the national Tamiflu stockpile as a preventive mechanism. They did not mandate vaccination or issue federal orders to close schools. They did, however, provide clear news and advice on cdc.gov and flu.gov. Both websites worked to debunk potential causes of panic and the evolving arguments of the anti-vaccine lobby (CSIS).

On September 21, 2009, the FDA approved 4 vaccines to combat the H1N1 virus, and states were allowed to place their orders on September 30, 2009. Although, it was not until late December when the vaccine was available for everyone.

The key takeaway from the 2009 H1N1 Pandemic was to be prepared for future pandemics. A report done by Trust for America's Health (TFAH) found critical gaps in the United States' abilities to tackle public health emergencies. According to TFAH, 20 states had six or fewer of the 10 key indicators of prepared infrastructure. Almost two-thirds of states had seven or fewer. This is important to know as the H1N1 virus was the least lethal modern flu pandemic, with the death rate among infected persons between 0.026% and 0.048% (CSIS).

Conclusion:

The biggest takeaway I learned from my research is that the U.S government lacks in preparedness. Covid-19 exposed this to us as hospitals are being overwhelmed with patients and are lacking in medical equipment. Unemployment services are too outdated and understaffed to deal with the number of claims they are receiving. Furthermore, many people are without basic precautionary measures such as masks, hand sanitizers, and gloves. While there is not much we can do for Covid-19, the U.S could prepare for the next pandemic.

The U.S pandemic plan needs to be revised to address four major concerns. The U.S needs to increase support for hospitals to assure that they are not overwhelmed with patients and receive the supplies they need. Unemployment services need to be updated and remodeled to handle massive amounts of claims. The U.S needs to make sure that basic supplies are available to everyone. Yet, the most important thing that the U.S needs to do for the next pandemic is to act sooner rather than later. According to research done by Columbia University, "if the country had locked down two weeks earlier than it did, it could have prevented 84% of deaths and 82% of cases" (Shaman). This is due to the fact that low-income citizens usually work and live in more concentrated areas, so they are more likely to be infected than their richer-counterparts. With these adjustments, the U.S can decrease the number of infected people, as well as limiting the strain that pandemics have on the low-income class. At the bottom of this

document, I have provided a letter I sent to my state legislators. I urge people to use this letter as a template to further advocate the need to prepare for the next pandemic.

[Letter here](#)

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