



Philadelphia Liberty Loan Parade 28 SEP 18

Lessons learned on how to flatten the Curve

In our last two special editions we studied how the U.S. Army and Rock Island Arsenal responded to the 1918-1919 influenza pandemic that swept the globe. In this edition we are using the tale of two cities, without Charles Dicken's help, to demonstrate the results of two very different responses to the pandemic in two large American cities in 1918. The cities in question are St. Louis and Philadelphia and they not only had different initial responses but also continued intervention differences.

The comparison between these two cities highlight the need for early, sustained, thought-out layered applications of non-pharmaceutical interventions to mitigate the infection and mortality rates. The city of Philadelphia initially reacted very slowly to any kind of intervention. The first cases within Philadelphia were



American Red Cross removing flu patients from their homes in St. Louis

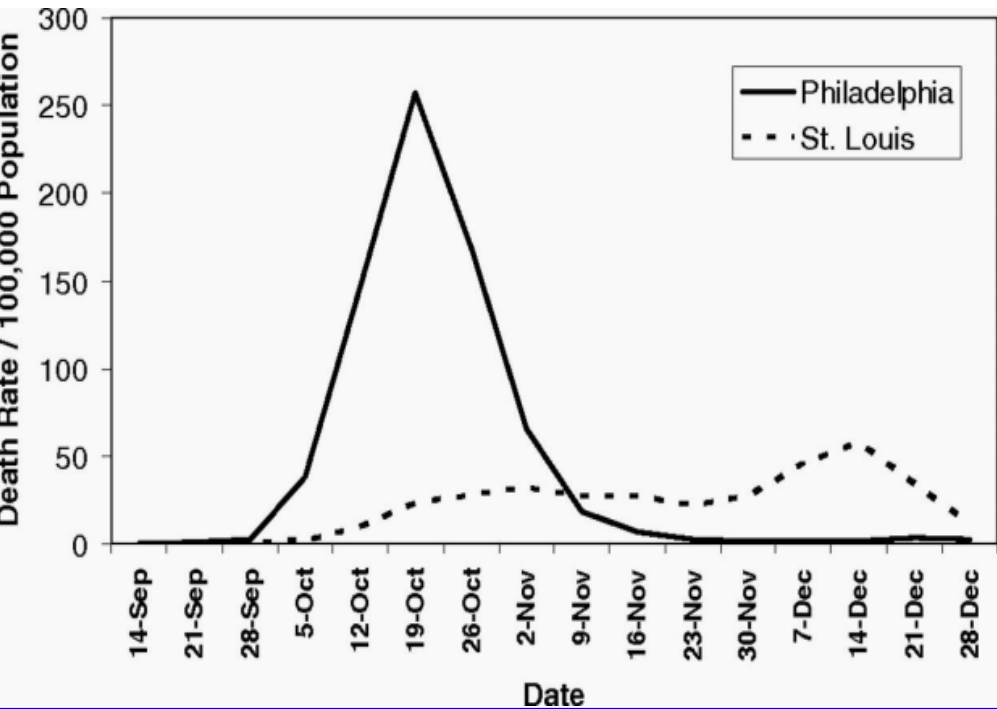
reported on 17 September 1918, but authorities downplayed their significance and continued to allow large public gatherings. City officials were warned by medical personnel about a planned Liberty Loan parade and its dangers saying that it was “a ready-made inflammable mass for a conflagration.” The city-wide parade was allowed to continue, because it was expected to raise millions of dollars in war bonds. More than 200,000 people participated in the parade on 28 September 1918. Just 72 hours after its conclusion, all 31 of Philadelphia’s hospitals were full. By the end of the week 2,600 people were dead. George Dehner, author of *Global Flu and You: A History of Influenza*, says that while the City’s decision to continue the parade was absolutely a “bad idea,” Philadelphia’s infection rate was already accelerating by late September.

“The Liberty Loan parade probably threw gasoline on the fire,” says Dehner, “but it was already cooking along pretty well.” School closures, bans on public gatherings, and other social distancing interventions were not implemented until 3 October, long after the disease had already overwhelmed local medical and public health resources. In total Philadelphia would record more than 10,000 deaths resulting from the flu in this second wave alone in late 1918.

St. Louis clearly had a number of advantages in their efforts to limit the pandemic.

First, as cases of influenza, which would become known as the second wave, spread from East Coast cities to the Midwest, attentive medical official's could watch the response and plan for intervention. Second, St. Louis had just such an individual. Dr. Max C. Starkloff was the City of St. Louis health commissioner and in late September he began to act even before the first reported cases had occurred in the city. He requested that all doctors voluntarily report any cases of influenza or pneumonia and wrote an article in the St. Louis Post-Dispatch detailing how best to avoid influenza and the deadly pneumonia. He warned residents to avoid fatigue, alcohol, and crowds. He also recommended residents get plenty of fresh air and avoid those who were ill. By 5 October the first reported cases within the city had occurred. The next day he pushed for an emergency bill declaring influenza a contagious disease. The bill gave the mayor legal authority to declare a state of public health emergency. By 9 October all St. Louis city schools, theaters, churches had been closed. All planned public gatherings over 20 individuals and a Liberty Loan parade were cancelled. The result was that St. Louis’s infection and death rate were dramatically lower than other cities. Another important lesson can be applied today from the St. Louis example– when deaths rates starting to fall after roughly five weeks in quarantine, the city loosened restrictions. But soon after, officials noticed a rise in the number of cases and deaths and promptly reinstated quarantine and distancing.

The comparison of these two cities give valuable lessons as to the initial responses that are required to slow the spread through non-pharmaceutical interventions giving health officials the crucial time to identify and react to the disease. Even in 1918 vaccines were sought in treatment but time was needed to develop them, same as today. The most important aspect of flattening the curve, then and now, is to slow the spread and not overwhelm the medical and supply systems. St. Louis and a number of other cities also demonstrate the importance for staying the course to ride out follow-on waves of spread. If restrictions are lifted too early, or not rapidly re-imposed, infection rates and deaths will increase due to the newly found freedom and “catch up” interactions. As was stated earlier, these studies demonstrate a strong association between early, sustained, and layered application of non-pharmaceutical interventions. Similar interventions should be considered for inclusion as companion measures to developing effective vaccines and medications to return the curve and our lives to their normal state.



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