

Pandemic parameters: history revisited

In 2017, Smithsonian magazine published an article (“Journal of The Plaque Year:1918 Outbreak” by John M Barry) describing some medical, social, and impactful ramifications during the years 1917 through 1919, that revolved around the H1N1 Influenzae A pandemic. Mr. Barry provides a fascinating and eye-opening account of its discovery, rampant spread, and the grudgeful acceptance of multitudinous and imminent deathsthat were all blanketed in the lack of national mobility around this pandemic. It gives us pause to realize our station in the present pandemic and our roles in sustaining life at its most threatened.

This editorial will relate some key elements of the 1918 pandemic and bring to mind our current situation with the COVID-19 SARS Cov2 infiltration. It is most interesting to note that in this article that was written in 1917, we are urged as a society to be ‘ready’ for the next pandemic. Being ready entails adequate communication, containment, mobilization, and compassion, all characteristics that we have assumed during wartime. Indeed, most of us, especially hospital personnel and families who have lost multiple loved ones, have felt the same dread, ominous tones, and PTSD residuals as we fight this viral war on many fronts.

In the United States, influenzae struck in Haskel County Kansas in January of 1918. The physician Loring Miner alerted the U.S. Public Health Services, and it was the first notice anywhere in the world of unusual influenzae activity that year. This virus attaches to cells in the upper respiratory tract and is transmitted easily but causes damage deep in the lungs. It triggers cytokine release, and this response fills the lungs with fluid, much in line with the body’s reaction to the COVID-19, SARS Cov2 virus.

Haskel County farmers raise hogs and the county is located on a major migratory pattern of flight. Bird influenzae and human influenzae can infect hogs. Not to say this is exactly what happened but when a bird virus and a human virus infect the same hog cell, the genes can shuffle to produce a new and more lethal virus. When a new virus that has not been seen by the human immune system enters the body, a fulminant infection results and is highly infective, threatening at risk patients. We have all read reports of the same phenomena happening with COVID=19 as a bat strain mutated to be able to infect humans. Indeed, these naturally occurring virulent strains have a much broader survival capacity than we could imagine or possibly engineer.

Pandemics affect the world stage and as patients who had been exposed to the virus in 1918 were relocated to Army barracks, thousands of soldiers became infected who were sorely missed on the battlefields during WWI. The impact of natural disasters such as this resound through world centers as a reminder that jobs and economic stability affect every aspect of life and the resilience needed to recover is paramount.

One hundred years later in the face of another pandemic, the edges of scientific endeavor were mobilized to meet an immediate need shortly following the realization that we were in a critical time warp. Vaccines are not easy to make and can take months to

Volume 9 Issue 6 - 2021

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years to construct notwithstanding the additional two to three years to assess risk and efficacy. In the midst of a widely spreading virus, that luxury is not available as time is of the essence. This coronavirus is the second largest single stranded positive RNA virus and is also one of the most promiscuous in its class. We will not fully know our effectiveness at stemming the rise of COVID-19, SARS-Cov2 until retrospective data becomes available and we can look back on the steps taken during each phase of the outbreaks. We do know that the rise and fall of the infection surges shows direct proportionality to vaccine administration. This may be where we will learn to prepare for the next pandemic as Mr. Barry alluded to in his 1917 article.

What I would like to present are numbers that convey our witnessing of the present-day pandemic and take a look back at the 1918 situation. In each situation, containment, communication and compassion differed. However, the virus raged on. Containment in 1918 meant not going near another person as transmission mechanisms were unknown. This was the only parameter that was followed as mechanisms of spread were assumed but not fully defined or communicated. Corpses were burned in mass graves in 1918 and similar pressures are still being felt during this pandemic—what do we do with the bodies? Again, containment becomes part of the equation as corpses can be a large part of spread if not handled properly. Communication in 1918 was often blocked as cities and communities were misled as to the severity of the illness and to the numbers of deaths. Incidences of secrecy around deaths in Philadelphia in 1918 were particularly disturbing. Communication in the COVID-19, SARS Cov2 world has helped steer the precautions imposed as people continue to interact under different requirements. Compassion has been the greatest bulwark during crisis. We see compassion as people care for one another during the COVID-19 SARS Cov2years. Unfortunately, although compassion was felt in 1918, extensions of kindness were withheld out of fear of contact with any other person. The understanding of means of transmission was missing and people could not take appropriate measures to protect themselves. Even if they had wanted to see and help others, they were too afraid of getting the illness. That said, I think the numbers provided below can perhaps serve as a backdrop when assessing loss, no matter what the circumstances. Understand that the numbers provided for COVID-19 SARS Cov2 are not final as the pandemic prevails. My question to all of you is – “Can we ever ‘be ready’ for a pandemic and what does being ready really entail?”

1917-1919	Infected	Deaths	Percent <= age 5	% military deaths caused by flu
In the US				
	25.8 M	670K	20	50

*2019 – Oct 2021	Infected	Deaths	Total doses vaccine	Fully vaccinated
COVID-19 SARS Cov2				
In the US	45.8 M	744K	418 M	191 M (58%)

*From the New York Times and Our World in Data

Covid-19	Total; Cases	New; Cases	Total; Deaths	New; Deaths	Total; Recovered
World	246,608,101	+356,130	5,001,273	+5,302	223,404,950
Asia	79,180,204	+95,254	1,168,192	+1,445	76,226,460
Europe	64,089,007	+236,469	1,296,736	+3,178	57,778,049