

Decreased Influenza Activity Amidst COVID-19 Pandemic: The Future Prospects of Community Mitigation Measures and Social Distancing

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Both the seasonal flu and COVID-19 are viral respiratory illnesses caused by the Influenza virus and a novel coronavirus, SARS-CoV-2, respectively. Both infections spread through respiratory droplet aerosolization, produced by coughing, sneezing, or breathing. While the influenza virus is notorious for causing a significant economic and social burden every year due to seasonal flu, the COVID-19 pandemic had a much worse impact on our lives.

Influenza virus circulation declined sharply in March 2020, within two weeks of COVID-19 emergency declaration and widespread community mitigation measures in the united states [2]. However, the fall in numbers was attributed to influenza's natural course after the peak months. It comes as no surprise that the numbers in the peak 2020 - 2021 season have shown a significant reduction in office visits due to flu-like illness, hospitalizations, and mortality compared to the 2019 - 2020 season.

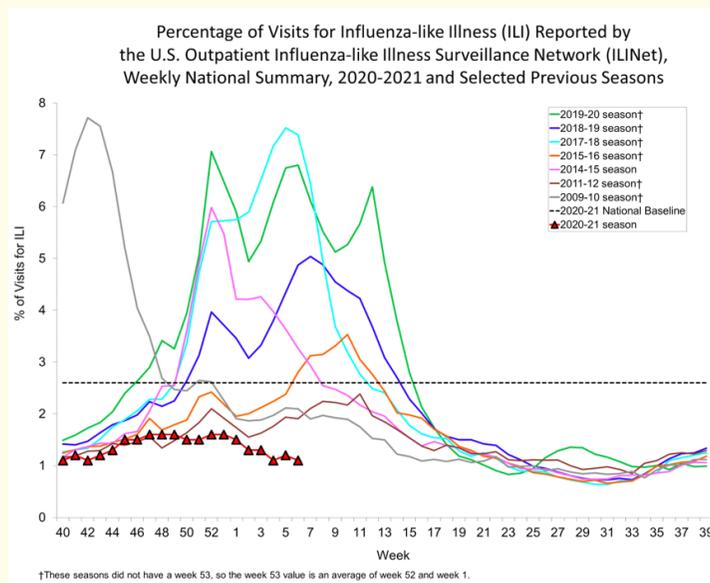


Figure 1

Between October 1, 2020, and February 13, 2021, FluSurv-Net sites in 14 states reported 173 laboratory-confirmed influenza hospitalizations for an overall cumulative hospitalization rate of 0.6 per 100,000 population [1]. This is much lower than average for this point in the season and lower than rates for any season since routine data collection began in 2005, including the low severity 2011-12 season [1].

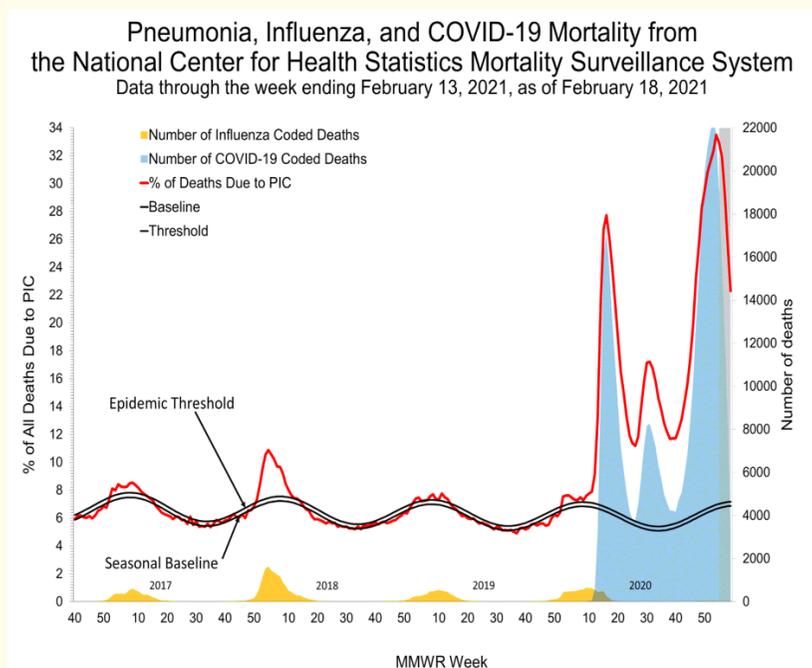


Figure 2

Based on National Center for Health Statistics (NCHS) mortality surveillance data available on February 18, 2021, 22.3% of the deaths that occurred during the week ending February 13, 2021 (week 6) were due to pneumonia, influenza, and COVID-19 (PIC) [1]. This percentage is above the epidemic threshold of 7.2% for week 6 [1]. Among the 3,902 PIC deaths reported for this week (week 6), 3,257 had COVID-19 listed as an underlying or contributing cause of death on the death certificate and four listed influenza, indicating that the current increase in PIC mortality is due primarily to COVID-19 and not influenza [1].

Seasonal influenza is associated with large numbers of illnesses, which can impact school attendance, worker absenteeism, and daily productivity. As per Newall AT, *et al.* the estimated average annual total economic burden of influenza to the healthcare system and society was \$11.2 billion (\$6.3 - \$25.3 billion) [2]. Direct medical costs were estimated to be \$3.2 billion (\$1.5 - \$11.7 billion) and indirect costs \$8.0 billion (\$4.8 - \$13.6 billion) [2]. These total costs were based on the estimated average numbers of ill-non medically attended patients, office-based outpatient visits, emergency department visits, hospitalizations, deaths, and days of productivity lost [2].

Influenza viruses are not only the ones affected by the pandemic response measures. There are hundreds of unwelcomed annual guests that cause respiratory illness and significant morbidity and mortality similar to those of common cold, from parainfluenza to metapneumovirus. All of these have shown a decrease in incidence as per the data from CDC.

While the means taken to avoid the spread of COVID-19 appear not natural, it has taught us numerous lessons, like identifying the key barriers against social distancing, including feeling stressed when alone, socializing to avoid loneliness, difficulty working remotely,

and running errands. As per a study by Adina Coroiu., *et al.* [4], multiple barriers, including age, gender, occupation, etc. come into play in adhering to these mitigation measures.

Despite our long associations with viral respiratory illness, it is still significantly less understood about their transmission and holds many mysteries. A famous quote by Marie Curie says, “Nothing in life is to be feared. It is only to be understood. Now is the time to understand more so that we may fear less” [5]. Although we hope to see the light at the end of the tunnel with the hope of normalization in the current era of the COVID-19 pandemic, embracing some of these mitigation measures might reduce influenza transmission rates. Given the uncertain timing and severity of future pandemics, we emphasize understanding the current trends and their application in the near future might substantially decrease influenza’s burden. The need to ensure vaccination of all people and continued adherence to the social distancing measures within one’s control such as wearing masks in public places, avoiding non-essential travel, large social gatherings, handshakes, encouraging masking and hand hygiene in schools and colleges, mandatory masking in health care specialties in the peak flu season at the institutional level are some of the many. Future interventions to improve social distancing adherence should couple individual-level strategies targeting key barriers along with institutional measures and public health interventions [4]. Health authorities must continue to highlight compassionate attitudes to social distancing, and we all have to embrace it with a sense of responsibility to self and towards the community.

Conflict of Interest

None.

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