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COVID-19 and Influenza Season

This newsletter will focus on the effect of a coronavirus pandemic during influenza season in the United States and ways to reduce the likelihood of contracting either infection. The content of this newsletter represents a summary of current information as of September 30, 2020, and is subject to change.

The Impact of Influenza

October marks the beginning of influenza season in the United States. According to the Centers for Disease Control and Prevention (CDC), influenza results in 9-45 million illnesses, 140,000-810,000 hospitalizations, and 12,000-61,000 deaths every year.[1] Put another way, during a severe flu season, roughly 1 in every 7 Americans will contract influenza, 1 in every 400 Americans will be hospitalized with influenza, and 1 in 5,000 Americans will die from influenza. The economic burden of influenza in the United States is significant; between medical costs, lost earnings due to illness, and loss of life, influenza costs the United States approximately $87.1-$110 billion annually.[2]

As of September 30, 2020, COVID-19 has caused over 7.2 million infections, 573,000 hospitalizations, and 207,000 deaths in the United States.[3,4] With the prospect of influenza season around the corner, many are appropriately worried about the impact of a second epidemic respiratory viral infection in the midst of the worst pandemic since the 1918 influenza. While these concerns are well founded, we have reason to believe that **if we are diligent about continuing risk mitigation strategies such as masking, distancing, and hand hygiene and if we have high influenza vaccination rates, the 2020 influenza season could be the mildest flu season on record.**

The Southern Hemisphere Experience

The Southern Hemisphere influenza season runs from April to October each year. This coincided with the first several months of this pandemic, which gave us a glimpse of what might come during the Northern Hemisphere 2020-2021 influenza season. Fortunately, the Southern Hemisphere has experienced the mildest influenza season in recorded history. As demonstrated on the figure below from the CDC's September 18, 2020 Morbidity and Mortality Weekly Report (MMWR), the percentage of influenza tests that were positive (PP) in 2020 (the solid line) were near 0% throughout influenza season in Australia, Chile, and South Africa.[5]

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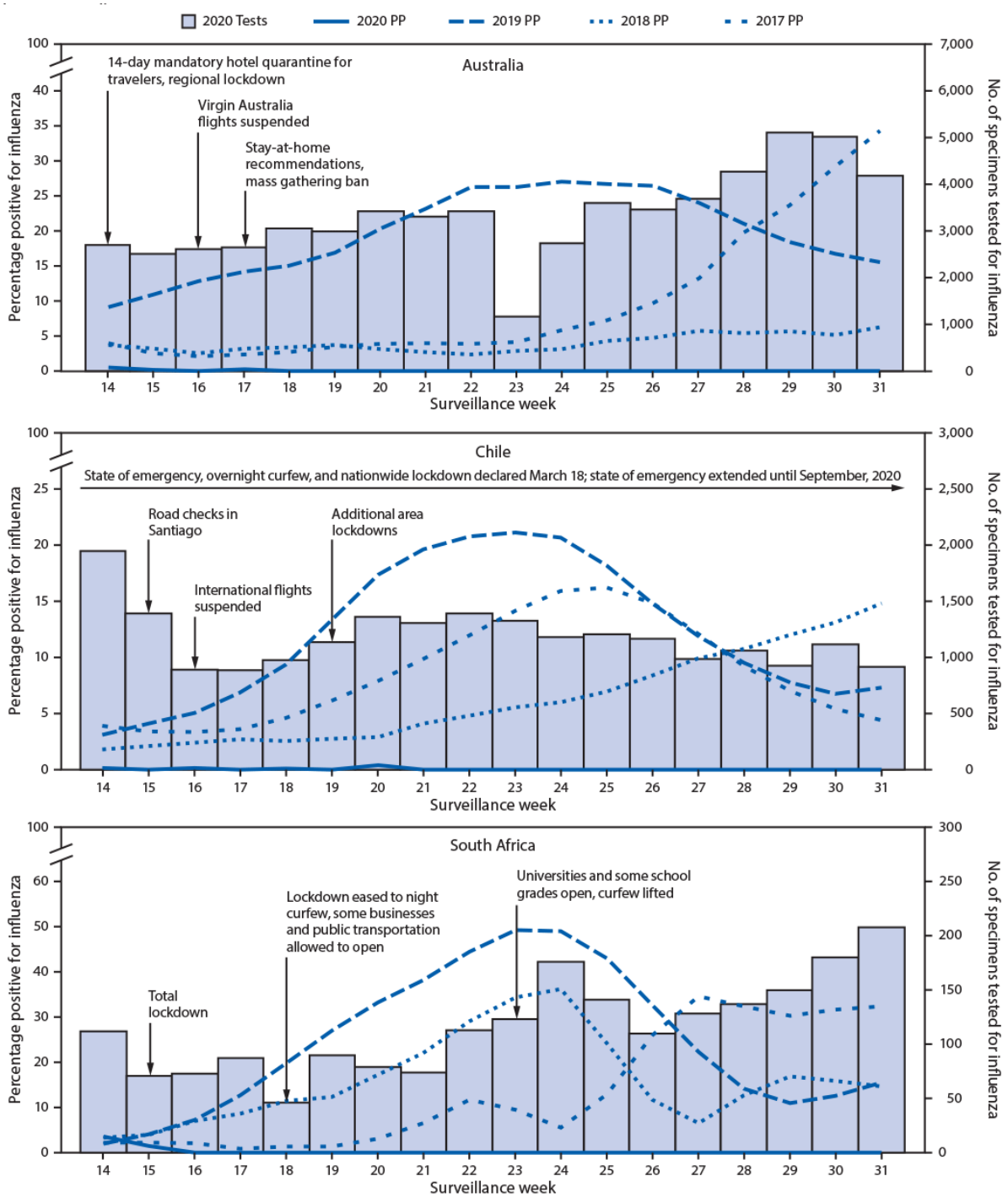

The CDC postulates that the substantial decrease in influenza is due to several different factors:

1. International and domestic travel was significantly reduced during this timeframe, minimizing the number of interactions between people and thus limiting the spread,
2. **Risk mitigation strategies for COVID-19 such as distancing and masking are effective means to reduce transmission for influenza as well,**

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3. Influenza vaccination rates were significantly higher compared to previous years (e.g. in Australia, an additional 3 million doses were obtained by the government to meet demand – enough to vaccinate an additional 12% of their population),[6] and
4. Viral interference may have led to SARS-CoV-2 "outcompeting" influenza in the respiratory tract (i.e. if someone was exposed to both influenza and SARS-CoV-2, SARS-CoV-2 may be more efficient at causing infection and not allow influenza to cause simultaneous infection).[7]

The recent experience of the Southern Hemisphere provides a reason to be optimistic about our own upcoming influenza season, but **replicating their experience means adhering to similar risk mitigation strategies and increasing influenza vaccine uptake in the United States this year.**

How to Distinguish between COVID-19 and Influenza

COVID-19 and influenza have very similar clinical presentations and in almost all scenarios, **they cannot be distinguished without molecular diagnostic testing**. COVID-19 must now be labeled as an "influenza-like illness" given the symptoms it causes. For example, fever, cough, and shortness of breath are common presenting symptoms for both influenza and COVID-19 and occur at roughly the same frequency for each disease.[8] Sputum production is more common in patients with influenza and fatigue, GI symptoms, and myalgias are more common in patients with COVID-19. However, all of these symptoms occur with some frequency for both diseases, so distinguishing between the two in an individual patient is nearly impossible.[8] Loss of taste and smell is highly predictive of COVID-19, but can also occur in influenza and other viral illnesses. Accordingly, molecular diagnostic modalities such as PCR are essential to distinguish between the two infections.

Ways to Reduce the Likelihood of Contracting Influenza (or COVID-19)

The good news is that we have several proven, effective means to reduce transmission of influenza in our arsenal. Masking and distancing can help reduce the likelihood of influenza and COVID-19, as the modes of transmission for each pathogen are similar.[9] Additionally, influenza vaccination is a proven means to reduce infection rates and morbidity associated with the flu.[10] The CDC estimates that each year, the seasonal influenza vaccine reduces the risk of contracting influenza for those who receive the vaccine by 40-60%.[10] **During the 2018-2019 influenza season, for instance, flu vaccination prevented approximately 4.4 million infections, 2.3 million flu-related medical visits, 58,000 hospitalizations, and 3,500 flu-related deaths in the United States.**[10] Children who receive the flu shot are 74% less likely to require intensive care (ICU) admission than those who don't,[11] and adults who receive the flu shot are 82% less likely to require ICU admission.[12] The common refrain of "the flu shot is ineffective" is a half-truth at best; although it may only reduce your likelihood of contracting influenza by 40-60% (which is still very substantial!), it also significantly reduces your likelihood of developing severe illness or dying if you do contract the flu. From a work perspective, persons who receive the flu shot are less likely to miss work days and less likely to transmit flu to co-workers.

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Summary

Influenza season has officially begun in the United States. In the midst of a respiratory viral pandemic, the consequences of a second respiratory viral epidemic could be devastating for our health systems. Fortunately, adhering to risk mitigation strategies for COVID-19 will similarly mitigate the risk of contracting influenza, and increasing compliance with flu vaccination may allow us to replicate the experiences of our Southern Hemisphere neighbors. **All athletes and staff should receive their influenza vaccine, adhere to all COVID-19 risk mitigation strategies, and encourage their family and friends to get vaccinated as well.**

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