Good morning. I hope everyone had a wonderful holiday weekend.

Today under COVID-19 News I review the new CDC Travel Guidance and the American Academy of Pediatrics and Children's Hospital Association joint report on new pediatric COVID-19 infections.

Under Journal Review I focus on 3 publications on impact of COVID-19 on mortality in 2020.

Have a great week.

Ed

COVID-19 News

Domestic Travel During COVID-19
April 2, 2021
The new guidance specifies that travelers should still wear a mask, socially distance, and practice thorough hand hygiene. But it also states that:

- Fully vaccinated people can travel within the U.S. without getting tested for the coronavirus or quarantining.
- Vaccinated people do not need to get a COVID-19 test before leaving, though some destinations may require it.
- Those who are fully vaccinated and returning from international travel should get tested and have a negative result before they board a flight back to the United States.

Although the new guidance says vaccinated people can safely travel, the CDC still recommends that you do not take unneeded trips, given the high numbers of those still awaiting their doses.

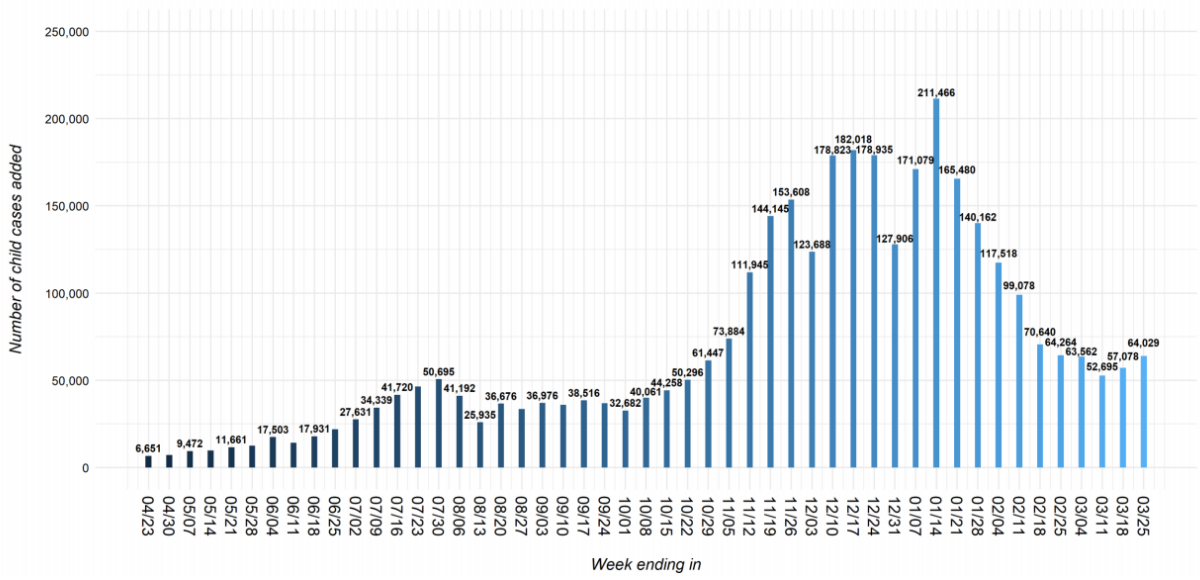
Domestic Travel RECOMMENDATIONS AND REQUIREMENTS	Not Vaccinated	Fully Vaccinated
Get tested 1-3 days before travel	✓	
Get tested 3-5 days after travel and self-quarantine for 7 days. Self-quarantine for 10 days if you don't get tested.	✓	
Self-monitor for symptoms	✓	✓
Wear a mask and take other precautions during travel	✓	✓

Comment: I am amazed at the inconsistent messaging from CDC and DC. Last week the CDC director told us she was concerned about impending doom and now this week we can travel if immunized, but then

Dr. Walensky pleaded to avoid nonessential travel. She said: “I would advocate against general travel overall”. The rationale is the majority of the population is still not vaccinated [but rapidly increasing] and cases are on the rise in some locations. Rules are still in place requiring passengers to wear masks on nearly all forms of public transportation, regardless of vaccination status. There is genuine concern about the UK variant (B.1.1.7), but current vaccines are effective against the UK variant. Some say we are in the beginning of a 4th wave. Only time will tell, but I hope between vaccination and prior infection this wave will not be as severe especially in terms of hospitalizations and deaths. See below.

Children and COVID-19: State Data Report: A joint report from the American Academy of Pediatrics and the Children’s Hospital Association
March 25, 2021
According to a March 25th American Academy of Pediatrics and Children's Hospital Association joint report, 64,029 children across the country were diagnosed as having COVID-19 in the week before the report, representing 19.2% of new weekly cases. Likewise, infections in 10- to 19-year-olds have climbed 227%, and 40% of recent outbreaks have been tied to the reopening of in-person K-12 schools, youth sports, or group gatherings after games. [mostly sports and gathering after games or other social gatherings]

Fig 6. United States: Number of Child COVID-19 Cases Added in Past Week*

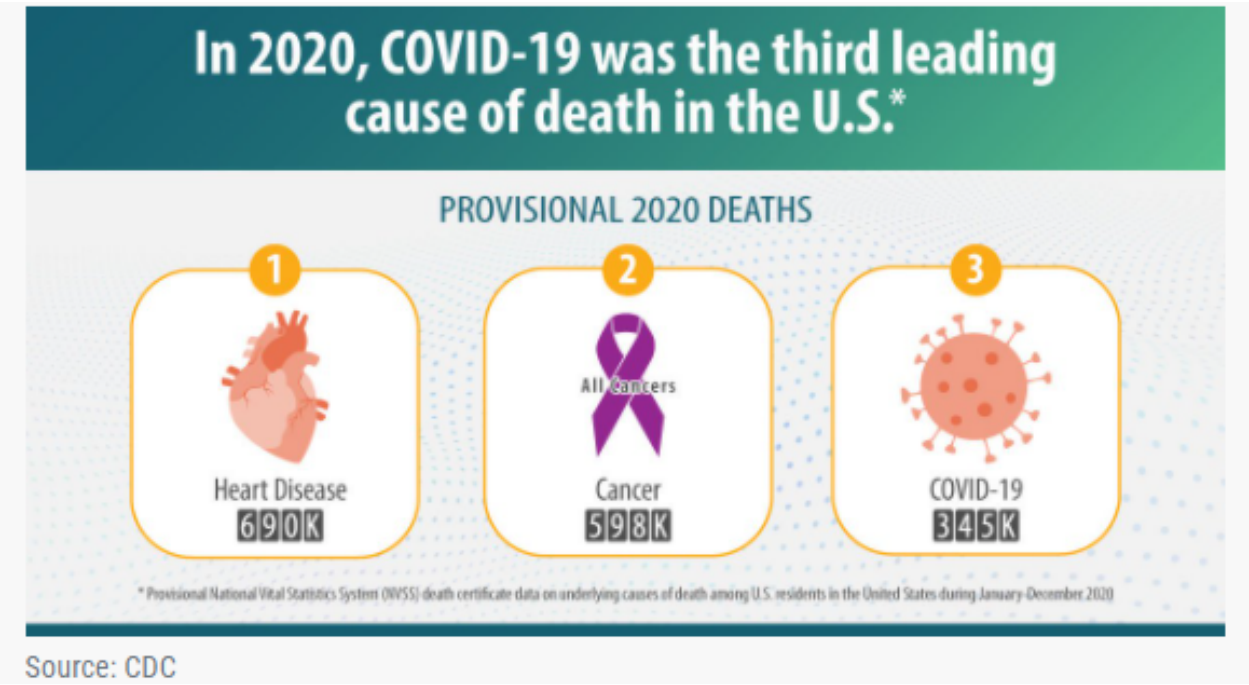


Comment: B.1.1.7 variant (UK) may be more virulent in children and children now appear to be getting infected at the same rate as adults. [adults are being immunized] The good news is the current vaccines are effective against the B.1.1.7 variant.

Journal Review

Provisional Mortality Data — United States, 2020
MMWR published online March 31, 2021
Death Certificate-Based ICD-10 Diagnosis Codes for COVID-19 Mortality Surveillance — United States, January-December 2020
MMWR published online March 31, 2021

The age-adjusted death rate increased by 15.9% in 2020. Overall death rates were highest among non-Hispanic Black persons and non-Hispanic American Indian or Alaska Native persons. COVID-19 was the third leading cause of death, and the COVID-19 death rate was highest among Hispanics.



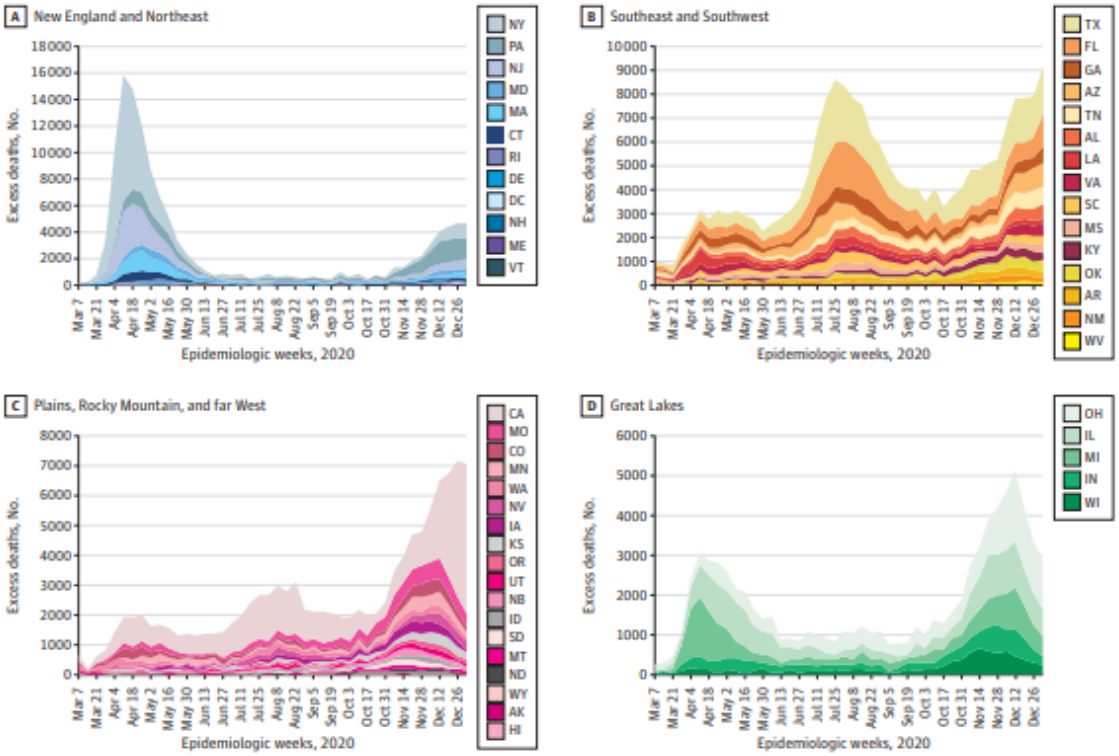
Comment: During January-December 2020, the estimated 2020 age adjusted death rate increased for the first time since 2017, with an increase of 15.9% compared with 2019, from 715.2 to 828.7 deaths per 100,000 population. COVID-19 was the underlying or a contributing cause of 377,883 deaths (91.5 deaths per 100,000). COVID-19 death rates were highest among males, older adults, and AI/AN and Hispanic persons. The highest numbers of overall deaths and COVID-19 deaths occurred during April and December. COVID-19 was the third leading underlying cause of death in 2020, replacing suicide as one of the top 10 leading causes of death. With vaccinations on the rise and deaths overall decreasing in the US I expect COVID-19 deaths to significantly decline in the US in 2021.

Excess Deaths from COVID-19 and Other Causes in the US, March 1, 2020, to January 2, 2021
JAMA published online April 2, 2021
doi:10.1001/jama.2021.5199
A study analyzing US mortality in March-July 2020 reported a 20% increase in excess deaths, only partly explained by COVID-19. Surges in excess deaths varied in timing and duration across states and were accompanied by increased mortality from non–COVID-19 causes. [JAMA. 2020;324(15):1562-1564] This study updates the analysis for the remainder of 2020.

Between March 1, 2020, and January 2, 2021, the US experienced 2,801,439 deaths, 22.9% more than expected, representing 522,368 excess deaths. The excess death rate was higher among non-Hispanic Black (208.4 deaths per 100,000) than non-Hispanic White or Hispanic populations (157.0 and 139.8 deaths per 100,000, respectively); these groups accounted for 16.9%, 61.1%, and 16.7% of excess deaths, respectively. The US experienced 4 surge patterns: in New England and the Northeast, excess deaths surged in the spring; in the Southeast and Southwest, in the summer and early winter; in the Plains, Rocky Mountain, and far West, primarily in early winter; and in the Great Lakes, bimodally, in the

spring and early winter. Excess deaths were increasing in all regions at the end of 2020. The 10 states with the highest per capita rate of excess deaths were Mississippi, New Jersey, New York, Arizona, Alabama, Louisiana, South Dakota, New Mexico, North Dakota, and Ohio. New York experienced the largest relative increase in all-cause mortality (38.1%). Deaths attributed to COVID-19 accounted for 72.4% of US excess deaths. Death rates from several non–COVID-19 diseases (e.g., heart disease, Alzheimer disease) increased during surges.

Figure. Excess Deaths by Regions, March 1, 2020, to January 2, 2021



Comment: The model does not adjust directly for population aging, which could contribute to an overestimate of excess deaths. Other study limitations include reliance on provisional data, inaccurate death certificates, and modeling assumptions.

In an editorial Dr. Garber correctly states that it seems likely that COVID-19 will have contributed to nearly as many deaths in the US as the great influenza pandemic of 1918, and more than in any influenza outbreak in the US since then. (see below) The editorial goes on to state the burden of a pandemic extends well beyond mortality. Morbidity alone may be responsible for as much as 40% of the health costs of COVID-19. The loss of employment and decline in productivity in multiple sectors, disrupted schooling, and the shutdown of entire industries like in-person live entertainment and much of travel have impacted nearly all of society. The corresponding economic loss—estimated as high as $16 trillion in the US, or about 90% of the gross domestic product—is staggering.

Table. Excess Mortality During Pandemics

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Pandemic	Years	Worldwide mortality	US mortality	Source
COVID-19 pandemic	2019-2021	2 727 837	538 244	WHO[8]
2009 H1N1 influenza pandemic	2009-2010	151 700-575 400	12 469	CDC[9]
1968 H3N2 influenza pandemic	1968-1969	1 000 000	40 000	Population Reference Bureau[10]
1957-1958 H2N2 influenza pandemic	1957-1958	2 000 000	60 000	
1918 H1N1 avian influenza pandemic	1918-1919	50 000 000	675 000	

There have been some positive aspects from the pandemic. We have developed online capabilities allowing life to go on to some extent. The tools to manage pandemics have improved, including amazing progress in vaccine platforms. The rapid development of multiple, extraordinarily effective vaccines is without precedent. These advances are not enough unless we learn from our recent experience and understand the consequences of our mistakes. Will we adequately invest in global public health? We must have global cooperation built on mutual trust and transparency. The ability to take advantage of all we have learned depends on vigilance, innovation, adaptation, and decisive action, all of which require smart planning and investment in public health.