

Psychosocial Consequences of COVID-19

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Disclosures

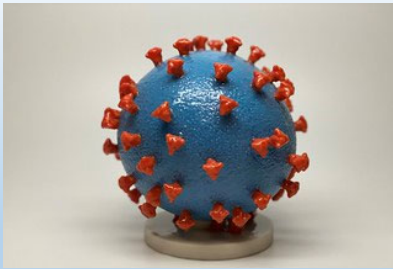
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- I have no financial interests

Background

- COVID-19 pandemic has caused several disruptions in personal and collective lives worldwide
- The uncertainties surrounding the pandemic have also led to multifaceted mental health concerns
- These can be exacerbated with precautionary measures such as social distancing and self-quarantining
- There are also societal impacts such as economic downturns
- The first half talk will focus mostly on psychiatric consequences of COVID-19

Things have changed

- Lots of things have changed since the pandemic began
- Society has changed
- The way we work, play, interact, travel etc has all changed
- Will we ever be the same again?
- Will touch on some of the socioeconomic and psychosocial changes we have seen since the pandemic began



3D print of
SARS-CoV-2

Coronaviruses

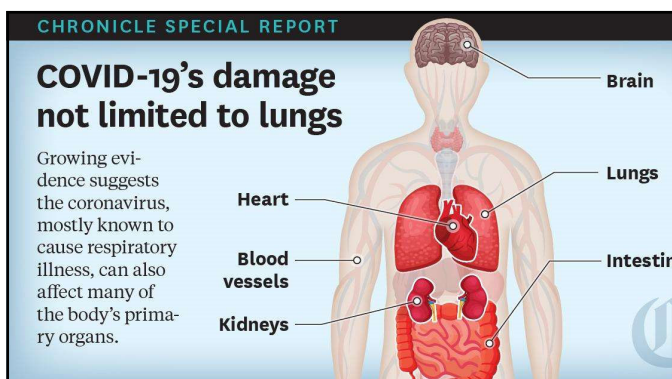
- There are hundreds of coronaviruses, most of which circulate among such animals as pigs, camels, bats and cats
- Sometimes those viruses jump to humans—called a spillover event—and can cause disease
- Four of the seven known coronaviruses that sicken people cause only mild to moderate upper-respiratory tract illnesses, like the common cold
- However, three new coronaviruses have emerged from animal reservoirs over the past two decades to cause serious and widespread illness and death
- Before the COVID-19 pandemic, coronaviruses caused two noteworthy outbreaks: severe acute respiratory syndrome (SARS), starting in 2002, and Middle East respiratory syndrome (MERS), starting in 2012

Novel Coronaviruses

- SARS coronavirus (SARS-CoV) emerged in November 2002 and caused severe acute respiratory syndrome (SARS). That virus disappeared by 2004.
- Middle East respiratory syndrome (MERS) is caused by the MERS coronavirus (MERS-CoV). Transmitted from an animal reservoir in camels, MERS was identified in September 2012 and continues to cause sporadic and localized outbreaks.
- The third novel coronavirus to emerge in this century is called SARS-CoV-2. It causes coronavirus disease 2019 (COVID-19), which emerged from China in December 2019 and was declared a global pandemic by the World Health Organization on March 11, 2020.

COVID-19

- Late December 2019, world alerted to new respiratory illness outbreak in China which had similarity to disease from years earlier called SARS (Severe Acute Respiratory Syndrome)
- Virus came to be named SARS-CoV-2 (SARS-Coronavirus-2) as the earlier one renamed SARS-CoV-1
- Disease called COVID-19 (Coronavirus Disease 2019) and it's spread across the world since
- Declared global pandemic by March 2020
- As of this past weekend, over 480 million affected worldwide, with over 6 million deaths
- In the US, about 80 million cases and over 1 million dead

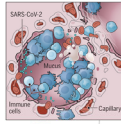


An invader's impact

In various cases, SARS-CoV-2 lands in the lungs and can do deep damage there. But the virus, or the body's response to it, can injure many other organs. Scientists are just beginning to probe the scope and nature of that harm.

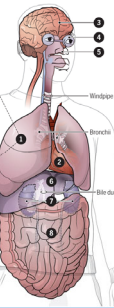
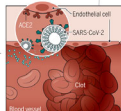
1 Lungs

A cross section shows immune cells crowding an inflamed airway, or air sac, whose walls break down during attack by the virus, allowing secretions to leak. Patients cough, fever rises, and breathing becomes labored.



2 Heart and blood vessels

The virus targets immune cells, many including those lining blood vessels. By binding to angiotensin-converting enzyme 2 (ACE2) receptors on the cell surface, infection can also promote blood clots, heart attacks, and cardiac inflammation.



3 Brain

Some COVID-19 patients have strokes, seizures, confusion, and brain inflammation. Doctors are trying to understand which are directly caused by the virus.

4 Eyes

Conjunctivitis, inflammation of the membranes that line the front of the eye and inner eyelid, is more common in the sickest patients.

5 Nose

Some patients lose their sense of smell. Scientists speculate that the virus may move up the nose's nerve endings and damage cells.

6 Liver

Up to half of hospitalized patients have enzyme levels that signal a liver injury. An immune system in overdrive and drugs given to fight the virus may be causing the damage.

7 Kidneys

Kidney damage is common in severe cases and makes death more likely. The virus may attack the kidneys directly, or kidney failure may be part of whole-body events like plummeting blood pressure.

8 Intestines

Patient reports and biopsy data suggest the virus can infect the lower gastrointestinal tract, which is rich in ACE2 receptors. Some 20% or more of patients have diarrhea.

Limited literature on future but what about the past?

- Limited data on long-term effects of this virus, or the pandemic
- We can learn from looking at past pandemics

What do previous pandemics tell us?

- Such impacts are likely to differ across pandemics and populations, for example, Wang et al. (2011) reported no immediate negative psychological effect of quarantine in their sample of University students in China during the H1N1 flu outbreak
- The incidence of depression and anxiety in populations where physical distancing is enforced may be impacted (Brooks et al., 2020)
- Mak and colleagues suggested that the SARS epidemic had both immediate and long-term consequences for mental health.
- They found persistent and elevated posttraumatic stress symptoms for the mental health of survivors and health-care workers almost 3 y post-event

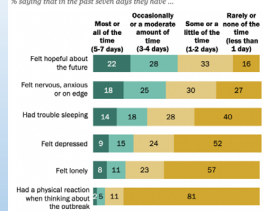
SARS data

- Although there are very limited data available for COVID-19-related psychiatric symptoms currently, survivors of SARS-CoV-1 were clinically diagnosed with PTSD (54.5%), depression (39%), pain disorder (36.4%), panic disorder (32.5%), and obsessive compulsive disorder (15.6%) at 31 to 50 months post-infection, a dramatic increase from their pre-infection prevalence of any psychiatric diagnoses of 3%

Long-term sequelae

- Not only should we expect there to be long-term sequelae for survivors and health-care workers, but also for the general public, especially those that lost someone due to COVID-19.
- Massive loss of life is a significant factor that impacts the mental health of individuals, families, and communities in disasters
- Pandemics by their nature, result in high mortality rates that cluster in geographical regions over a short period of time

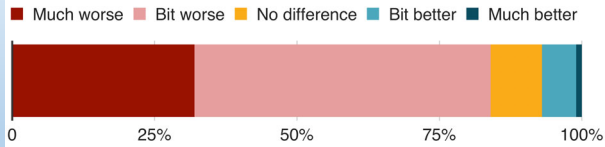
Nearly one-in-five Americans say they have had a physical reaction when thinking about the outbreak
% saying that in the past seven days they have ...



Note: Questions adapted from GAD-7, CES-D, Impact to Event Scale-Revised. Share of respondents who didn't offer an answer not shown.
Source: Survey of U.S. adults conducted March 13-24, 2020.
PEW RESEARCH CENTER

How has coronavirus affected the mental health of young people?

Survey of 2,111 young people with mental health needs

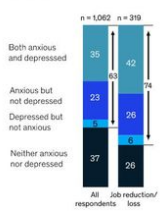


Source: YoungMinds survey carried out between 20-25 March

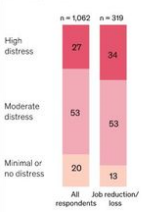
BBC

Reported signs of distress related to COVID-19 in the United States

Respondents reporting feeling anxious or depressed in past week
% of respondents



Respondents' reported level of distress related to COVID-19
% of respondents



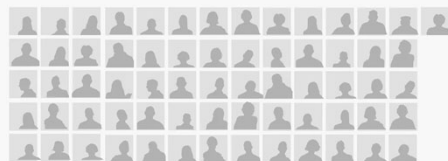
Respondents' levels of reported substance use



Q181.1 Over the past week have you felt anxious?
Q181.2 Over the past week have you felt depressed?
Q181.3a Please indicate your level of distress related to the Coronavirus/COVID-19 pandemic (10-point scale from least distressed to most distressed, 'high' is 8-10, 'Moderate' is 4-7, and 'Low' is 1-3).
Q181.3b Over the Coronavirus/COVID-19 pandemic, how many times have you used alcohol, prescription drugs, or illicit drugs in the past week?

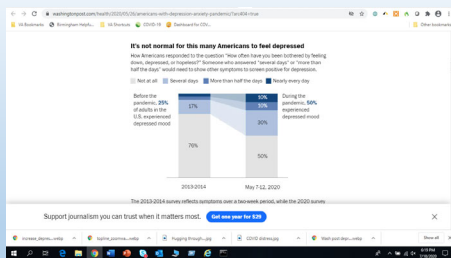


34% show symptoms of clinical anxiety, depression or both



Census Bureau 2020 Household Pulse Survey

- For every 100 American adults, 34 show symptoms of anxiety, depression, or both
- 20 show symptoms of both anxiety and depression
- 4 show symptoms of depression alone
- 10 show symptoms of anxiety alone
- This is double that found in a 2014 national survey
- Some groups have been hit harder than others. Rates of anxiety and depression were far higher among younger adults, women and the poor
- The worse scores in young adults were especially notable, given that the virus has been more likely to kill the elderly or leave them critically ill.



Neuropsychiatric symptoms

- Past studies on viral pandemics, especially involving respiratory viruses, suggest that diverse types of neuropsychiatric symptoms can arise with acute infection as well as in the post-viral infectious period
- One study reported persistent neurocognitive deficits up to 18 months post-discharge
- In the acute phase, apart from being the psychosocial stressor, COVID-19 has been reported to cause neuropsychiatric manifestations, like encephalopathy, psychosis, insomnia, and mood changes.
- Post-traumatic stress disorder, panic attacks, anxiety are mostly seen in healthcare workers and survivors of SARS CoV infection

SARS-CoV-2 Neuropsychiatric Data

- Evidence is accumulating that SARS-CoV-2 can penetrate the CNS through the olfactory or circulatory route and thus produce a direct effect on the CNS and PNS of infected patients
- Manifestations include anosmia, dysgeusia, encephalopathy, stroke, epilepsy, GBS, and other neuromuscular disorders, as well as an indirect influence on brain functions by causing cytokine storm and inducing delayed immune-mediated processes.

SARS-CoV-2 Neuropsychiatric Data 2

- Furthermore, the virus has been implicated in maladaptive coping styles and major neuropsychiatric symptoms and syndromes, including anxiety, depression, delirium, and paranoia.
- The COVID-19 pandemic has further created an unprecedented socioeconomic turmoil that has led to severe psychosocial impact with widespread stress, anxiety, and depressed mood, triggering or exacerbating mental health in noninfected individuals in the society at large.

Post-ICU Syndrome (PICS)

- Survivors of critical illness are at risk of persistent psychiatric impairment after discharge from hospital.
- At 1 year, the pooled prevalence of clinically relevant depressive, anxiety, and post-traumatic symptoms were 29% (23–34), 34% (25–42), and 34% (22–50), respectively.
- The majority of patients with severe acute respiratory distress syndrome, a key feature of severe COVID-19 illness, show impairments of memory, attention, concentration, or mental processing speed at 1 year.

FIGURE 1. Spectrum of neurological and psychiatric manifestations produced by COVID-19 infection

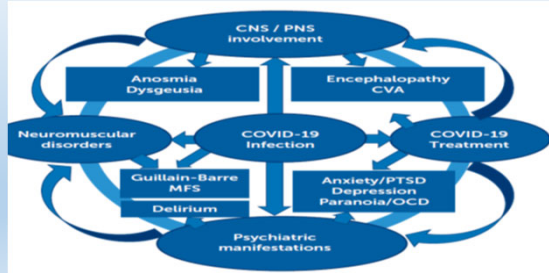
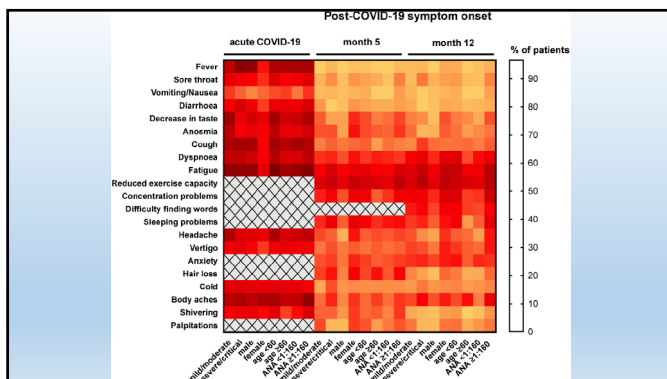
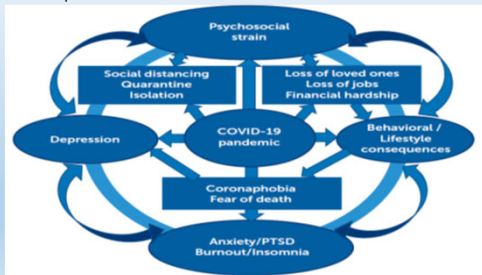
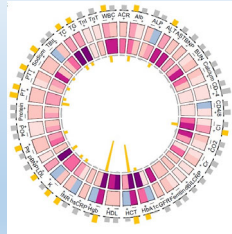


Figure 2: Spectrum of neuropsychiatric manifestations that develop in noninfected patients and individuals during the COVID-19 pandemic



Post-acute Sequelae

- The risk is evident among non-hospitalized
- The risk increases according to the severity of the acute infection

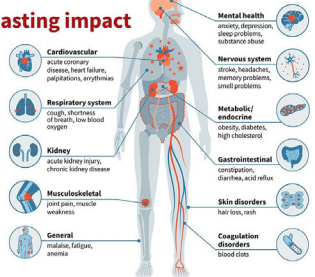


Al-Aly et al. Nature 2021

COVID-19: Lasting impact

Even those survivors with mild initial cases can have wide-ranging health issues for six months or more.

Health researchers link many diseases with COVID-19, signaling long-term complications for patients and a massive health burden for years to come.



Al-Aly et al. Nature 2021

Research

Risks of mental health outcomes in people with covid-19: cohort study

BMJ 2022;376:doi:https://doi.org/10.1136/bmj-2021-068993 (Published 16 February 2022)

Cite this as: BMJ 2022;376:e068993

Linked Editorial

Mental health after covid-19

Linked Opinion

Mental health in people with covid-19

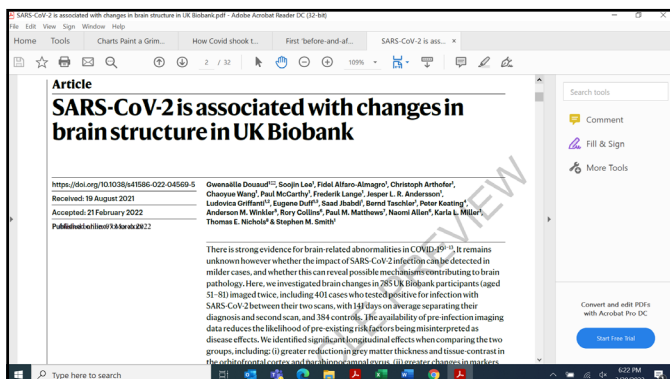
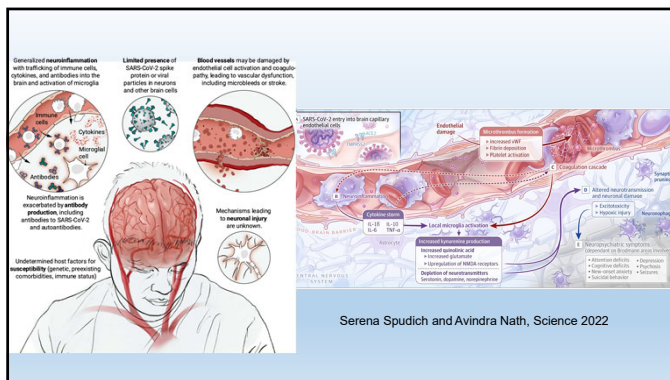
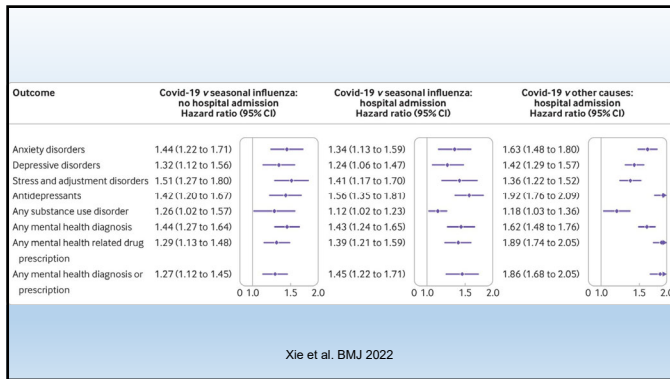
Article Related content Metrics Responses Peer review

Yan Xie, clinical epidemiologist^{1,2,3}, Evan Xu, medical student¹, Ziyad Al-Aly, director^{1,3,4,5,6}

Author affiliations

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Even mild cases of COVID-19 are associated with brain changes, including decreased gray matter, an overall reduction in brain volume, and cognitive decline, a new imaging study shows. In the first study to use magnetic resonance found "greater before and after COVID-19, investigators found "greater reduction in grey matter thickness and tissue contrast in the orbitofrontal cortex and parahippocampal gyrus, greater changes in markers of tissue damage in regions functionally connected to the primary olfactory cortex and greater reduction in global brain size." However, the researchers urge caution when interpreting the findings.

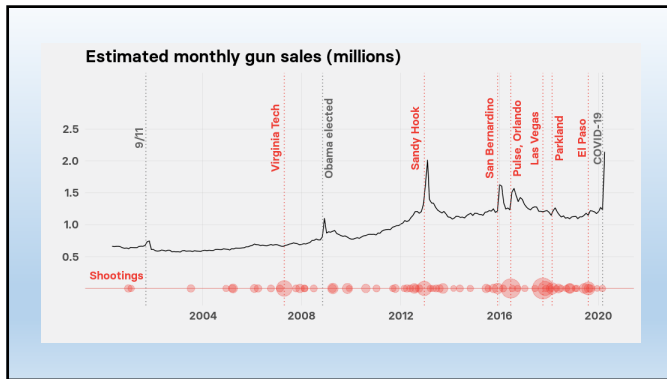
Results showed that although some loss of gray matter over time is normal, individuals who were infected with SARS-CoV-2 showed a 0.2% to 2% brain tissue loss in the parahippocampal gyrus, the orbitofrontal cortex, and the insula – all of which are largely involved in the sense of smell.

Suicide rates were historically high before COVID

- Suicide rates have been rising in the US over the last 2 decades
- The latest data available (2018) show the highest age-adjusted suicide rate in the US since 1941
- It is within this context that (COVID-19) struck the US
- Unprecedented public health actions to curb the spread of the virus and remarkable social distancing interventions have been implemented to fundamentally reduce human contact
- While these steps are expected to reduce the rate of new infections, the potential for adverse outcomes on suicide risk is high

Firearm Sales

- At the same time, gun sales are also surging in many parts of the country. With access to firearms being a major risk factor in suicides, the number of firearm-related suicides are expected to rise as well.
- Except they haven't!



Don't wait. Communicate. **GET STARTED**

Overall, suicide rates decreased in the US last year -- but not for everyone
By Virginia Langmaid, CNN
Updated 12:04 AM ET, Wed November 3, 2021

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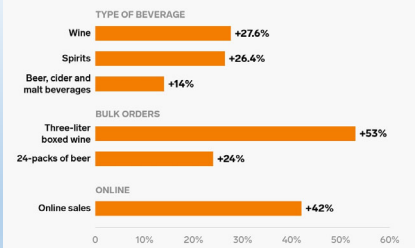
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SCIENCE
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 November 3, 2021 · 7:06 PM ET
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THE HEALTHCARE PARTNER YOU'VE COUNTED ON FOR DECADES STAYS THE SAME.



Increase in US alcohol sales during COVID-19 pandemic



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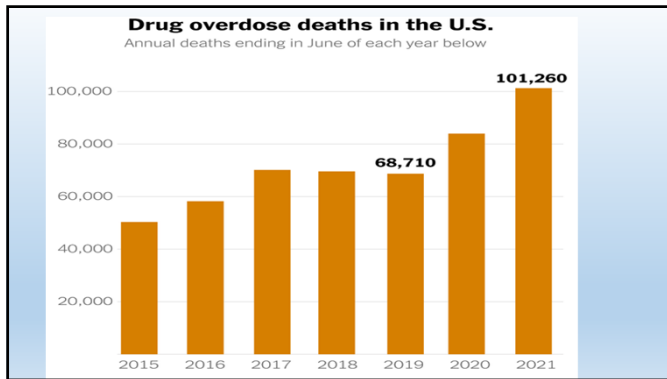
Coronavirus pandemic [+ FOLLOW](#)

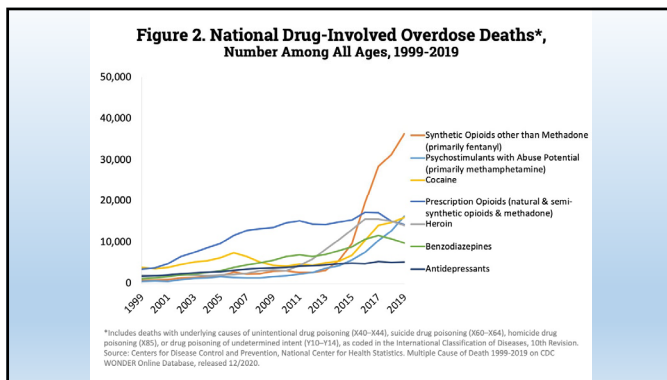
US overdose deaths hit record 100,000 in a year, driven by fentanyl use and the coronavirus pandemic

- Many drug users were left socially isolated and unable to get treatment or other support as Covid-19 spread across the country
- Drug overdose fatalities now surpass deaths from car crashes, guns and even flu and pneumonia

AP Associated Press [+ FOLLOW](#)
Published: 11:21am, 19 Nov 2021

TOP PICKS 5

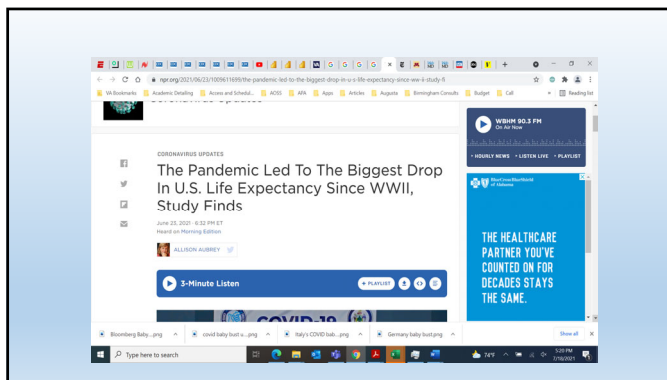


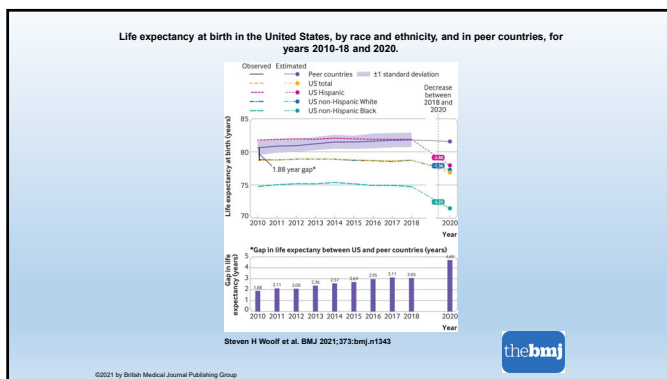


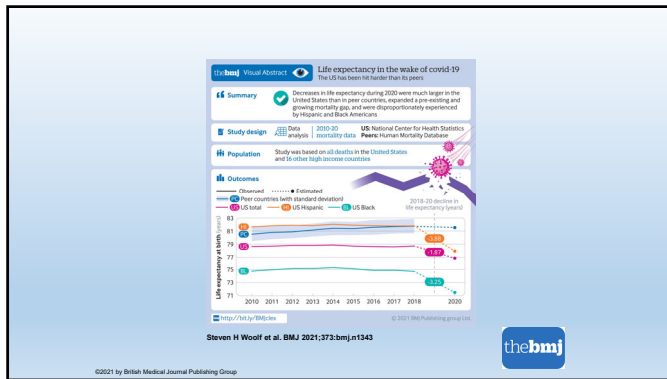
Why are OD's increasing?

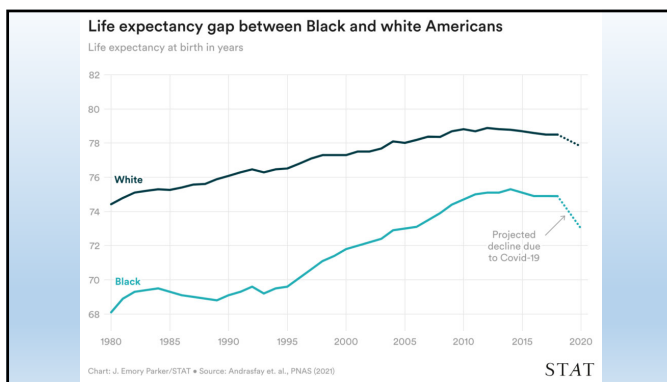
- Traditional supply lines disrupted, leading to seeking out new suppliers and substances, increasing the risk of OD and death
- Synthetic drugs showing up more in autopsies
- Social distancing leads to taking drugs alone so no one to call 911 or administer Narcan
- Treatment centers, drug courts, etc forced to shut down or scale back so no availability of treatment
- Funding collapse- govt allocated only \$425 million of \$2.5 trillion on MH and substance abuse- about 0.001%

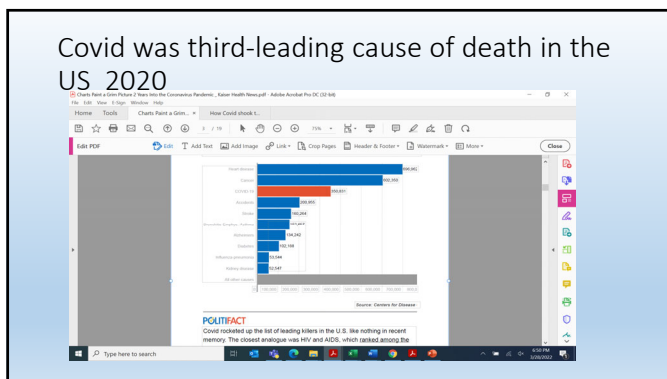


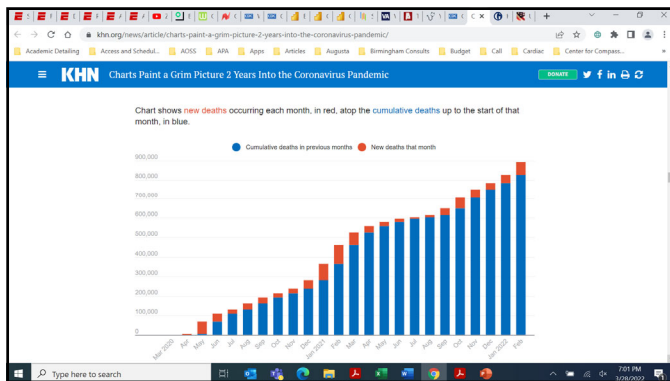




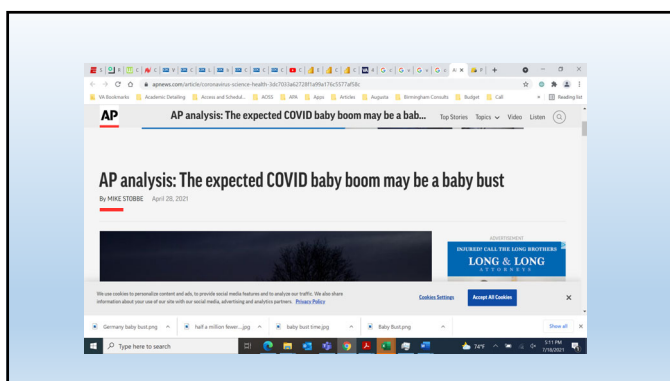




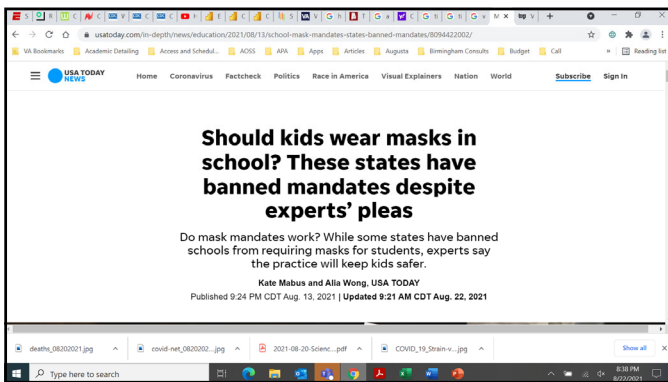


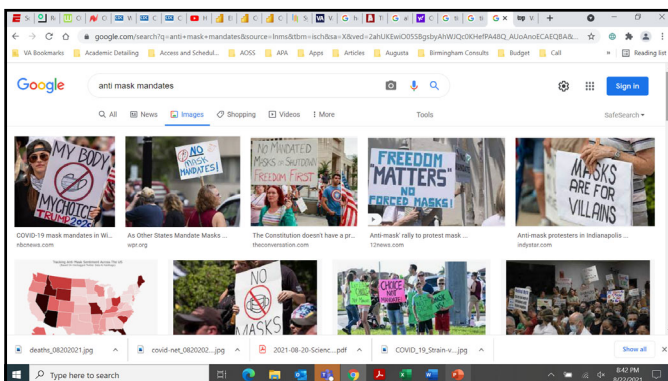


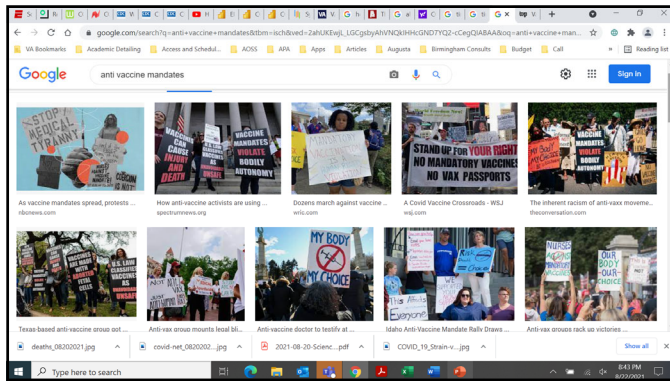


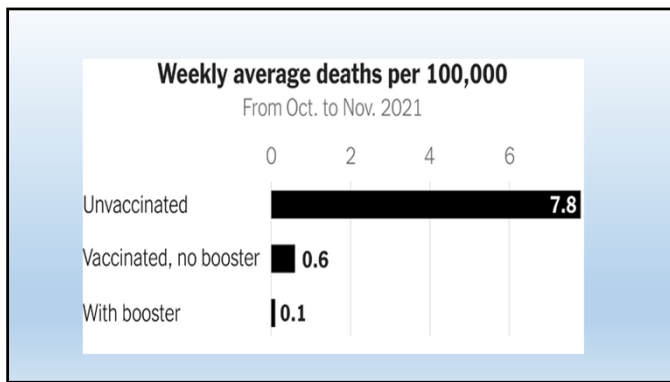


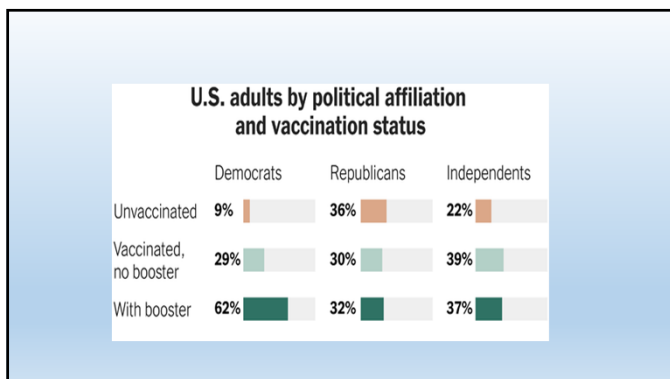




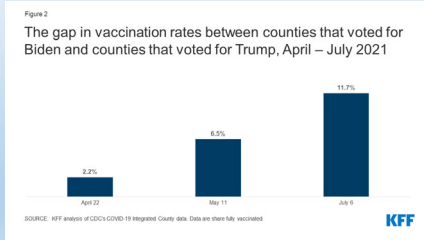




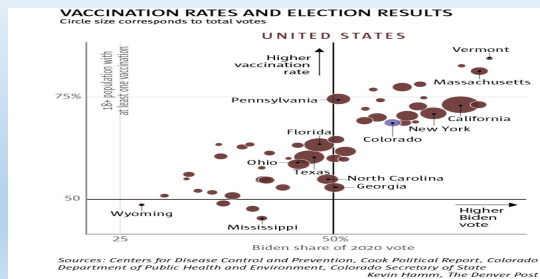




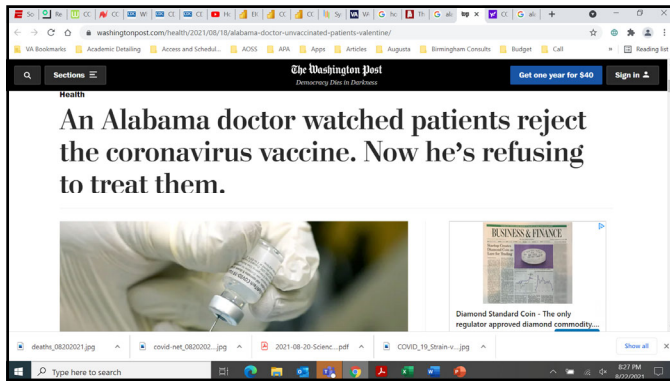
Partisan divide in Vaccination Rates

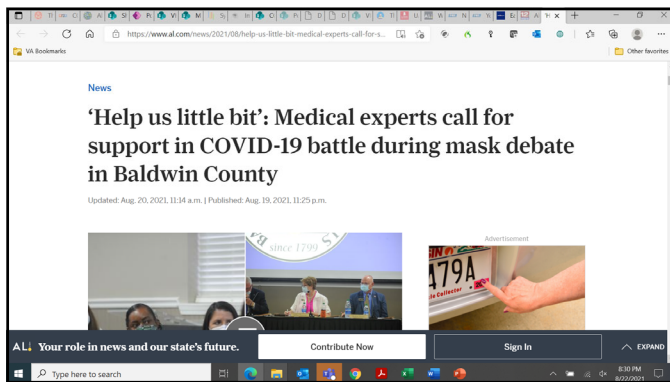


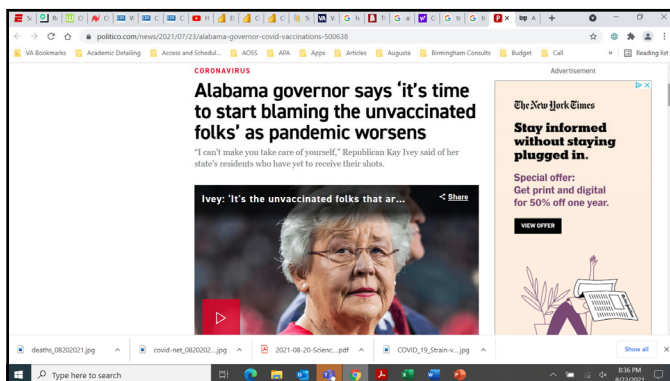
Vaccination Rates and Election Results

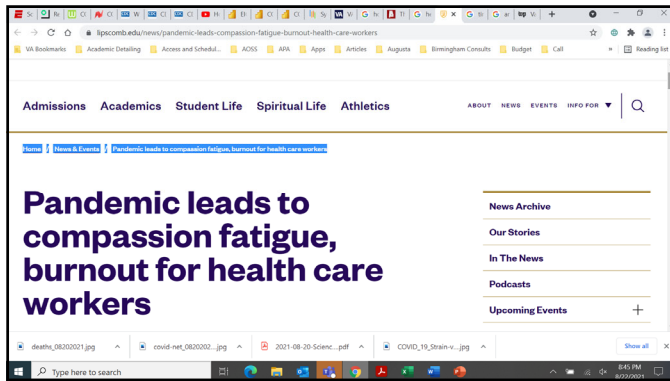


COMPASSION
FATIGUE

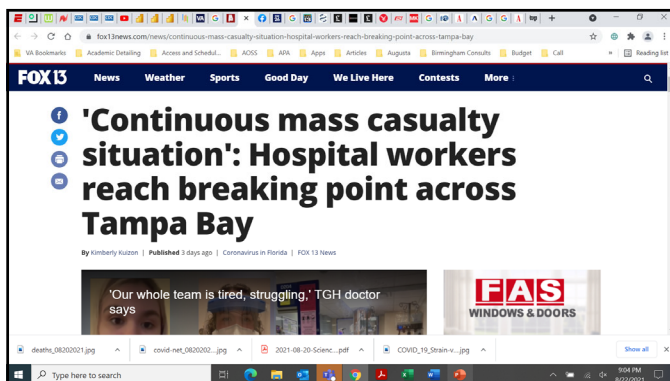


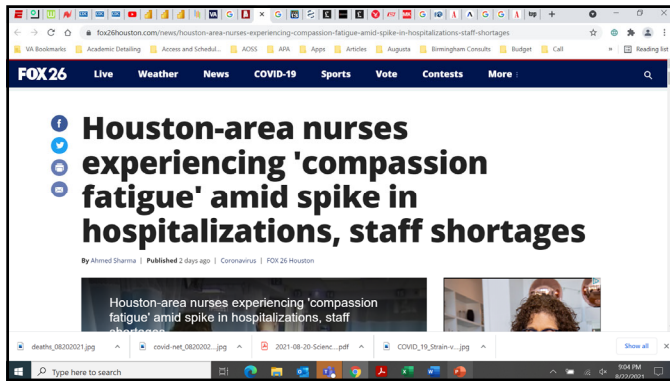


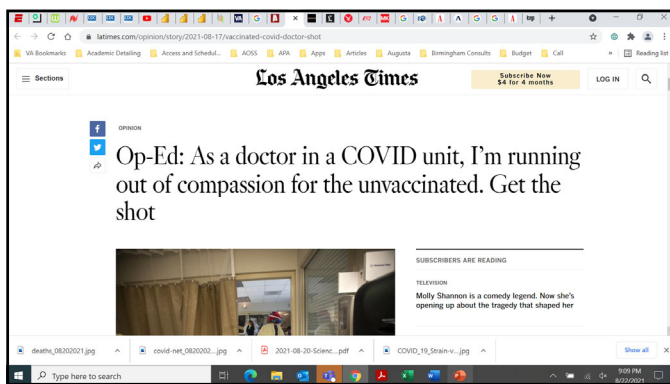




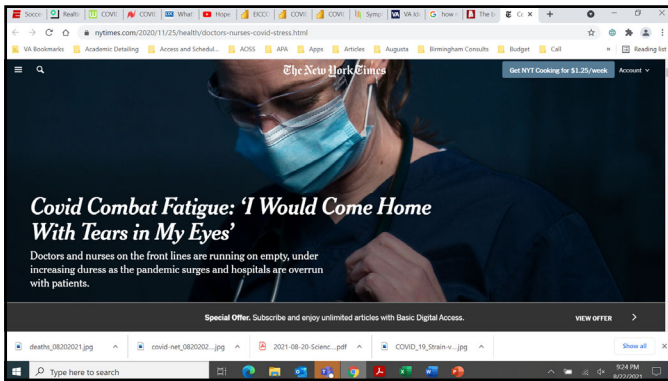




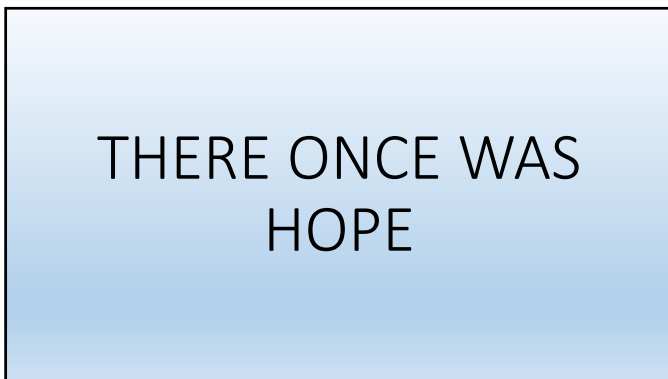


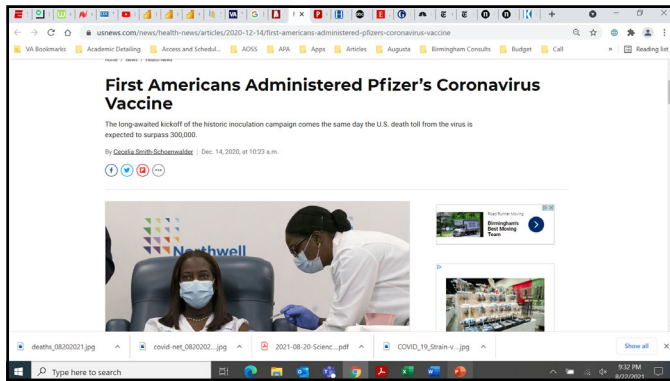


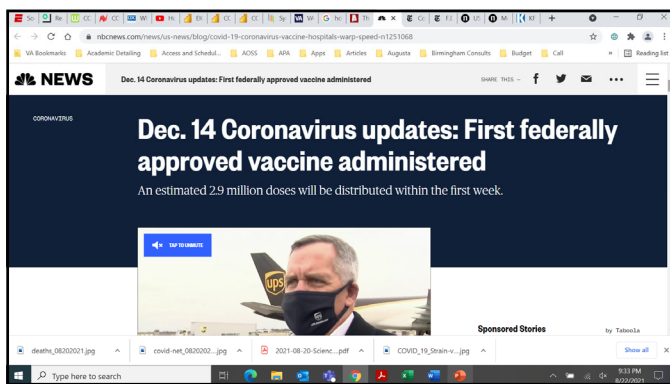


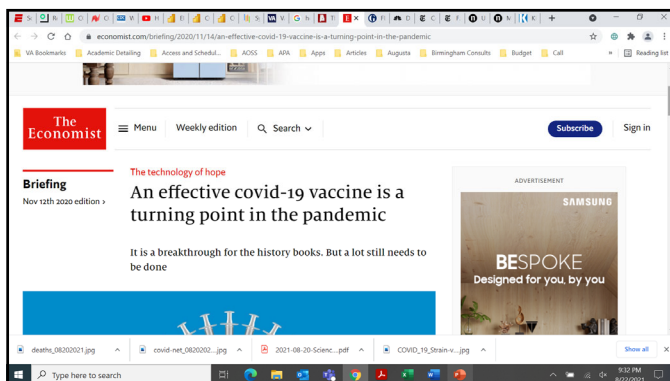


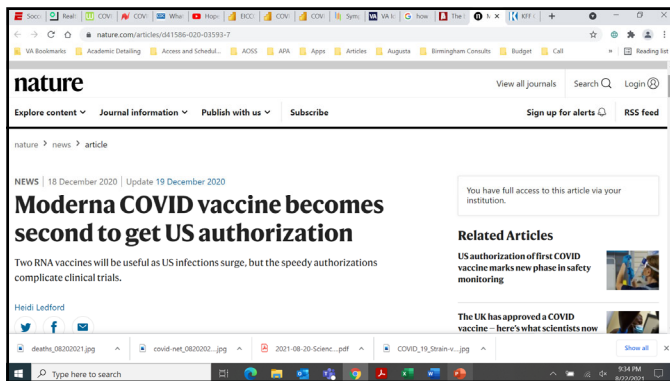




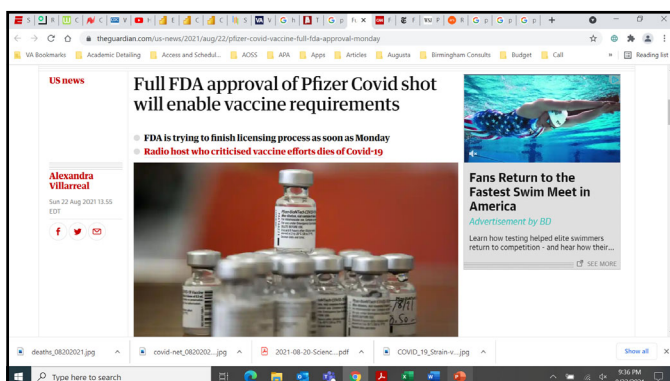




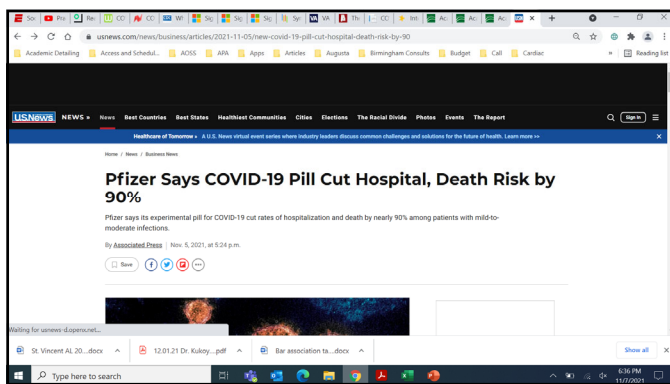


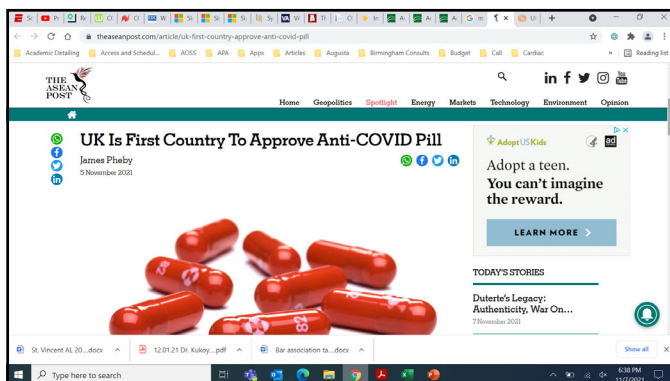




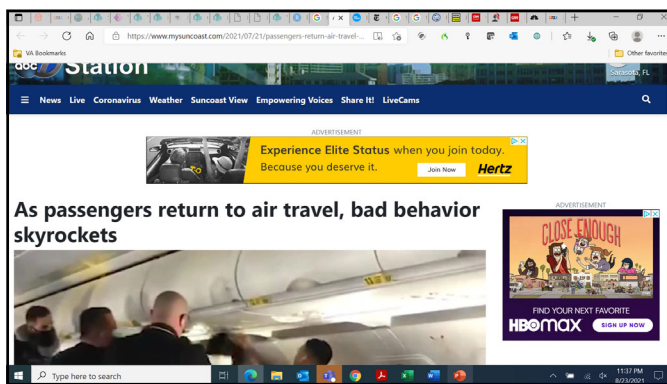


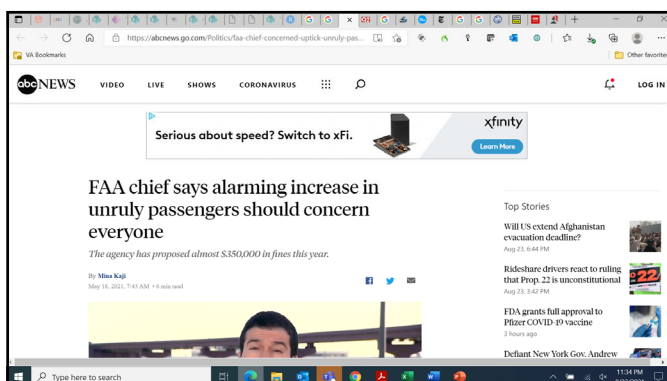


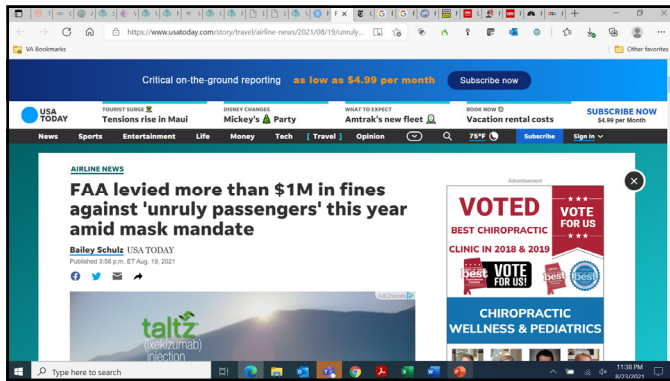


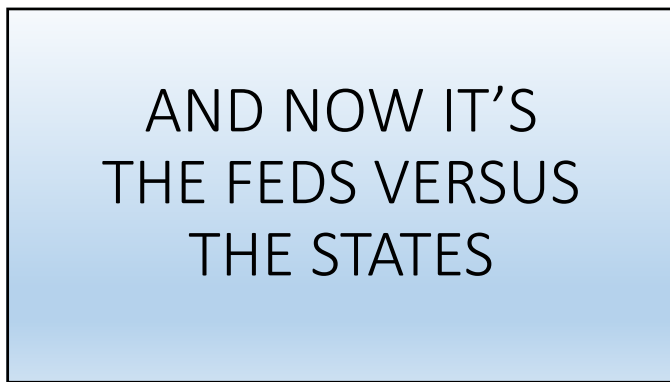


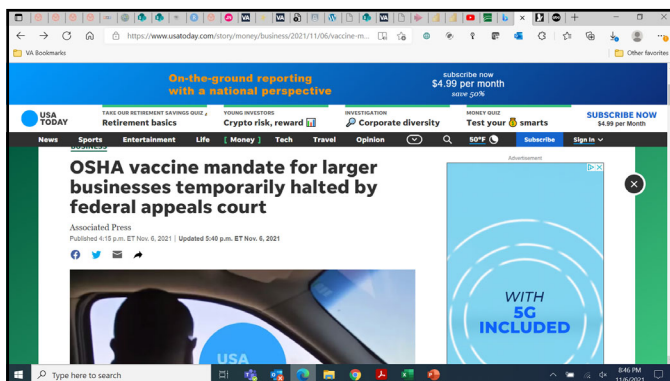
BUT THE SKIES
TELL US
OTHERWISE

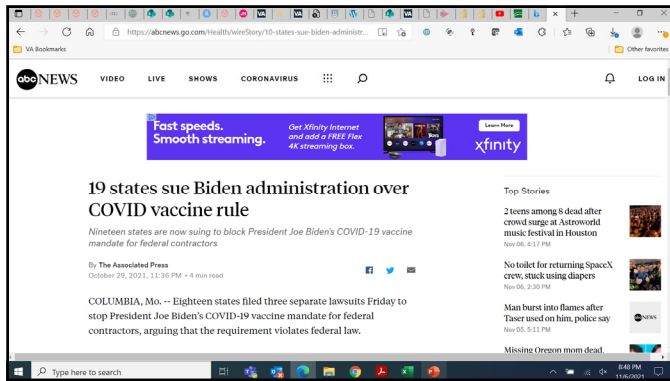


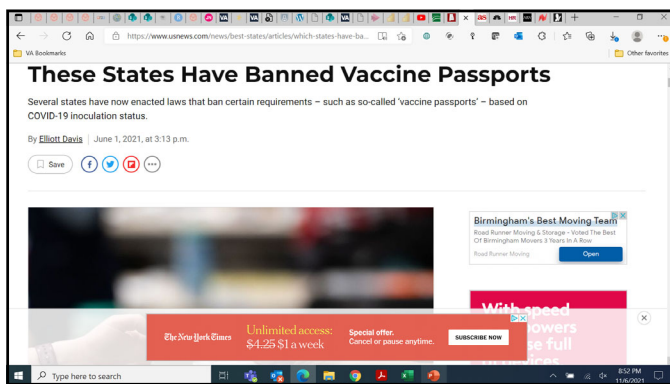


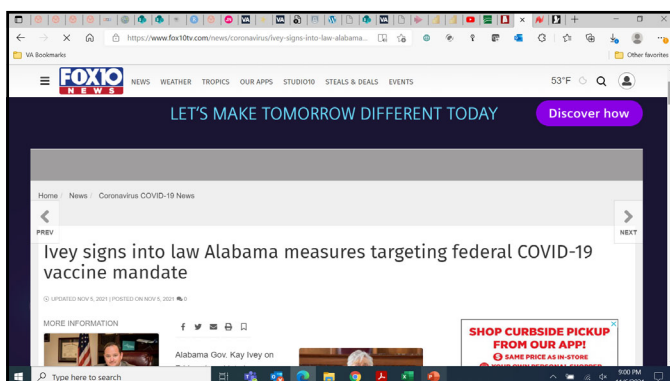


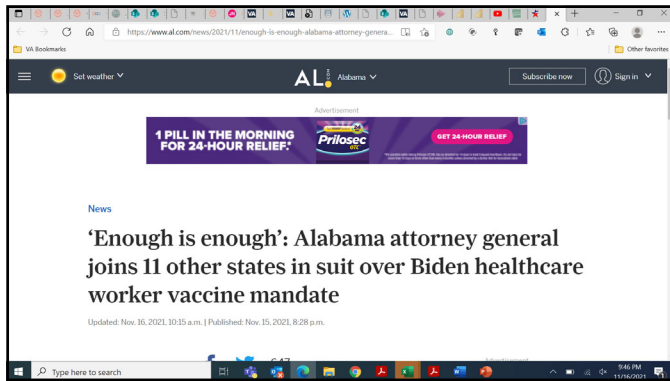


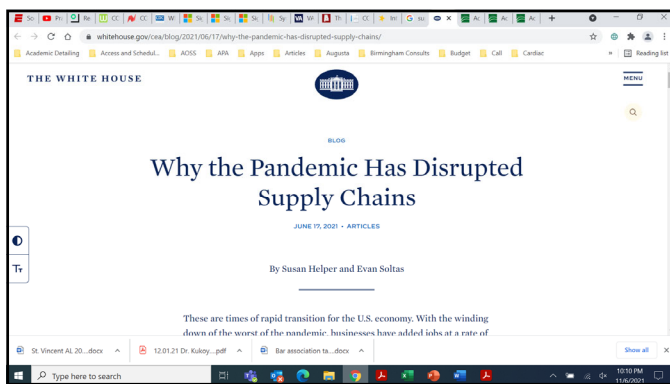


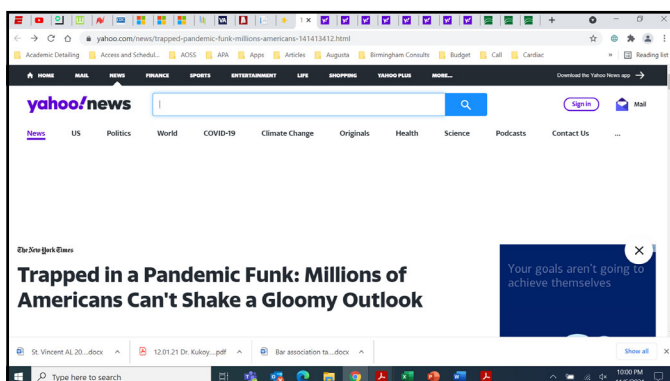


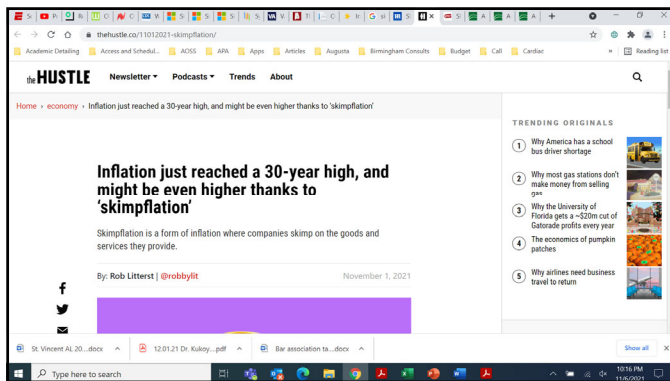


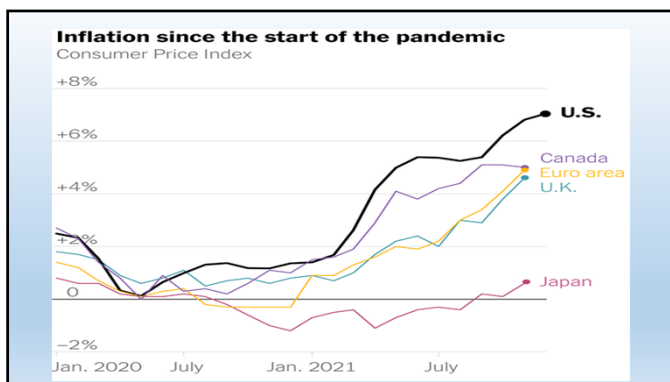


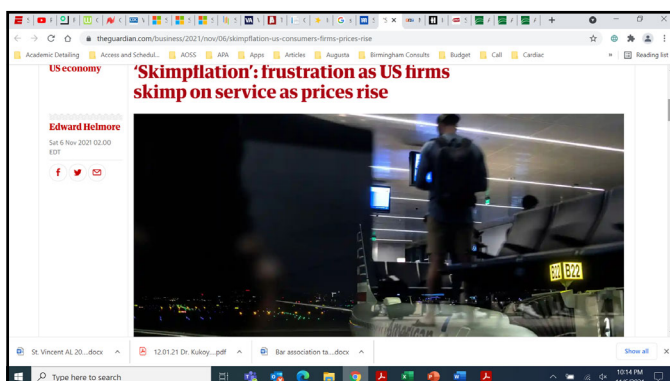


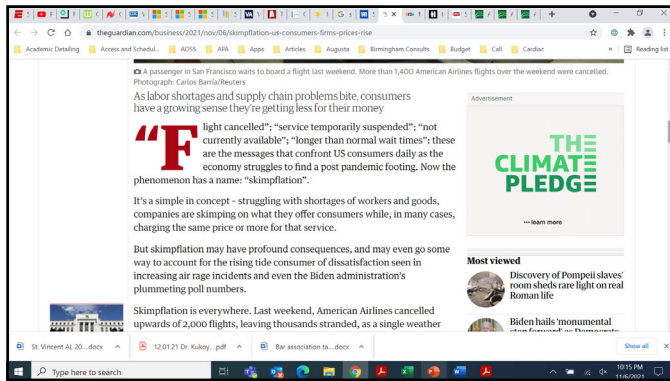


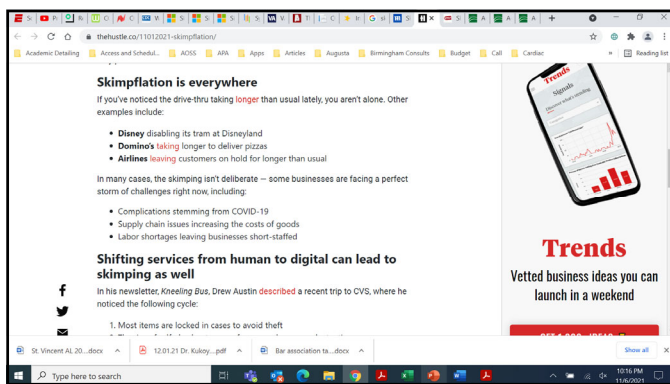


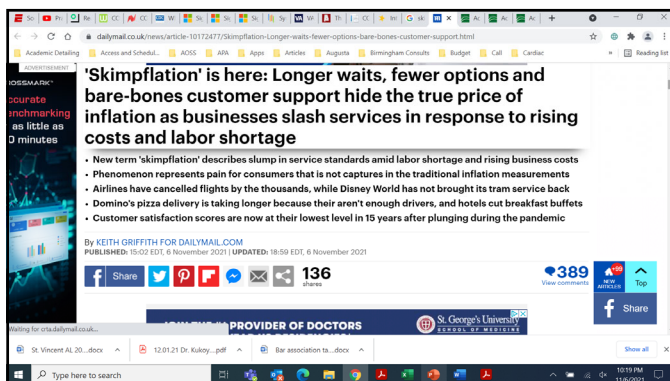




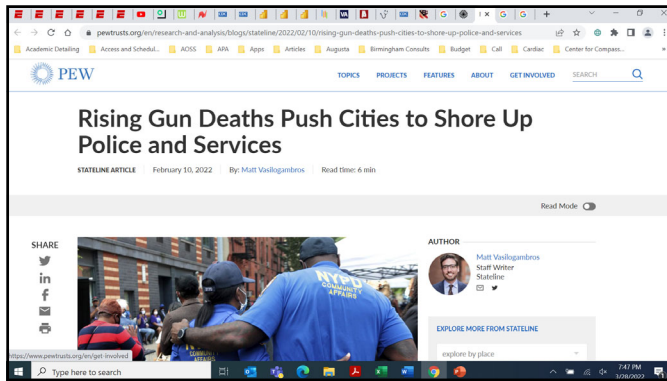


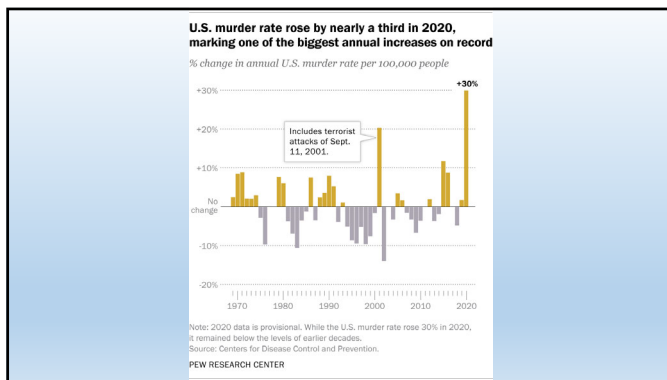


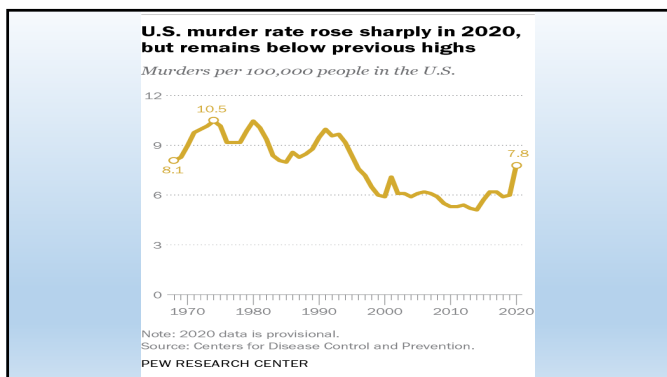


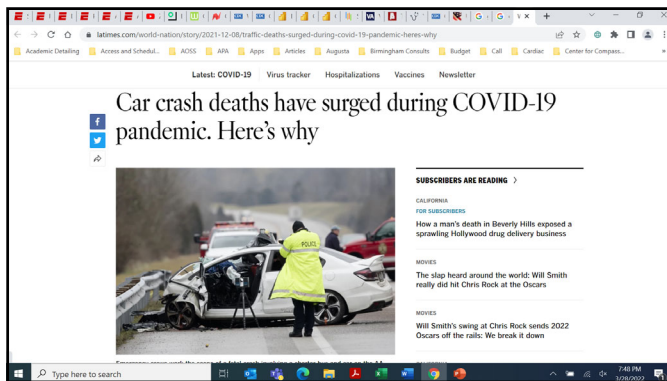












So how does it all end?

- Will we ever be “normal” again?
- Will we ever get along again?
- Will science and medicine ever be trusted again?
- Will the social changes and upheavals settle after the pandemic is gone?
- Will the pandemic ever leave, or will we learn to live with an endemic disease with occasional surges like other viruses?
- Who knows

The way forward?

- Pretending that Covid has disappeared has costs, to people's livelihoods, happiness and physical well-being.
- And allowing Covid to continue dominating everyday life has costs, to people's livelihoods, happiness and physical well-being. The only realistic option is to balance the two and look for a path that minimizes the human damage.

