



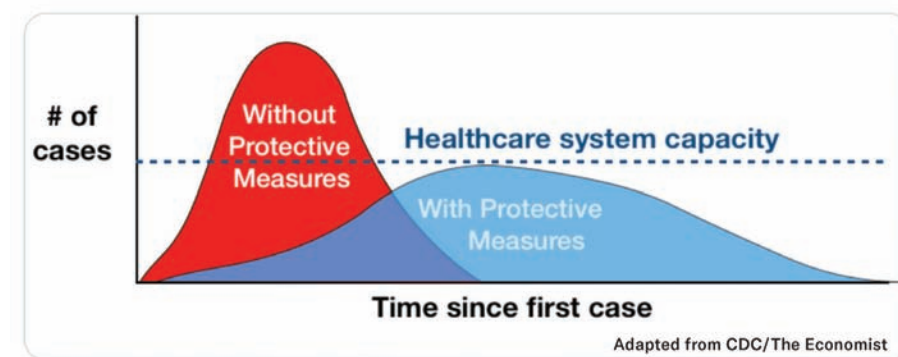
# COVID and Climate Change

Jodi D. Sherman, MD

The concept of “flattening the curve” brilliantly communicated the need for rapid public health measures to avoid overwhelming health system capacity during the COVID-19 pandemic (Figure). The curve is flattened by behaviors that reduce the rate of contagion spread and enable time to replenish and innovate resources. “Flattening the curve” applies to any exponential process. We’ve embraced it for SARS-CoV-2, and we have seen how sustained, dedicated, and tightly coordinated effort can alter the course of nature. Environmental destruction is also an exponential process. For our long-term survival, we must “flatten the curve” of exponential environmental damage. Herd immunity does not apply to depletion of the earth’s finite resources.

The 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C was prepared by 91 authors from 40 countries, and it included over 6,000 scientific references. This IPCC Special Report described the need to rapidly transition our economy to reduce greenhouse gas emissions by 45% from 2010 levels by 2030 and to reach “net zero” by 2050. Swift reduction is required to keep average global surface temperature rise below 1.5°C and avert the worst predicted harms to global health: increased frequency and severity of storms, flooding, drought, wildfires, and food and water insecurity, political instability, and population displacement. The impact of climate change is already being felt and will become far more devastating over the coming years and decades unless we flatten the greenhouse gas curve (Global Warming of 1.5°C: An IPCC Special Report, 2018).

Globally, health care contributes 4.6% of anthropogenic greenhouse gas emissions, excluding waste anesthetic gases (*Lancet* 2019;394:1836-78). Health care is the most carbon intensive service sector in developed countries (*Environ Res Lett* 2019;14). The global pharmaceutical industry generates more greenhouse gas emission per operating revenue than the automotive industry (*J Clean Prod* 2019;214:185-94). The United States leads the world in health care greenhouse gas emissions per capita, without commensurate beneficial health outcomes (*Lancet* 2019;394:1836-78). U.S. health care generates nearly 10% of total national greenhouse gas emissions, and 9%



**Figure:** This diagram adapted from the CDC, “Community Mitigation Guidelines to Prevent Pandemic Influenza in the United States, 2017,” represents earlier public health thinking. The health care capacity line was later added by Drew Harris, PhD, population health analyst at Thomas Jefferson University in Philadelphia, PA.

of criteria air pollutants, largely from burning fossil fuels. Health damages stemming from U.S. health care pollution are in the same order of magnitude as deaths from preventable medical errors (*Am J Public Health* 2018;108:S120-2). Needless to say, we are spending billions of dollars preventing injuries from avoidable medical errors and don’t even talk about the adverse health effects of health care pollution. That is starting to change with international calls for climate change mitigation within the health care sector (*Environ Res Lett* 2019;14; *Lancet* 2019;394:1836-78; *Am J Public Health* 2018;108:S120-2; *BMJ* 2020;368:m970).

**“The impact of climate change is already being felt and will become far more devastating over the coming years and decades unless we flatten the greenhouse gas curve.”**

Health care spending presently accounts for 10% of global GDP. This makes health care purchasing power a potentially formidable force to drive transformation to a sustainable global economy. Health professionals are respected and well-positioned to engage members of

our communities in socially responsible behaviors and influence public policy. As with the COVID-19 pandemic, we need to use our voices and lead by example to address the climate crisis.

In January of this year, the National Health Service (NHS) in England launched a major new initiative aimed to build a “greener NHS.” Their goal is to achieve net zero emissions as quickly as possible, faster than their 2050 legal mandate under the British Climate Act of 2008. With 1.3 million workers, the NHS is the largest employer in Europe. A large majority of NHS employees strongly support the principle that the NHS should reduce its environmental impact and function in a sustainable manner (*BMJ* 2020;368:m970; *asamonitor.pub/3cylhE*). Such engagement is essential to achieve rapid systemic transformation.

Several national health system studies have demonstrated that more than half of the carbon footprint can be attributed to embedded emissions in the supply chain – drugs and medical devices (*BMJ* 2020;368:m970; *Resour Conserv Recy* 2020;160:104862). Improving health care quality requires increasing efficiency through reducing waste, preventing medical errors, eliminating unnecessary care, and preventing illness. High-quality care is more sustainable care: clinically, financially, and environmentally. However, efficiency improvements alone cannot get a health system to net zero (*BMJ* 2020;368:m970).

The COVID-19 pandemic has forced us to re-examine our consumption practices in health care. It has heightened awareness



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of our wastefulness. It also highlighted our short-sighted reliance on single-use disposable supplies and devices, many of which increase cost without any evidence of patient safety benefit. These items are manufactured worldwide, often far from the point of use, and delivered just in time. This practice reduces the need for storage space and ensures supplies don’t expire, but also renders the supply chain vulnerable to interruptions that lead to critical shortages.

Early on in the pandemic, when the nature of disease transmission was less well understood and best practices were still being developed, it was prudent to take extra precautions and rely heavily on single-use disposable materials. However, the supply chain was disrupted at the same time that demand for items such as personal protective equipment (PPE) and sedative agents skyrocketed. Health systems quickly ran out of critical supplies, including N95 masks, impermeable gowns, and single-use disposable video-laryngoscope blade covers, and had to improvise more sustainable approaches.

Many single-use disposable items can be safely and routinely sterilized by tightly regulated third-party reprocessors; however, most health systems did not have existing contracts with reprocessors nor protocols for routinely recovering devices. Thus, it took some time for systems to develop internal protocols to safely reprocess and reuse these items.

Now that we’re realizing we can and must reuse more items, the plastics industry has been exploiting fears about COVID-19 to drive up consumption of single-use disposables. For example, there is coordinated industry effort to convince policymakers, businesses, and the public that reusable bags are unsafe and that single-use plastic is safer (*asamonitor.pub/2Y1mkgJ*). As a result, municipalities and businesses have delayed or rolled back bans on single-use plastic, despite the virus spreading primarily through breathing aerosolized droplets rather than contacting surfaces. Local dry

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## Governmental Affairs: Your Advocacy Needed More Than Ever

# Your Involvement Is Key!

Rose Berkun, MD, FASA

I would like to thank all physician anesthesiologists who have been working tirelessly and relentlessly, placing their own physical and mental health at risk to care for patients who are suffering from COVID-19. The dedication and ingenuity of physician anesthesiologists continue to amaze me. Our colleagues have been on the front lines of this pandemic, restructuring hospital environments, creating specialized hoods and other protective equipment, and inventing plastic boxes for safer intubation. Physician anesthesiologists are now being profiled on the cover of Time magazine and interviewed by local and national news networks. We are being hailed as heroes.

One of the unfortunate consequences of this pandemic is loosening of regulations that govern the scope of practice of nurse anesthetists, including elimination of physician supervision. The Department of Veterans Affairs (VA) decided to remove physician supervision of nurse anesthetists, citing the COVID-19 pandemic. VA Acting Executive in Charge Richard Stone, MD, sent a directive to "amend medical facility by-laws to allow Certified Registered Nurse Anesthetists (CRNAs) to have full practice authority to the extent that is within the full scope of their license." On March 31, CMS temporarily suspended physician supervision requirements for CRNAs. In addition, several states, including Louisiana, Maine, Massachusetts, Michigan, New Jersey, New York, and Tennessee, temporarily suspended physician supervision and certain licensure limitations for CRNAs.

In April, ASA issued its "Statement on the Utilization of Nurse Anesthetists During the COVID-19 Pandemic," affirming that "When elective surgeries are again



authorized, nurse anesthetists should serve in their roles within a physician anesthesiologist-led procedural and operating room Anesthesia Care Team (ACT). Any states that temporarily waived physician supervision requirements to address the pandemic should reinstate the full range of critical safety standards patients depend upon, including the requirement for physician supervision of nurse anesthetists."

On May 7, New York Governor Andrew Cuomo issued an executive order reinstating physician supervision of nurse anesthetists. ASA will continue to work with its state component societies to ensure remaining states reinstate physician supervision of nurse anesthetists.

Now more than ever we need to use all our available resources in order to deliver the highest quality of anesthesia care. The physician-led anesthesia care team is part of our best-practices model. The ASA Grassroots Network and ASA Team 535 rely on key contacts to move our agenda forward. The ASA Grassroots Network provides physician anesthesiologists with a united and powerful voice to help influ-

ence legislative and regulatory affairs, both in Washington and at the state level. ASA Team 535, a Key Contact program, consists of practicing physicians who live and/or work in a Congressperson's district or state. When an issue arises specific to the state, ASA relies on Key Contacts to engage their respective members of Congress to ensure the elected officials are aware of the interests of physician anesthesiologists and the impact of legislative proposals on the delivery of anesthesia care.

Today, 16,900 ASA members have signed up to be a part of the Grassroots Network, with 267 ASA Team 535 Key Contacts and 505 Key Contacts in Training. Key Contacts act as liaisons with either their Senator or Representative to advocate for our specialty. In the months ahead, Key Contacts will be crucial in ensuring that the VA and individual states preserve the outstanding patient-centric care provided by the physician-led anesthesia care team model.

The ASA Committee on Governmental Affairs and ASA Team 535 are closely monitoring evolving regulations and taking ap-



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**Grassroots Network**  
American Society of Anesthesiologists®

**In the months ahead, Key Contacts will be crucial in ensuring that the VA and individual states reverse their decisions on allowing independent practice for nurse anesthetists and reinstate the physician-led anesthesia care team."**

propriate actions. Your help is needed now. With the 2020 elections upon us, there will be newly elected members of Congress in January. We urge you to become involved in our advocacy efforts. Please join the Grassroots Network online at [grassroots.asahq.org](http://grassroots.asahq.org) and become a Key Contact to help us protect our patients and deliver the highest-quality anesthesia care. ■

### Unbleached

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cleaners have started advertising that dry-cleaning kills viruses. Sure, it does, but so does my laundry machine. Single-use medical device manufacturers are cashing in on the same fears.

Infection prevention is essential. With the COVID-19 crisis, we have proven we can safely reuse many medical devices – both single-use disposable and reusable.

We had to. We must recognize that planetary resources are finite, whether shortages are experienced from pandemics or weather-related disasters, and we must actively seek to conserve materials at every moment.

Now is the time to take advantage of the COVID-19 disruption and make bold changes to do what is necessary to flatten the greenhouse gas curve. While we can't stop climate change, if we aggressively reduce our greenhouse gas emissions now,

we can slow down the effects today. That would give society a chance to adapt, just like social distancing helped slow down the patient surge and enabled health systems to build their capacity during the COVID-19 pandemic.

The only difference between the COVID-19 pandemic and climate crisis curves is that the time scale is different. After the IPCC Special Report came out, people said that a decade wasn't nearly enough time for societal transformation.

COVID-19 has disproven that. People and governments across the world have quickly come together to do what is necessary to flatten the COVID-19 curve. By comparison, a decade is incredibly doable, if we approach the climate crisis with the same urgency and ingenuity. Moreover, unlike the devastating economic shutdown from the COVID-19 pandemic, flattening the greenhouse gas curve provides ample opportunities for economic growth through a greener economy. ■