

Too many patients, too few ventilators: How U.S. hospitals cope with COVID-19

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(HealthDay)—Faced with a looming shortage of lifesaving ventilators,

U.S. hospitals are scrambling for solutions and planning for the worst.

Intensive care units at besieged hospitals in New York and other cities are taking an "all hands on deck" approach—recruiting doctors from various specialties to help handle the influx of severely ill COVID-19 patients.

They are also finding ways to fill another crucial gap: A limited supply of ventilators, machines that provide breathing support to patients in respiratory distress.

Last week, the U.S. Food and Drug Administration officially approved one alternative to standard ventilators: anesthesia machines. The equipment, normally used to put surgery patients under, can be adjusted to provide oxygen to ICU patients.

"Anesthesia machines are ventilators. They're just a little different," explained Dr. Lewis Kaplan, president of the Society of Critical Care Medicine (SCCM).

It's the perfect use for the equipment, now sitting idle as elective surgeries are canceled, Kaplan said.

Plus, he added, anesthesia machines are available outside of [hospital](#) walls—at freestanding surgery centers, medical schools and pharmaceutical labs.

"We're leaving no stone unturned," said Kaplan, a surgical critical care specialist at the University of Pennsylvania and VA Medical Center in Philadelphia.

Currently, the United States has around 200,000 ventilators, the SCCM estimates. Many of those are already in use, or are older, more basic

models that hospitals have on hand. The figure also includes the federal government's emergency stockpile.

Experts have been warning the supply falls far short of the expected demand. At a recent webinar convened by the American Hospital Association, one researcher projected that 960,000 Americans might need a [ventilator](#) before the pandemic is over.

In New York state, the epicenter of the nation's outbreak, Gov. Andrew Cuomo has repeatedly said hospitals there need at least another 30,000 ventilators. They are bracing for cases to peak within three weeks, when a projected 40,000 ventilators may be needed.

But it's not only ventilators that are in short supply, Kaplan warned. There are too few health care providers trained in operating them—work that is normally done by ICU doctors, nurses and respiratory therapists with specialized training.

Hospitals are calling on other specialists with training in critical care to help, Kaplan said—including pulmonologists and anesthesiologists.

"A lot of our doctors are freed up from elective surgeries, and they're ready to help," said Dr. Mary Dale Peterson, president of the American Society of Anesthesiologists (ASA).

The SCCM is advising hospitals to try "tiered" staffing plans, with ICU doctors as team leaders who oversee several non-ICU doctors with training in critical care—who, in turn, oversee a fleet of other providers.

Another tactic, though controversial, was approved by New York state on Thursday: allowing two patients to share one ventilator. NewYork-Presbyterian Hospital, in New York City, said it had "implemented a strategy that, in carefully selected patients under the right conditions,

enables a single mechanical ventilator to fully support two patients simultaneously."

But the ASA, SCCM and other groups quickly came out against the practice, saying it compromises patients' safety.

Peterson said it's not possible to fully manage individual patients' needs when they are sharing a ventilator. The greatest risk would be if one suddenly deteriorates, and the balance of oxygen goes to the other.

Amid it all, hospitals are also planning for the worst: rationing ventilators to patients most likely to survive.

Arthur Caplan heads the division of medical ethics at NYU Langone Health in New York City. He said the medical center, like others, is devising policies on how to do it fairly.

"First, we try to save the most lives," Caplan said. He stressed that age alone would not be a deciding factor—but patients' overall condition and life expectancy are important considerations.

In an editorial published last week in the *New England Journal of Medicine*, a group of leading bioethicists laid out recommendations on fair allocation of "scarce resources." One said it is "justifiable" to remove a patient with a poor prognosis from a ventilator, to try to save one with better survival odds.

Caplan agreed that such situations could occur.

Some states, including New York, New Jersey and Pennsylvania, are reportedly updating or creating guidelines on ventilator rationing. But Caplan predicted they'll be "late," as medical centers settle on their own policies.

Fairness—rather than a "first-come, first-serve" scenario—is the goal, according to Caplan.

"It's good that we're thinking this through," he said. "It's important that people know it's not based on age or income. [Ventilators] aren't going to the rich or to celebrities."

"I wish we didn't have to plan for rationing," Caplan added. "But we do."

Despite the seriousness of the pandemic, everyone agreed that the general public can make a crucial difference in slowing the surge into hospitals.

"Take social distancing seriously," Peterson said. "This is an issue of supply and demand, and we have to do everything we can to mitigate the spread of this disease."

More information: For the latest updates on COVID-19, visit the [U.S. Centers for Disease Control and Prevention](https://www.cdc.gov/).

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