News in focus

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Clinical research has been disrupted as hospitals devote more resources to caring for people critically ill with COVID-19.

CORONAVIRUS SHUTS DOWN TRIALS OF DRUGS FOR MULTIPLE OTHER DISEASES

Studies grind to a halt as fears of health-care shortages and risk of exposure put the brakes on clinical research.

By Heidi Ledford

When 2020 began, Neena Nizar and her family were poised to harvest the fruits of a decade of hard work and sacrifice: a clinical trial of an experimental treatment for her two sons' rare genetic disorder that was slated to start before the year's end.

"I can't even put into words what we've been able to do to get to this point," she says. "My kids have given bone biopsies; I gave up my job and moved to a new country. We've just been going, going, going."

Then came COVID-19. Now, Nizar wipes away tears in her Nebraska home as she reads a message from researchers at the US National Institutes of Health. Work to assess the toxicity of the experimental therapy in animals has stalled because laboratories have been forced to close. The same might be true, she has heard, of the firm hired to manufacture the drug for clinical testing.

Nizar's sons have a painful degenerative disorder called Jansen's disease, which has hampered their bodies' ability to regulate calcium and phosphate, causing kidney damage and bone deformations. Her older son, who is 11, has had at least one operation every year for the past five years, The longer he has to wait to receive the experimental treatment, the less likely it is to work.

"My son asks me all the time, 'So when are we doing this trial? When can I? I don't want to feel this pain anymore,'" Nizar says. "I feel like we were chugging along on a train and then somebody dropped a huge boulder on it."

Scientists are rushing to launch clinical trials of experimental vaccines against the coronavirus, and treatments for COVID-19. But as hospitals brace for an onslaught of critically ill patients and laboratories worldwide are disrupted, researchers have had to shelve clinical trials of therapies for other illnesses.

"We're going to see a nearly complete

close-down in clinical research," says Tim Dyer, chief executive of Addex Therapeutics, a biotechnology company based in Geneva, Switzerland. "The health-care systems will simply be overloaded." On 18 March, Addex announced that it would delay the start of a clinical trial to treat involuntary movements in people with Parkinson's disease.

At Yale University in New Haven, Connecticut, lung-cancer researcher Roy Herbst says clinical trials for cancer have been cut to "almost zero" and are allowed only when a participant is deemed to have exceptional need.

"The whole process has really ground to a halt," he says, "and I feel bad because there are patients who might have benefited from those trials."

But the measures are necessary, he adds. Many people with advanced cancer are vulnerable to infection, and trips to the clinic for treatment and assessments could be deadly if patients are exposed to the coronavirus.

Herbst has had to ask three-quarters of his colleagues in the oncology department at Yale to stay away from the hospital to minimize their risk of infection. Instead, they are being held in reserve to treat people with COVID-19 if the first round of clinicians become infected. Even routine procedures such as biopsies, sometimes required for enrolment in a clinical trial, are now difficult to schedule as hospitals struggle with personnel and equipment shortages.

Agencies adapt

Government agencies have released guidance for investigators who need to suspend or modify trials. The US Food and Drug Administration, for example, has issued guidance for trials that might have to pause, change their study plans or make do with incomplete data because of the COVID-19 pandemic. Ethics committees are working overtime as researchers file requests to alter their clinical-trial plans in ways that minimize how often participants need to venture into the clinic, says Barbara Bierer, who directs the Multi-Regional Clinical Trials Center of Brigham and Women's Hospital and Harvard in Boston, Massachusetts.

Agencies and funders have shown remarkable flexibility, says Charles Blanke, an oncologist at Oregon Health & Science University in Portland and leader of the publicly funded SWOG Cancer Research Network. The US National Cancer Institute announced on 23 March that it would allow the investigators it funds to assess trial participants' health remotely where possible. Some doctors' assessments may be carried out over video calls, and some audits of clinical-trial procedures will be conducted virtually, with inspectors examining the paperwork online rather than visiting the clinic to assess standards.

The rapid release of these guidelines is a particular relief because many clinical-trial sites did not plan for a pandemic such as that of COVID-19, says Blanke, despite warnings from experts that one was inevitable. After this outbreak, he says, clinical researchers will be better prepared, and the increased capacity for virtual visits will be a lasting boon to both researchers and patients.

For now, it's unclear what long-term effects the outbreak will have on drug regulation. "There will be a disruption, obviously," says Bierer. "And whether that delay manifests in delaying final approvals is unknowable today."

It's that uncertainty that haunts Nizar. She worries that her concerns might sound selfish in the face of the global suffering caused by the pandemic. But she also knows that the delay to her clinical trial could last well beyond the months of social isolation and lockdowns.

Her best hope now, she says, is that regulators will learn from the speed and urgency with which a candidate vaccine for the COVID-19 virus has been rushed into clinical trials, forgoing some of the usual pre-trial animal tests. Nizar wants to see therapies for rare diseases treated with the same urgency.

"Our lives have always been in panic mode," she says. "Now the world has a glimpse into what our reality is."

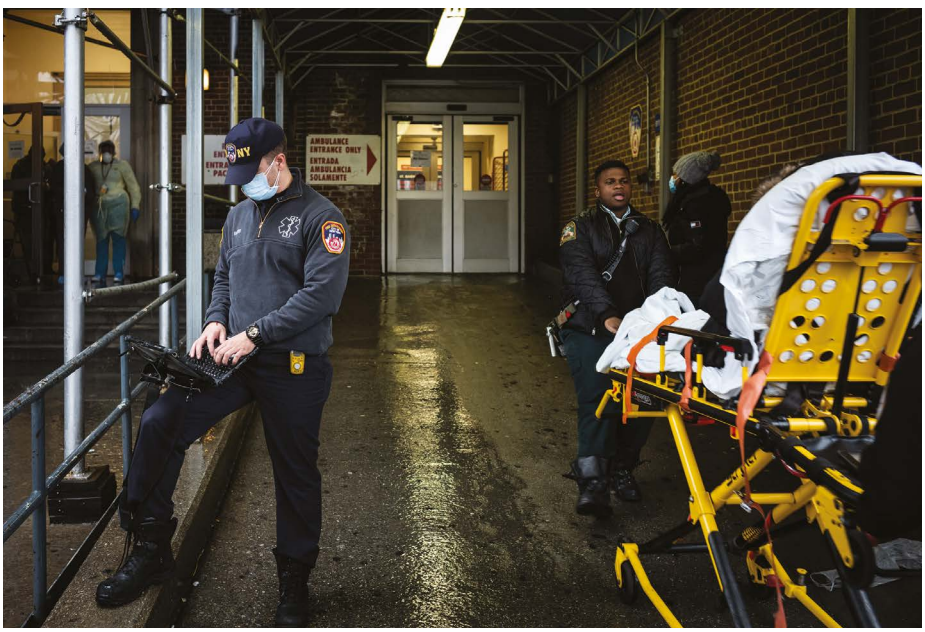
HOW BLOOD FROM COVID-19 SURVIVORS MIGHT SAVE LIVES

New York City researchers hope antibody-rich plasma can keep people out of intensive care.

By Amy Maxmen

Hospitals in New York City are gearing up to use the blood of people who have recovered from COVID-19 as a possible antidote for the disease. Researchers hope that the century-old approach of infusing patients with the antibody-laden blood of those who have survived an infection will help the city — now the US epicentre of the outbreak — to avoid the fate of Italy, where intensive-care units (ICUs) are so crowded that doctors have turned away people who need ventilators to breathe.

The efforts follow studies in China that infused patients with plasma — the fraction of blood that contains antibodies, but not red blood cells — taken from people who had recovered from COVID-19. But these studies have reported only preliminary results so far. The 'convalescent plasma' approach has also seen modest success during outbreaks



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Hospitals in New York City are becoming overwhelmed with coronavirus cases.