

Five hurdles in the global COVID-19 vaccine rollout

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The unprecedented push to inoculate the world's population against COVID-19 has got off to a sluggish start, triggering a storm of criticism.

Here's a look at the major obstacles that have hampered the [vaccine](#) rollout, and what's being done about them.

Insufficient supply

While the [coronavirus](#) vaccines have been developed and approved at record-breaking speed, deliveries of the first batches have been smaller than many had hoped, notably in the European Union.

Many governments have stressed that supply was always going to be tight at first before the pace accelerates in the coming months.

Large vaccination centres opened later than expected in cities from Berlin to New York, contrasting with faster inoculation drives in Israel and Britain.

Under pressure for not having ordered more from Pfizer/BioNTech, whose jab was the first to be approved in the West, the 27-member EU recently doubled its order to 600 million doses.

To boost supply, BioNTech is readying a new manufacturing site in Germany.

The EU has also approved a vaccine by US firm Moderna. A third shot, by AstraZeneca/Oxford, is expected to be greenlit at the end of January.

In the United States, New York Governor Andrew Cuomo accused the federal government of delivering insufficient doses, saying that by January 11 the state had only received one million doses for four million eligible people.

Logistical headaches

The Pfizer/BioNTech vaccine is based on novel messenger RNA technology and needs to be stored at minus 70 degrees Celsius (minus 94

degrees Fahrenheit), requiring special freezers. Once thawed, it can be kept at fridge temperatures (2-8 degrees) for five days.

Other vaccines also need to be kept cool, but at less Arctic temperatures.

The cold-chain requirements have led to a few stumbles. In the German state of Bavaria, hundreds of Pfizer/BioNTech doses were thrown out over fears they were incorrectly stored in camping coolers.

A "temperature control" problem at Pfizer's Belgian production plant led to a delayed shipment to Spain.

The Spanish rollout was further complicated by record snowfall in Madrid, which forced a plane carrying vaccines to be diverted.

The cold-chain logistics are likely to prove challenging in warmer and poorer countries.

India, which aims to inoculate 300 million by July, plans to use 29,000 cold storage sites and 41,000 freezers to keep vaccines at the right temperatures.

Questions have also been raised about whether the world will have enough vials to hold the vaccines. The little bottles, made of high-quality borosilicate glass, are manufactured by just a handful of firms.

Germany's Schott, a leading glassmaker, told AFP they remained on track to deliver enough vials to hold two billion COVID-19 doses this year.

Red tape ('Don't call us')

Several EU countries have chosen to first vaccinate elderly people in

[care homes](#), deemed most at risk from the virus.

Famously bureaucratic France quickly fell behind its neighbours as [health workers](#) had to wade through a 45-page guide and a laborious consent process for each patient.

The guide has since been slimmed down to 20-odd pages.

Austria and Germany have also said the work of mobile vaccination teams has been slowed by efforts to ensure each care home resident is educated about the jab before they agree to it.

It didn't help that the arrival of vaccines coincided with the Christmas holidays, when medical services had fewer staff on hand.

There have been complaints that vaccine hotlines and appointment websites have been overrun with inquiries, leading to long waiting times.

"Don't call us, we'll call you," said German Health Minister Jens Spahn.

Wastage

Vaccinators quickly realised they could extract six instead of five doses from each vial of the Pfizer/BioNTech vaccine. But with the extra dose not authorised, it technically had to be thrown away.

Regulators responded by amending their guidelines so as not to waste a single drop.

Nevertheless, doses are still being discarded.

Reports have emerged of New York hospitals throwing out vials because they expired before they found enough people in the priority groups to

inject, prompting calls for local authorities to allow more flexibility.

"There's a lack of guidance as to what do with leftover doses," Dr. Saad Omer, director of Yale's Institute for Global Health told AFP. "There could have been national guidance... I think it's criminal to throw away doses."

One solution might be to make back-up reservations in case the intended recipients don't show up, like rush tickets for Broadway shows, he said.

In Bulgaria, a hospital caused outrage when it injected four municipal councillors before their turn, reportedly because the doses would have otherwise been binned. The health ministry has opened an investigation.

Vaccine sceptics

A vocal and growing movement of "anti-vaxxers" has fuelled scepticism of COVID-19 jabs, despite scientists' assurances that the approved vaccines are safe.

Surveys suggest eastern European countries have some of the highest rates of vaccine refuseniks, including Hungary and the Czech Republic.

Even health workers have shown hesitation. Less than half of doctors in France said they were certain they would take the jab.

In Japan, which has long grappled with deep mistrust of vaccines, not a single jab has been approved to date.

Prime Minister Yoshihide Suga plans to be among the first to be vaccinated once the campaign gets going, to bolster public confidence.

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