Pfizer Logo

Three Pfizer Partnerships to Get the COVID-19 Vaccine into African Countries and Vaccinations into Arms

Monday, October 31, 2022

In 2020, as Pfizer and BioNTech were still developing the COVID-19 vaccine, Julie Jenson was thinking about how to distribute that vaccine to every country around the world, regardless of that country's means. Jenson, who is Director of International Product Access for Pfizer's Global Health and Social Impact Team, knew even in those early days that the ultracold storage demands and shipping requirements of the vaccine could pose challenges in reaching people living in remote areas of low- and middle-income countries.

In order to reach every person, creative solutions would be crucial. Pfizer pledged to bring the vaccine to low- and middle-income countries—working toward the pledge through a variety of pathways. In some cases, direct supply agreements between Pfizer and governments were possible. Additionally, Pfizer collaborated with organizations that are focused on equitable access to COVID-19 vaccines, such as COVAX—a global initiative led by the World Health Organization (WHO)—Coalition for Epidemic Preparedness Innovations (CEPI), and Gavi, The Vaccine Alliance. Pfizer has also worked to reach lower-income countries via governmental and humanitarian donations.

But as COVID-19 spread, Jenson and other Pfizer colleagues heard stories about people in countries such as Ghana, Nigeria, and Eswatini struggling to access vaccines that had already arrived in their regions. “We don’t want to see these vaccines sitting on tarmacs, or sitting in warehouses,” Jenson says. “We want people to receive them.” It became clear that Pfizer needed to go beyond efforts to get the vaccine to an airport, a hospital or a clinic. They needed to find ways to get vaccinations into arms.

To do so, partnerships within those countries were key. Organizations such as UPS Healthcare, Zipline, and cross-sector partnerships like Project Last Mile were already working with local governments, health organizations and NGOs, and could quickly identify specific challenges and help devise workable solutions, thanks to their deep familiarity with the local landscape. So, Pfizer partnered with them, sharing knowledge and expertise to help distribute millions of doses of the COVID-19 vaccine to hard-to-reach communities, while also helping to build more resilient healthcare systems to address future needs.

“I think we just need to open our minds to what innovation looks like. Sometimes it's not a top-down approach to doing something the same way across all the countries,” says Jenson. “There’s not a one-size-fits-all solution. Every country has different tools.”

UPS Healthcare

Delivering more than 21 million COVID vaccine doses to Nigeria’s 36 states

In December of 2021, the country of Nigeria had a problem. Six million doses of the Pfizer-BioNTech COVID-19 mRNA vaccine had been delivered to the capital, Abuja, and were sitting in ultracold freezers that had been donated by UNICEF. The vaccine doses were set to expire in 60 days, and the clock was ticking to develop a plan to keep them at the proper temperature and distribute them to Nigeria’s 36 states.

Government officials had been in talks with UPS Healthcare, a division within UPS that focuses on healthcare logistics solutions, including vaccine delivery. Already, The UPS Foundation had supplied ultracold freezers and credo boxes around the world, including Nigeria, and they deployed trainers that worked with a retired Pfizer executive to provide extensive training for the ministry of health, frontline healthcare workers, and other government officials on handling ultracold chain vaccine delivery. When asked by Nigeria’s Federal Ministry of Health how quickly UPS could deliver the vaccines in question, UPS sprang into action.

The first challenge to address was how to keep the vaccines ultracold during transport. As it turned out, Nigeria still had access to the Pfizer-designed temperature-control packaging that the vaccine had arrived in. (Usually, the shipper, which is made by Softbox, is returned so it can be reused.) Representatives at UPS reached out to Jenson at Pfizer, who worked with Todd Lipovsky, from Pfizer Global Supply (PGS) Network Logistics, to contact teams at Softbox and Controlant, which provides tracking and monitoring technology for the shippers. Together, they came up with a plan. “Within a very short time, probably less than two hours, all parties said, ‘Yes, let's make this work,’” says Bassey Anari, Humanitarian Logistics Manager for The UPS Foundation, based in Nigeria.

Through virtual training sessions, a UPS team in Nigeria learned to clean and inspect the boxes, load them with vaccine doses, fill them with dry ice, and reset the tracking and monitoring devices. UPS Healthcare devised dedicated routes and sent the vaccine out in refrigerated trucks across the country, safely delivering all 6 million doses. By October 2022, UPS had delivered an additional 15 million doses in Nigeria, continuing to partner with the local government, UNICEF and USAID to do even more.

UPS has also leveraged this innovative partnership with Pfizer, Softbox, and Controlant to provide vaccines in other remote communities of great need to help accelerate vaccine equity. This includes refugee camps in Ethiopia, Zambia—a country that had no dry ice capacity, and other low-dose countries in Africa. To date, these humanitarian deliveries have totaled 44 million doses and more are expected by the end of 2022, with UPS reporting zero irregularities.

The process and the shipping, Anari says, are the same whether the vaccine is going from Kalamazoo to Chicago or from Abuja to Lagos. It's simply a matter of having the right resources, tools, technology, training—and the right partners.

"UPS delivers what matters," he says. "We look to partner with willing players to help ensure all communities that have been impacted by COVID-19 or other global crises have access to life-saving vaccines and essential health supplies."

Zipline

Delivering more than 1.7 million COVID-19 vaccine doses via more than 6,700 flights; more than 500,000 of which have been the Pfizer-BioNTech COVID-19 Vaccine

Throughout the pandemic, several companies around the world have used drones to deliver vaccines and other supplies. One of those companies is Zipline. Working with governments—including seven governments in Africa—Zipline automates how health supplies and other items reach even the most remote corners through the use of autonomous aircraft, aka drones.

"What we're really doing is ensuring that health materials arrive at the right place at the right time in the right condition, regardless of geography," says Caitlin Burton, who is Vice President of Global Health Partnerships with Zipline.

Leading up to the pandemic, Pfizer and Zipline had already been collaborating on projects in Ghana, and they knew that they could transport medicines to faraway villages and islands quickly and effectively. "Some of the places we serve are nine hours away by road and 45 minutes away by drone," says Burton.

When COVID-19 became a global concern, Burton remembers sitting down with Jenson. "We talked about what it would take to ensure that Pfizer's COVID-19 vaccine could be accessible to all humans equally," says Burton.

In order to help transport the mRNA vaccine safely, Pfizer's Temperature Controlled Logistics team, led by James Jean, and Zipline re-engineered the packaging so that it was light enough for drones to carry while still keeping the vaccine ultracold. The containers were designed in a way to carry other types of vaccines and medicines, as well. From Zipline's eight warehouses across Ghana, every healthcare facility in the country is within a 45-minute drone flight.

In order to access vaccine delivery, healthcare workers place an order for a certain number of doses, syringes, and other supplies via phone, text, or messaging service. Fulfillment operators then package the order and a drone drops it at the specified GPS coordinates. Healthcare workers can then quickly vaccinate the patients who have gathered, wasting nobody's time and wasting no doses.

"We've delivered more than 1.7 million doses of COVID vaccines, and millions of routine vaccines using the same packaging to the most convenient points of care for millions of patients across the country," says Burton. In June 2022, Zipline also launched the vaccine delivery model in Nigeria and in the fall will do the same in

Kenya, expanding these kinds of partnerships where vaccine access has proven challenging.

When Burton reflects on the work that Zipline has done with Pfizer and other partners, including governments, she feels hopeful. Recently, the World Health Organization approved a new malaria vaccine that Burton believes could be a game-changer. It's not a Pfizer product, but as a result of the innovative packaging created through the Pfizer and Zipline partnership, many vaccines can be delivered safely and at the necessary temperature.

"This is not something that we would've been able to roll out instantly and start vaccinating thousands of children against if we hadn't previously created this system with Pfizer," she says. "It's important to understand that nobody can do this alone. It's a whole ecosystem."

When Burton thinks about the future of healthcare, she believes it lies not simply in drone delivery, but in the broader concept of automating how items get from point A to point B, and using the data captured along the way to better understand and respond to challenges within healthcare systems. "As we've learned, when it comes to healthcare access, it's more often a delivery challenge than it is a lack of supply. Zipline is working to transform access to healthcare by building an equitable, on-demand delivery system," she says.

Project Last Mile

Enabled the expansion of the Eswatini Ministry of Health's cold-chain capacity by 30%, allowing for storage of up to 1.5 million vaccine doses

In 2010, Melinda Gates asked a provocative question during a TED Talk: why is Coca-Cola available in so many places in Africa, but not medicine and vaccines? What can governments and nonprofit organizations learn from Coca-Cola?

Soon after, Project Last Mile was born, built upon a partnership that includes The Coca-Cola Company, The Coca-Cola Foundation, United States Agency for International Development (USAID), The Global Fund, The Bill & Melinda Gates Foundation, and The U.S. President's Emergency Plan for AIDS Relief (PEPFAR), along with local partners and health ministries. The organization helps improve health services in 14 African countries using the logistics network, supply chain, and marketing know-how of Coca-Cola.

"What we do is leverage the expertise, the best practices and approaches, and the networks that the Coca-Cola system has in Africa to improve availability of essential medicines, to expand access to essential medicines and health services, and to encourage uptake of those medicines and services," says Alexandra Scott, who is Managing Director of Project Last Mile. In particular, PLM assists local teams in last mile delivery planning, developing temperature monitoring systems and processes in every phase of vaccine distribution, identifying and quickly repairing or replacing broken equipment, and helping to ensure supply meets demand in order to minimize waste.

In 2021, as COVID-19 vaccines were distributed around the world, Project Last Mile was engaged by donor partners and ministries of health in Africa to help strengthen cold chain infrastructure required to store and distribute vaccines down to the last mile. In the Kingdom of Eswatini in Southern Africa, Project Last Mile was engaged by USAID and the Ministry of Health to support strengthening of cold chain storage and planning for incoming COVID-19 vaccines.

Ismail Alcin, who is a Supply Chain and Technical Consultant with Project Last Mile, agreed that leveraging experience and expertise from the Coca-Cola value chain would be valuable. "When we learned that COVID-19 vaccines would be arriving in the country, we realized that the countries were not ready for handling the

vaccines, because their ultracold chain infrastructure was not ready," he says.

Project Last Mile, working closely with Pfizer's Supply Chain Operations lead, Sait Uluglar, collaborated with the Eswatini Ministry of Health and other organizations to devise a plan to build needed infrastructure. Through coordinated contributions from multiple partners, including Pfizer's support training teams to handle and store the vaccine, the Central Medical Stores central warehouse, and 12 regional government warehouses store, manage, and deliver the vaccine. Then they sent it out on refrigerated trucks to regional warehouses, along with syringes and other supplies.

Alcin knows that there is still a lot of work to be done when it comes to vaccinating people in Africa. But he hopes that these improvements in infrastructure and storage will improve healthcare in the future, for other vaccines and medications, as well.

And for that, partnerships will continue to be critical, says Scott. "COVID-19 only made our healthcare challenges more clear," she says. "They are so global and so interconnected; one institution or organization cannot solve any of these challenges alone."

As of October 2022, more than 4 billion Pfizer-BioNTech COVID-19 vaccines were shipped to more than 180 countries in every region of the world. More than 1.6 billion of those went to low- and middle-income countries. Along the way, Jenson's and her Pfizer colleagues, along with Pfizer's partners, have learned that the goal isn't just to make and deliver vaccines. It's to give vaccinations. And that can take a village.

Looking ahead, these kinds of partnerships could change the way healthcare is delivered around the world. As Pfizer continues to work with non-profit organizations, the private sector, and governments everywhere—including in low- and middle-income countries—to devise solutions that may help improve people's health, the goal is to strengthen local healthcare systems so that they're more resilient in the face of future threats.

"We believe everyone should have access to the medicines that we make," says Jenson. "They're not much use if they don't reach the people who need them."

, Pfizer pledged to bring the vaccine to low- and middle-income countries through a variety of pathways including three key partnerships.

Originally published, Monday, October 31, 2022