



CONCORDANCE[®]
HEALTHCARE SOLUTIONS



POSITIVELY IMPACTING LIVES IN LOS ANGELES COUNTY

A Case Study of COVID-19 Vaccine Distribution



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1.9 million doses of vaccine have been delivered. Early on, the partnership expanded, adding 13 million pieces of equipment (such as PPE, testing kits, therapeutics)



SUMMARY

In December of 2020, the FDA authorized vaccines for emergency use against COVID-19. The Los Angeles County Department of Public Health (LACDPH) has 10 million residents under its charge, so they needed a partner to provide medical 3PL services to get the job done.

The LACDPH approached Concordance Healthcare Solutions for a bid, among others. We declined to bid, due to estimating that we would be unable to meet the deadline to begin delivery of vaccines. Acquiring all the needed licensing in Los Angeles County for the job would prevent the quick start they needed, but we were simply the first bidder to say so.

That transparency from the beginning was one of the primary reasons that Los Angeles decided to negotiate a partnership. As the partnership trust grew, so did the services that we supplied. We came to provide medical 3PL, sourcing, and distribution. We opened a covert warehouse to keep the location of vaccines private. We offloaded and automated processes from the county pharmacy. We expanded cold chain capabilities for influenza and monkeypox vaccines when they asked.

To date, 1.9 million doses of vaccine have been delivered. Early on, the partnership expanded, adding 13 million pieces of equipment (such as PPE, testing kits, therapeutics).

To further support the county, an entirely new warehouse will allow the partnership to expand as needed.

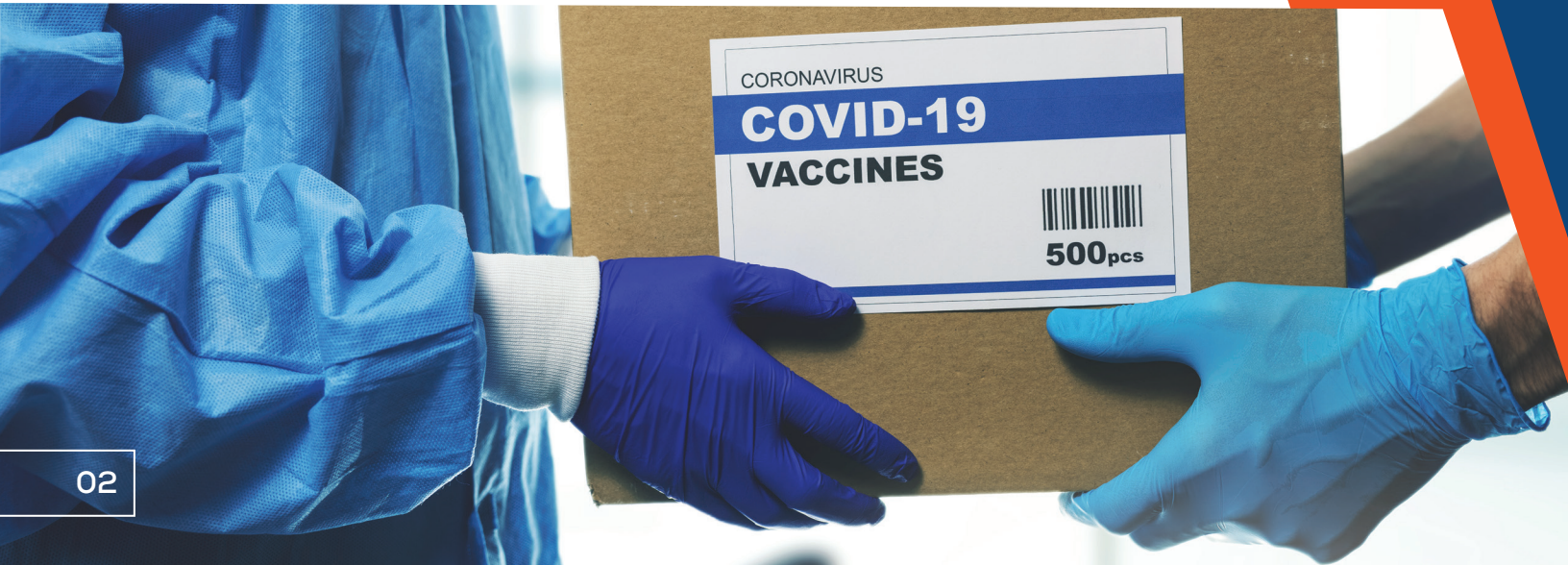
PARTNER TESTIMONIAL

“[Concordance] brings expertise with integrity, transparency, and adaptability, which all has been key in responding to this pandemic.”

Jee Kim, Los Angeles County Department of Public Health

SIZING UP THE TASK

Los Angeles County had a lot to think about to be successful with mass vaccination. They needed a partner that could address their unique set of problems—even when the problems were unforeseeable.





CHALLENGES

SERVED POPULATION

10 million

GEOGRAPHICAL SPREAD

4,753 square miles

SCRUTINY

Major news outlets regularly reporting on vaccine distribution failures

PROJECT FUNDING

Taxpayer

EXPERTISE NEEDED

Medical, pharmaceutical, and healthcare distribution

LICENSING AND PERMITS

Differing requirements from city and county of Los Angeles

COLD CHAIN

Unbroken transport and storage as low as -70°C (-94°F); refrigerated, frozen, and ULT storage

LOCATION

No distribution center inside county limits, that would have both adequate storage space and medical capabilities

SPEED

90 days to start mass vaccine distribution

WASTE

Preventing millions of dollars in product loss



UNEXPECTED CHALLENGES

COUNTERFEIT

Low-quality PPE from manufacturers looking to exploit the pandemic

PARTNERSHIP FALLOUT

Prior partnerships failing to deliver on distribution promises

MONKEYPOX

Adapting to a new outbreak during the COVID-19 pandemic

TRAINING

Keeping our team current through persistent fluctuations in vaccine handling rules and guidelines

LARGE FLUCTUATIONS

New viral variants, new approvals for vaccines and boosters causing large fluctuations in public demand for vaccination

DISCUSSION

A CRITICAL MISSION

In December of 2020, the FDA approved vaccines for emergency use. While a relief for many, the approval also meant it was time to get vaccines to hundreds of millions of people as fast as possible. This meant that public servants everywhere had to figure out a mass medical supply chain practically overnight.

The LACDPH was no exception. With 10 million people living within county limits, they would need to find a partner capable of making vaccines available to 1 in every 33 Americans.

SPEED, COLD, AND TAXPAYERS

Finding the right company was no small task. The LACDPH needed a large—yet temporary—supply chain to be planned, created, and fully operational in a matter of weeks.

And not just any supply chain would do; the supply chain would have to be capable of keeping vaccines at the right temperatures. The Pfizer vaccine, for example, would have to be kept at -70°C (-94°F) for much of its journey to Los Angeles. A small break in refrigeration anywhere along that entire journey could render vaccines useless.

That cold chain was just one detail, but the LACDPH needed someone who could manage all the other details of a medical supply chain as well.

And since this project would be funded by taxpayer dollars, the LACDPH's options were narrower still. The ideal distributor would have a brick-and-mortar location and employees within the county limits. Keeping taxpayer dollars local would mean less red tape and a faster start.



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PICKING THE RIGHT BIDDER

With such a high-stakes, fast-paced project, anyone could be forgiven for having doubts about any of the bidders—no matter the size, age, or sincerity of the companies. Promises meant little without proof.

For almost two decades, we've partnered with city and federal government agencies that affect more than 8 million residents throughout another major metropolitan area. That partnership grew to include 3PL services for emergency response, cold-chain vaccine logistics, medical distribution, and disaster recovery planning. By the arrival of the COVID-19 pandemic, we were ready for Los Angeles; our government partnerships had results and were thriving with trust.

But there wasn't a company in existence that could get to work immediately with no problem-solving at all. We were selected as a partner with that understanding.

MOVING MOUNTAINS (OF PRODUCT) FOR A PARTNER

Like with most distribution, creating a plan was half the work. Even though we had a warehouse just 30 miles away in Riverside, CA, it was outside of county lines. Within 9 weeks, we added a fully-operational, temporary warehouse within the county limits. Nearly 2 million vaccine doses have been circulated through that warehouse since then.

But moving millions of items can create a messy, expensive problem for everyone: waste.

Because of the extremely temperature-sensitive nature of the vaccines, every vial needed to be monitored all along the supply chain. A loss of just 2% of those vials due to temperature errors could be costly. It would have meant about 40,000 fewer protected residents and close to \$500,000 in taxpayer funds lost.



Within 9 weeks, we added a fully-operational, temporary warehouse within the county limits.



CONTROLLING WASTE AND CHAOS

Vaccines were just 1 product type of 143 that Los Angeles needed. A loss of only 2% of all the millions of supplies would be a disaster in its own right. Useful items in useless locations could create widespread, expensive trash.

With major news outlets reporting on the COVID-19 pandemic every day, bad publicity was a threat to both sides of the partnership. When vaccines went to waste, not only was the public at risk for a loss of life—but they heard all about whose fault it was.

To prevent vaccine waste, temperature data from coolers and freezers was sent in live feeds and in daily reports to the county pharmacy. This removed the need to have county employees monitoring vaccines on-site at the warehouse. When vaccines needed to be re-circulated between vaccine sites, this process completely removed the need to send vaccines to the county pharmacy, simplifying and speeding up re-distribution.

With the process in place, we kept vaccine waste to about 0.001%. The overall US supply chain has wasted approximately 13% of vaccines, meaning our segment of the supply chain wasted approximately 12,000 times fewer vaccines by comparison.

EVERYTHING EVERYWHERE

Needless to say, the vaccinations couldn't be done all in one place; Los Angeles County would need 19 public sites for mass vaccination.

Each of the 19 sites needed to be a fully operational clinic, hosting and helping tens of thousands of people. The sheer volume of people meant that there would be countless bio-hazards, thirsty staff and restless children to prepare for. There would inevitably be sick employees, cars to direct and anaphylactic shock to worry about.

From PPE, to water bottles, to children's books—we warehoused and distributed 13 million supplies to keep mass vaccination sites organized and safe.

But those 19 sites weren't the only destinations needing supplies—there were almost 9,000. There were pharmacies, residential addresses and hospices to help, all spread across 4,573 square miles. For vaccines alone, we delivered to over 3,000 ship-to's that were partnered with the LACDPH.



**COVID
VACCINATION
SITE**



**Our segment of the supply chain
wasted approximately 12,000 times
fewer vaccines by comparison.**

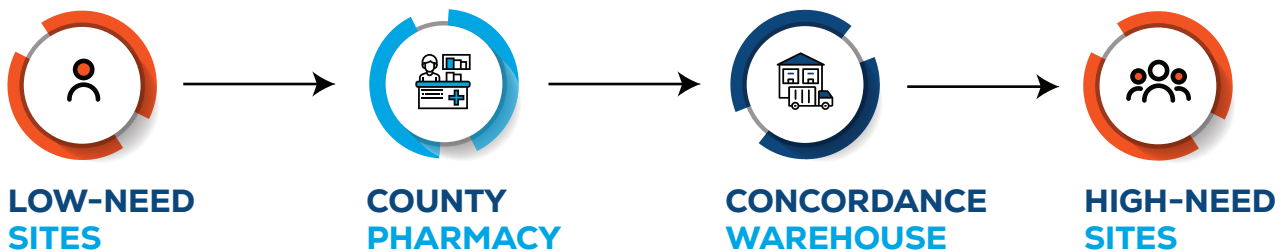


HIGHLIGHT: PROVING OUR FLEXIBILITY

This was the first time that Concordance had done large-scale vaccine distribution. While this was a concern early in the partnership, within a few weeks it was long-forgotten.

With daily reports and live monitoring of vaccine temperatures—and our medical distribution expertise—we were able to simplify the supply chain. We began to send vaccines directly where they were needed instead of having to physically route them through the pharmacy first. See the chart below.

BEFORE



AFTER

Faster, Simplier, Less Waste, Less Work for partner



HOW TO BUILD A SUPPLY CHAIN FOR MILLIONS OF PEOPLE

With 13 million items moved to date, this is where and how things were moved. To give a general idea of how Concordance expanded Los Angeles County's capabilities, everything in blue below is a Concordance-provided solution.





PREVENTING CHAOS WITH DATA FLOW

Big projects require big tools. Los Angeles County needed broad and deep visibility to keep track of their inventory and its movement. All items listed under Channels and Information in the graphic on page 11 are Concordance-provided solutions.

USERS

WHO NEEDS ACCESS?

- Los Angeles County Department of Health
- County Pharmacy
- Regulatory Bodies: CDC, MYCAVAX, VaccineFinder (Vaccines.gov)
- 19 Mass Vaccination Sites
- 8,700+ Ship-To Recipients

CHANNELS

HOW IS ACCESS GIVEN?

- Inventory Management Software*
- 24/7 Live Camera Feed*
- Email*
- Labeling/Signage*
- Concordance Operations Leadership
- Call/Text
- 365-Day Customer Service

* Automated and/or passive

** Not all information types/ channels are accessible to all users. Access is customized based on partner needs.

INFORMATION

CLIENT CONTROL

- Fulfillment Requests
- Scheduling Changes

TRACKING

- Lot Numbers
- Reception
- Inventory Levels
- Fulfillment
- Supply Chain Analytics
- Vaccine BUDs (Beyond Use Dates)
- Live Video, Warehouse Security Cameras
- Live Temperature, Warehouse Cold Storage
- Temperature Transport Cooler Data Loggers
- Errors (Waste, Loss)
- Supply Chain Expertise

SUMMARY OF RESULTS

PARTNER

ORGANIZATION

Los Angeles County Department of Public Health

RESIDENT POPULATION

10 million (1 in 33 Americans live here)

NEWS COVERAGE

No negative, some positive (NBC Los Angeles report)

SIZE

VACCINES DELIVERED

1.9 million doses

ALL PRODUCTS DELIVERED

13 million

VACCINE WASTE

0.001% (about 12,000 times less than the national average)

SPEED

DELIVERED

First vaccines 13 days ahead of schedule

BUILT

A 2-hour urgent delivery system from warehouse to sites

ALL PRODUCT TYPES

Up to 2,000 deliveries per week

COMPLEXITY

DELIVERY ENDPOINTS

8,700 shipping addresses

NUMBER OF PRODUCT TYPES

144

DELIVERY

up to 50 sites daily

FLEXIBILITY

SET UP

A pop-up, supplemental warehouse in under 45 days

TOOK OVER

Tracking and recirculation of unused vaccines for the county pharmacy

CLOSELY MANAGED

Distribution for 19 vaccination sites

CHANGED SCHEDULE

For large deliveries—from warehouse to sites—with as little as 12 hours advance notice

BUILT

An additional warehouse to allow expansion of partnership



**WE'RE
POSITIVELY
IMPACTING
LIVES™**

Our Purpose

At Concordance, our purpose is Positively Impacting Lives™. That includes all lives, but especially the lives of our employees, our healthcare providers and the patients they serve each and every day.

As one of the largest independent, healthcare distributors in the U.S., we are committed to delivering consistent service that increases our customers' efficiency and improves patient outcomes, while reducing the total cost of care by:

- Truly listening to and fully understanding the challenges that our customers face
- Being flexible, responsive and attentive to our customers' individual needs



We believe that in order to build a true partnership, we must be dedicated to continually improve and adapt our services to our customers' unique needs.

Concordance makes it a priority to:

- Collaborate to design, implement and support cost-saving programs and solutions at all levels of the supply chain
- Support the logistics, contracts and processes behind the quality-brand products that our customers prefer, ensuring the ultimate patient-care experience
- Offer a broad array of products from a diverse mix of suppliers and a channel for new technology that supports the best in patient outcomes

GLOSSARY

3PL

This stands for "third-party logistics." It is the outsourcing of services like warehousing, storage, distribution, shipping and inventory management. This is often synonymous with fulfillment services.

AGNOSTIC

In supply chain, synonymous with non-vertical integration; distributors that manufacture little to none of their product selection, giving greater flexibility to buyers

ANCILLARY KITS

In the context of this case study, ancillary kits contained the most critical supplies for vaccine administration: needles, syringes, alcohol pads, information cards, vaccination cards, face shields and surgical masks.

BIO-HAZARDOUS MATERIALS

Potentially harmful materials that may be contaminated with infectious organisms, like viruses, bacteria, fungus or protozoa

COLD CHAIN LOGISTICS

Transportation of temperature-sensitive goods—such as food or pharmaceuticals—along a monitored, unbroken supply chain

DISTRIBUTION CENTER

Synonymous with warehouse, in the context of this case study

DISTRIBUTOR

An entity that directs goods across the supply chain often procuring products from manufacturers and providing them to buyers, vendors, or consumers

FULFILLMENT

The process that begins with a customer's order and ends with delivery to that customer; usually includes warehousing, packing, tracking and shipping.

HEALTHCARE DISTRIBUTION

The movement of items necessary for healthcare through the supply chain. This can include items such as pharmaceuticals, PPE, surgical equipment and furniture.

PICK-UP

Retrieval of surplus from sites with previous deliveries

PPE

This stands for "personal protective equipment." PPE is used to prevent harm and injury from workplace hazards.

SHIP-TO

Much like a shipping address, ship-to's are the destinations to which products are sent from warehouse storage.

SOURCING

The process of procuring products by qualifying, vetting, and managing relationships with suppliers and/or manufacturers

STAGING

Picking and organizing items from warehouse inventory that have been ordered, usually in preparation for shipment

TURNKEY FULFILLMENT

Fulfillment services that can be activated quickly, like a lock that can be opened at the turn of a key. Fulfillment is the process that begins with a customer's order and ends with delivery to that customer. It usually includes warehousing, packing, tracking and shipping.

WAREHOUSE

Synonymous with distribution center in the context of this case study

WAREHOUSING

Storing inventory in a warehouse or distribution center, often for pre-purchased inventory

SUPPLIER

An entity that provides goods, whether as a manufacturer, vendor, or distributor to a buyer

ULT

Stands for "ultra-low temperature"; ULT storage is necessary for volatile, highly perishable contents, such as in the case of mRNA vaccines



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Positively
Impacting Lives

