Session 4: Curative - Bringing Vaccines to the Boost Community

Wednesday, November 17, 2021
Lessons learned related to supply chain and COVID-19 vaccine introduction

Throughout the discussion, panelists surfaced real-time challenges impacting supply chain in the age of COVID-19. Many noted barriers, such as the shortage of staff to manage large facilities, lack of equipment and technical expertise to meet vaccine demand, along with the overwhelming lack of confidence for COVID-19 vaccines at all levels.

For more highlights from the session: https://brightspots.boostcommunity.org/covid-19-session-3

Visit Boost COVID-19 Listening & Learning Website: https://brightspots.boostcommunity.org/covid-19
COVID-19 LISTENING & LEARNING PODCAST

The Boost Community has launched a podcast as part of our broader COVID-19 Listening and Learning series.

This podcast will provide insights from the frontlines of COVID-19 vaccine sites around the globe as well as feature experts to answer Boost Community’s questions on COVID-19 vaccines.

*Episodes 1, 2 & 3 are now LIVE!*
INSTRUCTIONS

Please *mute yourself* (when not speaking) to limit background noise and feedback.

You can engage in dialogue with your peers and workshop facilitators through the *Chat* button at the bottom of your screen.

Use the *Reactions* button at the bottom of your screen to *Raise your hand* during the session (if you want to speak).

Test the chat now! Share your name and where you are joining us from.
Agenda

- Speaker introduction
- Curative introduction
- Vaccine Hesitancy
- Cold chain
- Questions and answers
Curative is a healthcare startup, founded in March 2020 in Los Angeles, California.

It scaled COVID-19 testing at the beginning of the pandemic. To date it has collected more than 26 million COVID-19 tests across the United States.

Curative works closely with the government -- specifically, public health departments -- to provide COVID-19 tests and vaccinations at scale.

We rely on an insurance billing model, so our tests and our vaccines are free to public sector partners and to patients.
Curative COVID-19 Vaccine Program Overview

Curative launched our COVID-19 vaccination program in December 2020.

Over the course of the next 10 months, the Curative teams administered more than 2 million vaccines nationwide. We operated ~60 vaccine sites nationwide.

We worked with public health departments throughout and managed everything end to end on their behalf. All they did was provide us doses and tell us where the site was, and we did everything else.
End to end management of vaccine sites

- Site launch and set up
- All equipment
  - IT
  - Clinical supplies
  - Tables, chairs, etc.
- Hiring and staff management
- Cold chain storage and temperature monitoring
- Software - public-facing appointment scheduling and management
- On-site vaccination information collection
- Data reporting to state immunization systems
3 types of sites

Mobile vans
300 vaccines per day
Our custom-made mobile vans brought the vaccine to targeted communities. Outfitted with refrigeration, and enough space to hold all pop-up site supplies.

Drive through
500-12,000 vaccines per day

Walk up
500-1,500 vaccines per day
High-access walk-up sites can be made anywhere, with tables and chairs in a room.
VACCINE HESITANCY
A survey of possible tools

Quick poll

- Outreach to community organizations and bringing vaccines to the people
- Partnership with community leaders
- Bringing the people to vaccines
- Incentives
- Vax Tripling
- AAR
- Invest in work ahead of a vaccine clinic
Bringing Vaccines to the People
Convenience is key

- Objective is to make it as easy as possible to say yes to getting vaccinated
- We partnered with an incredibly varied group of institutions to set up vaccine clinics in unexpected and useful places. Tap into their networks and have them help with the promotion of the clinic
  - Faith based organizations
  - Marketplaces / Supermarkets
  - Places of work
  - Community Centers
  - Homes
  - Medical centers
Partnership with Community Leaders

- Our objective was to showcase safety and normalcy around the vaccine by partnering with trusted leaders, both on a community scale and national scale, to get the vaccine with us and share photos and stories.
- Ask yourself: who are the respected leaders in your community? How can they get involved in vaccinations?
- Examples
  - We worked with a church to produce a video with all the doctors in their community discussed the efficacy of the vaccine. Their pastor was vaccinated on camera as well.
  - California Governor Gavin Newsom and his wife were vaccinated on camera on site, which they shared heavily on their social media accounts.
  - Famous celebrities have been very vocal about getting vaccinated on social media as well.
Bringing People to the Vaccine
Adjusting for a variety of needs

- We partnered with many organizations to transport groups of people, small and large, to our vaccine clinics
- Worked with ride sharing services like Uber and Lyft to provide free transportation to folks going to vaccine clinics
- Worked with cities to organize free busing to vaccine clinics
- Worked with rehousing organizations to bus large number of people from communal housing structures to large scale vaccine sites
- Set up mobile vaccine sites at transportation hubs: bus stops, train stations, etc
Incentives

- Sometimes, the strong science isn’t enough to encourage people to take the vaccine! We worked with many partners to provide incentives in order to get vaccinated
- Tickets
  - Sports teams donated pairs of season tickets to be raffled off
  - Amusement parks donated thousands of free passes, which were gifted to vaccinated patients
- Cash
  - Some clinics offered straight cash incentives, or gift cards to grocery stores and big box stores, to fulfill needs of hesitant people
- Free
  - A famous donut shop offers a free donate daily to anyone who shows a vaccine card
  - Shot for shot: bars would offer free alcoholic shots to customers with proof of vaccine shots!
  - Setting up alongside free services, like food banks or free medical clinics
- Access
  - Many businesses, restaurants, gyms, etc, restrict access to vaccinated patients only
“Vax tripling”

- The best person / ambassador to reach all their loved ones is... them!

- **Do you have any 3 friends, family members, or community members who have NOT yet been vaccinated?**
  - Ask in the 15 minute observation period
    - If so, ask them to reach out to them and help them sign up for an appointment, or bring them to the site
    - Give out printed materials
  - Ask in check in
    - If there is anyone else with them who is unvaccinated
  - Ask when flyering

- Post on social media
How To Engage Patients Before the Vaccine Arrives

● FLYERING
  ○ Flyering at stores, organizations, etc. can be passive
    ■ Leaving flyers for someone to pass out
    ■ Asking if you can put a flyer in a window
    ■ Pinning a flyer at a grocery store or on a street pole
    ■ *This kind of flyering is more of an unknown but it is easier to scale*
  ○ Or flyering can also be active
    ■ Standing outside of a grocery store, on a busy intersection, etc. handing out flyers, asking people if they have gotten vaccinated and if not, if they are open to talking about it
    ■ *This kind of flyering is more tangible (you know how many people you are signing up) and probably more effective, but it is less scalable*

● INFORMATION BOOTHS
  ○ Set up information booths outside schools, churches, grocery stores in advance of the clinic
  ○ Give people the opportunity to ask questions about the vaccine before they have to make a decision
A training on how to speak to vaccine hesitant individuals about getting vaccinated

**Step 1: Affirm**
Affirm where an individual is coming from and listen to their concerns. Remember everyone has different beliefs, backgrounds, and access to information. The goal is to create a judgement-free space by hearing their worries and letting them know their feelings are valid.

**Step 2: Answer**
Answer any questions truthfully and concisely. Don’t be evasive. If there’s a grain of truth to the misinformation or rumor, say that up front. If you don’t know the answer don’t guess. Share trusted resources and organizations for further questions.

**Step 3: Redirect**
Redirect the individual to a trusted source and share facts about the vaccine to combat misinformation. Ask the individual questions that address the focus of their concerns. Hand out printed fact sheets if available.
Vaccine follow up

- Sending out mass text alerts to community members to remind them to get their second shot
- Provide information to help patients show up for their second dose
  - Giving community members cards that state follow up appointment information: location and date of 2nd dose (if applicable)
  - Providing the vaccine information sheets (PILs/EUAs)
- Keep digital records of who has received their first dose and follow up when patients surpass the cutoff
- Keep vaccination locations and hours consistent
- When patients receive their first dose, collect phone number and email address (if applicable) to send reminder messages
What is cold chain?

Cold chain refers to maintaining appropriate temperatures each time the vaccine moves storage locations. An unbroken cold chain keeps the vaccines at low temperatures (refrigerated or freezing) throughout the manufacturing, storage, and distribution process.
There are many types of qualified vaccine refrigerators and freezers depending on need, mobile accessibility, and availability of electrical power. Each storage unit should have a separate temperature monitoring device to ensure the vaccines remain in temperature range. Minimum WHO requirements for temperature monitoring include integrated digital thermometer, back-up stem thermometer, and an electronic freeze indicator. A full list of WHO prequalified products and devices for immunization programs can be found [here](#).
Packing Vaccines for Transport during Emergencies

Be ready BEFORE the emergency.

Equipment failures, power outages, natural disasters—these and other emergency situations can compromise vaccine storage conditions and damage your vaccine supply. It’s critical to have an up-to-date emergency plan with steps you should take to protect your vaccine. In any emergency event, activate your emergency plan immediately, and if you can do so safely, follow the emergency packaging procedures for refrigerated vaccines.

1 Gather the Supplies

Hard-sided coolers or Styrofoam® vaccine shipping containers

- Coolers should be large enough for your location’s typical supply of refrigerated vaccines.
- Can use original shipping boxes from manufacturers if available.
- Do NOT use insulated collapsible coolers.

Conditioned frozen water bottles

- Use 16 oz bottles for medium/large coolers or 4 oz bottles for small coolers (enough for 2 to 3 layers inside cooler).
- Do NOT reuse coolant packs from original vaccine shipping containers, as they increase risk of freezing vaccines.
- Freeze water bottles (can help regulate the temperature in your freezer).
- Before use, you must condition the frozen water bottles. Put them in a sink filled with several inches of cool or lukewarm water until you see a layer of water forming near the surface of bottle. The bottle is properly conditioned if ice block inside spins freely when rotated in your hand.

Insulating material — You will need two of each layer

- Insulating cushioning material — Bubble wrap, packing foam, or Styrofoam™ for a layer above and below the vaccine, at least 1 in. thick. Make sure it covers the cardboard completely. Do NOT use packing peanuts or other loose material that might shift during transport.
- Corrugated cardboard — Two pieces cut to fit interior dimensions of cooler (to be placed between insulating cushioning material and conditioned frozen water bottles.
- Temperature monitoring device — Digital data logger (DDL) with baffled probe. Accuracy of ±3°F (+/-2°C) with a current and valid calibration certificate. Pre-chill baffled probe for at least 6 hours in refrigerator.
- Temperature monitoring device currently stored in refrigerator can be used, as long as there is a device to measure temperatures for any remaining vaccines.

Why do you need cardboard, bubble wrap, and conditioned frozen water bottles?

Conditioned frozen water bottles and corrugated cardboard used along with a inch of insulating material such as bubble wrap keep refrigerated vaccines at the right temperature and prevents them from freezing. Reusing coolant packs from original vaccine shipping containers can freeze and damage refrigerated vaccines.

2 Pack for Transport

Conditioning frozen water bottles

- Put frozen water bottles in sink filled with several inches of cool or lukewarm water or under running tap water until you see a layer of water forming near surface of bottle.
- The bottle is properly conditioned if ice block inside spins freely when rotated in your hand.
- If ice "sticks," put bottle back in water for another minute.
- Dry each bottle.
- Line the bottom and top of cooler with a single layer of conditioned water bottles.
- Do NOT reuse coolant packs from original vaccine shipping containers.

Close lid — Close the lid and attach DDL and temperature log to top of the lid.

Conditioned frozen water bottles — Fill the remaining space in the cooler with an additional layer of conditioned frozen water bottles.

Insulating material — Another sheet of cardboard may be needed to support top layer of water bottles.

Insulating material — Cover vaccines with another 1 in. layer of bubble wrap, packing foam, or Styrofoam™

Vaccines — Add remaining vaccines and diluents to cooler, covering DDL and water bottles.

Temperature monitoring device — When cooler is fully fitted, place DDL and probe in middle of cooler, but keep DDL display outside cooler until finished loading.

Vaccines — Stack boxes of vaccines and diluents on top of insulating material.

Insulating material — Place a layer of bubble wrap, packing foam, or Styrofoam™ on top (layer must be at least 1 in. thick and must cover cardboard completely).

Insulating material — Place a sheet of corrugated cardboard over water bottles to cover them completely.

Conditioned frozen water bottles — Line bottom of the cooler with a single layer of conditioned water bottles.

3 Arrive at Destination

Before opening cooler — Record date, time, temperature, and your initials on vaccine temperature log.

Storage — Transfer boxes of vaccines quickly to storage refrigerator.

Troubleshooting — If there has been a temperature excursion, contact vaccine manufacturer(s) and your immunization program before using vaccines. Label vaccines “Do Not Use” and store at appropriate temperatures until a determination can be made.
Pfizer-BioNTech

- Dosage: 2 doses of 0.3 mL given 3 to 6 weeks apart
- Available for individuals 12 years of age and older
- 1 tray holds 195 vials and each vial contains 6 doses
- Arrives from the manufacturer in a carton containing dry ice to maintain ultra-low temperatures at -80 to -60°C
  - 1 carton can hold up to 5 trays
- Each vial must be diluted with 1.8 mL of 0.9% normal saline prior to administration
- Expiration date is the last day of the month listed on the vial label

**NOTE:** The Pfizer vaccine for children ages 5 to 11 has an orange cap and different storage, dosage, and dilution requirements.
VACCINE QUICK FACTS

Moderna

- Dosage: 2 doses of 0.5 mL given 4 to 6 weeks apart
- Available for individuals 18 years of age and older
- 1 box holds 10 vials
- Arrives from the manufacturer frozen at -25 to -15°C
- Vials contain either 5.5 mL of 10-11 doses or 7.5 mL of 13-15 doses. Check the NDC # to confirm type:
  - NDC 80777-273-99 for 5.5 mL vials
  - NDC 80777-273-98 for 7.5 mL vials
- Use the lot number to find the expiration date online:
  - [https://www.modernatx.com/covid19vaccine-eua/providers/vial-lookup](https://www.modernatx.com/covid19vaccine-eua/providers/vial-lookup)
THANK YOU

VACCINE QUICK FACTS

AstraZeneca

- Dosage: 2 doses of 0.5 mL given 4 to 12 weeks apart
- Available for individuals 18 years of age and older
- 1 box holds 10 vials
- Each vial contains 10 doses
- Arrives from the manufacturer refrigerated at 2 to 8°C
- Expiration date is the last day of the month listed on the vial label
VACCINE QUICK FACTS

Janssen - Johnson & Johnson

- Dosage: 1 dose of 0.5 mL
- Available for individuals 18 years of age and older
- 1 box holds 10 vials
- Each vial contains 5 doses
- Arrives from the manufacturer refrigerated at 2 to 8°C
- Use the lot number to find the expiration date at:
  - [https://vaxcheck.jnj/](https://vaxcheck.jnj/)
## COVID-19 Vaccines: Cold Chain Temperatures

<table>
<thead>
<tr>
<th>Minimize exposure to heat and light, avoid exposure to direct sunlight</th>
<th>Cold Storage Condition</th>
<th>Moderna</th>
<th>Pfizer-BioNTech*</th>
<th>Janssen</th>
<th>AstraZeneca</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpunctured vials in long-term storage</td>
<td>Ultralow Temperature -80°C to -60°C (-112°F to -76°F)</td>
<td>Do not store at these conditions</td>
<td>Until expiration date given on vial</td>
<td>Do not store at these conditions</td>
<td>Do not store at these conditions</td>
</tr>
<tr>
<td>Frozen Temperature -25°C to -15°C (-13°F to 5°F)</td>
<td>Until expiration date attached to the lot number, can be stored up to -50°C/-58°F</td>
<td>14 days cumulatively, a one time return to ULT storage is allowed</td>
<td>Do not store at these conditions (arrives thawed)</td>
<td>Do not store at these conditions</td>
<td></td>
</tr>
<tr>
<td>Unpunctured vials in short-term storage</td>
<td>Thawed Temperatures: 2°C to 8°C (36°F to 46°F)</td>
<td>30 days</td>
<td>1 month [31 days]</td>
<td>Until expiration date attached to the lot number</td>
<td>6 months</td>
</tr>
<tr>
<td>Room Temperature: 8°C to 25°C (46°F to 77°F)</td>
<td>24 hours cumulatively</td>
<td>2 hours cumulatively</td>
<td>12 hours cumulatively</td>
<td>Do not store at these conditions</td>
<td></td>
</tr>
<tr>
<td>Punctured/diluted doses in short-term storage</td>
<td>Thawed Temperatures: 2°C to 8°C (36°F to 46°F)</td>
<td>12 hours (from time of puncture, needs to be at room temp prior to inoculation)</td>
<td>6 hours (from time of dilution, needs to be at room temp prior to inoculation)</td>
<td>6 hours (from time of puncture)</td>
<td>48 hours (from time of puncture)</td>
</tr>
<tr>
<td>Room Temperature: 8°C to 25°C (46°F to 77°F)</td>
<td>12 hours (from time of puncture)</td>
<td>6 hours (from time of dilution)</td>
<td>2 hours (from time of puncture)</td>
<td>6 hours cumulatively</td>
<td></td>
</tr>
</tbody>
</table>

*The above Pfizer-BioNTech cold chain storage information only applies to the Pfizer-BioNTech vaccine for individuals ages 12 and older. Please refer to manufacturer storage guidelines for the children's vaccine for individuals ages 5 to 11.*
Questions?
WHO WE ARE:
The Boost Community and Ariadne Labs, a joint center for health systems innovation at Brigham & Women’s Hospital and the Harvard T.H. Chan School of Public Health, are excited to announce our Global Mass Vaccination Site Collaborative (GMVSC), aimed at providing resources, accessible tools and experts available to assist vaccination site(s) operations in low- and middle-income countries (LMICs).

WHAT WE ARE BUILDING:
The Collaborative will feature an open-access website and a Learning Group (which is now live) on Boost Community, where you can access resources, tools, conversations and events related to mass vaccination roll outs.

JOIN US:
• Boost’s Global Mass Vaccination Learning Group (Join us today)
• Global Mass Vaccination Site Collaborative (Our global site will launch in the coming months!)
A scientist who is also a human being cannot rest while knowledge which might be used to reduce suffering rests on the shelf.

ALBERT B. SABIN

COVID-19 Vaccination Delivery Sites Used

- 87% of survey respondents currently use or are planning to use Existing Health Care Sites (hospitals or ambulatory care clinics) for COVID-19 vaccination delivery sites

Barriers to Utilizing Delivery Sites

- Attitude Related Barriers
  - Misconceptions due to a lack of knowledge about vaccines
  - Lack of trust towards vaccines (HCWs, healthcare system)
  - Low perceived risk of contracting the disease or its severity

- Structural Barriers
  - Physical Access including geographic and proximity
  - Supply chain disruptions (distribution/delivery of vaccines)
  - Cost of the clinical visit and vaccine

Resources Most Helpful in Supporting Implementation of Mass Vaccination Sites

- Regular live webinars with fellow site operators and experts to share successes and challenges
- Trainings on specific mass vaccination topics
- A lessons learned blog site; Learning Group; An audio (e.g., podcast) global good highlighting insights and other relevant guides

GMVSC SURVEY RESULTS

COVID-19 Vaccination Delivery Sites Used

- 87% of survey respondents currently use or are planning to use Existing Health Care Sites (hospitals or ambulatory care clinics) for COVID-19 vaccination delivery sites

244 Survey Respondents

69 Countries Represented Overall

Most Represented:
Nigeria (42), India (21), Kenya (17), Ghana (14), South Sudan (11), Pakistan (9), DRC (7)

Which COVID-19 vaccination delivery sites are being utilized in the country you work most closely with?*

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Take Our Post-Session Survey

https://boost-community.typeform.com/to/UgcdlvxD
We want to hear from you! Share your feedback from the session so we can improve future sessions in this series.

Join the COVID L&L Series Learning Group

https://boostcommunity.org/topics/2091/feed
In this forum, you will be able to discuss challenges and key lessons learned with peers, as well as access COVID-19 related resources and events.

Join the Boost Telegram Channel

https://t.me/joinchat/U7i0QNIIITmo0MzUx
Continue sharing your comments, questions and challenges with your peers and get reminders for all the latest Boost news and offerings.

Join us for the Next Session!

Topic: How to build, maintain and strengthen trust during COVID-19
Date: Tuesday, December 7
Time: 2:00 PM GMT
More details coming soon!

Still have questions? Email info@boostcommunity.org

For more COVID-19 resources, check out
https://brightspots.boostcommunity.org/covid-19
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THANK YOU