Preparing for a COVID-19 Vaccine: Challenges & Important Considerations

December 4, 2020

Margaret Kirkegaard, MD, MPH
Lori Weiselberg, MPH
OUR SPEAKERS

Lori Weiselberg, MPH, Principal (Chicago)
  ➢ Lori is a career public health professional with 30+ years experience supporting public health initiatives and health system development. A native New Yorker, before moving to Chicago, she worked for the NYC Dept of Health and Mental Hygiene on the NYC Childhood Asthma Initiative.

Margaret Kirkegaard, MD, MPH, Principal (Chicago)
  ➢ Margaret is Board Certified in Family Medicine with expertise in integration of public health and healthcare delivery systems and population-based health care delivery for vulnerable and underserved groups. Since March, She has been assisting local health departments with their COVID response.
PURPOSE
To gain a comprehensive understanding of what is needed to prepare for managing a COVID-19 vaccination effort from acquisition to effective and equitable administration

Learning Objectives

+ Describe the context and challenges for mass vaccination for COVID-19
+ Understand how to ensure an equity lens in determining priority populations for distribution
+ Identify the roles of various stakeholders in participating in vaccine delivery
+ Learn practical insights for planning and preparing for a mass vaccination event on a local level
Immunizing the U.S. population against COVID-19 will likely require the single largest vaccination campaign ever undertaken and governors will play a key role in bringing together leaders from their state public health, immunization, and emergency management systems to design and execute the operation.

As with many COVID-19 activities, a ‘whole of government’ response, with broad participation by health and human services, economic development, education, and public safety agencies, as well as private sector partners and the public, will be critical to its success.”
Question #1

What type of organization do you represent?

- Community-Based Organization
- Healthcare Provider
- Managed Care Organization
- Advocacy Organization/Association
- Other
Distribution & Administration
## THE RACE TO DEVELOP AN EFFECTIVE VACCINE

<table>
<thead>
<tr>
<th>Phase 1 Safety Trials</th>
<th>38 vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 2 Expanded Safety Trials</td>
<td>17 vaccines</td>
</tr>
<tr>
<td>Phase 3 Efficacy Trials</td>
<td>13 vaccines</td>
</tr>
<tr>
<td>Approved for Use in the U.S.</td>
<td>0</td>
</tr>
</tbody>
</table>

### Some Reasons for Swift Development
- Global race
- Financial investment in research and development
- While FDA processes are the same as other vaccines; some steps were done in parallel as opposed to sequential, e.g., manufacturing
<table>
<thead>
<tr>
<th><strong>Technology used</strong></th>
<th><strong>Pfizer</strong></th>
<th><strong>Moderna</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>mRNA</td>
<td>mRNA</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Efficacy</strong></th>
<th>Pfizer</th>
<th>Moderna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. 95% efficacy in Phase 3 trials to date</td>
<td>Approx. 95% efficacy in Phase 3 trials to date</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EUA</strong></th>
<th>Pfizer</th>
<th>Moderna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer requested EUA on Nov 20.</td>
<td>Moderna plans to apply for EUA this month</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Challenges</strong></th>
<th><strong>Pfizer</strong></th>
<th><strong>Moderna</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Store at -70 degrees C</td>
<td>• Store at -20 degrees C</td>
<td>• 2 doses, 21 days apart</td>
</tr>
</tbody>
</table>

**LIKELY TO BE FIRST OUT OF THE GATE**
COVID-19 vaccine will be procured by the federal government and distributed to States and directly to providers through state and local public health departments using an established federal distribution system.

Each state and local health department’s vaccine will be allocated by the federal government on a per capita basis. During ramp up phases of limited vaccine, rationale and designation of doses by priority & risk groups may be required.

Public and private providers requesting vaccine will likely be required to use the ordering and delivery system established by the federal government, overseen by the states, and administered by local public health departments.
OPERATION WARP SPEED: OVERVIEW OF DISTRIBUTION AND ADMINISTRATION

KEY
Flow of material

Examples of Administration sites
- Pharmacy
- LTC Providers
- Home Health
- Indian Health Services
- Other federal entity sites
- Public Health Clinics/FQHCs
- Hospitals
- Doctor’s Office
- Mobile Vaccination
- Mass Vaccination

Select commercial partners and federal entities receive allocations

States receive allocations

Contracted OWS Manufacturers
Ancillary Supplies & PPE
Distributor
Partner Depots

OWS coordination
Key Factors in Planning

**Partnerships**
- City Partnerships
- Medical Reserve Corp Participation
- Health Plans and Healthcare provider groups
- School Partnerships

**Communication**
- Media Communication
- Community Education
- Health Alert Network

**Analytical**
- Flu Modeling
- Population Surveys
- Vaccine Data Collection & Reporting

**Training**
- Just In Time Training (JIT)
- Vaccine Products
- Vaccine Storage & Handling
- Forms & Data Collection

**Department Operation and Deployment**
- Incident Command Structure
- Engaging Safety Partners
- Potential Need for Contracted Staff
How do we reach large and geographically diverse populations in any given geographical area?

How do we equitably distribute vaccine to providers, particularly those serving vulnerable populations?

How do we quickly reach the groups known from extant information on morbidity and mortality of COVID-19 to date?
“A vaccine is only a vaccine. It’s nothing until it’s a vaccination.”

Dr. Michael Osterholm
CIDRAP, University of Minnesota,
JAMA Aug 25, 2020
An ad hoc committee of the National Academies of Sciences, Engineering, and Medicine will develop an overarching framework for vaccine allocation to assist policy makers in the domestic and global health communities in planning for equitable allocation of vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
**NATIONAL ACADEMY OF MEDICINE DISTRIBUTION FRAMEWORK**

**Phase 1**
- **Phase 1a “Jumpstart Phase”**
  - High-risk health workers
  - First responders
- **Phase 1b**
  - People of all ages with comorbid and underlying conditions that put them at significantly higher risk
  - Older adults living in congregate or overcrowded settings

**Phase 2**
- K–12 teachers and school staff and child care workers
- Critical workers in high-risk settings—workers who are in industries essential to the functioning of society and at substantially higher risk of exposure
- People of all ages with comorbid and underlying conditions that put them at moderately higher risk
- People in homeless shelters or group homes for individuals with disabilities, including serious mental illness, developmental and intellectual disabilities, and physical disabilities or in recovery, and staff who work in such settings
- People in prisons, jails, detention centers, and similar facilities, and staff who work in such settings
- All older adults not included in Phase 1

**Phase 3**
- Young adults
- Children
- Workers in industries and occupations important to the functioning of society and at increased risk of exposure not included in Phase 1 or 2

**Phase 4**
- Everyone residing in the United States who did not have access to the vaccine in previous phases

**Phase 1a: 5%**  **Phase 2: 30-35%**  **Phase 3: 40-45%**  **Phase 4: rest**
Question #2

What do you think will be the greatest challenge for mass vaccination?

- Vaccine hesitancy
- Inability to reach high-risk populations
- Immunization supply chain and distribution logistics
- Provider engagement in vaccine administration
- Tracking, reporting of vaccinations and coordination of second dose (if needed)
Vaccine Hesitancy: Challenges
Moving from Vaccines to Vaccination
SIGNIFICANT HEALTH DISPARITIES IN COVID-19 MORBIDITY AND MORTALITY

**Figure 5**

COVID-19 Hospitalization and Death Rates among Active Epic Patients by Race/Ethnicity, as of July 2020

Share of active Epic patients who were hospitalized and share who died, per 10,000:

- **Hospitalization Rate**
  - Total: 12.9
  - White: 7.4
  - Black: 24.6
  - Hispanic: 30.4
  - Asian: 15.9

- **Death Rate**
  - Total: 3.3
  - White: 2.3
  - Black: 5.6
  - Hispanic: 5.6
  - Asian: 4.3

**Total Active Patients (Millions)**
- Total: 49.4
- White: 34.1
- Black: 7.0
- Hispanic: 5.1
- Asian: 1.4

**NOTE:** Rates for Black, Hispanic, and Asian patients are statistically significantly different from White patients at the p<0.05 level. Persons of Hispanic origin may be of any race but are categorized as Hispanic; other groups are non-Hispanic. Data for other racial groups not shown due to insufficient data.

**SOURCE:** Epic and KFF analysis of Epic Health Record System COVID-19 related data as of July 2020.

**COVID-19 ATTITUDES**

**Political polarization:**
- 85% of Democrats say that COVID-19 is a major threat
- 46% of Republicans say that COVID-19 is a major threat

- 62% of adults in the US worry that "political pressure from the Trump administration will lead the FDA to rush to approve a coronavirus vaccine without making sure that it is safe and effective."

**"Plandemic": "Truth that coronavirus was planned by powerful people."**
- Definitely true: 8%
- Probably true: 28%
- Probably NOT true: 28%
- Definitely NOT true: 23%
- Not sure: 13%

**Difficult to determine truth:** “When they get news and information about the coronavirus outbreak, they generally find it …”
- Difficult to determine what is true and what is not: 53%
- Easy to determine what is true and what is not: 45%
- Refused to answer: 2%

---

Pew Research Center, July 2020
Kaiser Family Foundation
### ESTIMATING INFLUENZA A (H1N1) 2009:
**VACCINATION COVERAGE AMONG CHILDREN AND ADULTS (Oct 2009–May 2010)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Vaccination Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons aged ≥6 mos</td>
<td>27.0</td>
</tr>
<tr>
<td>Children, 6 mos to 17 yrs</td>
<td>40.2</td>
</tr>
<tr>
<td>Persons ≥18 yrs</td>
<td>22.7</td>
</tr>
<tr>
<td>Persons in initial target groups**</td>
<td>34.2</td>
</tr>
<tr>
<td>Persons 25–64 yrs, at high risk††</td>
<td>28.6</td>
</tr>
<tr>
<td>Persons 25–64 yrs, not in initial target groups</td>
<td>16.7</td>
</tr>
<tr>
<td>Persons aged ≥65 yrs</td>
<td>28.8</td>
</tr>
</tbody>
</table>

**Pregnant women, persons who live with or provide care for infants aged <6 months, health–care and emergency medical services personnel, children and young adults aged 6 months—24 years, and persons aged 25—64 years who have medical conditions that put them at higher risk for influenza–related complication**

†† High risk includes asthma, other lung problems, diabetes, heart disease, kidney problems, anemia, weakened immune system caused by a chronic illness or by medicines taken for a chronic illness.

[CDC Flu Vax Coverage](https://www.cdc.gov/vaccines/acip/index.html)
## FLU VACCINATION COVERAGE
AMONG ADULTS ≥18 YRS, BY RACE/ETHNICITY, 2018–19 SEASON

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Vaccination Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>45.3</td>
</tr>
<tr>
<td>White only, non-Hispanic</td>
<td>48.7</td>
</tr>
<tr>
<td>Black only, non-Hispanic</td>
<td>39.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>37.1</td>
</tr>
<tr>
<td>Other, non-Hispanic Overall</td>
<td>41.2</td>
</tr>
<tr>
<td>Asian</td>
<td>44.0</td>
</tr>
<tr>
<td>American Indian/Alaska Native (AI/AN)</td>
<td>37.6</td>
</tr>
<tr>
<td>Other or multiple races</td>
<td>39.7</td>
</tr>
</tbody>
</table>
Would you accept a COVID-19 vaccine if it is recommended for you?

LANCET STUDY PUBLISHED Aug 2020, Data collected May 2020

What percent of Americans plan to get vaccinated?

NORC Study May 2020

Of the 672 participants surveyed:
✓ 67% said they would (n=450)
✓ But Black Americans reported a lower acceptance (40%, n=27)

<table>
<thead>
<tr>
<th>Will- 49%</th>
<th>Will not - 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ 60 yrs. and older- 67%</td>
<td></td>
</tr>
<tr>
<td>✓ 59 yrs. and under- 40%</td>
<td></td>
</tr>
<tr>
<td>✓ White- 56%</td>
<td></td>
</tr>
<tr>
<td>✓ Black- 25%</td>
<td></td>
</tr>
<tr>
<td>✓ Hispanic- 37%</td>
<td></td>
</tr>
<tr>
<td>Unsure- 21%</td>
<td></td>
</tr>
</tbody>
</table>
COVID-19 VACCINE HESITANCY: GALLUP POLLS

Roughly Six in 10 Americans Would Agree to Be Vaccinated Against COVID-19

If an FDA-approved vaccine to prevent coronavirus/COVID-19 was available right now at no cost, would you agree to be vaccinated?

<table>
<thead>
<tr>
<th></th>
<th>% Yes</th>
<th>% No</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL 20-26</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>AUG 3-9</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td>AUG 17-30</td>
<td>62</td>
<td>38</td>
</tr>
<tr>
<td>SEP 14-27</td>
<td>62</td>
<td>38</td>
</tr>
<tr>
<td>OCT 19-NOV 1</td>
<td>61</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>42</td>
</tr>
</tbody>
</table>

GALLUP PANEL, 2020

# COVID-19 VACCINE HESITANCY: GALLUP POLLS

<table>
<thead>
<tr>
<th></th>
<th>Sep 14-27</th>
<th>Oct 19-Nov 1</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>pct. pts.</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>56</td>
<td>61</td>
<td>+5</td>
</tr>
<tr>
<td>Women</td>
<td>44</td>
<td>54</td>
<td>+10</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-44</td>
<td>60</td>
<td>62</td>
<td>+2</td>
</tr>
<tr>
<td>45-64</td>
<td>36</td>
<td>49</td>
<td>+13</td>
</tr>
<tr>
<td>65+</td>
<td>54</td>
<td>63</td>
<td>+9</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No college degree</td>
<td>45</td>
<td>55</td>
<td>+10</td>
</tr>
<tr>
<td>College degree</td>
<td>60</td>
<td>63</td>
<td>+3</td>
</tr>
<tr>
<td>Party</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democrats</td>
<td>53</td>
<td>69</td>
<td>+16</td>
</tr>
<tr>
<td>Independents</td>
<td>47</td>
<td>49</td>
<td>+2</td>
</tr>
<tr>
<td>Republicans</td>
<td>49</td>
<td>49</td>
<td>0</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White adults</td>
<td>54</td>
<td>61</td>
<td>+7</td>
</tr>
<tr>
<td>Non-White adults</td>
<td>40</td>
<td>48</td>
<td>+8</td>
</tr>
</tbody>
</table>

### COVID-19 VACCINE HESITANCY: GALLUP POLLS

Reasons for Choosing to Not Be Vaccinated Against COVID-19

What is the main reason that you would not agree to receive a coronavirus/COVID-19 vaccine, if one was available now?

<table>
<thead>
<tr>
<th>Reason</th>
<th>%</th>
<th>%</th>
<th>%</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerns about rushed timeline</td>
<td>37</td>
<td>26</td>
<td>12</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Want to wait to confirm it is safe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t trust vaccines generally</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Want to wait to see how effective it is</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other reason</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stakeholder Roles in Vaccination
ROLES FOR STAKEHOLDERS

- Public Health
- Policymakers
- Healthcare Providers
- Health Plans
- Community-based Organizations
COVID-19 VACCINATION: STAKEHOLDER ROLES

+ Public Health:
  + Owner, convener, mass vax sponsor
+ Providers:
  + Vaccinators, educators
+ Health plans:
  + Data Analysis, educators, payers
+ Policymakers:
  + Ensure equitable distribution, remove barriers (e.g. change regulations to allow new provider types to administer vaccines)
Roles for CBOs
FAMILIARIZE YOURSELF WITH HEALTH DEPARTMENT PLANS

- Executive Summary for NYC Vaccine Distribution Plan

- Draft New York State COVID-19 Vaccination Administration Program Available Here
Review ability to participate in vaccine administration

- Previous experience, potential collaborators, vaccinators, ability to report

- Identify hard-to-reach populations

- Develop collaborations with vaccination providers

- Assess and develop marketing and community education pathways, build on current messaging related to testing, mask-wearing, and social distancing

- Build public confidence now; engage community leaders and spokespersons

- Organize like-minded or regional CBOs

- Helpful to have a back-bone organization to provide structure and interface with public health
Literature related to vaccine hesitancy points to overarching distrust of government systems, particularly in AA communities.

“Familiarity and trust with the messenger seems to be a key feature” in effective vaccine education and social marketing campaigns.

Culturally sensitive, linguistically appropriate messages tailored to sub-populations that come from trusted community members, e.g., CBOs, faith-based groups, neighborhood pharmacists tend to be effective.

Example:

Cook County (Chicago) engaged two young community leaders (“influencers”) to film health education videos for COVID-19 infection control

+ Tanya Lozano, founder of Healthy Hood Chicago, and McKinley Nelson, founder of Project Swish
Mapping to help Target Communities

- CDC Social Vulnerability Index points to “hot spots”
- Identify and leverage key providers and partners in these communities
- Where are CBO sites and clients located?
A network of Ohio CBOs mobilized to prevent COVID and meet social needs of 2,000 socially isolated elderly in low-income housing developments. They provided -

- **Health Monitoring and Care Coordination** – Telephonic/virtual health assessments, service coordination, case management, providing COVID Amazon Echo App to track health changes, providing long-term services & home supports
- **Food and Supply Delivery**
- **Community and Volunteer Mobilization**
- **Transportation Services**
- **Communications** – Communication plans, hotlines, providing the latest Covid-19 facts and sending daily updates
- **Infection Control** – Sanitation of common spaces; Making PPE and ensuring residents and staff have masks and sanitizers
- **Social Connections** - Providing iPads for FaceTime meetings with family and friends

Results show that high risk, socially isolated seniors trust affordable housing development service coordinators as health and safety messengers and navigators. CBOs are a critical partner in ensuring equitable vaccination.
Use multiple forms of media to communicate key messages about the vaccine, e.g., no cost, effective, where they can get it.

Partner with Health Department or Providers to plan and conduct vaccine PODs in community locations.

At PODs in community, assist with security, ensuring safe distancing, provide SDOH supports (e.g., food distribution).

Conduct outreach, assist with transportation to ensure PODs are well utilized.
Question #3

How prepared do you think that your regional healthcare ecosystem is for distribution and administration of a COVID-19 vaccine?

- Not prepared at all
- Minimally prepare
- Moderately prepared
- Very prepared
Questions...
<table>
<thead>
<tr>
<th>Vaccination plan process (creating meaningful community input) and write up of plan for jurisdictions</th>
<th>Strategies and tactical experience in mass vaccination</th>
<th>Information technology planning and implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equitable vaccination distribution planning and priority population engagement</td>
<td>Workforce and budget estimations and mobilization strategies</td>
<td>Reductions of vaccine hesitancy and lowering barriers to vaccination</td>
</tr>
</tbody>
</table>
CONTACT US

HEIDI ARTHUR  
Principal, New York  
Mobile: 212-575-5929  
harthur@healthmanagement.com

MARGARET KIRKEGAARD  
Principal, Chicago  
Mobile: 630-272-4993  
mkirkegaard@healthmanagement.com

LORI WEISELBERG  
Principal, Chicago  
Mobile: 312-399-2161  
lweiselberg@healthmanagement.com