NISE Net Online Workshop
The COVID-19 Vaccine: What role can museums play in the rollout of the new vaccine?
February 2, 2021

Today’s presenters:
• Dr. Dominique Brossard, University of Wisconsin-Madison
• Liz Kollmann, Museum of Science, Boston
• Dr. Jayatri Das, The Franklin Institute
• Karen Jepson-Innes, WonderLab Museum of Science, Health and Technology

Welcome!
As we wait to get started with today’s discussion, please:
Introduce yourself! Type your name, institution, and location into the Chat Box

Questions? Feel free to type your questions into the Chat Box at any time throughout the webinar or use the raise your hand function in the participants list and we’ll unmute your microphone.
Today’s discussion will be recorded and shared on nisenet.org at: https://www.nisenet.org/online-workshop-recordings
COVID-19 Vaccine Museum Resources

A compilation of COVID-19 Vaccine resources for museums including science communication approaches and public engagement about viruses and vaccines.

- Coronavirus museum resources
- Educational Products for public audiences
- General science and resources on vaccines
- Science communication about COVID-19 vaccine
- Public perception and audience research about COVID-19 vaccine

https://www.nisenet.org/vaccine
https://www.nisenet.org/coronavirus
Rolling out the vaccine
A survey of Massachusetts residents on COVID vaccine issues
Elizabeth Kunz Kollmann (ekollmann@mos.org)
Survey Background

• This project was sponsored by the Museum of Science and conducted in partnership with the Massachusetts League of Community Health Centers. It was conducted by the MassINC Polling Group.

• Results based on a statewide survey of 1,180 residents of Massachusetts including the following.
  – A base sample of 800 residents statewide.
  – Oversamples to reach ~250 each of Black and Latino residents.

• Conducted November 18-25, 2020 via live telephone and online survey interviewing in English and Spanish.

• Data was weighted first within race groupings by gender, age, education, and region, and then to known population parameters by gender, age, race, education level, and region for the state’s population.
Who will take it and when?

- Many who say they are less likely to take it mean they will take it later or are unsure, not that they won’t take it.

Those who say they are less likely very often mean they want to take it later

% in each likelihood group who say they will take the vaccine in each timing (scaled to group size)

- **Very likely (44%)**
  - Never: 2%
  - Unsure: 18%
  - After many other people have taken it: 72%
  - After a few people I know have taken it: 13%
  - As soon as possible: 7%

- **Somewhat likely (27%)**
  - Never: 7%
  - Unsure: 45%
  - After many other people have taken it: 35%
  - After a few people I know have taken it: 10%
  - As soon as possible: 5%

- **Not too likely (11%)**
  - Never: 5%
  - Unsure: 70%
  - After many other people have taken it: 18%
  - After a few people I know have taken it: 20%
  - As soon as possible: 2%

- **Not at all likely (10%)**
  - Never: 12%
  - Unsure: 5%
  - After many other people have taken it: 12%
  - After a few people I know have taken it: 7%
  - As soon as possible: 5%
Who will take the vaccine when?

- Major differences in who plans to be first in line when vaccines are available.
  - Sooner = ASAP / After a few others have taken
  - Later = After many others / never

- Could add to inequities as the economy reopens.

Q: When an FDA-approved vaccine for COVID is made available, when do you think you would be most likely to take it?
Concerns about vaccine

- Concerns about how thoroughly the vaccine has been tested top the list of issues people mention.

**Testing, government trust are 2 top hesitations about taking the vaccine**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Applies strongly</th>
<th>Applies somewhat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerned the vaccine has not been thoroughly tested</td>
<td>26%</td>
<td>40%</td>
<td>65%</td>
</tr>
<tr>
<td>Do not trust the government on health care issues</td>
<td>21%</td>
<td>40%</td>
<td>61%</td>
</tr>
<tr>
<td>Do not believe the vaccine will be developed safely</td>
<td>16%</td>
<td>29%</td>
<td>45%</td>
</tr>
<tr>
<td>Not convinced the benefits outweigh the risks</td>
<td>15%</td>
<td>24%</td>
<td>39%</td>
</tr>
<tr>
<td>Do not believe the vaccine will be affordable</td>
<td>13%</td>
<td>25%</td>
<td>37%</td>
</tr>
<tr>
<td>Wouldn’t know where to get the vaccine</td>
<td>8%</td>
<td>23%</td>
<td>32%</td>
</tr>
<tr>
<td>Prefer natural remedies to vaccines</td>
<td>12%</td>
<td>19%</td>
<td>31%</td>
</tr>
<tr>
<td>Do not trust vaccines</td>
<td>10%</td>
<td>19%</td>
<td>29%</td>
</tr>
<tr>
<td>Do not believe COVID is real</td>
<td>10%</td>
<td>7%</td>
<td>17%</td>
</tr>
<tr>
<td>I have religious objections to this vaccine</td>
<td>6%</td>
<td>7%</td>
<td>14%</td>
</tr>
</tbody>
</table>

*Q: Here are some reasons people have expressed reluctance to take a coronavirus vaccine. Please indicate how much each of these apply to you personally.*
Trust in personal doctors

- Black and Latino residents are more likely to say they trust their own doctors, followed by major hospitals and the CDC.

**Testing, government trust are 2 top hesitations about taking the vaccine**

% who say they completely or mostly trust each person or group about the COVID vaccine

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
<th>All others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your personal doctor</td>
<td>72%</td>
<td>74%</td>
<td>82%</td>
<td>74%</td>
</tr>
<tr>
<td>Major Boston hospitals</td>
<td>63%</td>
<td>63%</td>
<td>74%</td>
<td>67%</td>
</tr>
<tr>
<td>The Centers for Disease Control and Prevention (CDC)</td>
<td>62%</td>
<td>59%</td>
<td>73%</td>
<td>80%</td>
</tr>
<tr>
<td>The American Medical Association (AMA)</td>
<td>59%</td>
<td>56%</td>
<td>77%</td>
<td>74%</td>
</tr>
<tr>
<td>Harvard Medical School</td>
<td>55%</td>
<td>55%</td>
<td>68%</td>
<td>74%</td>
</tr>
<tr>
<td>Dr. Anthony Fauci</td>
<td>55%</td>
<td>45%</td>
<td>65%</td>
<td>58%</td>
</tr>
<tr>
<td>President-Elect Joe Biden</td>
<td>55%</td>
<td>44%</td>
<td>47%</td>
<td>50%</td>
</tr>
<tr>
<td>Your local community health center</td>
<td>52%</td>
<td>53%</td>
<td>53%</td>
<td>55%</td>
</tr>
<tr>
<td>The Food and Drug Administration (FDA)</td>
<td>51%</td>
<td>52%</td>
<td>65%</td>
<td>69%</td>
</tr>
<tr>
<td>The American Red Cross</td>
<td>46%</td>
<td>51%</td>
<td>30%</td>
<td>48%</td>
</tr>
<tr>
<td>Governor Charlie Baker</td>
<td>46%</td>
<td>38%</td>
<td>50%</td>
<td>48%</td>
</tr>
<tr>
<td>Massachusetts state government agencies</td>
<td>45%</td>
<td>43%</td>
<td>54%</td>
<td>61%</td>
</tr>
<tr>
<td>Friends, family, and neighbors</td>
<td>42%</td>
<td>42%</td>
<td>36%</td>
<td>45%</td>
</tr>
<tr>
<td>The Museum of Science, Boston</td>
<td>41%</td>
<td>44%</td>
<td>59%</td>
<td>60%</td>
</tr>
<tr>
<td>Local elected leaders</td>
<td>33%</td>
<td>27%</td>
<td>27%</td>
<td>35%</td>
</tr>
<tr>
<td>Local faith leaders such as pastors, rabbis, and imams</td>
<td>28%</td>
<td>27%</td>
<td>18%</td>
<td>33%</td>
</tr>
<tr>
<td>President Donald Trump</td>
<td>11%</td>
<td>17%</td>
<td>21%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Key findings

• The large majority of Massachusetts residents say they plan to get the vaccine, but many are not eager to be first in line.
  o The key hesitations are questions about whether the vaccine has been thoroughly tested and distrust of the government on healthcare issues.
  o Those who are most hesitant include Black and Latino residents, along with Republicans.

• Boosting vaccine uptake is a matter both of communications and showing proof. Many appear likely to participate once they see it working safely for others.
  o People’s own doctors are the most trusted messengers, particularly for the most hesitant groups.
  o Political and religious leaders are less trusted on these issues, as are friends and family.
COVID-19 Vaccines and Online Engagement

Jayatri Das, Ph.D.
Chief Bioscientist & Director of Science Content
The Franklin Institute
Goals for Digital Programming

- Remain actively connected with audiences
- Make hands-on science & historical information accessible
- Reinforce our reputation as a trusted source of science information
Facts About COVID-19 VACCINES

Sources: PublicHealth, Geisinger, Science News, CNET, CDC, CHOP Vaccine Education Center
Audience Considerations

• Focus on people and process
• Be compassionate, consistent, and current
• Amplify diverse voices and themes
• Empower our audience to be trusted messengers
Dealing with Skeptics

• Encourage considerate conversation
• Maintain scientific accuracy
• Find an angle to engage productively

Example:
“Does the vaccine alter the part of DNA that is responsible for religion as Bill Gates was explaining to the CIA?”
Vaccine Communication Strategies:
Resources, a Virtual Program and a Modified Exhibit

Karen Jepson-Innes
Executive Director, WonderLab Museum
Goal: Message to our community that COVID-19 Vaccine is
SAFE
EFFECTIVE
ESSENTIAL

Message Delivery

- Trusted Voices

- Familiar Faces
Strategy #1. Resources on Website and Socials

- Links to trusted and familiar sources of detailed information
  - CDC
  - [Indiana] Department of Public Health
  - [Monroe County] Health Department
  - NISE Net Resources!
- Videos of conversations from local sources and specific community voices, E.g:
  - Self-Advocates of Indiana – Hoosiers with physical and cognitive disabilities
  - https://www.youtube.com/watch?v=DO4QsCbj1HA&feature=youtu.be
  - Indiana University – student community, on and off campus
- Call to Action from Museum Director
  - Museum stands with science
  - What getting the vaccine means personally
  - Genuine voice for encouragement
Strategy #2. “Ask Me Anything” Virtual Program

Virtual programs series that brings experts to topical, open, interactive community forums for accurate science information and the opportunity to clear up misconceptions.

**Program length:** 30-45 minutes

**Program format:** Each program will feature two “experts” available to answer questions from the community about various topics related to the COVID-19 vaccines. A WonderLab staff person will be in attendance for introductions, facilitation of questions and tech support.

**Program Platform:** Zoom

**Program Cost:** Free

**Registration in advance:** Yes

**Day and Time:** This will vary to provide options for the broadest audience and to work with presenter schedules.

**Schedule:** Every other week with rotating series of topics

**Topics:**

- COVID-19 Vaccines and How They Work
- I’m in a Vaccine Trial
- Vaccine Safety and Efficacy
Strategy #2. “Ask Me Anything” Virtual Program

Best Practices:

• To avoid a frustrating and program with many unanswered questions, each presenter will introduce their area and scope of expertise.

• Zoom communication tools and program topic will be verbally communicated by WonderLab staff at the beginning of each program.

• Resources will be assembled in advance to address questions that fall outside of the presenters’ knowledge (chat). Presenters and WonderLab staff are empowered to honestly acknowledge when they do not know something.

• **Listening** is paramount for a successful program. Acknowledge concerns. Provide balanced, scientific info in everyday, jargon-free language. Make it feel familiar.

• Be prepared for divergent or contrary opinions and answer them honestly and respectfully with reference to evidence or support.

• Be un-biased and transparent with information. Share the good and the bad; the known and the not known.
Strategy #3: Update Virus Assembly Exhibit in museum gallery

The Virus Assembly Exhibit
Patterns in nature and how virus capsids form

- Video Component
- Interactive Tumbler Activity

*Tuli Mukhopadyhay, Indiana University Biology Department, supported by research grant from National Science Foundation*
How it works

- Plastic pentagons with embedded magnets represent virus subunits
- Simple bingo-style tumbler
- 3-D printer and in-house fabrication
- Load tumbler and spin...
How it works

• Complete and partially assembled spheres provide excellent model for how virus capsids actually assemble in a cell

• Enhance this activity with a hands-on model for SARS-CoV-2 assembly and vaccine...
Strategy #3: Update Virus Exhibit: Assemble a SARS-CoV-2 virus and block its function with antibodies

- Wiffle ball, nerf darts, foam golf balls
- These materials will share table with Virus Assembly exhibit
Wiffle ball: Represents the capsid of the virus, with virus DNA inside

- Different sizes can represent different kinds of viruses
- We choose white for SARS-CoV-2
Nerf Darts: represent the spike proteins on the outside of the capsid.

- Add Nerf Darts to the Wiffle Ball to make an active SARS-CoV-2 virus
- The virus is able to enter cells in your body
- Most people have very few antibodies ready to recognize and fight off the virus
Foam Balls: represent antibodies that recognize spike protein

The vaccine ramps up natural antibody production so your immune system is ready to go in case of infection

- mRNA vaccines enable cells in your body to make many copies of the SARS-CoV-2 spike protein
- Immune system recognizes the spike protein and starts making antibodies
- Antibodies attach to spike protein and prevent infection by SARS-CoV-2
Fun Modifications!

- Mutation on the spike protein (blue nerf darts); antibodies still fit and protect
- Different antibodies in your body (different colors or sizes of foam balls, with different size connection points)
Sustainability in Science and Technology Museums – Part 2
Tuesday, February 9, 2021
2pm-3pm Eastern / 11am-12pm Pacific

Learn more at nisenet.org/events
Get Involved

Learn more and access the NISE Network’s online digital resources nisenet.org

Subscribe to the monthly newsletter nisenet.org/newsletter

Continue the online conversation bit.ly/nisenetryver

Follow NISE Net on social networking nisenet.org/social