Vaccine Hesitancy in the Era of COVID

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*Merck & Co., Inc*

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*Thomas Jefferson University*

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PopTalk Webinar Series

Vaccine Hesitancy in the Era of COVID
Today’s Presenters

Understanding Vaccine Hesitancy and How to Address It

Amy Leader, DrPH, MPH
Associate Professor
Thomas Jefferson University
Associate Director, Community Integration
Sidney Kimmel Cancer Center

Nikki Parkerson, MD, FAAP
Regional Medical Director, Mid-Atlantic
Merck Vaccines

Messaging to the Public about Vaccines: The Evidence Base and Lessons Learned

Amy Leader, DrPH, MPH
Associate Professor
Thomas Jefferson University
Associate Director, Community Integration
Sidney Kimmel Cancer Center
What Is Vaccine Confidence?
What Is Vaccine Confidence?
### Vaccine Confidence Spectrum

<table>
<thead>
<tr>
<th><strong>Vaccine Confidence</strong>¹</th>
<th><strong>Vaccine Hesitancy</strong>²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refers to the trust that parents, patients, or HCPs have in:</td>
<td>Refers to delay in the acceptance or refusal of vaccination despite availability of vaccination services</td>
</tr>
<tr>
<td>• Recommended vaccinations</td>
<td>• Varies across time, place, and vaccines</td>
</tr>
<tr>
<td>• Providers who administer vaccines</td>
<td>• Influenced by factors such as complacency, convenience, and confidence</td>
</tr>
<tr>
<td>• Processes that lead to vaccine licensure and the recommended vaccination schedule</td>
<td></td>
</tr>
</tbody>
</table>

**Vaccine Confidence Spectrum**

![Vaccine Confidence Spectrum](chart)

### Determinants of Vaccine Confidence

<table>
<thead>
<tr>
<th>Trust</th>
<th>Willingness to rely on someone else’s expertise and advice (eg, their vaccine recommendation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes &amp; Beliefs</td>
<td>Thoughts that parents have regarding vaccine-preventable diseases, vaccine safety, vaccine effectiveness, and vaccination benefits</td>
</tr>
<tr>
<td>HCP Confidence</td>
<td>A provider’s confidence both in vaccines and in their ability to communicate effectively to parents about vaccines</td>
</tr>
<tr>
<td>Information Environment</td>
<td>The significant role that news and entertainment media and parents’ social network can play in influencing knowledge, beliefs, and behaviors associated with vaccines</td>
</tr>
</tbody>
</table>

HCP=health care provider.

Evolution of Vaccine Confidence in a Vaccine Program

Who Is Lacking Vaccine Confidence?
Vaccine Hesitancy and Undervaccination Are Observed in All Age Groups

**Children born during 2015–2016¹**
1.3% unvaccinated  
(NIS-Child, N=25,059)

**Kindergarteners²**
2.5% with an exemption from ≥1 vaccine  
(2018–2019 school year, N=3,643,598)

**Adults, ≥18 years³**
54.7% unvaccinated against influenza  
(BRFSS 2018–2019 flu season, N=302,148)

---

BRFSS=Behavioral Risk Factor Surveillance System; NIS=National Immunization Survey.
Vaccine Hesitancy and Undervaccination Are Observed in All Age Groups

Estimated Percentage of Unvaccinated Children

Estimated percentage of unvaccinated children aged 19–35 months, NIS-Child, United States, 2013–2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Unvaccinated (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>0.7</td>
</tr>
<tr>
<td>2014</td>
<td>0.8</td>
</tr>
<tr>
<td>2015</td>
<td>0.8</td>
</tr>
<tr>
<td>2016</td>
<td>0.8</td>
</tr>
<tr>
<td>2017</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Unvaccinated (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014</td>
<td>1.1</td>
</tr>
<tr>
<td>2015-2016</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Note that CDC has transitioned to reporting NIS-Child data by birth year rather than survey year.

Vaccine Hesitancy and Undervaccination Are Observed in All Age Groups

<table>
<thead>
<tr>
<th>School Year</th>
<th>Exempt (%)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014–2015</td>
<td>1.7</td>
<td>3,829,686</td>
</tr>
<tr>
<td>2015–2016</td>
<td>1.9</td>
<td>3,791,755</td>
</tr>
<tr>
<td>2016–2017</td>
<td>2.0</td>
<td>3,666,870</td>
</tr>
<tr>
<td>2017–2018</td>
<td>2.2</td>
<td>3,634,631</td>
</tr>
<tr>
<td>2018–2019</td>
<td>2.5</td>
<td>3,643,598</td>
</tr>
</tbody>
</table>

Vaccine Hesitancy and Undervaccination Are Observed in All Age Groups

**Estimated percentage of adults aged ≥18 years unvaccinated against influenza, BRFSS, United States, flu seasons 2014–2015 through 2018–2019**

<table>
<thead>
<tr>
<th>Flu Season</th>
<th>Unvaccinated (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014–2015 (N=323,215)</td>
<td>56.4</td>
</tr>
<tr>
<td>2015–2016 (N=319,167)</td>
<td>58.3</td>
</tr>
<tr>
<td>2016–2017 (N=325,801)</td>
<td>56.7</td>
</tr>
<tr>
<td>2017–2018 (N=313,143)</td>
<td>62.9</td>
</tr>
<tr>
<td>2018–2019 (N=302,148)</td>
<td>54.7</td>
</tr>
</tbody>
</table>

**BRFSS = Behavioral Risk Factor Surveillance System.**

Most Parents Have Positive Attitudes Toward Vaccines

In an online survey, 4,369 parents of 7,984 children ages 0 to 18 years in the United States were asked about their general attitude towards vaccines.

- **Babies, young children**: 79% responded “My attitude is positive—I believe that vaccines play an important role in healthcare” regarding vaccines for babies and young children.

- **Teens**: 72% responded “My attitude is positive—I believe that vaccines play an important role in healthcare” regarding vaccines for teens.

---

1. Data available on request from Merck, Professional Services-DAP, WP1-27, PO Box 4, West Point, PA 19486-0004. Please specify information package US-NON-05819.
However, Many Individuals May Be Misinformed About Vaccines\textsuperscript{1, a}

18% mistakenly state that it is very or somewhat accurate to say that vaccines cause autism

15% mistakenly agree that it is very or somewhat accurate to say that vaccines are full of toxins

20% inaccurately report that it is very or somewhat accurate to say it makes no difference whether parents choose to delay or spread out vaccines instead of relying on the official CDC vaccine schedule

19% incorrectly hold that it is very or somewhat accurate to say that it is better to develop immunity by getting the disease than by vaccination

Many who reported low trust in medical authorities also believed vaccine misinformation

This belief in vaccine misinformation was true across different demographic groups and political beliefs

\textsuperscript{1}Survey of Americans conducted from February 28–March 25, 2019 and September 13–October 2, 2019 designed to study how anti-vaccination claims are widely held, persist, and relate to an individual’s media consumption and levels of trust in medical experts.

Vaccine Confidence May Vary Among Racial or Ethnic Groups

There are disparities in vaccination uptake among ethnic and racial groups in the United States\(^1,2\)

A study exploring racial differences in African Americans’ and Whites’ vaccine acceptance showed that\(^1\):

- African American adults have lower confidence in vaccines than White adults: the clearest racial divide is the level of trust in the government’s role in vaccination.
- Cost is a greater barrier to vaccination uptake in African American adults than in White adults.

African American participants have a higher level of trust in HCPs who share similar racial, ethnic, or cultural backgrounds than in HCPs who do not\(^3\)

---

HCP=health care provider.

Factors that can increase HCPs' confidence in vaccines:

- Vaccine knowledge
- Professional society endorsement
- Support from colleagues

While HCPs are the most trusted influencers of vaccination decisions, their own hesitancy impacts their recommendations. Questionnaires completed anonymously by 680 HCPs regarding their views on vaccination showed that:

- 5% did not routinely recommend common vaccines
- 13% expressed concerns with vaccine safety
- 31% expressed concerns with vaccine efficacy

HCP=health care provider.
The Types of Mistrust May Be Rooted in Human Psychology

The Moral Foundation Theory proposes that a set of innate intuitions lead humans to certain emotional responses to particular interpersonal events. Six foundations have been shown to be involved in vaccine hesitancy:

<table>
<thead>
<tr>
<th>Foundation</th>
<th>Relation to vaccine hesitancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care/harm</td>
<td>May underlie concerns about the harm that might result from vaccines, particularly if it affects vulnerable children</td>
</tr>
<tr>
<td>Authority/subversion</td>
<td>May be associated with distrust of scientists and government officials who promote vaccinations</td>
</tr>
<tr>
<td>Liberty/oppression</td>
<td>May be associated with the belief that mandatory vaccination policies violate parental civil liberties</td>
</tr>
<tr>
<td>Purity/degradation</td>
<td>May underlie concerns that vaccines are unnatural and that exposing children to diseases “naturally” is preferable</td>
</tr>
<tr>
<td>Fairness/cheating</td>
<td>May fuel outrage in response to the perception that pharmaceutical companies motivated by profit have an unfair voice in vaccine policy</td>
</tr>
<tr>
<td>Loyalty/betrayal</td>
<td>May be associated with virtues of in-group loyalty, patriotism, and sacrificing oneself for the group. Least likely to be associated with vaccine hesitancy.</td>
</tr>
</tbody>
</table>

Purity and liberty assumptions predict hesitancy

- **Medium-hesitancy** parents were twice as likely as low-hesitancy parents to highly emphasize purity
- **High-hesitancy** parents were twice as likely as low-hesitancy parents to strongly emphasize purity and liberty

Vaccination Uptake Is Influenced by 3 Psychological Realms


Thoughts and Feelings

- Include risk beliefs and anticipated regret
- Correlate to getting vaccinated
- Can motivate but the impact on actual vaccination behavior is not known

Social Processes

- Are influenced by:
  - Patient/provider and parent/child relationships
  - Social networks and social norms
- Can motivate through desire to protect others or defer vaccination by taking advantage of the protection provided by others

Behavior

- Bypassing any attempt to change what people think and feel
- Direct interventions on behavior without trying to change thoughts and feelings or social context are effective
- Incentives, sanctions, and requirements can change behavior
Challenges and Factors of Vaccine Hesitancy

Key challenges to hesitancy

- Diminished prioritization of vaccination
- Lack of confidence in vaccine safety and efficacy
- Lack of uniform state policies on vaccination
- Apprehension over following vaccine schedules

Factors influencing vaccination uptake:

Access, affordability, awareness, acceptance, and activation

What Are Some Possible Solutions?
Remind Patients About the Power to Help Protect

Viruses and bacteria that cause vaccine-preventable diseases still exist and can be transmitted by unprotected persons¹

Outbreaks of vaccine-preventable diseases still occur²

Infection may lead to illness and complications, which can be serious and life-threatening²,³

Vaccinations protect the individual vaccinated and those around them⁴,⁵

Community protection⁵:

When high levels of immunity in a community are induced by vaccination, a person with a transmissible, vaccine-preventable disease is unlikely to find a susceptible host to continue the transmission⁵

Vaccine coverage within the community must be high to achieve and sustain protection of those vulnerable to the disease, including children and those with underlying medical conditions⁴,⁵

---

Educate Patients About the Risks and Benefits of Vaccines

The FDA sets rules for 3 phases of clinical trials which test for the safety and efficacy of a new vaccine prior to licensure. The traditional phases include:

- **Phase 1**: Includes 20–100 healthy volunteers
- **Phase 2**: Includes several hundred volunteers
- **Phase 3**: Includes hundreds or thousands of volunteers

**FDA only licenses a vaccine if it is safe and effective and its benefits outweigh its risks.**

If licensed, CDC carefully reviews all data about the vaccine from clinical trials and other studies to develop recommendations for the vaccine’s routine use.

**Considerations for vaccine recommendation:**
- How safe and effective is the vaccine at specific ages?
- How serious is the disease it prevents?
- How many people would get the disease if there was no vaccine?

After licensure and recommendation, FDA and CDC continue to monitor vaccine safety:

- Vaccine Adverse Event Reporting System (VAERS)
- Vaccine Safety Datalink (VSD)
- Clinical Immunization Safety Assessment Project (CISA)

CDC=Centers for Disease Control and Prevention; FDA=Food and Drug Administration.

Words Matter in Vaccine Advocacy and Communication

Vaccine decision-making may be an emotional experience that is informed by thoughts and feelings\(^1\).

Using words that are easily misinterpreted or that put people into categories may counter the goal of achieving high vaccine coverage and community support for vaccination\(^2\).

Engaging in positive talk and addressing concerns about vaccines is helpful\(^1,3\).

<table>
<thead>
<tr>
<th>Widely used vaccination terms may elicit strong reactions and consequences(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“vaccine hesitancy” “anti-vaccine”</td>
</tr>
<tr>
<td>“anti-vaxxer”</td>
</tr>
<tr>
<td>“herd immunity” “mandatory vaccination”</td>
</tr>
<tr>
<td>“vaccine demand”</td>
</tr>
</tbody>
</table>

Words matter when trying to achieve a common goal of healthy communities through optimal vaccination uptake\(^2\).

What and How to Communicate About Vaccines
The Information-Deficit Model

The information-deficit model suggests that vaccine hesitancy and/or refusal may be due to a lack of understanding that can be overcome with educational intervention\(^1\)$\(^3\):

For example, “*if only the public would understand the dangers of this disease, they would vaccinate against it*”\(^1\)

Communication of scientific facts alone is unlikely to improve vaccine confidence\(^1\)

- **There is a lack of evidence** supporting the presumption that hesitancy and/or opposition are primarily driven by insufficient understanding of the facts\(^3\)

- **Providing more information may unintentionally cause** those presented with the facts to hold more tightly to their opposing beliefs\(^1\)

Correcting Vaccine Misinformation

Vaccine misinformation may lead to poor decision-making, with potentially serious implications1,2.

Meta-analyses have shown that vaccine misinformation may persist and be difficult to correct1,2.

Countering false vaccine information in ways that repeat it (eg, myths vs facts) may paradoxically amplify and perpetuate misinformation, increasing its influence2.

Corrective strategies may have unintended opposite effects, reinforcing misconceptions and reducing intentions to vaccinate2.

If well handled (using terms that accurately represent their intended meaning), conversation addressing patient concerns about vaccination can lead to greater understanding of the benefits and risks and the importance of vaccination. This conversation may correspond with positive influences on vaccine acceptance and coverage.3

Deliver a Strong Recommendation

The use of presumptive language has been shown to be an effective way to increase vaccination uptake

Presumptive formats presuppose that parents will vaccinate
“We have some shots to do today.”

VS

Participatory formats provide parents with more decision-making latitude
“Are we doing shots today?”

A strong provider recommendation is a key predictor of a patient receiving a vaccine and can significantly increase vaccination rates

Two-thirds of patients who received a provider recommendation for influenza vaccine received the vaccine within 12 months; 84% of those without a recommendation remained unvaccinated

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1. Based on a nationally representative survey of 1005 US adults ≥19 years old and older.
Suggested Flow of Vaccine Communication

1. Make a strong recommendation

2. Patient responds in 1 of 3 ways:
   - Yes: No resistance
   - Not sure: Ambivalence
   - No: Resistance

3. Use motivational interviewing:
   1. Explore thoughts
   2. Reflect back change talk
   3. Engage in collaborative (2-way) conversation
   4. Support autonomy and decision-making
   5. Summarize

**Spirit and Core Skills of Motivational Interviewing**

Motivational interviewing is a guiding style of communication, built around **3 components**¹,a

<table>
<thead>
<tr>
<th>Collaboration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using a comfortable, non-confrontational tone and language</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evocation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading patients (or parents) to draw their own conclusions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Honoring patient’s autonomy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting patients in making their own decisions</td>
</tr>
</tbody>
</table>

**O-A-R-S**

are the core communication skills for motivational interviewing²,³

<table>
<thead>
<tr>
<th>O</th>
<th>Open-ended questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“What concerns do you have about vaccines?”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>Affirmations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“You have thought a lot about this.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Reflective listening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“I hear you saying that...”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th>Summarization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Let me summarize...”</td>
</tr>
</tbody>
</table>

¹Motivational interviewing requires specialized training to be effective.
Using Motivational Interviewing to Foster Change

**Ambivalence**

- Normal part of human nature and a step toward change\(^1\)–\(^3\)
- Has 2 incompatible sides\(^1\)–\(^3\):
  - Reasons for change (change talk)
  - Reasons against change (sustain or non-change talk)
- Must be resolved **before** moving to change\(^1\),\(^2\)
- Can be a form of resistance\(^3\)
- Could develop into resistance if HCP pushes too hard before patient is ready for change\(^3\)

**MI solution: evoking (eliciting patient’s own motivations for change)**, by strategically reflecting change talk over non-change talk\(^2\),\(^3\)

**Patient:** “I think prevention is important, but I am worried about experiencing side effects.”

**HCP:** “You’re more than just a little worried about the side-effects of the vaccine, AND prevention is important to you. Tell me more about why prevention is a priority for you.”

**Resistance**

- Reflects opposition to a treatment\(^3\),\(^4\)
- Common cues\(^4\):
  - Arguing
  - Interrupting
  - Ignoring, not paying attention
  - Crossing arms
  - Being dismissive (“whatever”)

**MI solution: rolling with resistance and coming alongside**, by reflecting on what you hear, trying to understand, and supporting autonomy\(^3\),\(^4\)

**Parent:** “I think my child is too young for this vaccine. Someday, she may consider it, but not now.”

**HCP:** “It is hard for you to believe the vaccine is right for your child when she’s so young.”

“I can certainly understand why you feel that way. May I share the reasoning behind vaccinating early, and then you can tell me what you think?”

---

HCP=health care provider; MI=motivational interviewing.

Motivational Interviewing Framework:
Use the Elicit–Provide–Elicit Script To Exchange Information¹,²

- **Elicit**
  - Ask patients what they already know or would like to know more about
  - Ask them permission to offer information

- **Provide**
  - Give information in a neutral, non-judgmental way (avoid “I” and “you”)
  - Be clear, avoid jargon (e.g., herd immunity³), and offer information in small amounts with time to reflect

- **Elicit**
  - Gather understanding from the patient of the information provided
  - Ask open questions and reflect on the patient’s reactions

---

Readiness Ruler Gives an Opportunity for Evocative Questions

On a scale from 0 to 10, where 0 means ‘not at all important’ and 10 means ‘the most important thing for me right now,’ how important would you say it is for you to vaccinate your child?

And why are you at a __ and not 0 [or a lower number]?

Summary

Vaccine confidence is an important factor for achieving and maintaining the high vaccination rates needed to sustain community-level protection against vaccine-preventable disease.¹

Vaccine hesitancy is present in all age groups²⁻⁴ and involves many factors and challenges, such as:
- Complacency, convenience, and confidence⁵
- Access, affordability, awareness, acceptance, activation⁶

Providers and stakeholders must act to boost vaccine confidence and help reduce vaccine hesitancy, increasing vaccination rates to levels that will protect entire populations.⁷
- Providers can focus on the benefits of vaccines, as well as vaccine safety and efficacy.⁷,⁸

It is important to understand the causes of vaccine hesitancy when trying to increase vaccination uptake.⁹,¹⁰

When communicating with patients and parents, it is important to be mindful of how you discuss vaccines.¹¹

Motivational interviewing tools may assist with conversations with vaccine hesitant patients or parents.¹²⁻¹⁴

References:
Messaging to the Public about Vaccines: The Evidence Base and Lessons Learned in a Pandemic

Amy Leader, DrPH, MPH
Associate Professor, Population Science, Medical Oncology
Associate Director, Community Integration, Sidney Kimmel Cancer Center
Teaching Faculty, Public Health Program, College of Population Health
Thomas Jefferson University
The COVID-19 pandemic may be the biggest news story of our lifetime

About half of Americans get news on social media at least sometimes

% of U.S. adults who get news from social media ...

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23%</td>
<td>30%</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>Don't get digital news</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This chart is not comparable to similar questions asked in the past due to question wording changes; see Appendix for more details.
PEW RESEARCH CENTER
As in past years, most social media news consumers expect news there to be inaccurate

% of social media news consumers who say they expect the news they see on social media to be...

<table>
<thead>
<tr>
<th></th>
<th>Largely accurate</th>
<th>Largely inaccurate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>39%</td>
<td>59%</td>
</tr>
<tr>
<td>2019*</td>
<td>40%</td>
<td>59%</td>
</tr>
<tr>
<td>2018*</td>
<td>42%</td>
<td>57%</td>
</tr>
</tbody>
</table>

*July 2019 and August 2018 questions were filtered on a different measurement of social media news use. See the topline for details.
Note: Respondents who did not give an answer not shown.
*“News Use Across Social Media Platforms in 2020”

PEW RESEARCH CENTER
Why has the anti vaccine movement been so successful?

- They are smaller numerically, but occupy a more central position in social media networks.
- They message heavily and appeal to social media users who haven’t made up their mind about vaccines.
- They speak through “stories” rather than data.
Harnessing the power of the anti vaccine movement

- Occupying a central position in social media networks

Instagram content and sentiment

Positive (54% of sample)

Narrative/personal (37% of sample)

Information (63% of sample)

Negative (46% of sample)

Your child can get protection from HPV cancers during the same visit they are protected against other serious diseases.

ACIP Recommendations: 3 Doses of HPV Vaccine

**Male HPV4 vaccination**
- Routine: 11-12 yos
- Catch up: 13-21 yos
- Special populations: 22-26 yos
- 9-10 yos can be vaccinated

**Females: HPV vaccination**
- Routine: 11-12 yos
- Catch up: 13-28 yos
- 9-10 yos can be vaccinated

Endorsed by: ACOG, AAFP, ACP, AAP, SAHM

In HPV Vaccine:

seeing that Gardasil is having the highest amount of adverse reactions reported of any other vaccine that's on the market.

— Dr. Brian S. Hooker, Ph.D., P.E.

New Study: HPV Vaccines (Gardasil, Cervarix) Induce Primary Ovarian Failure

Sidney Kimmel Cancer Center
at Jefferson
NCI – designated

Until every cancer is cured
Do *likes* matter?

Average like count by post characteristic

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean number of likes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Stories</td>
<td>77.38</td>
</tr>
<tr>
<td>Informational Message</td>
<td>40.93</td>
</tr>
</tbody>
</table>

Average like count by post sentiment

<table>
<thead>
<tr>
<th>Sentiment</th>
<th>Mean number of likes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Sentiment</td>
<td>20.56</td>
</tr>
<tr>
<td>Negative Sentiment</td>
<td>93.2</td>
</tr>
</tbody>
</table>

An opportunity for narrative engagement

- Narrative communication leverages the power of storytelling.
- Narratives strengthen knowledge, promote engagement, and provide mental and behavioral models.
- It does not present and defend arguments about how and why to achieve or avoid consequences related to health decisions or health care.
- Rather, it amplifies feelings of empathy, transportation, and perceived similarity to strengthen the effects of narrative health messaging.
- This is in contrast to non-narrative communication that utilizes expository and didactic styles, often presenting propositions in the form of reasons and evidence supporting a claim.
<table>
<thead>
<tr>
<th>HPV Roundtable Sample Tweets</th>
<th>Narrative-focused Sample Tweets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent of an 11- or 12-year-old? It’s #Time2Vax! Make sure your child gets the three vaccines that protect against infections that cause whooping cough, HPV cancers and meningitis.</td>
<td>Meet David. He’s a dad. 2 great kids – Gavin 12 and Grace 10. He does dad stuff. Helps get his kids ready for school, listens to Kidz Bop, makes pancakes on Saturdays. Next week is the yearly doctor visit. Whooping cough, meningitis, and HPV vaccines are on the to-do list.</td>
</tr>
<tr>
<td>Summer’s winding down, but cancer prevention is revving up! Make sure the 11- and 12-year old youth in your life get the HPV vaccine. The HPV vaccine is given as a series of two shots and doctors recommend that girls and boys get vaccinated against HPV at age 11 or 12. The series should be completed by age 13.</td>
<td>At the last soccer game, while cheering Gavin from the sidelines, it hits David – wait, the HPV vaccine is for boys? What exactly does the vaccine protect against in boys? Does it protect more or hurt more? He needs to find out more. <a href="http://bit.ly/ACSParentFlyer1">http://bit.ly/ACSParentFlyer1</a></td>
</tr>
<tr>
<td>Don’t wait to vaccinate! Doctors say it’s #Time2Vax girls and boys with the HPV vaccine at age 11 or 12. Cancer protection decreases as age at vaccination increases. <a href="http://bit.ly/ACSParentFlyer1">http://bit.ly/ACSParentFlyer1</a></td>
<td>David is close with Andre, a fellow soccer dad. They chatted about HPV vaccine. Andre’s son already got the 2 doses of HPV vaccine earlier this year. He didn’t know much about it either, but after learning more he is happy his son is now protected against certain cancers. David will be sure to ask about it.</td>
</tr>
<tr>
<td>#Back2School = #Time2Vax! Ask for the HPV vaccine at your child’s back-to-school doctor visit. The HPV vaccines are proven to be safe, effective, and provide lasting protection.</td>
<td>During his son’s visit to the doctor, David felt prepared to ask questions about HPV vaccine. He learned a lot – it protects against certain cancers, needs 2 doses, &amp; has minimal to no side effects. David felt good about this, and good about protecting his son. An easy choice!</td>
</tr>
</tbody>
</table>
# CDC’s Strategy to Reinforce Confidence in COVID-19 Vaccines

## Build Trust

**Objective:** Share clear, complete, and accurate messages about COVID-19 vaccines and take visible actions to build trust in the vaccine, the vaccinator, and the system in coordination with federal, state, and local agencies and partners.

- Communicate transparently about the process for authorizing, approving, making recommendations for, monitoring the safety of, distributing, and administering COVID-19 vaccines, including data handling.
- Provide regular updates on benefits, safety, side effects and effectiveness; clearly communicate what is **not** known.
- Proactively address and mitigate the spread and harm of misinformation via social media platforms, partners, and trusted messengers.

## Empower Healthcare Personnel

**Objective:** Promote confidence among healthcare personnel* in their decision to get vaccinated and to recommend vaccination to their patients.

- Engage national professional associations, health systems, and healthcare personnel often and early to ensure a clear understanding of the vaccine development and approval process, new vaccine technologies, and the benefits of vaccination.
- Ensure healthcare systems and medical practices are equipped to create a culture that builds confidence in COVID-19 vaccination.
- Strengthen the capacity of healthcare professionals to have empathetic vaccine conversations, address myths and common questions, provide tailored vaccine information to patients, and use motivational interviewing techniques when needed.

## Engage Communities & Individuals

**Objective:** Engage communities in a sustainable, equitable and inclusive way—using two-way communication to listen, build trust, and increase collaboration.

- Empower vaccine recipients to share their personal stories and reasons for vaccination within their circles of influence.
- Work with health departments and national partners to engage communities around vaccine confidence and service delivery strategies, including adaptation of vaccination sites to meet community needs.
- Collaborate with trusted messengers—such as faith-based and community leaders—to tailor and share culturally relevant messages and materials with diverse communities.
From the CDC Social Media Toolkit:

Less of these!

More of these!
Classes Start
September, January, or April

“Our program exposes students to the many different aspects of public health. Students get the opportunity to find their passion and sharpen their skills as they prepare to make a difference in the world.”

– Rosemary (Rosie) Frasso, PhD, MSc, MSc, CPH
Program Director, Public Health

JCPH Virtual Open House
February 10 | 5:30-7:30 pm
Register Here

Learn more at: Jefferson.edu/MPH | Questions: JCPH.Admissions@jefferson.edu
Economic Evaluation of Vaccines: Challenges & Opportunities
February 17, 2021 | 12:00-1:00 pm ET
Register Now

The Five Myths About Poverty:
What you may think, and what we know...
March 3, 2021 | 12:00-1:00 pm ET
Register Now

Controlling High Blood Pressure:
An Evidence-Based Blueprint for Change
March 17, 2021 | 12:00-1:00 pm ET
Register Now
Thank You!