Strategies for Addressing Parents' Concerns and Questions about Vaccines for Children

JENNIFER REICH, Ph.D.
University of Colorado Denver

Immunize Colorado
June 23, 2022
No single key
Overview

• Discuss different reasons children remain unimmunized
• Identify cultural logics that lead to vaccine hesitancy
• Consider ways forward in conversation with parents
## Herd Immunity

<table>
<thead>
<tr>
<th>Disease</th>
<th>Transmission</th>
<th>$R_0$</th>
<th>Herd immunity threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria</td>
<td>Saliva</td>
<td>6-7</td>
<td>85%</td>
</tr>
<tr>
<td>Measles</td>
<td>Airborne</td>
<td>12-18</td>
<td>83 - 94%</td>
</tr>
<tr>
<td>Mumps</td>
<td>Airborne droplet</td>
<td>4-7</td>
<td>75 - 86%</td>
</tr>
<tr>
<td>Pertussis</td>
<td>Airborne droplet</td>
<td>12-17</td>
<td>92 - 94%</td>
</tr>
<tr>
<td>Polio</td>
<td>Fecal-oral route</td>
<td>5-7</td>
<td>80 - 86%</td>
</tr>
<tr>
<td>Rubella</td>
<td>Airborne droplet</td>
<td>5-7</td>
<td>80 - 85%</td>
</tr>
<tr>
<td>Smallpox</td>
<td>Social contact</td>
<td>6-7</td>
<td>83 - 85%</td>
</tr>
</tbody>
</table>

Source: (CDC 2003)
Non-Medical State Exemptions from School Immunization Requirements, 2021

- Religious Exemption
- Personal Belief Exemption

NCSL 2021
For those who wanted a world with no vaccines... here's the world without ONE vaccine.

TO THE ANTI-VAXXERS:

Hey Antivaxxers... What we’re experiencing right now on a global scale, this is what a world without vaccines looks like. So after this is all over and we move on, don’t expect us to tolerate your stupid bullshit anymore.

HOW DO YOU LIKE THE DEMO VERSION OF A WORLD WITHOUT VACCINES?
Conceptualizing the unvaccinated

- refusal
- hesitancy
- indifference
Parental intentions vary: under 5 covid vaccines

Thinking about your child under the age of 5, once there is a COVID-19 vaccine authorized and available for your child’s age group, do you think you will...?

- Get them vaccinated right away
- Wait and see
- Only if required
- Definitely not

<table>
<thead>
<tr>
<th>Month</th>
<th>Right Away</th>
<th>Wait and See</th>
<th>Only if Required</th>
<th>Definitely Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>April '22</td>
<td>18%</td>
<td>38%</td>
<td>11%</td>
<td>27%</td>
</tr>
<tr>
<td>Feb '22</td>
<td>21%</td>
<td>26%</td>
<td>15%</td>
<td>35%</td>
</tr>
<tr>
<td>Jan '22</td>
<td>31%</td>
<td>29%</td>
<td>12%</td>
<td>26%</td>
</tr>
<tr>
<td>Sept '21</td>
<td>23%</td>
<td>33%</td>
<td>7%</td>
<td>35%</td>
</tr>
<tr>
<td>July '21</td>
<td>20%</td>
<td>40%</td>
<td>10%</td>
<td>30%</td>
</tr>
</tbody>
</table>

NOTE: Among parents or guardians of children under the age of 5. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor
Individualist Parenting

No creature in this world so ignorantly nurtured as the average baby. Advice at your health bureau.
Choose the right car seat.

One size doesn’t fit all.

Choosey moms choose Jif. Dads have more important crap to think about.

School Choice

It’s Your Tax Money + They’re Your Kids = It Should Be Your Choice

an easy way to know you're making the right choices
Individual responsibility for health
At the end of the day, your health is your responsibility

Jillian Michaels

picturequotes.com

Count your calories!

Take control now

Your health is your responsibility
Benefits vs Risks

![Image showing a nurse reading a newspaper to a patient]

![Diagram listing various risks associated with vaccines]

- Sudden Infant Death Syndrome
- Attention Deficit Disorder
- Neurological Disease
- Learning Disabilities
- Organ Disease
- Brain Cell Loss
- Autism
- Allergies
- Cancer
- Psoriasis
- Asthma
- Total Paralysis
- Leukemia
- Multiple Sclerosis
- Synergistic Toxicity
- Auto-Immune Diseases
- Developmental Damage
- Seizures, Epilepsy, Deafness, Blindness
- Central Nervous System Damage
- Death
Evaluating Benefit
Evaluating Benefit

- Likelihood of infection
- Severity of disease

(chickenpox) (small pox)
Estimating Risk
### TABLE 3. Recommended schedule for routine active vaccination of infants and children*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>At birth (before hospital discharge)</th>
<th>1–2 months</th>
<th>2 months†</th>
<th>4 months</th>
<th>6 months</th>
<th>6–18 months</th>
<th>12–15 months</th>
<th>15 months</th>
<th>4–6 years (before school entry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria-tetanus-pertussis³</td>
<td>DTP OPV</td>
<td>DTP OPV**</td>
<td>DTP OPV**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DTaP/DTP†</td>
</tr>
<tr>
<td>Polio, live oral</td>
<td>Hib</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MMR</td>
</tr>
<tr>
<td>Measles-mumps-rubella</td>
<td>HBOP</td>
<td>HBOP</td>
<td>HBM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HBM†††</td>
</tr>
<tr>
<td>Haemophilus influenza type b conjugate</td>
<td>Hib</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HBM†††</td>
</tr>
<tr>
<td>Hepatitis B*** Option 1</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B*** Option 2</td>
<td>HepB†††</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Age

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 month</th>
<th>2 months</th>
<th>4 months</th>
<th>6 months</th>
<th>12 months</th>
<th>15 months</th>
<th>18 months</th>
<th>19–23 months</th>
<th>2–3 years</th>
<th>4–6 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B¹</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
<td>HepB</td>
</tr>
<tr>
<td>Rotavirus²</td>
<td>RV</td>
<td>RV</td>
<td>RV</td>
<td>RV²</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
</tr>
<tr>
<td>Diphtheria, Tetanus, Pertussis³</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
<td>DTaP</td>
</tr>
<tr>
<td>Haemophilus influenza type b⁴</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
<td>Hib</td>
</tr>
<tr>
<td>Pneumococcal⁵</td>
<td>PCV</td>
<td>PCV</td>
<td>PCV</td>
<td>PCV</td>
<td>PCV</td>
<td>PCV</td>
<td>PCV</td>
<td>PPSV</td>
<td>PPSV</td>
<td>PPSV</td>
<td>PPSV</td>
</tr>
<tr>
<td>Inactivated Poliovirus⁶</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
<td>IPV</td>
</tr>
<tr>
<td>Influenza⁷</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, Mumps, Rubella⁸</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella⁹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A¹⁰</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal¹¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. Hepatitis B is recommended at birth, 2 months, 4 months, and 6 months.
2. Rotavirus vaccine is recommended at 2 months, 4 months, and 6 months.
3. Diphtheria, tetanus, and pertussis vaccine is recommended at 2 months, 4 months, and 6 months.
4. Haemophilus influenza type b conjugate vaccine is recommended at 2 months, 4 months, and 6 months.
5. Pneumococcal vaccine is recommended at 18 months.
6. Inactivated poliovirus vaccine is recommended at 1, 2, and 4 years.
7. Influenza vaccine is recommended yearly.
8. Measles, mumps, and rubella vaccine is recommended at 15 months.
9. Varicella vaccine is recommended at 12 months.
10. Hepatitis A vaccine is recommended at 15 months.
11. Meningococcal vaccine is recommended at 12 months.

---

See footnote: See footnotes for additional information.
Estimating Risk

- Fear of “too much too soon”
- Considering family history
- Assessing unique child
Filtered through ideologies and experiences

- Trust in institutions
- Confidence in neutrality of scientific process (as they understand it)
- Local norms *vaccine hesitancy clusters*
- Convenience of access
Why would my un-vaccinated kids be a threat to your vaccinated kids, if you're so sure that vaccines work?
Figure out where parents are

Focus on spaces for engagement
Places to start

• Don’t assume parents are ignorant or victims of misinformation just because they refuse vaccines
• Assume that parents want their kids to be healthy and happy
• Hear specific vaccine concerns, which might draw on experiences, religious or political views, concerns about individual child
Conversations that don’t help

• Statistics-heavy approaches
• Fear-based information
• Correcting incorrect information (may actually make them more entrenched)
Conversations that might help

- Lead with empathy (in healthcare in general)
- Be open to ongoing discussion. Not “one and done”
- Identify structural barriers to access—especially important for the indifferent
- Connect with trusted messengers for information
- Identify family goals and how vaccines align
- Discuss individual and community goals
Vaccines vary
(and parents often think so too)

- Duration of protection (rubella v influenza)
- Severity of illness (small pox v varicella)
- Ability to limit transmission (measles v covid)
- Possible short term reactions of vaccine
- Long-term risk of viral infection (HPV, varicella, measles, polio)
Percent who say they have a **great deal** or a **fair amount** of trust in the following to provide reliable information about the COVID-19 vaccines:

<table>
<thead>
<tr>
<th>Source</th>
<th>Trust Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Their own doctor</td>
<td>85%</td>
</tr>
<tr>
<td>Their child’s pediatrician*</td>
<td>83%</td>
</tr>
<tr>
<td>Their employer**</td>
<td>77%</td>
</tr>
<tr>
<td>Their health insurance company***</td>
<td>73%</td>
</tr>
<tr>
<td>Their local public health department</td>
<td>68%</td>
</tr>
<tr>
<td>The CDC</td>
<td>64%</td>
</tr>
<tr>
<td>The FDA</td>
<td>62%</td>
</tr>
<tr>
<td>Their state government officials</td>
<td>54%</td>
</tr>
<tr>
<td>Dr. Anthony Fauci</td>
<td>53%</td>
</tr>
<tr>
<td>President Joe Biden</td>
<td>49%</td>
</tr>
</tbody>
</table>

NOTE: *Among those who are parents or guardians of children under 18. **Among those who are employed and not self-employed. ***Among those who are insured. See topline for full question wording.

Schools matter

Has your child received at least one dose of a COVID-19 vaccine, or not? If not, do you think you will get them vaccinated…?

<table>
<thead>
<tr>
<th></th>
<th>Child is vaccinated</th>
<th>Right away</th>
<th>Wait and see</th>
<th>Only if required</th>
<th>Definitely not</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children ages 12-17</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School encouraged parents to get their children vaccinated</td>
<td>60%</td>
<td>12%</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School did not encourage vaccine</td>
<td>42%</td>
<td>14%</td>
<td>38%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Children ages 5-11</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School encouraged vaccine</td>
<td>28%</td>
<td>14%</td>
<td>32%</td>
<td>6%</td>
<td>17%</td>
</tr>
<tr>
<td>School did not encourage vaccine</td>
<td>8%</td>
<td>13%</td>
<td>36%</td>
<td>8%</td>
<td>34%</td>
</tr>
</tbody>
</table>

NOTE: Among parents or guardians of children ages 5-17. See topline for full question wording.

Percent who say their teen’s school has done each of the following:

- **Provided them with information about how to get a COVID-19 vaccine for their child**
  - Jul. 2021: 42%
  - Nov. 2021: 52%

- **Encouraged parents to get their children vaccinated**
  - Jul. 2021: 40%
  - Nov. 2021: 51%

- **Asked about their child’s COVID-19 vaccination status**
  - Jul. 2021: 11%
  - Nov. 2021: 25%

- **Said they will require students to be vaccinated for COVID-19 in order to attend in-person school**
  - Jul. 2021: 7%
  - Nov. 2021: 11%
## Class privilege matters

Percent of parents of children ages 12-17 who said their child's school has done each of the following:

<table>
<thead>
<tr>
<th></th>
<th>Total parents of children ages 12-17</th>
<th>Less than $40k</th>
<th>$40k-$89k</th>
<th>$90k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided them with information about how to get a COVID-19 vaccine for their child</td>
<td>42%</td>
<td>39%</td>
<td>35%</td>
<td>50%</td>
</tr>
<tr>
<td>Encouraged parents to get their children vaccinated</td>
<td>40%</td>
<td>34%</td>
<td>34%</td>
<td>49%</td>
</tr>
<tr>
<td>Said they will require students to be vaccinated for COVID-19 in order to return to school in-person</td>
<td>7%</td>
<td>12%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Asked about their child's COVID-19 vaccination status</td>
<td>11%</td>
<td>14%</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**NOTE:** Asked of parents or guardians of children between the ages of 12 and 17 who will be enrolled in school in the fall. See topline for full question wording.

### Room for discussion

Do you feel you have enough information about the safety and effectiveness of the COVID-19 vaccine for...?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Enough Information</th>
<th>Not Enough Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children ages 12-17</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>Children ages 5-11</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Children under the age of 5</td>
<td>41%</td>
<td>56%</td>
</tr>
</tbody>
</table>

NOTE: Asked of parents or guardians of children in each age group. See topline for full question wording. 

### Room for improving access

- More after-hours
- More opportunities to connect
- More partnerships- schools, providers, agencies
Community and/or Personal Benefit?

Parents always weigh perceptions of risk of disease against benefits of vaccine.

• How safe is vaccine?
• How serious is infection?
• How well do I think my child will handle it?
• How does this align with other family goals?
Thank you.

jennifer.reich@ucdenver.edu