Maternal Immunization: Opportunities and Challenges

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CONFLICT OF INTEREST STATEMENT

Laura Riley, MD, FACOG
- Consultant to Pfizer x1 re: RSV vaccine VRPAC presentation
- Consultant to GSK x1 re: CMV vaccine
- Education for Medscape on CMV disease
- Writer, Up to Date

Ashanda Saint-Jean, MD, FACOG
No Conflicts
LEARNING OBJECTIVES

1. Describe the benefits of Tdap, influenza, COVID-19, and RSV vaccination during pregnancy for both pregnant people and their infants.
2. Discuss current CDC and ACOG recommendations for vaccination during pregnancy, with a focus on Tdap, influenza, COVID-19, and RSV vaccines.
3. Discuss the current vaccination coverage for Tdap, influenza, and COVID-19 among pregnant people in the United States.
4. Review challenges of implementing maternal vaccination programs.
5. Explore opportunities for improving maternal immunization rates.
THE BENEFITS OF MATERNAL IMMUNIZATION
Pregnancy is associated with an *increased risk* of *infection-related* morbidity, mortality, and adverse pregnancy outcomes.
RATIONALE FOR MATERNAL IMMUNIZATION

Early infancy is characterized by “Gap Immunity”
RATIONALE FOR MATERNAL IMMUNIZATION

Vaccine induced immunity protects both the birthing person and the infant.

Vaccination during pregnancy promotes life-long health and well-being.

Equitable vaccination achieves parity in maternal and infant outcomes.
MATERNAL IMMUNIZATION RECOMMENDATIONS
VACCINES ROUTINELY RECOMMENDED DURING PREGNANCY

1. Influenza vaccine
2. Tdap vaccine
3. COVID-19 vaccine
4. RSV vaccine

ACOG
ACOG recommends that individuals who are or will be pregnant during influenza season receive an inactivated or recombinant influenza vaccine as soon as it is available.

- Can be administered at the same time as other recommended vaccines during pregnancy (Tdap, COVID-19, RSV).
- Timing is irrespective of trimester in pregnancy and should not be delayed to the third trimester.
TDAP VACCINATION RECOMMENDATIONS

Tdap vaccination should be administered between 27-36 weeks in every pregnancy

- Can be offered prior to 26 weeks if local outbreak or for exposure prophylaxis
- Can be offered postpartum if never received Tdap as an adult
- Can be administered at the same time as other maternal vaccines
ACOG recommends that all pregnant individuals receive a COVID-19 vaccine or vaccine series.

- Pregnant individuals should stay up to date with recommended COVID-19 vaccines
- Can be administered at the same time as other maternal vaccines
RSV VACCINATION RECOMMENDATIONS

ACOG recommends a single dose of Pfizer’s RSV vaccine (Abrysvo) for pregnant individuals between 32 0/7 and 36 6/7 weeks of gestation, using seasonal administration.

Clinicians should counsel patients about the maternal RSV vaccine and the monoclonal antibody, nirsevimab.

Can be administered at the same time as other maternal vaccines.
MATERNAL IMMUNIZATION RATES
DECLINING MATERNAL VACCINATION COVERAGE RATES

Influenza and Tdap vaccination rates have declined overall in the last several years.

COVID-19 vaccination rates remain low.

RSV vaccination rates were low for the initial 2023-24 season.

Disparities persist among different race/ethnicities.
Flu vaccination coverage among pregnant persons, by race and ethnicity, United States, April 2020 – April 2022

https://www.cdc.gov/flu/fluvaxview/pregnant-women-apr2022.htm
Tdap vaccination coverage among pregnant persons, by race and ethnicity, United States, April 2020 – April 2022

https://www.cdc.gov/flu/fluvaxview/pregnant-women-apr2022.htm
PERCENT OF PREGNANT PERSONS AGES 18-49 WHO ARE UP TO DATE WITH COVID-19 VACCINES, VSD, SEPTEMBER 1, 2022- JULY 29, 2023

*CDC recommended bivalent boosters to persons age ≥12 years starting September 1, 2022. Data on bivalent boosters among pregnant persons was available starting September 4, 2022, and includes doses received starting September 1, 2022.*

https://covid.cdc.gov/covid-data-tracker/#vaccinations-pregnant-women
PERCENT OF PREGNANT PERSONS AGES 18-49 WHO ARE UP TO DATE WITH COVID-19 VACCINES, VSD, SEPTEMBER 1, 2022- JULY 29, 2023

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>Updated (bivalent) Booster Dose Coverage (%)</th>
<th>Denominator</th>
<th>Week Ending Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races/Ethnicity</td>
<td>16.2</td>
<td>66,127</td>
<td>7/29/2023</td>
</tr>
<tr>
<td>Asian, NH</td>
<td>29.8</td>
<td>9,473</td>
<td>7/29/2023</td>
</tr>
<tr>
<td>Black, NH</td>
<td>8.3</td>
<td>4,574</td>
<td>7/29/2023</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>9.6</td>
<td>23,659</td>
<td>7/29/2023</td>
</tr>
<tr>
<td>Other, NH</td>
<td>17.8</td>
<td>3,351</td>
<td>7/29/2023</td>
</tr>
<tr>
<td>White, NH</td>
<td>19.6</td>
<td>20,275</td>
<td>7/29/2023</td>
</tr>
</tbody>
</table>

https://covid.cdc.gov/covid-data-tracker/#vaccinations-pregnant-women
RSV vaccination coverage among pregnant persons September 30, 2023-January 13, 2024

https://www.cdc.gov/vaccines/imz-managers/coverage/rsvvaxview/pregnant-persons-coverage-intent.html
### RSV vaccination coverage among pregnant persons September 30, 2023-January 13, 2024

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>Coverage Estimate (%)</th>
<th>Denominator</th>
<th>Week Ending Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian / Alaska Native, NH</td>
<td>16.8%</td>
<td>196</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Asian, NH</td>
<td>20.5%</td>
<td>9,007</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Black, NH</td>
<td>8.4%</td>
<td>4,789</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>12.1%</td>
<td>22,063</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Multiple/Other, NH</td>
<td>13.0%</td>
<td>2,605</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Native Hawaiian / Pacific Islander, NH</td>
<td>15.5%</td>
<td>387</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Overall</td>
<td>14.4%</td>
<td>61,501</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>Unknown</td>
<td>10.8%</td>
<td>3,407</td>
<td>1/13/2024</td>
</tr>
<tr>
<td>White, NH</td>
<td>16.3%</td>
<td>19,047</td>
<td>1/13/2024</td>
</tr>
</tbody>
</table>

Source: https://www.cdc.gov/vaccines/imz-managers/coverage/rsvvaxview/pregnant-persons-coverage-intent.html
CLINICIAN PERSPECTIVES
CLINICIAN PERSPECTIVES: CLINICIANS STRONGLY AGREE THAT...

Figure 14. Respondents Who Reported They “Strongly Agree” or “Agree” to Statement, n = 459
CLINICIAN PERSPECTIVE: BARRIERS TO ADMINISTERING VACCINES

Figure 13. Respondents Who Reported Barriers to Administering Vaccines in Office or Clinic, n = 40
Vaccines Administered in ACOG Member Offices

- Flu: 90%
- Tdap: 80%
- COVID-19: 10%
Pregnant patients are more cautious about receiving vaccines and have more vaccine related questions.

Clinical practices are instituting new efforts for regular or ongoing clinician and staff education about vaccination.

Patients are reporting lack of trust in CDC, government institutions, and health systems/providers around immunizations.

Patients are reporting concerns about politicization and polarization of vaccinations and maternal health, in general.
OPPORTUNITIES: WHAT CAN WE DO?
DRIVERS ASSOCIATED WITH VACCINATION

WHAT PEOPLE THINK AND FEEL
- Confidence in vaccine benefits
- Confidence in vaccine safety
- Perceived risk - self
- Perceived risk - others
- Seeing negative information

SOCIAL PROCESSES
- Influential others support vaccination
- Vaccination norms
- Workplace norms*
- Decision and travel autonomy
- Trust in vaccine providers
- Self-confidence in answering questions*

PRACTICAL ISSUES
- Know where the vaccine is
- Previous uptake of adult vaccination
- Ease of access
- Preferred site
- Availability of on-site vaccination*

MOTIVATION
- Intention to get a COVID-19 vaccine
- Willingness to recommend a COVID-19 vaccine*

VACCINATION
- Receives recommended vaccines

*Relevant to health care workers
PREGNANCY SPECIFIC CONSIDERATIONS FOR VACCINATION

Risk of exposure to the disease

Whether an infection poses special risk to the mother

Whether an infection poses a special risk to the fetus
PREGNANCY SPECIFIC CONSIDERATIONS FOR VACCINATION

- Research on vaccine safety and efficacy in pregnancy
- Support from partner, family, community
- Access to vaccination
- Trust in medical system
PREGNANCY SPECIFIC FACILITATORS TO VACCINATION

- Clinician recommendation
- Confidence in vaccine safety and effectiveness
- High perceived risk of infection
- High perceived severity of infection
- Perceived benefits of vaccination
- Access to vaccination sites
THE OBSTETRICIAN’S ROLE

• Engage in vaccine counseling early and frequently
  • Leverage frequency of prenatal care to elicit concerns and provide guidance

• Provide strong recommendations for vaccines during pregnancy
  • Patients who receive recommendations for vaccines from their obstetric provider are more likely to receive vaccines

• Affirm long-term maternal and infant health benefits
  • Emphasize the role of vaccines towards long term maternal and infant health outcomes and as an equitable strategy to decrease disparities in infectious disease morbidity

ACOG
THE OBSTETRICIAN’S ROLE

- Individualize your approach
- Actively listen to and validate concerns
- Address and re-address misinformation
- Communicate pregnancy specific data regarding safety and efficacy
- Remain knowledgeable regarding vaccine access
THANK YOU!