Challenges and Solutions to Improving Tdap Vaccination of Pregnant Women: A New Campaign to Promote Tdap Vaccine during Pregnancy

Leslie Rodriguez, PhD
Health Communications Specialist
National Center for Immunization and Respiratory Diseases

National Adult Immunization Coordinators’ Partnership
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Presentation Objectives

- Discuss findings and guiding principles from formative research with pregnant women and obstetrician-gynecologists (ob-gyns)

- Discuss campaign materials for pregnant women and healthcare professionals

- Discuss ways to disseminate these materials and messages
BACKGROUND
Pertussis (Whooping Cough) and Infants

- Pertussis is a contagious respiratory disease characterized by a severe cough that can last for weeks or months.
- Young infants are at greatest risk for getting pertussis and suffering from life-threatening complications.
- DTaP vaccine is recommended at 2, 4, 6, 15-18 months, and 4-6 years to prevent pertussis and reduce the severity of symptoms.

* Source: cdc.gov/pertussis
**Pertussis Trends**

- Despite high DTaP coverage, more than 28,000 U.S. cases reported in 2014,* including 7 deaths among infants less than 3 mo old
  - Multiple factors are contributing to the pertussis resurgence

**Current efforts focused on**
- protecting infants by vaccinating pregnant women; and
- routine childhood and adolescent pertussis vaccine recommendations

*2014 data are provisional and subject to change.
Source: CDC, National Notifiable Diseases Surveillance System and Supplemental Pertussis Surveillance System
In 2012, Tdap administration was recommended during pregnancy to help protect babies until they start the DTaP series

- Ideal administration between 27 and 36 weeks gestation for best maternal antibody response and transfer of immunity to baby
- Recommended during each pregnancy regardless of Tdap vaccination history or pregnancy spacing

Uptake of Tdap during pregnancy, while increasing since the 2012 recommendation, is still low

* Source: cdc.gov/pertussis
FORMATIVE RESEARCH
Formative Research With Pregnant Women

- **Survey of pregnant women**
  - Online survey of U.S. women 18–45 years of age
  - 487 respondents were eligible and completed the survey
  - Data were collected in June/July of 2014

- **Focus groups with pregnant women**
  - 28 focus groups of pregnant women
    - High pertussis incidence (San Diego) and low pertussis incidence (Atlanta) locations
    - Segmented by parity and language (English and Spanish)
    - Mix of trimester, race/ethnicity, and socioeconomic background
  - Conducted in two rounds (June and September/October 2014)
Guiding Principles for Pregnant Women

- Levels of awareness of pertussis and perceived susceptibility to the disease are low among pregnant women.

- Pregnant women are primarily concerned with the health and safety of their baby when making decisions about vaccines during pregnancy.

- Pregnant women view their ob-gyn or midwife as the ultimate authority on pregnancy-related topics.
Health and Safety of Baby

- Concern over the baby’s safety (50%) was the most common reason survey respondents were unsure if they would get Tdap during their current pregnancy.

- Protecting the baby was the strongest motivator for vaccination among focus group participants.

“The most valuable thing is that not only will you be immunized but your baby will be born already immunized too, until he receives his own vaccine.”
Health and Safety of Baby

- Messages that mentioned disease risk for baby were generally more likely to encourage undecided survey participants to accept Tdap vaccination.

  “Whooping cough is a serious disease that can cause babies to stop breathing.”

  “Most whooping cough deaths are among babies younger than 3 months of age.”

  “People can spread whooping cough to babies without even knowing they are sick because the illness can be mild for adults.”
Healthcare Professional’s Influence

- Survey respondents most often reported seeking Tdap information online (75%), from a healthcare professional (64%), or from friends (45%)

- A healthcare professional’s recommendation was the most common reason for accepting Tdap (69%) among survey participants

- Focus groups preferred “Talk to your doctor about the whooping cough vaccine” over “get the vaccine” as a call to action for Tdap vaccination
Formative Research with Ob-Gyns

- **Survey of ob-gyns**
  - Online survey of 32,056 members of the American College of Obstetricians and Gynecologists (ACOG)
  - Respondents all offer prenatal care
  - Data were collected in February and March of 2014
  - 2,365 respondents completed the survey

- **In-depth interviews with ob-gyns**
  - 60-minute telephone interviews with ob-gyns nationally
  - Respondents all offer prenatal care
  - Interviews were conducted in May and June of 2014
    - 24 interviews in May
    - 16 interviews in June
Guiding Principles for Ob-Gyns

- Knowledge of the Tdap recommendation during pregnancy is high, but perception of individual risk for their patients (and their babies) is often low.

- Stocking Tdap is a barrier for some ob-gyns, often due to issues with reimbursement.

- The most common channels for sharing vaccine information with patients are face-to-face during the office visit and in handouts at the first prenatal appointment.
Knowledge and Awareness

- Nearly all survey respondents reported recommending Tdap to pregnant patients, with 77% administering the vaccine in their office.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Frequency (n)</th>
<th>%</th>
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<tbody>
<tr>
<td>I recommend Tdap vaccine to my pregnant patients and vaccinate them in my office.</td>
<td>1,807</td>
<td>77.1%</td>
</tr>
<tr>
<td>I recommend Tdap vaccine to my pregnant patients but refer them elsewhere to receive the vaccine.</td>
<td>486</td>
<td>20.7%</td>
</tr>
<tr>
<td>I do not routinely discuss Tdap vaccine with my pregnant patients.</td>
<td>35</td>
<td>1.5%</td>
</tr>
<tr>
<td>I discuss Tdap vaccine with my pregnant patients but do not offer a recommendation for or against vaccination.</td>
<td>13</td>
<td>0.6%</td>
</tr>
<tr>
<td>I recommend against Tdap vaccine for my pregnant patients.</td>
<td>2</td>
<td>0.1%</td>
</tr>
</tbody>
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Concerns over reimbursement were a barrier to stocking vaccine for some interviewees

Most physicians interviewed who recommended but didn’t stock Tdap did not follow-up with patients later

Despite barriers, most interviewees felt that the obstetric provider was responsible for vaccinating pregnant women

“I’ve got those patients, you know, on a regular basis. They're coming back every month, every couple of weeks whenever it is…so, I think since the obstetrician has certainly more opportunity and access to the patient -- that's probably the best place to do it.”
Information Channels

- Most respondents (88%) use brochures or handouts to communicate with pregnant patients

- Posters, patient websites, and training materials for staff were also listed as useful tools

- Respondents turned to ACOG and CDC most often for vaccine information for themselves and their patients
RESEARCH TO PRACTICE
Born with Protection Against Whooping Cough
A New Maternal Tdap Campaign

- Developed in collaboration with co-branding partners:
  - American Academy of Family Physicians
  - American Academy of Pediatrics
  - American College of Nurse-Midwives
  - American College of Obstetricians and Gynecologists
- Targets pregnant women and prenatal healthcare professionals
- English and Spanish language materials for women
- Based on mixed method formative research and input from subject matter experts and partners
Campaign Objectives

- **Pregnant women**
  - Increase awareness of the maternal Tdap recommendation
  - Encourage women to speak with their prenatal healthcare professional about Tdap vaccination

- **Ob-gyns and other prenatal healthcare professionals**
  - Strengthen recommendations for Tdap during pregnancy among pregnant women
  - Strengthen referrals for Tdap among pregnant women
For Pregnant Women
English Language Campaign

“The whooping cough vaccine I got during my 3rd trimester will help protect my baby starting at her first breath.”

Whooping cough can make your baby very sick with coughing fits and gasping for air. It can even be deadly, and there are outbreaks happening across the United States. When you get the whooping cough vaccine (also called Tdap) during the third trimester of your pregnancy, you’ll pass antibodies to your baby that will help protect her from this disease from the time she’s born. These antibodies will last for the first few months of her life, when she is most vulnerable to serious disease and complications. Talk to your doctor or midwife about the whooping cough vaccine.

Outbreaks of whooping cough are happening across the United States. This disease can cause your baby to have coughing fits, gasp for air, and turn blue from lack of oxygen. It can even be deadly. When you get the whooping cough vaccine (also called Tdap) during your third trimester, you’ll pass antibodies to your baby. This will help keep him protected during his first few months of life, when he is most vulnerable to serious disease and complications.

Talk to your doctor or midwife about the whooping cough vaccine.
Mamá, tú siempre protegerás a tu pequeño milagro.

Empieza ahora con tu vacuna contra la tosferina.

La tosferina (whooping cough) puede enfermar a los bebés y provocarles ataques de tos y dificultad para respirar. Cuando te vacunas contra la tosferina durante el tercer trimestre de embarazo, le transmitirás a tu bebé los anticuerpos que lo protegerán de esta enfermedad desde su nacimiento. Estos anticuerpos durarán hasta que reciba su propia vacuna contra la tosferina, la cual solo se le puede aplicar cuando cumpla 2 meses de edad.

Habla con tu médico o partera sobre la vacuna contra la tosferina (también conocida como la vacuna DPT o Tdap, en inglés).
Factsheets for Healthcare Professionals (1)

Provide the best prenatal care to prevent pertussis

5 Facts about Tdap and Pregnancy

1. Tdap during pregnancy provides the best protection for mother and infant.
   - Recommend and administer or refer your patients to receive Tdap during every pregnancy.
   - Optimal timing is between 27 and 36 weeks gestation to maximize the maternal antibody response and passive antibody transfer to the infant.
   - Fewer babies will be hospitalized and die from pertussis when Tdap is given during pregnancy rather than during the postpartum period.

2. Postpartum Tdap administration is NOT optimal.
   - Postpartum Tdap administration does not provide immunity to the infant, who is most vulnerable to the disease’s serious complications.
   - Infants remain at risk of contracting pertussis from others, including siblings, grandparents, and other caregivers.
   - It takes about 2 weeks after Tdap receipt for the mother to have protection against pertussis, which means the mother is still at risk for catching and spreading the disease to her newborn during this time.

3. Cocooning alone may not be effective and is hard to implement.
   - The term “cocooning” means vaccinating anyone who comes in close contact with an infant.
   - It is difficult and can be costly to make sure that everyone who is around an infant is vaccinated.

4. Tdap should NOT be offered as part of routine preconception care.
   - Protection from pertussis vaccines does not last as long as vaccine experts would like, so Tdap is recommended during pregnancy in order to provide optimal protection to the infant.
   - If Tdap is administered at a preconception visit, it should be administered again during pregnancy between 27 and 36 weeks gestation.

5. Tdap can be safely administered earlier in pregnancy if needed.
   - Pregnant women should receive Tdap anytime during pregnancy if it is indicated for wound care or during a community pertussis outbreak.
   - If Tdap is administered earlier in pregnancy, it should not be repeated between 27 and 36 weeks gestation; only one dose is recommended during each pregnancy.

Strongly recommend Tdap to your patients during the 3rd trimester of each pregnancy.

Resources about Tdap and Pregnancy for Healthcare Professionals

Get Reimbursed for Tdap Vaccination

Coding and billing are known barriers to administering vaccines during pregnancy. Correct coding enables an office to report these activities to third-party payers and receive appropriate reimbursement for these services.

• ACOG’s Tdap Toolkit provides coding and billing information for Tdap: www.acog.org/TdapToolkit

Get Vaccine Referral Tips

Not all clinicians are able to stock and administer Tdap or influenza vaccines in their office.

• Making a Strong Vaccine Referral to Pregnant Women fact sheet offers tips to increase patient follow through for referrals: www.cdc.gov/pertussis/pregnant/hcp

Read the Current Recommendations

Advisory Committee on Immunization Practices: www.cdc.gov/mmwr/preview/mmwrhtml/mm6302a4.htm
American College of Obstetricians and Gynecologists: www.acog.org/TdapCommitteeOpinion
Stay up to date on the studies that support the safe and effective use of the Tdap vaccine in pregnant women at www.cdc.gov/pertussis/pregnant/research.html

Get Free Materials for Your Patients

The following resources help explain the importance of and health benefits behind the Tdap recommendation. They’re free to download and ready for color or black and white printing and reproduction. English and Spanish language versions are available.

Posters/Print Ads

Make it clear that it’s important to protect your patients during pregnancy.

Q&A Fact Sheet

Print out these key messages and FAQs on a single page for easy distribution.

Informational Article for Patient Newsletters and Websites

Stay connected to the latest news and developments in the world of pertussis and Tdap vaccination.

www.cdc.gov/whoopingcough
Making a strong vaccine referral to pregnant women

Strategies for healthcare professionals:

Making the Referral

Begin each referral with a vaccine recommendation that includes information on why the vaccine is beneficial and safe for mother and baby. Tailor your message with scientific data or personal anecdotes may help convey the vaccine’s importance to individual patients.

Provide information on where patients can get the vaccine(s) you recommend. For help locating vaccines in your area, the HealthMap Vaccine Finder is available at: http://vaccine.healthmap.org.

Always write a patient-specific prescription. This will help your patients obtain the vaccine at another location where a prescription may be required.

Anticipate questions on why patients cannot get vaccinated in your office. For example, if you stock flu vaccine, but not Tdap, be prepared to explain why you offer one vaccine but not the other.

Re-emphasize vaccine importance. Remember to emphasize the fact that just because you do not stock a specific vaccine in your office does not mean it is not important, is less important than other vaccines you do stock, or that you have concerns about its safety.

Have a plan in place to answer questions from other immunization providers who are concerned about vaccinating your pregnant patients. Questions should be answered promptly, as it is likely your patient is with them at the time they contact you.

Vaccines Routinely Recommended for Pregnant Women

It's safe for the flu vaccine and Tdap vaccine to be given to pregnant patients at the same time.

**Flu Vaccine**
- Is recommended for pregnant women and safe to administer during any trimester.
- Is the best way to protect pregnant woman and her babies from the flu, and prevent possible flu-associated pregnancy complications.
- Is safe and can help protect the baby from flu for up to 6 months after birth. This is important because babies younger than 6 months of age are too young to get a flu vaccine.

**Tdap Vaccine**
- Is recommended during every pregnancy, ideally between 27 and 36 weeks gestation.
- When given during pregnancy, boosts antibodies in the mother, which are transferred to her unborn baby. Third trimester administration optimizes neonatal antibody levels.
- Helps protect infants who are at greatest risk for developing pertussis and its life-threatening complications, until they are old enough to start the childhood pertussis vaccine series.

Timing the Referral

Vaccines recommended for pregnant women should be discussed with patients early in pregnancy, with the final referral made during the recommended timeframe for administration.

- Flu vaccine: Your referral should be made as early as possible once pregnancy is confirmed. Pregnant women can be vaccinated during any trimester, keeping in mind that flu vaccine is typically available August to May, covering the duration of flu season.
- Tdap vaccine: Your recommendation and referral should be made as close to 27 weeks as possible so there is ample time during the recommendation window (between 27 and 36 weeks) to follow up and re-emphasize the importance of getting the Tdap vaccine, if the patient has not received it yet.

You may find linking the timing of the Tdap referral with another third trimester practice beneficial. Many clinicians have been successful pairing their Tdap referral with the glucose test conducted at 20 weeks.

Follow-Up after Referral

After every referral, you should follow up with each patient during subsequent appointments to ensure the patient received the vaccine(s). It may be helpful to include a reminder in your electronic medical records (EMR).

As part of the follow-up, document vaccine receipt in each patient’s medical record. If your patient did not follow through with the referral, repeat the recommendation and referral and try to identify and address any questions or concerns that she may have encountered. Your commitment to making a strong referral and following up with patients is vital to increasing vaccination rates among pregnant women and protecting them and their babies from serious diseases.

For Your Patients
- CDC Website on Pregnancy and Whooping Cough
  www.cdc.gov/pregnancy/whoopingcough
- CDC Website on Pregnancy and Flu
  www.cdc.gov/flupreventmaternal/pregnant.htm
- Vaccine Information Statement on Tdap
  www.cdc.gov/vaccines/hcp/pubs/vs-statements/tdap.html
- Vaccine Information Statement on Flu
  www.cdc.gov/vaccines/hcp/pubs/vs-statements/flu.html

For You and Your Staff
- CDC Website on Pregnancy and Whooping Cough
  Information on the Tdap recommendation for pregnant women and tips on providing the best prenatal care to prevent pertussis.
  www.cdc.gov/pregnancy/whoopingcough
- ACOG Tdap Toolkit: Information and resources about Tdap vaccination, including frequently asked questions for patients and a physician script.
  www.acog.org/CPE/Topics/ACOGBulletin/TdapToolkit
- ACOG Flu Vaccine Materials: Information and resources about flu vaccination, including frequently asked questions for patients and a physician script.
  www.immunizationfoundation.org/immunization_facts/seasonal_influenza
- ACOG Immunization Coding for Obstetrician-Gynecologists 2013: A guide on reimbursement and coding for vaccinations.
  www.acog.org/media/Department-Publications/immunization%20coding.pdf
- AAPF’s Immunization FAQs: Information on vaccine schedules.
  www.cdc.gov/YouthCare/immunizations/schedules.html

www.cdc.gov/whoopingcough
Fact Sheet for Pregnant Women

- Focus on benefit to baby
- Safety (top concern) is addressed early
- Information to raise awareness that whooping cough is a concern today
- Cobranding
Fact Sheet for Pregnant Women (2)

Mom, only you can provide your newborn baby with the best protection possible against whooping cough.

You may have heard that your baby’s father, grandparents, and others who will be in contact with your baby will need to get their whooping cough vaccine as well. This strategy of surrounding babies with everyone who is protected against whooping cough is called “cocooning.” However, cocooning might not be enough to prevent whooping cough illness and death. This is because cocooning does not provide any direct immunity (antibodies) to your baby, and it can be difficult to make sure everyone who is around your baby has had their whooping cough vaccine. Since cocooning does not completely protect babies from whooping cough, it is even more important that you get the vaccine while you are pregnant.

- Call-out box on cocooning
- True story (Spanish-language only)
- Links for more information
- Call to action

La historia real de tosferina de una familia

La hija de Katie y Craig, Callie, cuando tenía solo un poco más de un mes de edad contrajo una tos suave y seca. En los días siguientes, la condición de Callie empeoró. Siguió tosiendo, se puso pálida, no se movía mucho y de repente perdió su saludable apetito. Cuando Callie dejó de respirar, la trasladaron rápidamente al hospital en una ambulancia. Médicos pudieron resucitarla pero la próxima vez que dejó de respirar, no pudieron salvarla. Unos pocos días después, la familia supo que Callie había fallecido a causa de la tosferina. “No podíamos creerlo. Éramos muy cuidadosos de no exponerla a muchas personas”, dice Katie. Con tan solo 5 semanas de edad, Callie era muy pequeña para recibir la vacuna contra la tosferina. A partir de 2012, se recomienda a las mujeres embarazadas recibir la vacuna contra la tosferina, llamada Tdap, en el tercer trimestre de su embarazo.
Pregnancy and Whooping Cough Website

For Pregnant Women

Whooping cough (pertussis) is a very contagious disease that can be deadly for babies. It is spread from person to person, usually by coughing or sneezing while in close contact with others. Learn how you can help protect your baby from whooping cough.

- Get Vaccinated While Pregnant
- Surround Babies with Protection
- Vaccinate Your Baby
- Deadly Disease for Babies
- Safety & Side Effects
- Vaccine Effectiveness

For Healthcare Professionals

Pertussis is on the rise and outbreaks are happening across the United States. Learn more about providing the best prenatal care to prevent pertussis by strongly recommending Tdap to your patients during the third trimester of each pregnancy.

- Vaccinating Pregnant Patients
- Answering Patient Questions
- Making a Strong Referral
- Getting Reimbursed for Tdap Vaccination
- Rationale: Why Vaccinate Pregnant Women?
- Vaccine Safety
- Vaccine Effectiveness

www.cdc.gov/pertussis/pregnant
Distribution Plans

- Materials are available for free download:
  - [www.cdc.gov/pertussis/pregnant](http://www.cdc.gov/pertussis/pregnant)

- Limited quantities available for free from CDC warehouse

- Promote awareness of campaign among healthcare professionals, partners, immunization programs, and immunization coalitions

- Annual observations:
  - National Immunization Awareness Month (August 2015)
    - Pregnancy week is August 9th-15th (#TeamVax)

- Digital buy targeting pregnant women (English and Spanish speaking)
Summer Digital Buy

- babycenter: Whooping cough outbreaks are happening in the US.
- Google search: "tdap vaccine pregnancy"
- CDC sponsored ad: Help protect your baby at her first breath.
- PANDORA advertisement
- Facebook post: CDC-sponsored advertisement about whooping cough.
Next Steps

- Continue to promote awareness of campaign materials and messages
- Analyze additional research
  - Survey with nurses, nurse practitioners, and nurse-midwives
- Publish research to practice efforts
- Evaluation of campaign reach
  - Web metrics
  - Re-fielding of ob-gyn and pregnant women’s surveys
What We Are Asking Partners To Do

- **GIVE STRONG RECOMMENDATIONS** for whooping cough vaccine (Tdap) in the 3rd trimester of each pregnancy
- **ASK HEALTHCARE PROFESSIONALS** to include *Born with Protection* campaign materials in prenatal information packets
  
  www.cdc.gov/pertussis/materials/index.html
- **ENCOURAGE** pregnant women to ask their doctor or midwife about whooping cough vaccine
- **PROMOTE** CDC’s Tdap during pregnancy website and materials through your social media channels
  
  www.cdc.gov/pertussis/pregnant
More Ways to Get Involved!

- **ALERT** prenatal healthcare professionals that whooping cough outbreaks are happening across the U.S.

- **RAISE AWARENESS** among prenatal healthcare professionals that:
  - 3rd trimester vaccination every pregnancy offers the best protection for baby
  - Postpartum Tdap administration is NOT optimal
  - Cocooning alone may not be effective and is hard to implement

- **DIRECT** pregnant women to CDC information about Tdap during pregnancy
  
  www.cdc.gov/pertussis/pregnant

- **COLLABORATE** with us to expand the campaign’s reach
Acknowledgements

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- American Academy of Pediatrics
- American College of Nurse-Midwives
- American College of Obstetricians and Gynecologists
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- Westat, Inc.
- Mediassociates
For more information please contact
Leslie Rodriguez

Telephone: 404-639-8421
E-mail: iwn3@cdc.gov
Web: http://www.cdc.gov/pertussis/pregnant

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.