Maternal immunization: understanding safety and efficacy and making a strong recommendation

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Processor: 850MHz or faster processor (or above)
Operating System: Windows XP/2000/98
Memory: 512MB of RAM (or above)
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Microsoft Internet Explorer 5.5 (or higher) or Mozilla Firefox 1.5
Adobe Flash Player 8 (or higher)
Adobe Acrobat 6 (or higher)

Macintosh

Processor: G3 500MHz or faster processor (or above)
Operating System: OS 10.3 (or above)
Memory: 512MB of RAM (or above)
Screen Resolution: 1024 x 768 (or above)
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Learning Objectives

- Discuss the scientific evidence supporting maternal flu vaccination safety and monitoring.
- Educate pregnant patients about the importance of an annual flu vaccine.
- Name three components of a strong recommendation.
- Use CDC ACOG, ACNM and messaging and resources to address patient questions and concerns regarding flu immunization.

Disclaimer

- The findings and conclusions in this presentation are those of the author and do not necessarily represent the official position of the CDC

HOME > NEWS > HEALTH > HEALTH NEWS

Woman dies of swine flu days after giving birth

A woman who contracted swine flu died just weeks after giving birth to her first child.

DAILY NEWS | NEWS

U.S. swine flu victim [redacted] in hospital 2 weeks before death; delivered baby in coma

Family: Former Lincoln woman dies of swine flu during childbirth

A former mayor of Boys Town has died, apparently of swine flu. A paid obituary in the Lincoln Journal Star says 20-year-old Caitlin Anne Treat Huber died of swine flu a day after giving birt

Swine flu alert for pregnant women and babies

25 per cent of pregnant women vaccinated even though they are four times more at risk of swine flu

56 deaths among US pregnant women

The NEW ENGLAND JOURNAL of MEDICINE

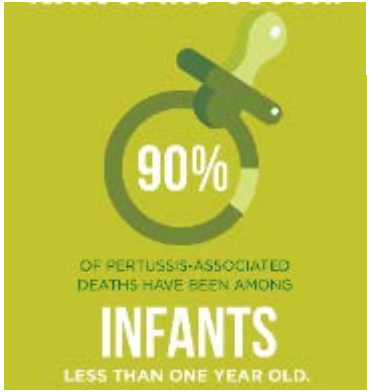
ORIGINAL ARTICLE

Severe 2009 H1N1 Influenza in Pregnant and Postpartum Women in California

Janice K. Louie, M.D., M.P.H., Meileen Acosta, M.P.H., Denise J. Jamieson, M.D., M.P.H., and Margaret A. Honein, Ph.D., M.P.H., for the California Pandemic (H1N1) Working Group*

38-Day-Old Baby Dies After Persisting Cough

By LARA SALAHI · April 28, 2010



Newborn Nearly Dies Contracting Whooping Cough

Whooping Cough Back Again With A Vengeance In California

Third baby dies from whooping cough in California

Disease burden highest in infants during pertussis epidemic

Whooping Cough Epidemic Rages in California: 5 Babies Dead, 910 Infected

Five babies dead from whooping cough so far this year in biggest outbreak for 20 years

CNN Health · Diet · Fitness | Living Well | Parenting · Family

10 infants dead in California whooping cough outbreak

From Miriam Falco, CNN

OVERVIEW

- Infections and vaccinations during pregnancy
- CDC vaccine safety monitoring in pregnancy
- Results of inactivated influenza vaccine (IIV) and tetanus, diphtheria, and acellular pertussis (Tdap) safety studies in pregnancy
- Maternal vaccine safety recap

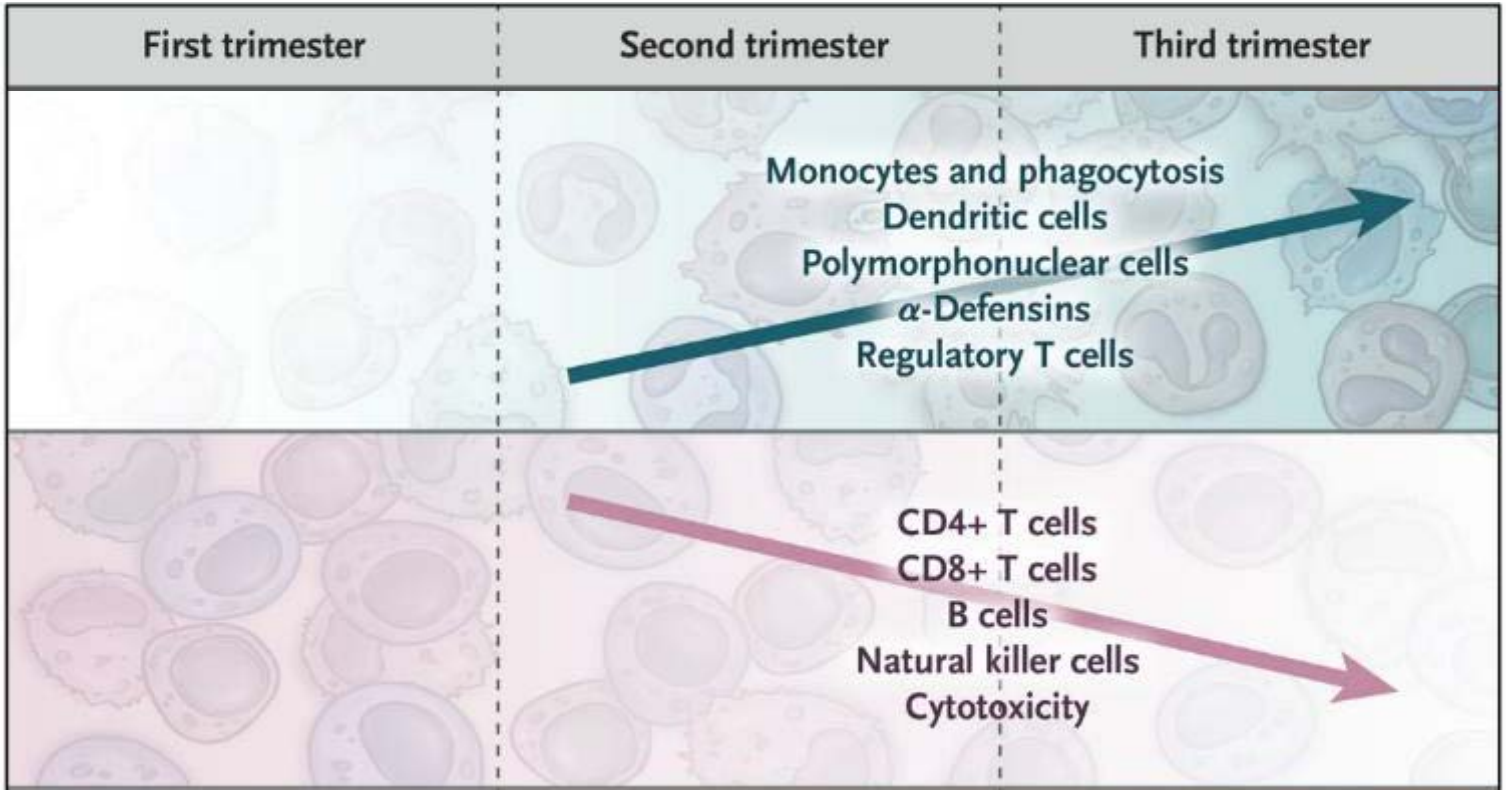
Vaccination during pregnancy protects mom and baby

Infections in pregnant women and neonates

- Maternal influenza
  - Physiologic changes during pregnancy → severe disease[1]
  - 5-fold increased risk of death in pregnant women (typically 2nd/3rd trimester)
- Neonatal influenza
  - No infant vaccine until 6 months of age
  - Infants at high risk of hospitalization and death from influenza[2]
- Neonatal pertussis
  - Primary immunization series complete at 6 months
  - Majority of pertussis deaths occur in infants < 3 months of age[3]

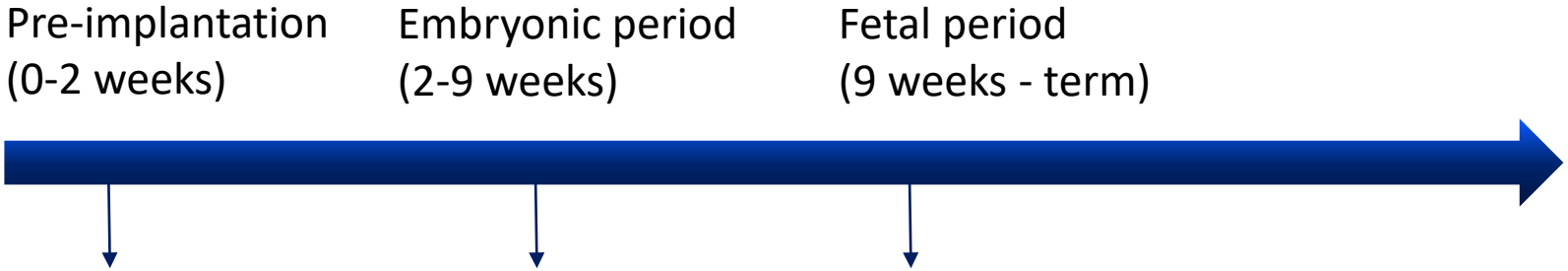
1. **Grohskopf L et al. MMWR (2016).**
2. **Epperson S et al. MMWR (2014).**
3. **2016 provisional pertussis surveillance report:** http://www.cdc.gov/pertussis/downloads/pertuss-surv-report-2014.pdf

Increased susceptibility to severe influenza infection



Kourtis AP, et al. N Engl J Med (2014).

Potential impacts of exposures during pregnancy



Bednarczyk RA, et al. Am J Obstet Gynecol (2012).

Recommendations for influenza vaccine during pregnancy

- Advisory Committee on Immunization Practices (ACIP) recommendations for pregnant women
  - 1960: Pregnant women noted to be at risk of severe illness and were recommended to receive influenza vaccine
  - since 1990s: Vaccination during 2nd and 3rd trimesters recommended
  - 2004: Influenza vaccine recommended for all pregnant women during *any* trimester of pregnancy
  - 2017: Any licensed, recommended and age-appropriate trivalent, quadrivalent, or recombinant inactivated influenza vaccine can be administered during pregnancy

Grohskopf L. Presented at the June 2017 ACIP meeting: https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2017-06/flu-06-grohskopf.pdf

Recommendations for Tdap vaccine during pregnancy

- ACIP recommendations in pregnant women[1]
  - 2006: Tdap booster to post-partum mothers and family members (cocooning)
  - 2011: Tdap for unvaccinated pregnant women after 20 weeks gestation
  - 2012: Tdap for every pregnant woman at every pregnancy regardless of prior immunization status (optimally between 27-36 weeks gestation)

Centers for Disease Control and Prevention. MMWR (2012)

CDC prioritizes maternal vaccine safety

Vaccine licensure process in the United States

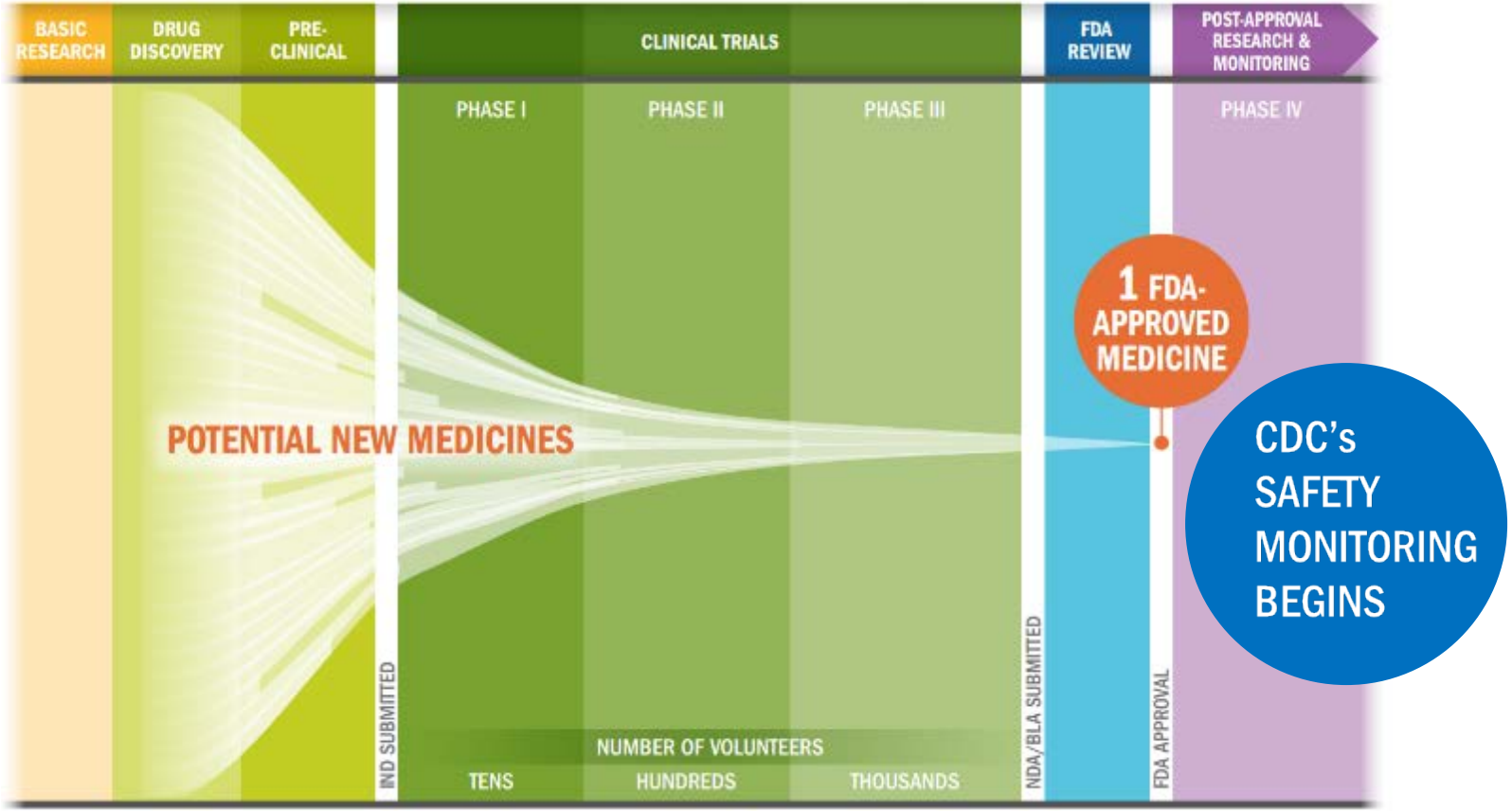
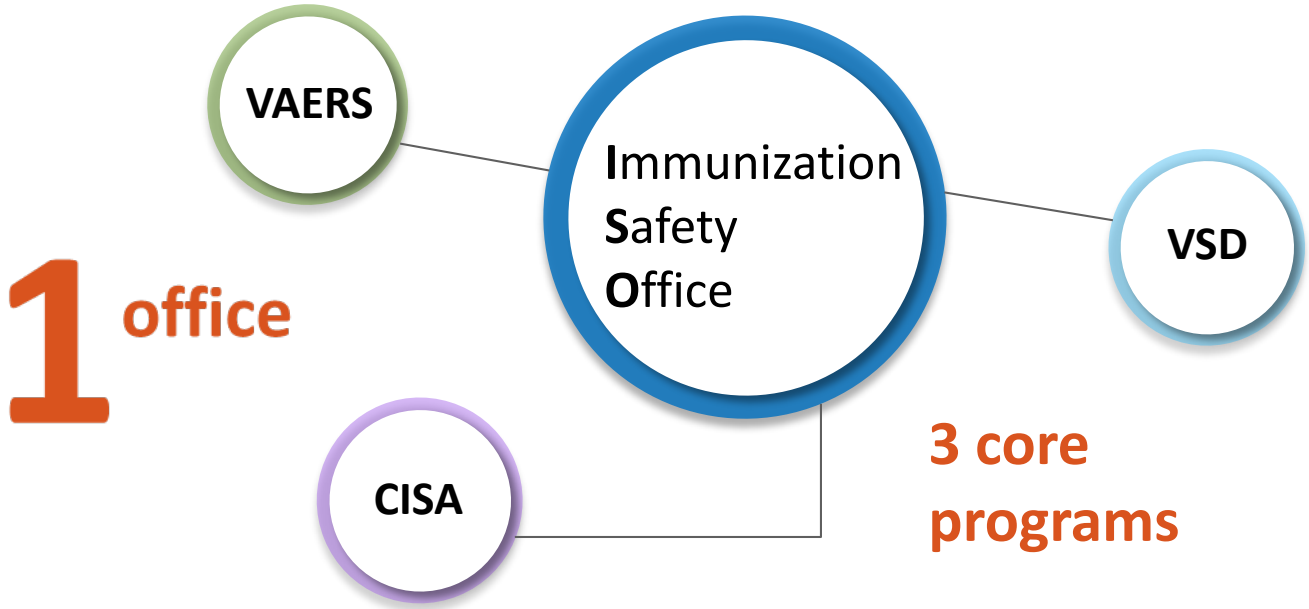


Image adapted from: http://phrma-docs.phrma.org/sites/default/files/pdf/rd_brochure_022307.pdf

Why post-licensure vaccine safety monitoring?

- Pregnant women often excluded from pre-licensure clinical trials
- Pre-licensure clinical trails may not detect rare events
- Safety standards for vaccines are high

CDC vaccine safety monitoring



VAERS: Vaccine Adverse Event Reporting System, VSD: Vaccine Safety Datalink, CISA: Clinical Immunization Safety Assessment

CDC vaccine safety monitoring

VAERS

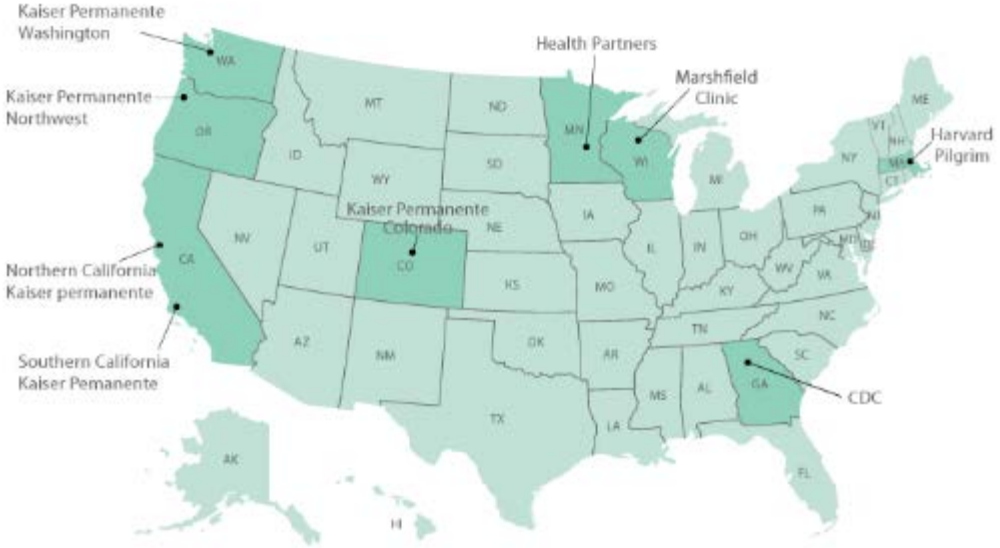
Vaccine Adverse Event Reporting System

Co-managed by CDC and FDA

CDC vaccine safety monitoring

VSD

Vaccine Safety Datalink



8 participating healthcare organizations

Identifying pregnancies in the VSD

- VSD uses an validated algorithm[1] to identify pregnancy outcomes and start and end dates from electronic health records
- VSD data can be used to link pregnant women to their children
- VSD annual cohort ~3% of US population[2]
  - ~125,000 pregnancies per year
  - ~90,000 live births per year
- Additional pregnancy data: Height and weight, education, prior pregnancy history, smoking and alcohol use, plurality, delivery type, Apgars, last menstrual period, estimated due date

1. Naleway AL et al. Vaccine (2013).
2. McNeil MM et al. Vaccine (2014).

CDC vaccine safety monitoring

vaccine safety experts

CISA

Clinical Immunization Safety Assessment

- assist U.S. healthcare providers with complex vaccine safety questions about their patients
- conduct clinical research

7 participating healthcare organizations

Influenza vaccine safety studies: mom, baby and pregnancy

Maternal influenza studies – general safety

- IIV and live attenuated influenza vaccines during pregnancy in VAERS, 1990-2009[1]
  - No unusual patterns of pregnancy complications or fetal outcomes
- Influenza A (H1N1) 2009 monovalent vaccine during pregnancy in VAERS[2]
  - No concerning patterns of maternal or fetal outcomes
- IIV during pregnancy in VAERS, 2010-2016[3]
  - No vaccine safety concerns among pregnant women or their infants

1. Moro PL, et al. Am J Obstet Gynecol (2011).
2. Moro PL, et al. Am J Obstet Gynecol (2011).
3. Moro PL, et al. Drug Saf (2017).

Maternal influenza studies – maternal outcomes

- Medically attended maternal acute events in the VSD[1,2]
  - Outcomes included allergic reactions, local reactions, neurologic events
  - No increased risk following IIV or monovalent H1N1 vaccines
- Feasibility of text message influenza vaccine safety monitoring during pregnancy[3,4]
  - Prospective CISA study
  - Post-vaccination fever was infrequent and a typical pattern of maternal and neonatal health outcomes was observed

1. Nordin JD et al. Vaccine (2014)
2. Nordin JD et al. Obstet Gynecol (2013)
3. Stockwell M et al. AJPM (2017)
4. Registered at ClinicalTrials.gov www.clinicaltrials.gov (NCT01974050)

Maternal influenza studies – pregnancy outcomes

- Spontaneous abortion (SAB) in the VSD[1,2]
  - No increased risk of SAB in the 28 days following IIV exposure during 2005-2007 influenza seasons[1]
  - Increased risk of SAB in the 28 days following IIV exposure during 2010-2012 influenza seasons[2]
    - Risk seen in women vaccinated in prior influenza season
  - Follow up study evaluating subsequent influenza seasons in progress

1. Irving S et al. Obstet Gynecol (2013).
2. Donahue JG et al. Vaccine (2017).

Maternal influenza studies – pregnancy outcomes

- Medically attended adverse obstetric events in the VSD[1,2]
  - Outcomes included hyperemesis, gestational hypertension, gestational diabetes, proteinuria, urinary tract infection
  - No increased risk following IIV or monovalent H1N1 vaccines
- Adverse birth outcomes in the VSD[3]
  - No increased risk of preterm birth or small for gestational age following IIV

1. Kharbanda EO et al. Obstet Gynecol (2013)
2. Nordin JD et al. Vaccine (2014)
3. Nordin JD et al. J Pediatr (2014)

Maternal influenza studies – infant outcomes

- Major birth defects after vaccination in VAERS, 1990 to 2014[1]
  - Major birth defects were infrequently reported, with no condition reported disproportionally
- Major structural birth defects in the VSD[2]
  - No increased risk after first trimester IIV exposure
- Infant mortality and hospitalizations in the VSD[3]
  - No increased risk of infant death, hospitalization or hospitalizations from respiratory causes following maternal IIV exposure

1. Moro PL, et al. Birth Defects Res (2017).
2. Kharbanda EO et al. Journal of Pediatrics (2017).
3. Sukumaran L et al. Pediatrics [in press]

Systematic reviews and meta-analyses

- Outcomes: fetal death, spontaneous abortion, congenital malformations[1]
  - In 19 studies, no increased risk of fetal death, spontaneous abortion, or congenital malformation following influenza vaccine
- Outcomes: stillbirth and spontaneous abortion[2]
  - In 7 studies, lower risk of stillbirth and no increased risk of spontaneous abortion following influenza vaccine
- Outcome: congenital malformations[3]
  - In 15 studies, no association was found between congenital defects and influenza vaccination at any trimester or at first trimester

1. McMillan M, et al. Vaccine (2015).
2. Bratting KN, et al. Clinical Infectious Diseases (2015).
3. Polyzos KA, et al. Obstetrics and Gynecology (2015).

A word about thimerosal

- Currently only used in multi-dose vials of influenza vaccine
- Institute of Medicine: “Immunization safety review: vaccines and autism”[1]
  - Scientific evidence does not support a causal association between thimerosal-containing vaccines and autism
- CDC study: “Prenatal and infant exposure to thimerosal from vaccines and immunoglobulins and risk of autism” [2]
  - Case-control study in VSD found prenatal exposure to thimerosal containing immunizations did not increase the risk of autism

1. Institute of Medicine (US) Immunization Safety Review Committee. (2004).
2. Price CS, et al. Pediatrics (2010).

Tdap vaccine safety studies: mom, baby and pregnancy

Maternal Tdap studies – general safety

- Adverse events after Tdap vaccines in pregnant women in VAERS, 2005-2010[1]
  - During a time when Tdap was not routinely recommended in pregnancy, no concerning patterns in maternal, infant, or fetal outcomes
- Enhanced surveillance of Tdap vaccines in pregnancy in VAERS, 2011-2015[2]
  - No new or unexpected adverse events were noted among vaccinated pregnant women after routine recommendations for maternal Tdap vaccination
  - Changes in reporting patterns expected, given the broader use of Tdap in pregnant women in the third trimester

1. Zheteyeva Y, et al. Am J Obstet Gynecol (2010).
2. Moro PL, et al. Vaccine (2016).

Maternal Tdap studies – maternal outcomes

- Medically attended maternal acute adverse events in the VSD[1-3]
  - Outcomes included local reactions, allergic reactions, neurologic events
  - No increased risk following Tdap vaccine, concomitant Tdap and IIV, or following repeated doses of tetanus-containing vaccines
- Clinical study of Tdap safety in pregnant women in CISA (in progress)[4,5]
  - Prospective observational study in pregnant and non-pregnant women
  - Preliminary findings: Tdap was well tolerated and immunogenic; proportion of reactions in pregnant women receiving repeat Tdap not higher than those receiving first Tdap

1. Kharbanda EO et al. Vaccine (2016)
2. Sukumaran L et al. Obstet Gynecol (2015)
3. Sukumaran L et al. JAMA (2015)
4. Presented to ACIP June 2016
5. Registered at ClinicalTrials.gov www.clinicaltrials.gov NCT02209623

Maternal Tdap studies – pregnancy outcomes

- Adverse obstetric events in the VSD[1]
  - Small statistically significant increased risk of chorioamnionitis
    - Follow-up study evaluating infant morbidity showed no signals (next slide)
    - No increased risk of hypertensive disorders of pregnancy
- Chorioamnionitis reports to VAERS[2]
  - Chorioamnionitis was infrequently reported (<1% of pregnancy reports) over a period of 24 years[2]
- Adverse birth outcomes in the VSD[1,3,4]
  - No increased risk of preterm delivery, small for gestational age following Tdap vaccine, concomitant Tdap and IIV, or following repeated doses of tetanus-containing vaccines

1. Kharbanda EO et al. JAMA (2014)
2. Datwani H, et al. Vaccine (2015).
3. Sukumaran L et al. Obstet Gynecol (2015)
4. Sukumaran L et al. JAMA (2015)

Maternal Tdap studies – infant outcomes

- Birth defects in the VSD[1]
  - No increased risk of microcephaly or other structural birth defects
    - Response to concerns of increase in microcephaly in Brazil related to Zika
- Infant morbidity in the VSD[2]
  - No increased risk of tachypnea of newborn, neonatal sepsis, neonatal pneumonia, respiratory distress syndrome, newborn convulsions after maternal Tdap vaccine despite slight increase in diagnosed chorioamnionitis
- Infant mortality and hospitalizations in the VSD[3]
  - No increased risk for infant death, hospitalizations or respiratory hospitalizations after maternal Tdap

1. DeSilva M et al. JAMA (2016)
2. DeSilva M et al. Vaccine (2017)
3. Sukumaran L et al. Pediatrics [in press].

Maternal vaccine safety recap

Recap

- Pregnant women and neonates at increased risk of complications from influenza and pertussis disease
  - Vaccination during pregnancy important tool to protect pregnant women and their infants
- Pregnant women often excluded from drug and vaccine pre-licensure trials
  - Post-licensure monitoring crucial
- The CDC has a comprehensive mechanism for monitoring vaccine safety
  - Studies support the use of influenza and Tdap vaccines in pregnancy and are consistent with larger body of evidence

Your recommendation matters

- Consistently shown in literature to be the most influential factor in a patient's decision to receive an immunization

Maternal Immunization: Understanding Safety and Efficacy and Making a Strong Recommendation

Maternal Vaccination Communication Strategies

Ashley Brooks, MPH
Health Communication Specialist
National Center for Immunization and Respiratory Diseases

Overview

- ACIP-recommended immunization schedule for pregnant women
- Research surrounding maternal immunization communication
- Role of health care provider
- Use of CDC, ACOG, and ACNM messaging and resources to address patient questions

ACIP recommendations for pregnant women

Maternal Vaccination

Vaccine	Before pregnancy	During pregnancy	After pregnancy	Type of vaccine
Influenza	Yes	Yes, during flu season	Yes	Inactivated
Tdap	May be recommended; it is better to vaccinate during pregnancy when possible	Yes, during **each** pregnancy	Yes, immediately postpartum, if Tdap never received in lifetime; it is better to vaccinate during pregnancy	Toxoid/ Inactivated
Td	May be recommended	May be recommended, but Tdap is preferred	May be recommended	Toxoid
Hepatitis A	May be recommended	May be recommended	May be recommended	Inactivated
Hepatitis B	May be recommended	May be recommended	May be recommended	Inactivated
Meningococcal	May be recommended	Base decision on risk vs. benefit; inadequate data for specific recommendation	May be recommended	Inactivated
Pneumococcal	May be recommended	Base decision on risk vs. benefit; inadequate data for specific recommendation	May be recommended	Inactivated
HPV	May be recommended (through 26 years of age)	No	May be recommended (through 26 years of age)	Inactivated
MMR	May be recommended; once received, avoid conception for 4 weeks	No	May be recommended	Live
Varicella	May be recommended; once received, avoid conception for 4 weeks	No	May be recommended	Live

Influenza and pregnant women

Health and Economic Cost of Influenza

- Millions of cases per year, varies year to year
- 226,000 hospitalizations per year, >75% among adults[1]
- 3,000–49,000 deaths per year, >90% among adults[2]
- Direct medical cost – $10.4 billion[3]
- With loss of work and life – $87 billion
- Estimates for 2015–2106[4]
  - 25 million illnesses
  - 11 million medical visits
  - 310,000 hospitalizations
  - 12,000 deaths

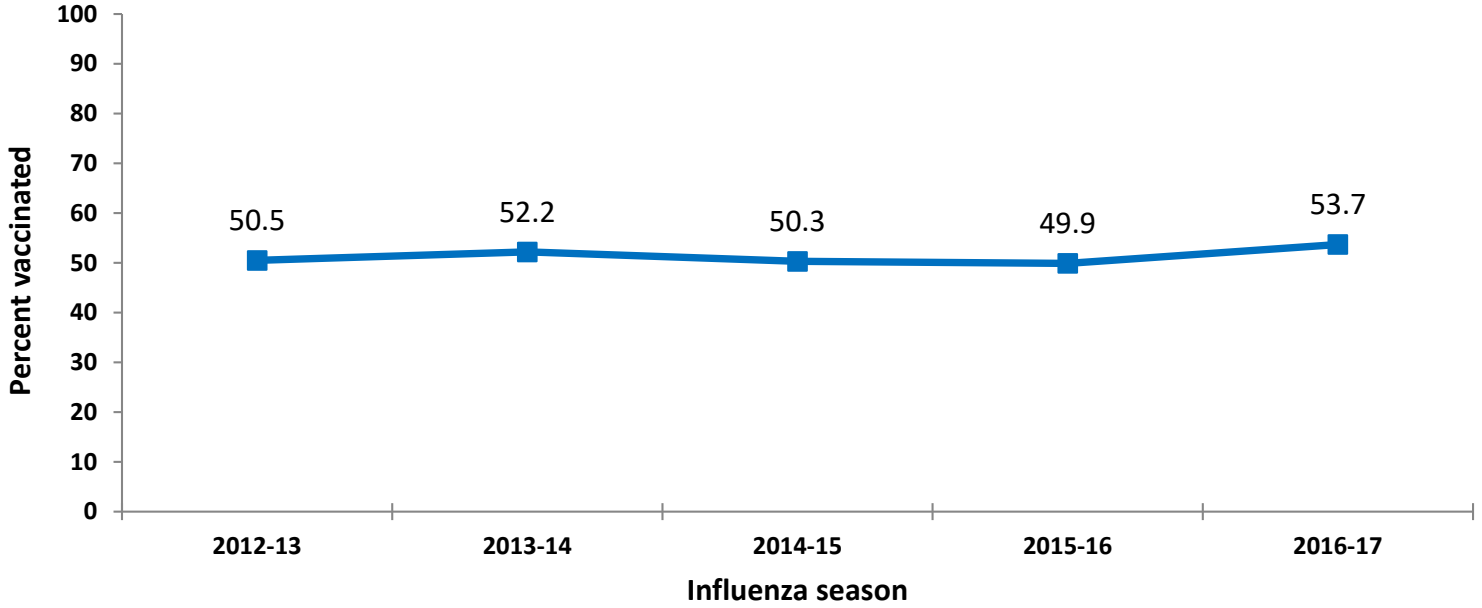
1. Thompson WW, et al. Influenza-Associated Hospitalizations in the United States. JAMA 2004;292:1333–1340
2. CDC. Estimates of deaths associated with seasonal influenza – United States, 1976–2007. MMWR 2010;59(33):1057–1062
3. Molinari, et al. The annual impact of seasonal influenza in the US: Measuring disease burden and costs. Vaccine 2007;25:5086–5096
4. CDC. Estimated Influenza Illnesses, Medical Visits, Hospitalizations, and Deaths Averted by Vaccination in the United States, 2017. Available at: www.cdc.gov/flu/about/disease/2015-16.htm

Influenza and Pregnancy

- Influenza illness during pregnancy
  - Higher risk for severe illness and complications
  - Increase in delivery complications (fetal distress, preterm labor, cesarean delivery)
- Vaccinating pregnant women
  - Protective levels of anti-flu antibody for mom, passive transfer of antibody for baby
  - Reduced risk for influenza infection and hospitalizations among infants <6 mos age
  - 36%↓ in respiratory illness for mom, 29%↓ for infants <6 mos age
  - 63%↓ in lab-confirmed flu among infants <6 mos age
- Influenza vaccination recommended for women who are or will be pregnant
  - CDC, American College of Obstetricians and Gynecologists, American College of Nurse Midwives, American Academy of Family Physicians

- Grohskopf LA et al. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2013–2014. MMWR 2013;62(RR07);1–43
- Eick AA et al. Maternal influenza vaccination and effect on influenza virus infection in young infants. Arch Pediatr Adolesc Med 2011;165:104–11

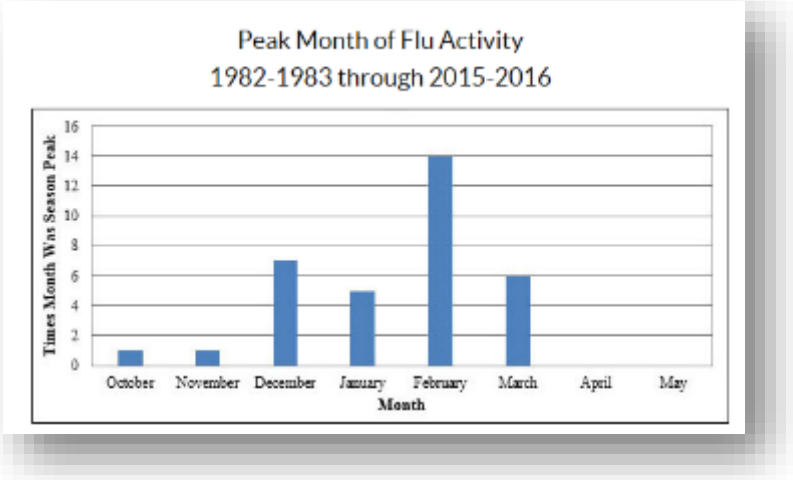
Influenza Vaccination Coverage Among Pregnant Women, 2010–2011 through 2016–2017 Influenza Seasons



Maternal Flu Vaccine Recommendation

- CDC recommends that pregnant women get a flu shot during any trimester of their pregnancy to protect themselves and their newborn babies from flu.

- By the end of October, if possible, to help ensure protection before flu activity begins to increase



Pertussis and pregnant women

Burden of Pertussis

- Notifiable disease based on clinical, lab, epi criteria
- 21,000 cases in 2015, 22% among adults (underdiagnosed and underreported)
- Transmission from adults to children
  - Disease most severe for infants
  - Among hospitalized, apnea (61%), pneumonia (23%), death (1%)

CDC. National Notifiable Disease Surveillance System www.cdc.gov/pertussis/surv-reporting.html
CDC. MMWR 2017;66(11):1-28

Pertussis Vaccination Recommendations

- Adults
  - 1 dose Tdap if previously not received, except for pregnant women
- Pregnant women
  - Direct protection for mom, indirect protection for baby
  - Infants of vaccinated moms were born with significantly higher anti-pertussis antibodies if Tdap given in pregnancy weeks 27–36
  - Concentration of anti-pertussis antibodies in infant cord blood higher when mothers vaccinated earlier in this window
  - Longer exposure to vaccine allows higher vaccine-induced antibody levels produced by mother and transferred to infant
  - Vaccination is recommended for *every* pregnancy
  - Cocooning alone may not be effective and it is difficult to implement

CDC. MMWR 2012;61:ND:719–32
CDC. MMWR 2013;62(07):131–135

Pertussis Vaccination Recommendations

- Adults
  - 1 dose Tdap if previously not received, except for pregnant women
- Pregnant women
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  - Infants of vaccinated moms were h… pertussis antibodies if Tdap given in pregn…
  - Concent… in infant cord blood higher when mothers vaccinate… low
  - Longer ex… to vaccine allows higher vaccine-induced antibody levels produced by mother and transferred to infant

Administer 1 dose of Tdap every pregnancy preferably during early part of gestational weeks 27–36

CDC. MMWR 2012;61:ND:719–32

CDC. MMWR 2013;62(07):131–135

Bottom Lines

- Pregnant women should get influenza vaccine and Tdap (for every pregnancy)
- But vaccination coverage rates remain low

- We know that health care provider recommendations have big impact
- So, focus on effective messaging and communication strategies

What does communication research tell us?

CDC Maternal Research

Summary of Findings from 2014 Mixed Methods Research

Methodology:

- Surveys
- Focus groups
- In depth interviews

Pregnant Women

- Low disease and vaccine awareness
- Protection for their babies is very important
- Want to be assured of safety
- High information-seeking
- Want information from ob-gyn or midwife

Ob-gyns

- Are recommending vaccines to pregnant patients
- Understand importance of maternal vaccination
- Low perceived susceptibility
- Systems barriers to stocking vaccines

Additional Research: November – December 2016

- Online survey and message testing with pregnant women
  - 251 pregnant women aged 18-45 years in U.S. receiving prenatal care
  - Mixed household income, age, and experience with pregnancy
  - Range of intention for flu and Tdap vaccines

- In-depth interviews with HCPs
  - 16 OB-GYNs and 8 certified nurse midwives (CNM)
  - Across all regions of U.S.
  - Included those that provide Tdap onsite + those that refer

Key Findings: Pregnant Women

- Vaccine Recommendations
  - 69% received flu vaccine recommendation and 41% received Tdap vaccine recommendation
  - About 60% who received recommendations (for flu or Tdap vaccine) were told the vaccine was “extremely or very important”
- Vaccine Acceptance
  - More respondents had gotten or intended to get flu vaccine (59%) than Tdap (42%)
  - 28% had decided not to get each of the vaccines
- Vaccine Decision-making
  - Pregnant women get vaccines because their prenatal care providers recommend them or because they heard the illnesses could harm their baby.
  - They want information about safety of individual vaccines, side effects, and vaccine ingredients.

How HCPs Talk about Maternal Vaccines

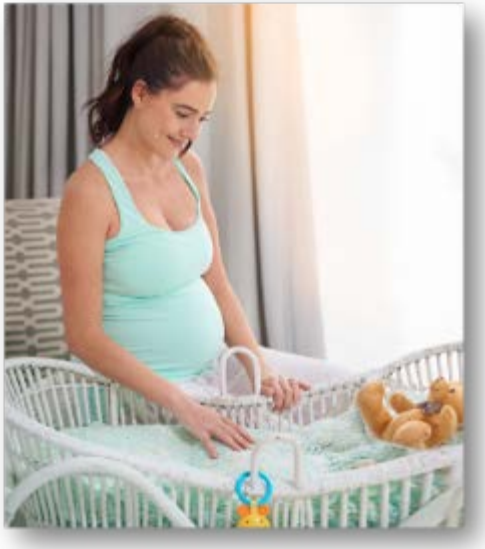
- Most use similar Tdap and flu vaccine messages with patients
- Most discuss Tdap and flu vaccination concurrently, during initial intake visit
  - Use printed materials to help educate patients about vaccines
- Key message themes to facilitate vaccine conversations:
  - Disease susceptibility and severity
  - Vaccination benefits (protection, passive immunity)
  - Vaccine safety
- CNMs were more likely than OB-GYNs to feel uncomfortable making a strong recommendation for either vaccine, as they view it as a patient decision

Best Ways to Reach Pregnant Women

- Pregnant women get maternal vaccination formation from 3 main sources:
  - 80% HCPs (most important source for 60%)
  - 50% Internet health resources
  - 33% Family
- However, most are not actively looking for information about pregnancy vaccines
- Some pregnant women would be prompted by messages they see online to ask their HCP about maternal vaccination

Role of Health Care Provider

We know pregnant women have questions once they realize they need vaccines…



Are these diseases really dangerous?

Is it safe for me and my baby?

Can't I just get it after my baby is born (like my last pregnancy)?

Why every pregnancy?

Why hasn't my doctor talked to me about this?

Is it enough to just make sure everyone around my baby is vaccinated (or if we stay away from sick people)?

They may look to many sources for pregnancy-related information

Standards for Adult Immunization Practice

- All health care providers, including those who do not provide vaccine services, have role in ensuring adult patients up-to-date on vaccines
- Call to action for adult health care providers to
  - **ASSESS** vaccination status of all patients at every clinical encounter
  - Strongly **RECOMMEND** vaccines that patients need
  - **ADMINISTER** needed vaccines or **REFER** to a vaccine service provider
  - **DOCUMENT** vaccines received by patients in state vaccine registries

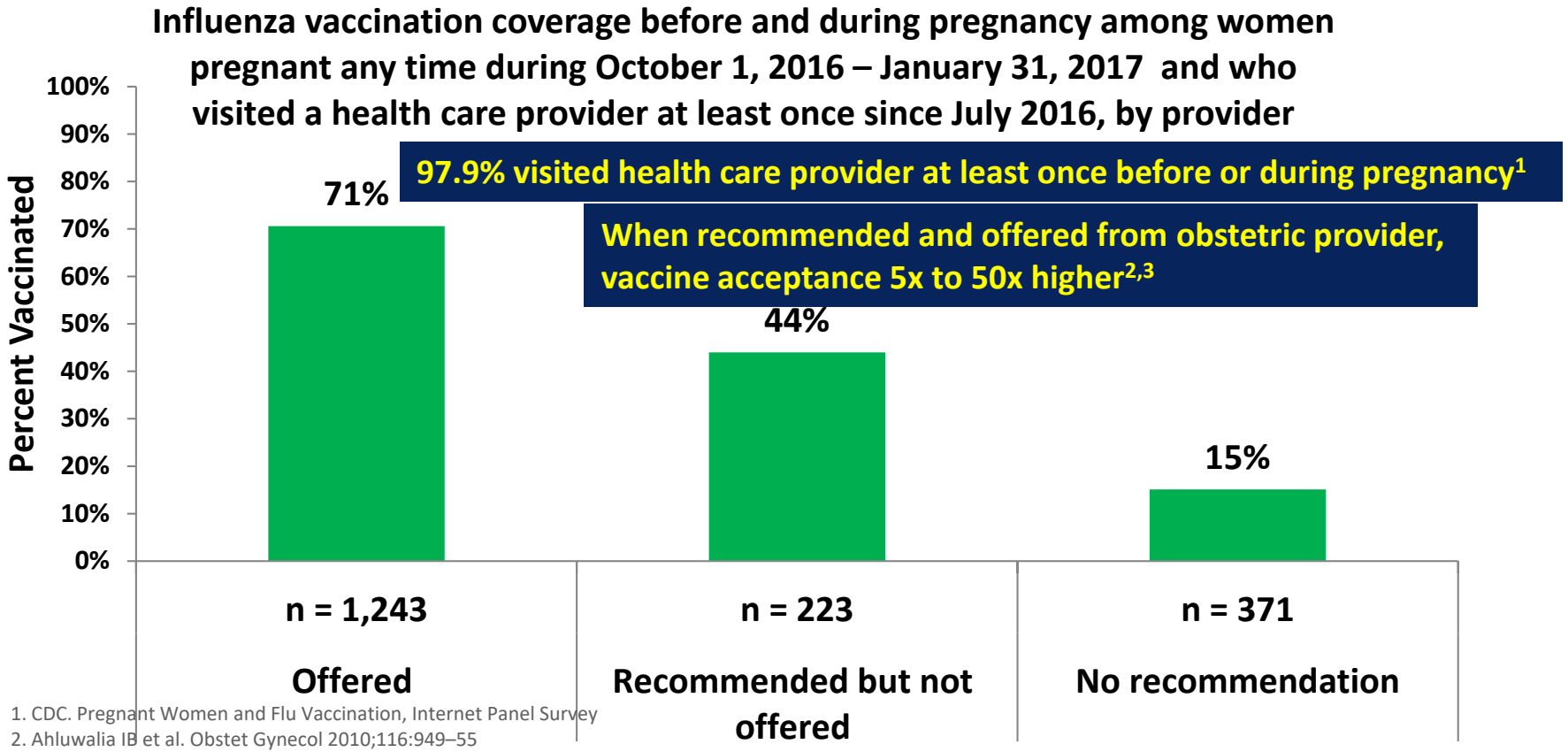
Public Health Reports 2014;129:115–123

Present Vaccination as a Standard Part of Obstetric Care

- Provide your patients with information and resources about maternal vaccines during her first prenatal visit, and be sure to mention the timeframe for each vaccine when discussing her pregnancy
- Ensure your staff deliver consistent messaging about the importance of maternal vaccines
- Normalize vaccination as part of your patients' pregnancy care

Making a strong recommendation

Vaccination Uptake by Provider Recommendation and Offer



1. CDC. Pregnant Women and Flu Vaccination, Internet Panel Survey
2. Ahluwalia IB et al. Obstet Gynecol 2010;116:949–55
3. Shavell VI et al. J Am Board Fam Med 2006;19:345–9

A Strong Recommendation Makes a Difference

- Providers should talk to pregnant patients about the importance of **on-time** vaccination
  - Pregnant patients need to be vaccinated to protect them and their babies
  - Pregnant patients may not be aware of the recommendations
  - Healthcare providers are patients most trusted sources of health information during their pregnancies.

Strong Vaccine Recommendation

- CDC's research indicates that some pregnant women do not feel their healthcare providers strongly recommend vaccines
- Providers should state clearly that they would like her to get vaccinated

> "Today, I strongly recommend two vaccines to help protect you and your baby against the flu and whooping cough."

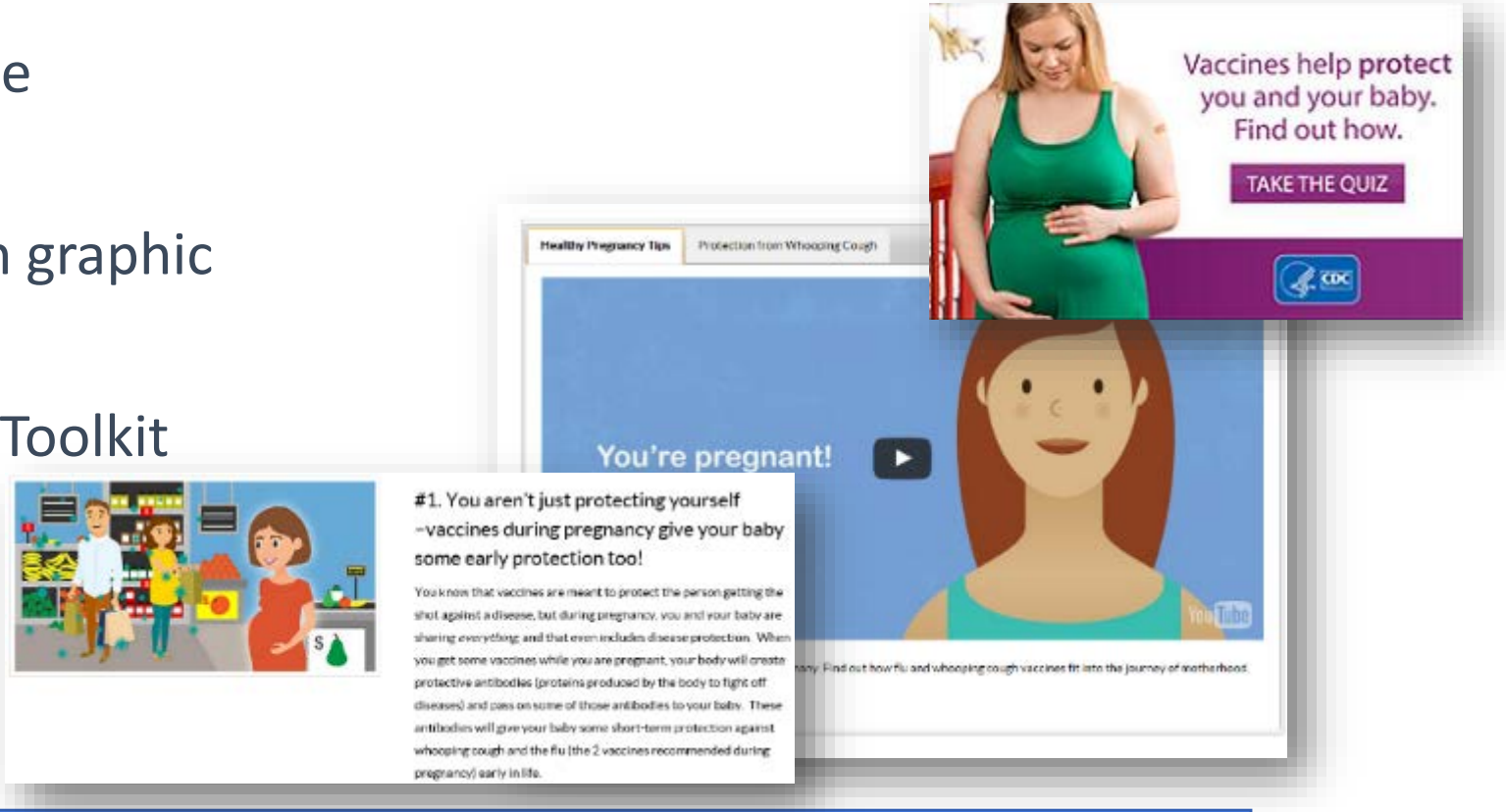
HCPs can SHARE information with patients

- **SHARE** tailored reasons why the recommended vaccine is right for the patient
- **HIGHLIGHT** positive experiences with vaccines to reinforce the benefits and strengthen confidence in vaccination
- **ADDRESS** patient questions and any concerns about the vaccines
- **REMIND** patients about the protection vaccines can help provide from serious diseases
- **EXPLAIN** the potential costs of getting the disease

Resources and Tools

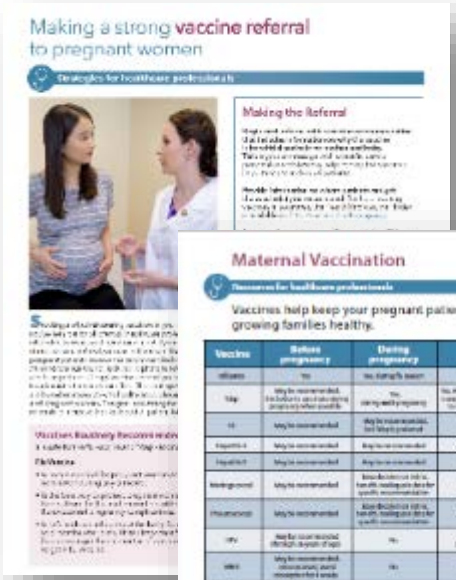
Digital Resources

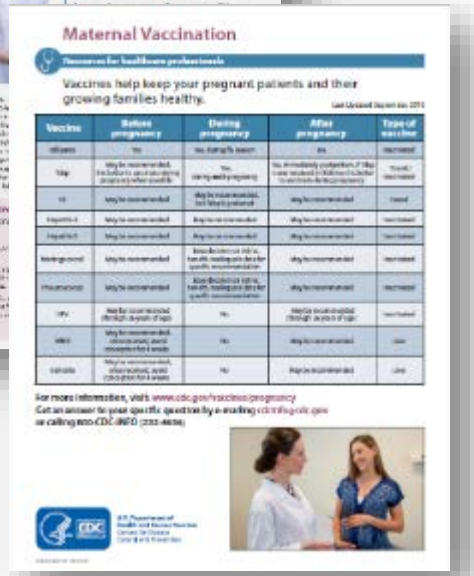
- Website
- Quiz
- Motion graphic
- Listicle
- Digital Toolkit

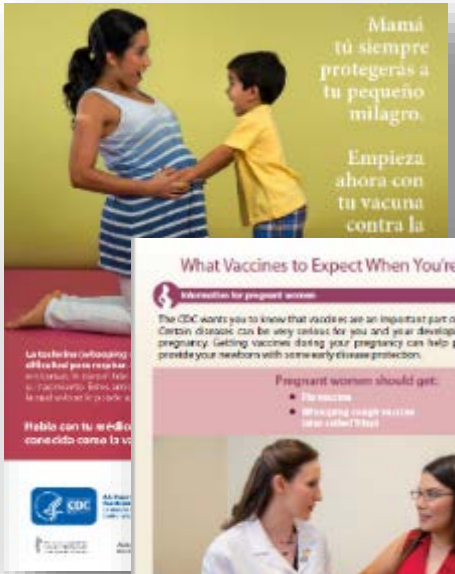


www.cdc.gov/vaccines/pregnancy

Print Resources







www.cdc.gov/vaccines/pregnancy

ACOG Resources

- Immunization for Women website
- Patient & Provider Resources:
  - Clinical Guidance
  - FAQs
  - Recommendations
  - Safety
  - Coding and Reimbursement
  - Practice Management

ACNM Resources

- Talking Points
- Position statements
- FAQ
- Posters, coloring books
- Curriculum
- Other resources
- http://midwife.org/Immunization-Resources-for-Providers
- SuperMom
- http://ourmomentoftruth.com/your-health/importance-of-vaccines/

What Can YOU Do?

- **GET VACCINATED**
- **TALK** to pregnant patients about maternal vaccines
  - Tell them way it's important for them and their babies
  - Make the conversation and recommendation memorable and compelling
- **ADMINISTER** indicated vaccines in your office if possible and **FOLLOW UP** to ensure receipt
- **USE** and **PROMOTE** resources available and encourage others to do the same
  - Include maternal vaccine resources in prenatal information packets
  - Promote resources and products through social media channels
- **EDUCATE** your staff about maternal vaccines
  - Identify or serve as a Vaccine Champion in your practice
- **ENCOURAGE** pregnant women to ask questions
- **TELL US** what else you need to help you communicate about vaccines

www.cdc.gov/vaccines/pregnancy

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Questions?

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1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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.

Extra Slides

Spontaneous abortion (SAB) and influenza vaccine

- Background rates of SAB range from 10-22%
- Miscarriages following (not attributed to) influenza vaccine are expected
- Limited data on first trimester influenza vaccine exposure
  - In a 2015 systematic review, 7 studies evaluating SAB found no risk
- Observational studies have limitations
  - Cannot prove flu vaccine was cause of miscarriage
- Original VSD study evaluating 2005-2007 seasons found no risk
  - Follow up study results expected 2019

1. Grohskopf L et al. MMWR (2017).

How to talk to patients about SAB

- Health care decisions should be an ongoing discussion between provider and patient
- Providers should use clinical judgement, based on factors including the patient's health status, local influenza activity, and then benefits versus potential risks from flu vaccination when deciding whether and/or when to immunize their patient against influenza

https://www.cdc.gov/flu/professionals/vaccination/vaccination-possible-safety-signal.html