

# *Antepartum Cocooning With Tdap Vaccine to Prevent Pertussis and Promote Maternal, Fetal and Neonatal Outcomes*

*KATHIE LLOYD MSN, CNM, CNS  
NEVADA STATE HEALTH DIVISION,  
IMMUNIZATION SPECIAL  
PROJECTS MANAGER*

# Background - 1

- *Pertussis is the only vaccine preventable disease on the rise worldwide for more than 20 years*
- *Adolescents and adults with waning immunity have become today's vectors of pertussis*
- *Pertussis morbidity and mortality are highest in infants less than 3 months of age*
- *Family members and close contacts of the newborn are the most common source of infection, when a source can be identified*

# Background - 2

- *Many states have had outbreaks of pertussis in recent years including:*
  - *Arizona, Delaware, Illinois, Kentucky, Michigan, Minnesota, Ohio, Oregon, Pennsylvania, South Carolina, Texas, and Wisconsin*
  - *Best known is the California epidemic of 2010:*
    - *9,154 cases of pertussis*
    - *10 infant deaths; all less than 3 months of age*
    - *New recommendations for Tdap were instituted by the California Department of Public Health in 2010*
    - *The deaths stopped*

# Background - 3

- *Since 2005, ACIP recommendations for Tdap in pregnancy have been for women:*
  - *before becoming pregnant*
  - *in the immediate postpartum period*
- *October 21, 2011 ACIP recommendations changed to (PREFERRED):*
  - *administer Tdap during pregnancy, preferably during the third or late second trimester (after 20 weeks' gestation)*
  - *if not administered during pregnancy, Tdap should be administered immediately*
- *These were the recommendations made in 2010 by the California Department of Public Health*

# *Benefits of Tdap Vaccine Administered During Pregnancy*


- *Pregnant women protected sooner from:*
  - *respiratory disease in late pregnancy*
  - *increased risk of preterm labor and birth*
- *Fetus protected by transplacental antibodies*
- *Neonate has passive immunity by birth:*
  - *protection during most vulnerable period of life*
  - *active immunity begins with DTaP series at 2, 4, 6, 15-18 months and 4-6 years of life*

# *An Opportunity Presents Itself*

- *Many OB provider sites (OBs, FPs, CNMs, PAs) across Nevada agreed to offer no-cost H1N1 to pregnant women (2009-2010); "novice immunizers"*
- *30 OB provider sites across Nevada agreed to offer no-cost influenza vaccine to pregnant women (2010-2011); "increasingly confident immunizers"*
- *29 OB provider sites across Nevada agreed to offer no-cost influenza AND Tdap to pregnant women (2011-2012); "gutsy and maturing immunizers"*



# *Populations Served Through This Project*

- *Diverse populations across Nevada:*
    - *Urban, rural and frontier communities*
    - *Hispanic, white, African American and Asian pregnant women*
    - *Spectrum of economic backgrounds*
    - *Spectrum of educational backgrounds*
    - *Spectrum of OB provider sites*
- 

# Project Description

- *Enrollment in a project to offer no-cost influenza AND Tdap vaccines to pregnant women was offered to the 30 OB provider sites from the 2010-2011 influenza project by the Nevada State Immunization Program (NSIP)*
- *The updated ACIP recommendations were given to the OB provider sites by NSIP*
- *Encouragement to follow the science and ACIP recommendations was provided by NSIP*
- *Sites began ordering (317) vaccines from NSIP and administering influenza AND Tdap vaccine to pregnant women across Nevada*



# *NSIP Expectations of This Project*

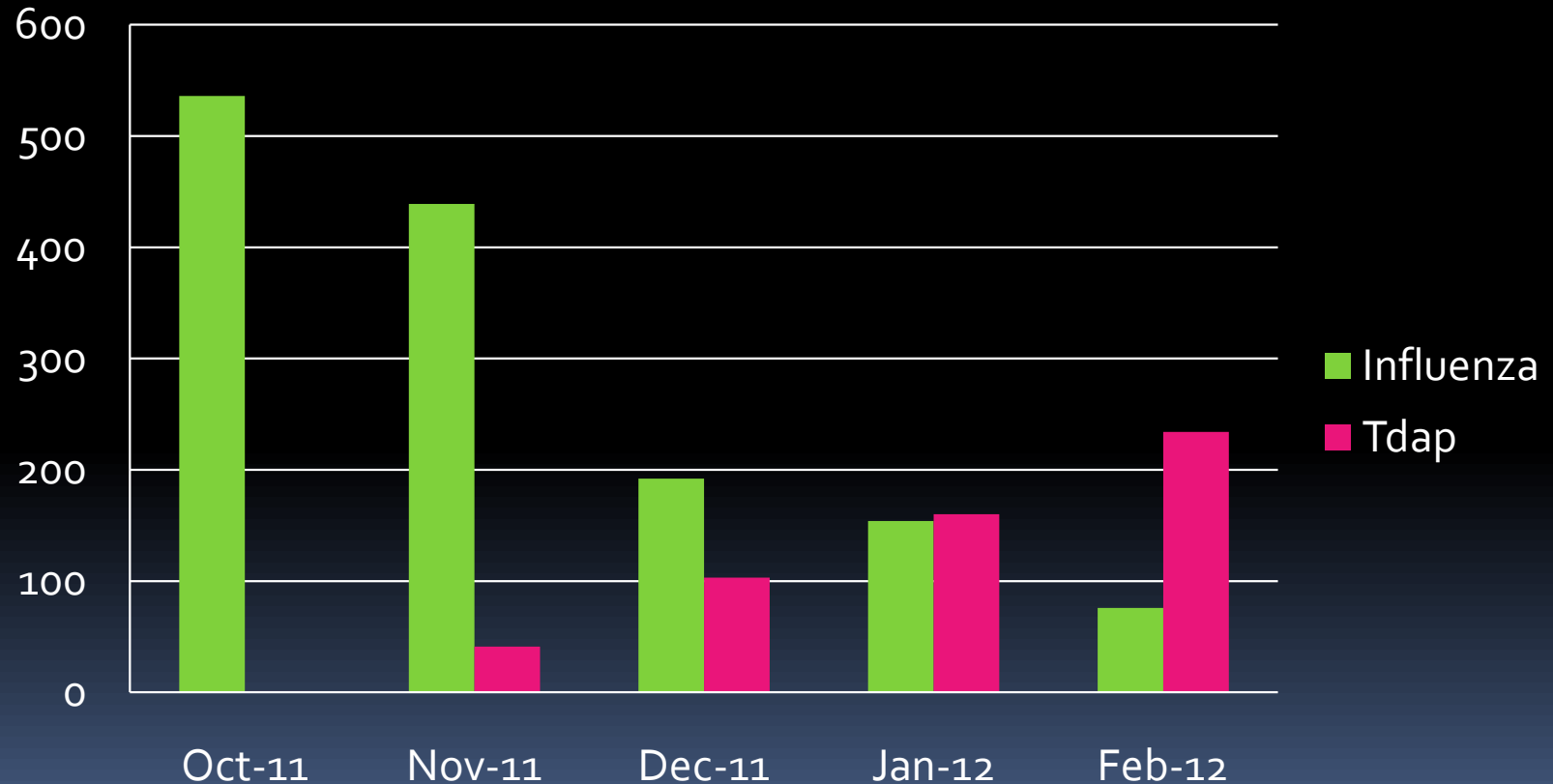
- *There would be hesitation on the part of OB providers and pregnant women about Tdap during pregnancy in the beginning; a learning curve for both groups*
- *Further education and encouragement would be needed to make progress in this new area of OB immunization history*
- *We would be pleased to see any progress with antepartum cocooning and wanted to know how many pregnant women and neonates we could protect from pertussis in the first year*

# *Our Early Results*

- *Latest ACIP recommendation on Tdap in pregnancy was only published in MMWR on October 21, 2011:*
  - *Initial results only represent Tdap vaccine administered from October 2011-February 2012:*
    - *Influenza vaccine – 1,397 doses given*
    - *Tdap vaccine – 539 doses given*
  - *We need at least one full year of data collection to see how effective OB providers can be in antepartum cocooning with influenza AND Tdap*


# Early Results of OB Provider as Immunizer Project

## Doses of Influenza and Tdap Vaccines Given

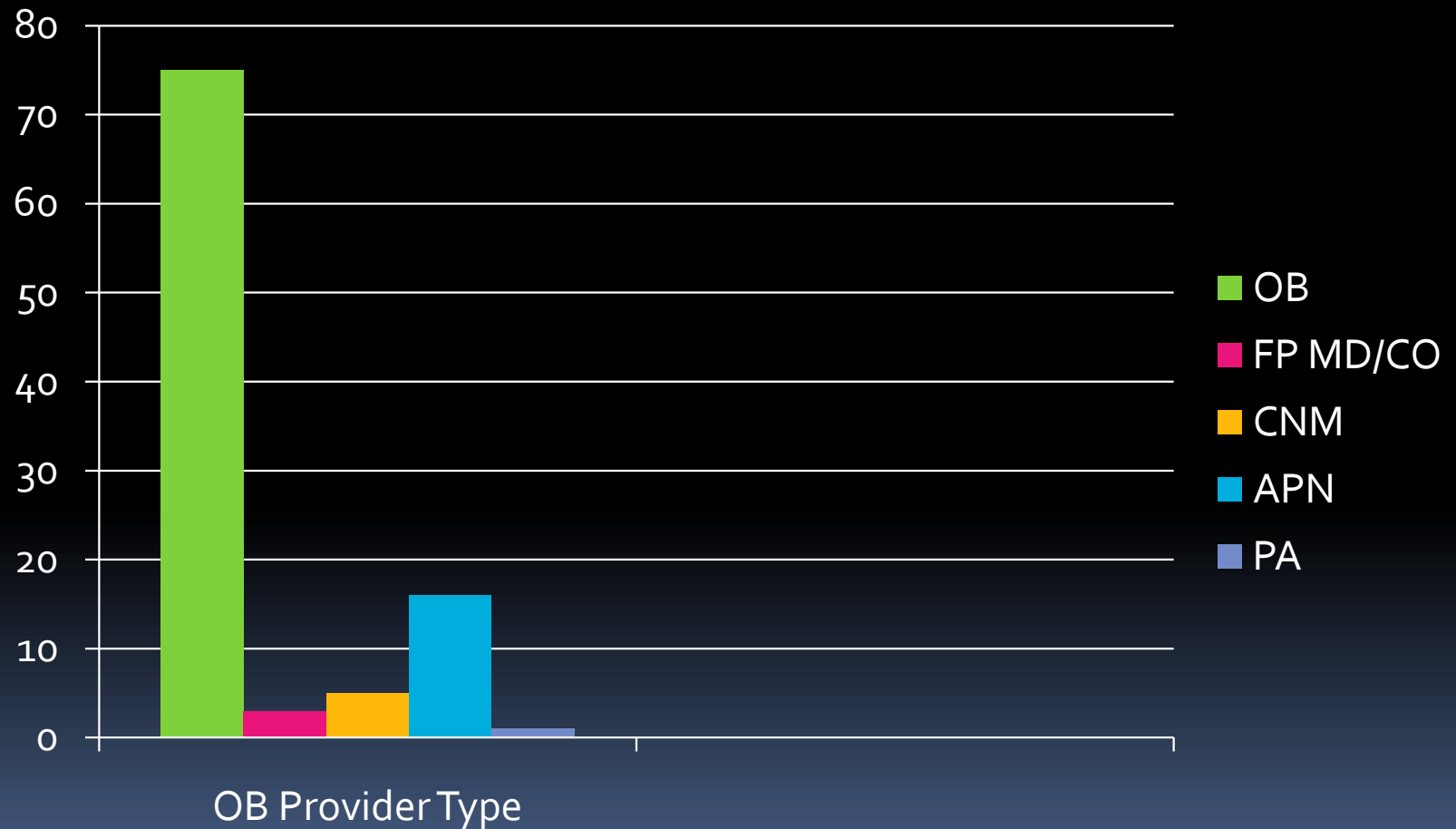




## *Further Data We Want to Collect*

- *We need to collect demographic data on the pregnant women immunized*
  - *We need to compare cases of infant pertussis in Nevada prior to and after antepartum Tdap immunization of pregnant women*
  - *We need to compare types of providers of OB care as vaccine champions and immunizers*
- 

# *Types of OB Providers in the Project*



# Conclusion

- *After only 4 months of OB providers offering no-cost influenza and Tdap vaccine to pregnant women, we see a gradual increase in doses of Tdap administered, but are only 1/3 through our first year of this project*
- *We have had a few more OB provider sites request involvement in this project and would like to increase this number and the number of pregnant women and neonates we can protect*
- *More complete information will be available in November 2012....*

# *Contact and Special Thanks!*

*If you have questions about this presentation, please contact Kathie Lloyd MSN, CNM, CNS, Immunization Special Projects Manager :  
[klloyd@health.nv.gov](mailto:klloyd@health.nv.gov)*

*Thank you to the following:  
Advisory Committee on Immunization Practices  
Centers for Disease Control and Prevention  
Nevada State Health Division  
OB Providers Across Nevada*