

# Insights on Protecting Infants Against Pertussis

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FROM THE NATIONAL IMMUNIZATION  
CONFERENCE

ATLANTA – A Texas hospital's cocooning program demonstrates such efforts can be successful, but it also highlights the challenges and barriers to implementation, according to Dr. C. Mary Healy.

Using standing orders and on-site immunization, Houston's Ben Taub General Hospital successfully implemented cocooning in a high-risk population, said Dr. Healy, director of vaccinology and maternal immunization at the center for vaccine awareness and research, Texas Children's Hospital, Houston.

In 2006, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices

**Cocooning involves vaccinating the baby's mother and other adults and adolescents who have contact with the newborn so the baby is surrounded by those who cannot spread pertussis.**

recommended Tdap booster immunizations for infant caregivers, but the approach has not been widely implemented, she reported at the conference sponsored by the CDC.

Cocooning involves vaccinating the baby's mother and other adults and adolescents (including health care providers) who have contact with the newborn. As a result, the baby is surrounded by those who cannot spread pertussis.

Infants under 6 months old are too young to have received all three doses of the pertussis vaccine, and most pertussis-related complications and deaths occur in this age group, she said.

More than 75% of infected babies get pertussis from family members; some regions of the country are experiencing an increase in pertussis because of waning immunity, she noted.

Dr. Healy reported on Ben Taub General Hospital's program to implement cocooning in a medically underserved, uninsured, predominantly Hispanic population.

Hispanic infants are at increased risk, accounting for 70% of the pertussis-related deaths in the United States in 2007, she said.

In phase 1 (launched January 2008), postpartum Tdap was provided.

In phase 2 (launched June 2009), infant caregivers were immunized on-site before the infant was discharged.

The effort began with pertussis education for health care personnel and mothers, and a standing order for postpartum Tdap immunization. From Jan. 7, 2008, to Jan. 31, 2010, 8,138 of 11,174 postpartum women (73%) received the Tdap vaccine prior to discharge.

When women who believed themselves ineligible for the vaccine were excluded, the rate rose to 96.2%.

Postpartum Tdap uptake increased 17% after the required 2-year interval from a previous tetanus-containing vaccine was eliminated, Dr. Healy reported.

Vaccine refusal was three times more common among black women. She noted that her team will be conducting ad-

ditional research on this finding; the hospital's demographic data didn't distinguish between African Americans and recent immigrants from Africa.

In phase 2, 1,860 other infant caregivers received Tdap. The median number of Tdap-eligible caregivers per infant was three; a median of two were immunized.

Fifty-eight percent of the families had one or more infant contacts (other

than the mother) vaccinated.

Overall, Tdap immunization was well accepted; no significant adverse events were reported.

Hospital restrictions imposed because of 2009 H1N1 influenza likely depressed the number of caregiver vaccinations, Dr. Healy said.

For much of the study period, mothers could select only one visitor during their stay; other friends and family – potential

Bacterial conjunctivitis has met its...  
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## VITALS

**Major Finding:** Seventy-three percent of postpartum women received the Tdap vaccine prior to discharge.

**Data Source:** A medically underserved, uninsured, predominantly Hispanic population of 11,174 postpartum women.

**Disclosures:** Sanofi Pasteur donated the vaccines. Dr. Healy said that she has served on an advisory board for Novartis.

caregivers – could come to the hospital to receive the Tdap, but they were barred from visiting the mother or the infant. That had an understandably negative effect, she said.

The program is ongoing, and it has

revealed many of the barriers to adequate cocooning, Dr. Healy said. They include the need for targeted education; convenient, out-of-hours service; and accurate, easily accessible immunization records.

The critical issues, she said, are how to develop the infrastructure and finding the funding for such a program. What made her program feasible, she noted, is that the vaccines were donated.

Reimbursement issues make cocooning more difficult because the cost of Tdap for infant caregivers isn't bundled into neonatal or perinatal care.

Dr. Healy said she and her team didn't estimate potential cost, but in terms of staffing it required one full-time nurse, one who spent 40%-50% of her time on the project, and one who spent about 25% of her time primarily

managing operational issues and the database.

Dr. Healy estimated she spent about 20%-30% of her work hours on the project.

Education for families and health care professionals is critical, she said.

Family, pediatric, and obstetric and midwife practices all can play roles in helping reach caregivers.

Moreover, any clinician working with adults needs to think about these issues when talking to patients, especially those who have contact with young infants, Dr. Healy said in an interview. ■

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<sup>†</sup>Efficacy for this organism was studied in fewer than 10 infections.

**References:** 1. Besivance® Prescribing Information, April 2009. 2. Tepedino ME, Heller WH, Usner DW, et al. Phase III efficacy and safety study of besifloxacin ophthalmic suspension 0.6% in the treatment of bacterial conjunctivitis. *Curr Med Res Opin.* 2009;25(5):1159-1169. 3. Karpecki P, DePaolis M, Hunter JA, et al. Besifloxacin ophthalmic suspension 0.6% in patients with bacterial conjunctivitis: a multicenter, prospective, randomized, double-masked, vehicle-controlled, 5-day efficacy and safety study. *Clin Ther.* 2009;31(3):514-526. 4. InSite Vision Web site. <http://www.insitevision.com/durasite>. Accessed April 29, 2010.

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