Lessons Learned in Implementing a Cocoon Program to Prevent Infant Pertussis at Four Kansas Hospitals

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What is pertussis?

- Caused by bacterium *Bordetella pertussis*
- Known as whooping cough
- Highly contagious
- Symptoms: uncontrollable, violent coughing – can result in difficulty breathing
- Can be fatal
- Immunization can be used to protect against pertussis

Number diagnosed with Pertussis by age group, United States 1997-2000

![Graph showing number of pertussis cases by age group, United States 1997-2000.](image)


Hospitalizations due to Pertussis by age group, United States 1997-2000

![Graph showing hospitalizations due to pertussis by age group, United States 1997-2000.](image)

Pneumonia Secondary to Pertussis by age group, United States 1997-2000

Seizures Secondary to Pertussis by age group, United States 1997-2000

Mortality due to Pertussis by age group, United States 1997-2000

Rise of Pertussis Cases Reported to the CDC

Who Was the Source?

- 2004 Study:
  - Parent: 25%
  - Sibling: 47%
  - Grandparent: 8%
  - Other: 20%

- 2007 Study:
  - Parent: 22%
  - Sibling: 56%
  - Grandparent: 6%
  - Other: 16%


Cocooning

- 2001 - The Global Pertussis Initiative (GPI) recommended cocooning:
  - Immunization of family members and close contacts of the newborn
- 2006 - ACIP recommended Tdap booster immunization
- Two groups are targeted:
  - Postpartum women before hospital discharge
  - Contacts of infants age < 1 year

Objectives of Pilot Program

- Increase pertussis awareness through education
  - Health care providers
  - Families of newborns
- To immunize 80% of postpartum women delivering at project hospitals
- To immunize 1 primary caregiver designated by the new mother

The chosen ones

- Number of births
- Vaccines for Children (VFC) enrollment
- Location
- Willingness to participate
Initial Implementation

- January 2010: Presentations to hospitals and local health departments
- Goals:
  - Mom
    - Standing orders for postpartum Tdap
    - Tdap administered on hospital discharge
  - Caregiver
    - Voucher given during pre-registration or during hospital stay

Voucher

<table>
<thead>
<tr>
<th>Pertussis Vaccine Voucher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom’s Initials:___________</td>
</tr>
<tr>
<td>Date:___________</td>
</tr>
<tr>
<td>Relationship to newborn:</td>
</tr>
<tr>
<td>☐ Parent ☐ Grandparent ☐ Other_________</td>
</tr>
</tbody>
</table>

Franklin County Health Department
1418 South Main St, Ottawa, KS
(785) 229-3530
M, T, R, F 7 – 4:30, W 7 – 6:15

Results (January – June 2010)

<table>
<thead>
<tr>
<th>Post Partum Women</th>
<th>Number Vaccinated</th>
<th>Percent Vaccinated</th>
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<td>83.9%</td>
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Total number of births: 248

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Total number of births: 248
Time for a Change

- Postpartum vaccination on target
- Primary caregiver vaccination rate lower than expected
- Barriers identified:
  - Fear of Needles
  - Time
  - Lost voucher

Local Health Department Differences

<table>
<thead>
<tr>
<th>Appointment Needed?</th>
<th>County 1</th>
<th>County 2</th>
</tr>
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<tr>
<td>Administration Fee Charged?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Local health department resources used</td>
<td>Healthy start nurses</td>
<td>Packets sent to new parents</td>
</tr>
<tr>
<td>Proximity to hospital</td>
<td>Across the street</td>
<td>Across the street</td>
</tr>
<tr>
<td>Caregiver Immunization Rates, January – June</td>
<td>27.9%</td>
<td>14.3%</td>
</tr>
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Process Enhancements

- Standing order for family member vaccination prior to mother and infant discharge
- Involve stakeholders
  - Medical Records, Nursing staff, Pharmacists, Pediatricians, OB/GYN, Local Health Departments

Stumbling Blocks

- Admission to the hospital versus no admission for designated family member
  - Liability concerns
  - Tracking methods
  - Cost
- Hospital conglomerates
Ransom Memorial

Lessons Learned

- The best laid plans
- There’s more than one way to skin a cat
- Get them while they’re hot
- Don’t throw the baby out with the bath water
- It takes a village

Acknowledgements

- KDHE Staff
  - Martha Siemsen, ARNP-BC
  - Sue Bowden, RN, BSN
  - Immunization Staff
- Franklin County Health Department
  - Midge Ransom – Administrator
  - Rebecca Hastings – Immunizations
- Montgomery County Health Department
  - Ruth Bardwell – Administrator
  - Carolyn Mueller – Immunizations
- Dickinson County Health Department
  - Linda Davies – Administrator
  - Brenda Weaver – Immunizations
- All HCP’s who care for pregnant women and their newborn infants
- Ransom Memorial Hospital
  - Larry Felix – Administrator
  - Justine Fine – OB Nurse Manager
- Coffeyville Memorial Hospital
  - Jerry Marquette – Administrator
  - Carla Robson – OB Nurse Manager
- Memorial Hospital Abilene
  - Mark A Miller – Administrator
  - Teresa Hudson – OB Nurse Manager
- Memorial Hospital kost
  - Eric Ammons – Administrator
  - Jenn Wintjen – OB Nurse Manager

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