Amish Pertussis Outbreak and Education

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ISDH D7 Field Epidemiologist
Responding to Need

- 3/29/17: ISDH D7 Field Epi was contacted regarding infant death.
  - Amish community’s midwife → Parke county PHN → D7 Epi → ERC

- 4/5/17: ISDH D7 Field Epi gave presentation regarding basic biology, vaccines, and pertussis.
  - This led to an interest in mass vaccination.
Educational Presentation

• 12 adults present
  – 1 male
    • Asked most questions
  – 1 pregnant woman
    • Only female who asked questions
  – 1 midwife
    • Described clinical situation

• 2 PHNS and 1 Field Epi
Amish Pertussis Education Tools

- No PowerPoint
  - Nothing electronic
- No human photos
- Q&A
  - Ability to write questions down
  - Most asked through midwife
• Immunology: cell signaling and how the body responds to germs (and vaccines) on a microscopic level.
Drawing: Community Immunity

- Community Immunity: (to avoid the negative connotation associated with referencing humans as a herd)

Blue: healthy
Orange: ill
Purple: immunized
• Cocooning: demonstrated that if most of the community chose to vaccinate, those who could not be (due to age or status of immunity) would still be protected.

Blue: healthy
Orange: ill
Purple: immunized
Questions from Presentation

• What is pertussis?
• Should adults get the vaccine even if they’ve had pertussis?
• Why is pertussis dangerous for infants?
• How are vaccines made?
  – Vaccine ingredients
Broadcast

• Written by midwife to be heard evening of 4/6 before 1st clinic
  – 4/11 at Coyote School from 4-8p “fast time”
• What vaccines, when they should be administered, sx of pertussis, etc.
• Rubella aka German measles
  – Can cause miscarriage
Outbreak

- 4/7/17: An outbreak was declared after 7 epi-linked cases were investigated in INEDSS.
- 4/11 and 4/18: vaccination clinics were held in Amish communities.
ISDH Collaboration

• Epidemiology Resource Center (ERC)
• Immunizations

• LHDs: Putnam, Vigo, and Parke

• Health Professionals: Valley Health, Dr. Swaim
## Vaccination Clinics

<table>
<thead>
<tr>
<th>Date</th>
<th># Tdap</th>
<th># DTaP</th>
<th># MMR</th>
<th># Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/11 (1(^{st}) clinic)</td>
<td>8</td>
<td>4</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>4/18 (2(^{nd}) clinic)</td>
<td>12</td>
<td>2</td>
<td>7</td>
<td>13</td>
</tr>
</tbody>
</table>
Issues

• Hot Wash $\rightarrow$ AAR

• No electricity
  – Run car to keep vaccines cool

• Communication
  – No science education

• Directions
Lessons Learned

• Amish not averse to vaccinations
  – Cost matters
• No background in science is an educational barrier
WORKSHEET: RAPPORT BUILDING SKILLS

DIRECTIONS: List two examples of rapport building skills for each of the following areas.

1. Mirror the posture of the individual
   a. sit, sit or stand, stand
   b. 

2. Eye contact
   a. look if they look, don’t if they don’t
   b. 

3. Matching the rate of speech and tone of voice
   a. if they yell, stay quieter
   b. 

4. Social distance
   a. don’t be too close (18")
   b. 

5. Intimate distance
   a. don’t be too far (4’)
   b. 

6. Distance as a barrier
   a. no object (desk, etc.) between you
   b. 

Source: CDC TOPSAFE training 2019
WORKSHEET: ACTIVE LISTENING TECHNIQUES

DIRECTIONS: Active listening is an interactive form of communication that provides feedback and facilitates conversation. Using the list below, fill in the definitions and one example of how using active listening techniques help to build and maintain rapport.

1. Brief comments: “I see” “I understand” “hmm”

2. Neutral phrases: “Tell me more” “What happened next?”

3. Echoes: repeat last few words they said

4. Neutral questions: “What do you think about this?”


6. Paraphrasing: summarize w/similar language

7. Empathy: aware of feelings/point of view w/out approval or disapproval

8. Silence: allow client to fill it

9. Summarizing behavior description: confront nonverbal indicators (ex: clenched fists)
  – During January 2010, 2 infants from an Amish community in east-central Illinois were hospitalized with pertussis. The local health department (LHD) intervened to control disease transmission, identify contributing factors, and determine best communications methods to improve vaccination coverage.
ESF8 Plan

• Created using Emerging Infectious Disease Plan from 2015

• Each district has different capabilities and stakeholders

• What role do you play?
Amish Pertussis Outbreak Collaboration

• Midwife
  – Facilitated discussion during 4/5 presentation.
  – Sent clinic “advertisement” broadcast with disease information on 4/8.
• Vigo and Putnam County Health Departments
  – Provided nurses for vaccination clinics.
• Parke County Health Department
  – Initially contacted ISDH regarding infant death and community’s desire for education (via midwife).
• Valley Health Professionals
  – Provided mobile bus along with 2 nurses at both clinics.
• Dr. John Swaim (private physician in Parke county)
  – Attended 4/11 clinic to address vaccination questions and concerns.
Amish Pertussis Outbreak Collaboration (Continued)

• ISDH Immunizations Division
  – Provided Tdap, DTaP, and MMR vaccines for both clinics.

• ISDH Epidemiology Resource Center
  – Assisted with expertise, outbreak control measures, and boots-on-the-ground.

• ISDH Preparedness
  – Provided logistics, supplies, and travel information.
Stats

• The two vaccination clinics were able to reach 5% of the total community population (n=1,295) in a two-week span.
• 46 total patients were vaccinated with 33 MMR (72%), 6 DtaP (13%), and 19 Tdap (41%).
  – 64% were children under 18 years of age.
Amish Pertussis Outbreak Infographic

- Utilized from lessons learned in outbreaks from D2, D3, and D7

Whooping Cough (Pertussis)

**Symptoms**
- Low-grade fever
- Vomiting during or after coughing fits
- Apnea, babies breathing may pause or sound labored
- Exhauation after coughing fits
- Runny nose
- Paroxysms coughing fits can be followed by a high-pitched "whoop"

* Babies may have little or no cough

**Pertussis is not the Common Cold**
- Pertussis is caused by bacteria germs that get into your throat and multiply to cause illness
- Can last up to 14 weeks
- Dry cough
- Fits of many, rapid coughs followed by high-pitched "whoop"
- Vomiting after coughing fits
- Pause in breathing during sleep

**Common Cold**
- Typically lasts 7-10 days
- Mucus producing cough
- Sore throat, runny nose, sneezing, coughing, watery eyes
- Headaches and body aches
- Cannot be treated with antibiotics

**Whooping cough is highly contagious and can be dangerous**

- Pertussis is spread through coughing, sneezing, and sharing breathing space
- About half of all babies under 1 year old who get whooping cough are hospitalized
- Serious complications include lung infection, convulsions, brain damage, and death

- Without vaccination, 8 out of 10 people exposed to this germ will become sick with pertussis
- You can spread pertussis to others for 21 days after your cough starts
- After five days of treatment with antibiotics, you can no longer spread pertussis

**Consult your doctor if you suspect that you have pertussis**
- Without treatment your symptoms can become very serious
- All members of your household need antibiotic treatment to prevent further spread
- Even if you have had pertussis in the past, you can still get it again
- Natural home remedies do NOT cure or prevent the spread of pertussis

**Sources**
- [https://www.cdc.gov/pertussis/about/symptoms-sources.html](https://www.cdc.gov/pertussis/about/symptoms-sources.html)

**Epidemiology Resource Center**
317-233-7125
[http://www.in.gov/isdh25446.htm](http://www.in.gov/isdh25446.htm)
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Acknowledgments

• Parke County Health Department  
  – Marilyn King
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• ISDH Epidemiology Resource Center  
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  – Shawn Richards
References


Amish Pertussis Outbreak
Follow-Up

If anyone has questions or would like more details regarding the Parke County pertussis outbreak, please contact the District 7 Field Epidemiologist:

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Stakeholder Activity
Main Points of ESF Plan

• Identify stakeholders to be incorporated into information flow
• Identify and develop rules and data elements and sharing
  – Ex: monthly meetings with handouts?
• Exchange information to determine a common operating picture
  – Ex: how often will you talk?
ESF Stakeholders

- Healthcare Coalition
- Fire
- Police
- HD
- Emergency Medical Services
- Commissioners
Main Points of Emerging ID Plan

• Provide guidelines and coordinate response activities to reduce morbidity, mortality, social, and economic disruption caused by an outbreak of infectious diseases within the community.
  – Plan was driven by Ebola Virus Disease but is generally applicable to all emerging infectious diseases.
ID plan + ESF plan

• Comprehensive framework
• Federal, state, and local roles
  – Points of contact for each
• Disease epidemiology and monitoring
  – Isolation and quarantine measures