

- Understand one state's story of **pertussis** as an existing/emerging health threat
- Describe unique MCH leadership role in integrated community response
- Identify strategies for prevention and community mitigation, with special attention to MCH population
 Consider at least one strategy to apply in your state or community if faced with this challenge

Conference objectives:

- Engage in networking opportunities with MCH professionals, researchers and government leaders to share ideas, information, and experiences
- Identify practices and policies designed to strengthen partnerships between local and state MCH programs and families

Our premise:

MCH professionals are highly qualified to provide leadership for a Public Health event such as a community/statewide pertussis outbreak because of their unique perspective on the vulnerability and needs of the MCH population and their competencies in working with communities and systems.

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The Vermont Pertussis Story

- Unprecedented case numbers→ outbreak/epidemic situation
- · Waning immunization coverage rates
- Background legislative story: remove philosophical exemption?



Timeline of an Outbreak

- April, 2011: National Infant Immunization Week
 - News release highlighting infant case (3 week-old)
 - Watching Vermont's IZ coverage rates decline and pertussis situation in CA (8300 cases in 2010; 9 infant deaths)
- · November, 2011:
 - Health Advisory, news release: rise in Vermont cases (27 to date calendar year)
 - Actions requested: lab testing, protecting infants, vaccine recommendations, early treatment & exclusion
 - Outbreak in a small, independent school with relatively low vaccination rates
- December 7, 2011:
 - 47 cases to date, 26 in previous 6 weeks



Timeline of an Outbreak

- · March, 2012: Outbreak subsiding?
- July, 2012: "Unprecedented" case numbers continuing since fall, 2011
 - National picture "not reassuring"
- November, 2012: initiation of formalized "response"
 - Increasing public and provider education
 - Increasing Tdap vaccination efforts
- December 7, 2012: Health Operations Center (HOC) activation
- December 19, 2012: "Vermont Tdap Day"

Vermont Pertussis Surveillance Number of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Week 2011 vs. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertussis Cases' Reported in VT by Notification Vt. 2012 vs. 2013 VTD (1/19/13) Output of Confirmed Pertus

Challenges During an Outbreak: Health Care Professionals

- Diagnosis/discrimination from other common respiratory infections
- Lack of rapid point of care dx test; cost of PCR testing
- · Lack of standardized approach to evaluation and treatment
- (?) Limited access to Tdap vaccine for un-/underinsured adults
- HCPs: lack of familiarity/compliance with personal protective measures (equipment, protocols) in health care settings
 - Increased risk of exposure among HCPs
 - Confusion re: impact of HCP vaccination status on post-exposure management

Duchin J and Brady M. Outbreaks reveal limited effectiveness of pertussis vaccin AAP News. 2012; 33: 1.

Challenges During an Outbreak: Public Health Professionals

- Large case volume may overwhelm resources for case & contact investigation
 - Laboratory testing resources
- Defining "high-risk" population
 - Infants
 - Pregnant women
 - Persons with chronic conditions
 - Health care professionals and their close contacts
- Challenge of providing accurate and timely information reactions to protect high-risk populations

Duchin J and Brady M. Outbreaks reveal limited effectiveness of pertussis vaccines. AAP News. 2012; 33: 1.



The Immunization Backstory

- Recent decline in Vermont's IZ coverage rates
- January, 2012: legislation introduced to remove Vermont's philosophical exemption
 - Passed easily in the state Senate but significantly amended by House & Conference Committee
- Final bill (Act 157):
 - Philosophical and religious exemptions intact
 - Annual signed (parental) exemption statement
 - Parents read. "understand" DOH educational info
 - Increased school nurse reporting requirements
 - MCH Director (Dr. Holmes) co-chairs work group on protection of immunocompromised students/ CSHN

Vermont Kindergarten Immunization
Exemptions and Provisional Status

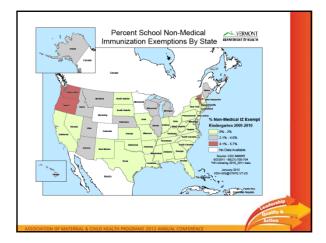
→ philosophic exemptions (%)

→ provisional status (%)

14%
12%
8%
8%
8%
12%
10%
10%
10%
10%
101-02 102-03 103-04 104-05 105-06 106-07 107-08 108-09 109-10 110-11

Year of Enrollment

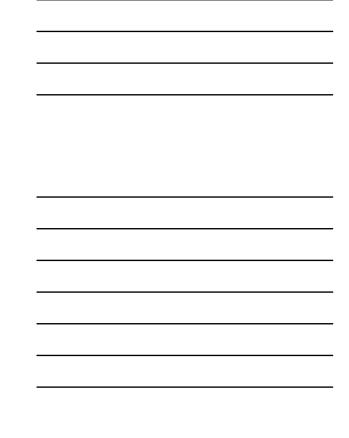
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Vermont Department of Health Organization

- Alcohol/Drug Abuse Programs
- · Board of Medical Practice
- Business, IT, Communications
- · Environmental Health
- Health Promotion/DZ Prevention
- · Health Surveillance
 - Infectious Disease;
 PH lab; PH statistics; OCME
- Maternal & Child Health
- Office of Local Health
- Office of PH Preparedness



Vermont DOH Local Health

- 12 District Offices
 - Correspondence to counties (14), HSAs (13)
- · Local PH personnel:
 - PH Nursing
 - MCH Coordinators
 - Epidemiology Field Staff
 - Immunization Program
 - School Health Liaisons



Pertussis: Public Health Response

- Communication
- "Community Mitigation"
 - Intervention strategies to slow or limit disease transmission designed for implementation at the community level
- Epidemiology/Surveillance
- Immunization
- Medical Countermeasures



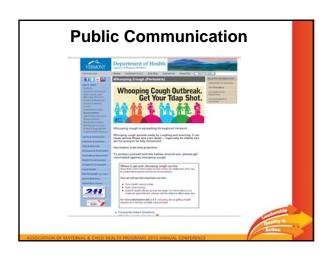
PH Response: Communication MCH Leadership Competency 5

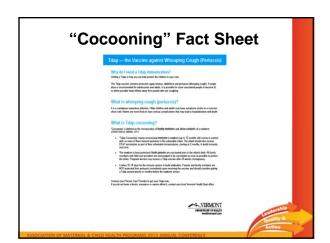
Skills

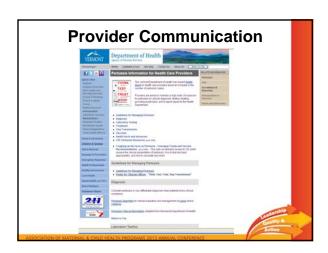
- Tailor information for intended audiences
- Disseminating information in a crisis
- Crafting a convincing MCH story designed to motivate

Activities

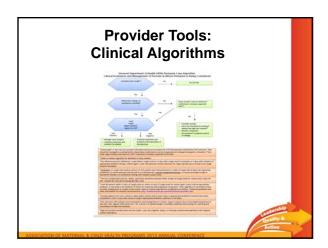
- Target: parents/caregivers, health & CC providers
- Outreach in community & health care settings
- Focus on infants & pregnant women
 - "Cocooning"











PH Response: Immunization MCH Leadership Competency 1: Knowledge Base

Skills

- (Distinguished by) Life Cycle approach to theory and practice
- Use data to identify issues re: health status of particular MCH grp. (pregnant women)
- · Systems approach

Activities

- Target multiple age groups: infants/children/ teens, parents, GPs
- Pertussis surveillance data analysis re: IZ coverage and cases
- "Vermont Tdap Day": statewide effort to increase coverage

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Key Strategies: MCH Population

- Targeted communication
- Highlight vulnerability of MCH population
- Immunize, immunize, immunize!



Key Strategies: School-Aged Population

- (Local) Health Department School Liaison staff work directly with school nurses
 - Identify un- and under-immunized
 - Multiple strategies for catch-up or exemption verification
- · Promote student EHR utilization
 - Immunization status
 - Disease surveillance
- · Requires HCP collaboration



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Key Strategies: Health Care Providers

- Targeted and timely communication
 - Health Advisory/Alert System
 - "Eight times, eight ways": e-mail, web site, standing meetings (AAP, AAFP, hospital medical staff meetings, IZ Advisory Committee)
- Clinical practice tools: algorithms
- Address prescribing challenges for postexposure prophylaxis

PH Response *Challenge*: Medical Countermeasures

Post-exposure Prophylaxis

- Well-established practice during outbreak to protect populations at risk for severe disease/death
- · Must be timely to be effective
 - Consider model: expedited partner therapy for chlamydia
- Risk of significant adverse side effects with certain pertussis post-exposure prophylactic antibiotics
- Board of Medical Practice concerned re: prescribing when no established provider-patient relationship

Whooping Cough Outbreak.
Get Your Tdap Shot.

Questions/Comments?

www.healthvermont.gov

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