

**Patient Rights Versus Public Social
Needs in a Measles Outbreak —
New York, 2012**

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Timeline of Symptom Development

September 4, 2012:
Unvaccinated male aged 9
years returned home from
London

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September 5, 2012:
Returned to private
school (School A)

Timeline of Symptom Development

September 4, 2012:
Unvaccinated male aged 9
years returned home from
London

September 5, 2012:
Returned to private
school (School A)

September 12, 2012:
Symptom development

Timeline of Symptom Development

September 4, 2012:
Unvaccinated male aged 9
years returned home from
London

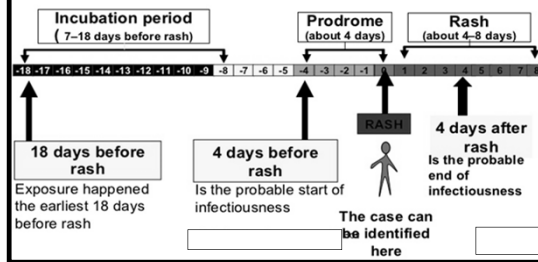
September 5, 2012:
Returned to private
school (School A)

September 12, 2012:
Symptom development

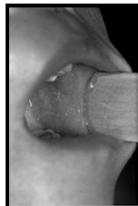
September 16, 2012:
Rash development



Clinical course of measles



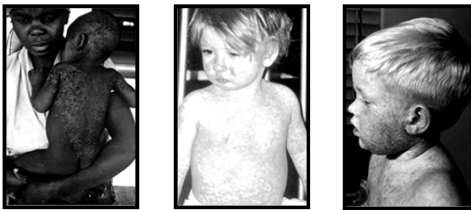
Koplik's Spots



Conjunctivitis



Rash



Measles Patient

- ☐ Unvaccinated male aged 9 years
- ☐ September 4- Returned from family vacation in London
- ☐ September 14- Attended School A while contagious
- ☐ September 16- Rash onset
- ☐ Physician diagnosed via telephone (without testing)













States Without Religious Exemption

Mississippi

West Virginia

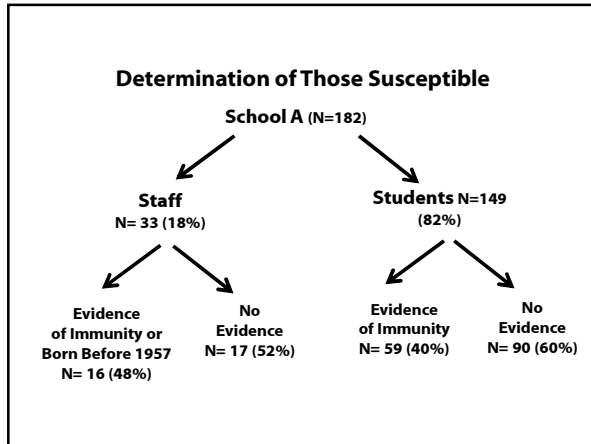
States with Philosophical Exemption

Arizona
Arkansas
California
Colorado
Idaho
Louisiana
Maine
Michigan

Minnesota
North Dakota
Ohio
Oklahoma
Texas
Utah
Vermont
Washington
Wisconsin

School A

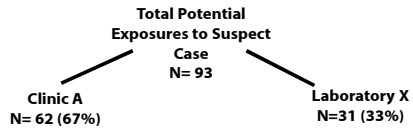
- ❑ **Small building housing highly unvaccinated population**
- ❑ **3 different counties between nursery age to 18**
- ❑ **All 182 students and staff who attended School A on September 14, 2012 potentially exposed**
 - Course of illness
 - Movement throughout school
 - Practiced routines and rituals (group hand washing, singing, playing and sharing of musical instruments)



- Containment Efforts at School A**
- ❑ **107 (59%) people had no evidence of immunity**
 - 17 staff
 - 90 students
 - ❑ **34 (32%) chose vaccination**
 - 17 staff
 - 17 students
 - ❑ **104 (68%) excluded**
 - All were students

- Suspect Secondary Case**
- ❑ **Unvaccinated male aged 2 years**
 - ❑ **93 total exposed contacts**
 - Seen at Clinic A
 - Tested at Laboratory X

Potential Exposures to the Suspect Measles Patient



3 Pregnant woman and 8 children < 12 months

Results of Case Finding

- ❑ 275 potential exposures identified
- ❑ No secondary cases were identified

Objective

- ❑ What was the economic impact of the health departments attempts to prevent spread of measles in this community from the public health perspective?

Methods

- ☐ Evaluation period: September 18 - October 15, 2012
- ☐ Identified involved personnel
- ☐ Identified response efforts
- ☐ Used standardized economic response surveys
- ☐ Interviewed fiscal personnel at each health department
 - ☐ Salary, fringe, and overhead

Identification of Involved Personnel

- ☐ Key contacts used to assist in identification of involved personnel
- ☐ Review of emails and record keeping during response

Identification of Response Activities

- ☐ Review of meeting notes and emails
- ☐ Standardized Economic Survey

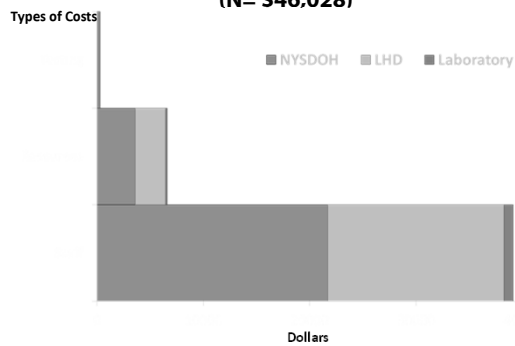
Respondents to Standardized Economic Survey

- ❑ 31 public health officers from 5 public health departments
- ❑ 4 staff members from one public health laboratory
- ❑ Survey completion rate
 - Part 1: 91%
 - Part 2: 74%

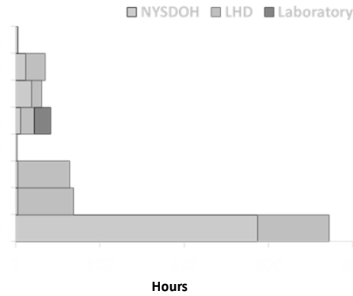
Time and Costs of Response Efforts

- ❑ 688 person-hours (44 overtime hours)
- ❑ \$46,028 was expended

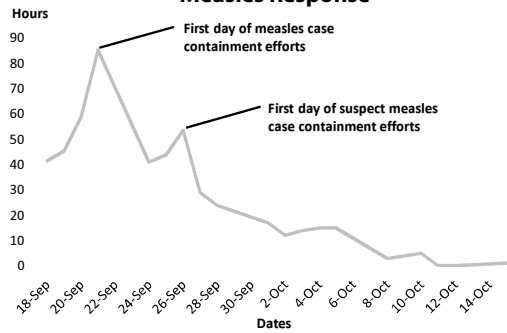
Public Health Measles Response Costs in Dollars (N= \$46,028)



Hours Spent in Measles Response Efforts (N=688)



Daily Public Health Hours Expended During Measles Response



Conclusions

- ☐ Response was initiated due to importation of measles by an unvaccinated child
- ☐ No healthcare provider involved reported to public health
- ☐ 34 people at School A chose to vaccinate
- ☐ No secondary measles cases identified
- ☐ 688 hours and \$46,028 expended
 - Similar to response in Iowa to a measles case



Acknowledgments

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Scientific Education and Professional Development Program Office

Standardized Economic Survey

□ Two part survey designed and used in previous New York state response efforts

□ Part 1

- Personnel hours
- Associated direct costs
- Resources utilized
- Activities conducted
- Salaries

□ Part 2

- Hours expended each day of study period

Financial Costs

- ☐ **Worked with CDC economist**
- ☐ **Only looked at direct costs to public health**
- ☐ **Obtained salary for each employee**
- ☐ **Used fringe rate at each department to calculate fringe benefits**
 - Social Security and Medicare
 - Federal Unemployment Taxes/Insurance
 - State Unemployment Taxes/Insurance
 - On-the-job accident insurance
 - Medical insurance and paid sick leave

Financial Costs

- ☐ **Used overhead rate at each department to calculate overhead costs**
 - Rent
 - Utilities
 - Telephone
 - Postage
 - Building use allowance

Results

- ☐ **Response efforts**
- ☐ **Costs**
