

# **Meningococcal Meningitis: A Local Health Department & University Team Effort**

**Loretta Moran, RN, BSN  
Central Michigan University Health Services**

**Mari Pat Terpening, RN, BSN  
Central Michigan District Health Department**

# INVESTIGATION COMPONENTS

- **Organized investigation plan**
  - Use of multi-agency Epi Team
- **Communication strategies**
- **Data collection**
- **After action assessment**

# INITIAL REPORT

- **Thursday, May 8<sup>th</sup> 11am**
- **26 y.o. male CMU Student**
- **Mt. Pleasant resident**
- **Died in Grand Rapids Wednesday, May 7<sup>th</sup>**
- **Probable cause of death meningococcal meningitis**
- **Symptom onset Tuesday, May 6<sup>th</sup>**
- **Traveled to Coopersville, MI (Ottawa Co) & attended a party on Saturday, May 3<sup>rd</sup>**

# PLAN OF ACTION

- **5/8/08 11:15 am-- Immediate change of command at Gladwin Co Mass Flu vaccination exercise**
- **5/8/08 1pm CMDHD Epi Meeting**
  - **Mary, Dr. Graham, Norm, Mari Pat**
  - **Developed initial objectives for multi-agency Epi Team meeting**

# EPI TEAM

**5/8/08 1:30 & 4:30 p.m. Multi-Agency Epi Team meeting**

## **-CMDHD**

- ❖ **Mary Kushion, Health Officer**
- ❖ **Dr. Graham, Medical Director**
- ❖ **Norm Keon, Epi**
- ❖ **Helen Lee, Dir of Health Promotion & Preparedness**
- ❖ **Melissa DeRoche, Public Information Officer**
- ❖ **Mari Pat Terpening, CD Supervisor**
- ❖ **PHN's**

# EPI TEAM

## ➤ Central Michigan University

- Director, CMU Health Services
- Loretta Moran, Assistant Director CMU Health Services
- Dir. of Risk Management
- Associate Dean of Student Life
- Dir. of the Student Activity Center & 2 staff
- Dir. of Public Relations & 2 staff
- Admissions Staff
- Director of Human Resources

# EPI TEAM

- **Other community members:**
  - **Local ER Medical & Nursing Directors**
  - **Isabella Co Emergency Management Director & Assistant Director**

# EPI TEAM

- **Diversified membership representing wide variety of resources**
- **Members had clear authority & responsibility for decision making within their organization**
- **Resulted in simultaneous implementation of the investigation plan**

# EPI TEAM

## **Critical step at the initiation of the investigation**

Educating team members about Meningococcal disease in both medical & **non-medical terms:**

Mode of transmission

Incubation period

Timeline of infectivity 4/22/08 thru 5/7/08

Control/ prevention measures

Social behaviors associated with disease transmission

# INITIAL CHALLENGES

## ➤ Greatest challenges:

- End of semester & student's had departed from campus
- CMU Graduation was held on 5/3
- Students located around the nation/world
- Short time frame to identify close contacts
- Multi-jurisdictional investigation
- CMU Health Services staff reduced 50% during summer operations
- Consistent public information to media
- Verifying post exposure tx was received

# INTERVIEWS

- **Conducted by CMDHD & CMU RN's**
- **Personal interviews conducted by Nursing staff resulted in identification of additional contacts & risk behaviors**
  - **Large local dinner party**
  - **Identification of other parties & attendees during the period of infectivity**

# INTERVIEWS

## ➤ Benefits of using PHN's for interviewing:

- Expertise & skill of staff in interviewing
- Warm, caring, nurturing, non judgmental approach
- Knowledge of disease transmission

# COMMUNICATION STRATEGIES

- Epi Team
  - Target population
  - CMDHD CD Staff
  - CMU Health Services Staff
  - Medical Providers
  - Contacts
  - General population
- 

# COMMUNICATION STRATEGIES

- **CMU Mass Communication System**
- **Face Book posted parties**
- **City Watch, Broadcast Fax**
- **Telephone, personal interviews**
- **Informal student network**
- **E-mail**
  - **Responses from students in Mexico, Bejiing**

# COMMUNICATION STRATEGIES

- **Use of auto attendant messaging for information**
- **Web based information**
- **Face to face meeting at student's employment job site**
- **University newspaper**
- **Media**
  - **1 Press Conference with CMU PR**
  - **6 Media interviews**
  - **3 Press Releases by CMDHD**
  - **2 Press Releases by CMU**

# COMMUNICATION STRATEGIES

## ➤ MI-HAN & EPI-X

- 2 MI-HAN alerts sent
- 1 Epi-X alert

# CONTACT INVESTIGATION

- Shared an apartment with roommates
- Very popular with friends & co-workers
- Attended CMU Graduation ceremonies
- Worked at the Student Activity Center
- Attended a large dinner party at local restaurant—12 attendees—shared drinks
- Partied nightly for three weeks
- Participated in numerous drinking games
  - Beer pong

# CONTACT INVESTIGATION

- Time line for contact investigation from 5/8 11am thru 5/10 9pm (59 hrs)
- Heavy volume of calls ended Fri 5/9 at 8:30pm
- CMU Health Services operations relocated to LHD Saturday, May 10<sup>th</sup> 8a to 8p

## Results:

### *Descriptive Analysis*

Estimated number of concerned persons/contacts who called: 600+

Counties in Michigan which followed up with contacts: 27

Number of contacts interviewed: 161

### Exposure risks identified:

Household contact: 11

Party attendance: 68

Student activity center contact: 17

Sharing of: (may be included in the above)

Food: 14

Drinks: 49

Personal items: 4

Kisses: 5

Health care worker: 27

Number of contacts treated: 118

### Provided by:

CMDHD 11

CMU 24

Hospitals 34

Other LHDs 7

Physicians 42

# IMMUNIZATION STATUS

- **36/ 94 (38%) contacts interviewed had previous meningococcal vaccination with MPSV4 or MCV4**
- **MCV4 recommended/ or administered to those previously vaccinated with MPSV4 3-5 years earlier**

# STRENGTHS

- **Relationship with CMU Health Services**
- **Quick notification to CMDHD Health Officer from Ottawa County**
- **Quick assembly of the Epi Team**
- **Use of standardized clear, simple questionnaire for interviews**

# STRENGTHS

- **Use of professional RN staff for interviewing**
- **Support from Michigan's LHD personnel**
- **Ottawa County LHD staff**
- **Shared Public Information Distribution**
- **Support from numerous state universities & colleges**
- **TECHNOLOGY, TECHNOLOGY !!!!**

# BEST POSSIBLE OUTCOME

➤ **NO ADDITIONAL CASES!!!**

# STAFF TIME UTILIZED

## ➤ CMU Health Services

- Total CMU Staff time 123 hours

## ➤ CMDHD

- Total staff time 279 hours

# LESSONS LEARNED

- **Increased understanding of the significance human behavior plays in disease transmission**
- **Know what people REALLY do—know how they REALLY live**
- **Never underestimate the power of positive relationships**

# LESSONS LEARNED

➤ **TECHNOLOGY IS AWESOME.....**  
**BUT IT**

**IS PEOPLE THAT**

**MAKE PUBLIC HEALTH HAPPEN**



Central Michigan District Health Department

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