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ANNOUNCEMENT



- **To Register for the Monthly Disease Surveillance Trainings:**
 1. **Contact your Service Surveillance HUB to receive monthly updates and reminders**
 2. **Log-on or Request log-on ID/password:**
<https://tiny.army.mil/r/zB8A/CME>
 3. **Register at: <https://tiny.army.mil/r/7laAB/EpiTechFY16>**

- **Confirm attendance:**
 - **Please enter your full name/email into the DCS chat box to the right or email your Service HUB**
 - **You will receive a confirmation email within 48 hours with your attendance record; if you do not receive this email, please contact your Service HUB**



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Mycoplasma Pneumonia Outbreak at Keesler AFB, MS



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Learning Objectives



- **Describe key events in this outbreak**
- **Understand military intervention with prophylaxis and how it decreased the spread of disease**
- **Identify strengths and weaknesses of this outbreak investigation**



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Keesler AFB Outbreak Response



- Field Epidemiology Support team was notified of an outbreak at Keesler AFB, Mississippi on 31 August 2015
- Symptoms that were presented were:
 - Chills
 - Cough
 - Fever
 - Headache
 - Sore Throat
 - Fatigue
 - Muscle Aches
- The population affected: students from the 336th squadron
 - Pointed to classrooms where trainees were in close, frequent contact
 - Students complained of dry cough
- Approximately 14 cases





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Base Response



- **Developed questionnaire for cases**
- **Airmen briefing on personal hygiene**
- **Closed off public areas (i.e., breakroom)**
- **Hand sanitizer in all rooms**
- **Masks available**
- **Stay home if sick**
- **Isolate sick individuals from roommate and classmates**



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Mycoplasma Pneumonia



- **Also known as Walking Pneumonia**
- **A bacterium that causes illness by damaging the lining of the respiratory system (throat, lungs, windpipe).**
- **Droplet transmission**
- **Outbreaks occur mostly in crowded settings like schools, college dormitories, military barracks, nursing homes, and hospitals.**



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Field Epidemiology Support Team



■ Team Composition:

- Public Health Officer (O4) – Maj Danny Dacey
- Preventive Medicine Physician (O3) – Capt (Dr.) Jameson Voss
- Field Epidemiologist – Mrs. Stefani Ruiz
- ORISE Fellow – Ms. Lisa Shoubaki

■ USAFSAM/PHR Reach back Capability

■ Capabilities:

- Investigative Support
- Data Analysis - Outbreak Epidemiology
- Disease Surveillance
- Chemoprophylaxis/Treatment Recommendation
- Disease Transmission Mitigation Strategies
- Risk Communication



I n t e g r i t y - S e r v i c e - E x c e l l e n c e



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Day 1



- **Field Epidemiology Support team arrived 2 September 2015**
- **In-brief with:**
 - **81st AMDS/CC (out of town)**
 - **PHO (just arrived and was still receiving HHG)**
 - **PH NCOIC (new to the job)**
 - **ID Physician**
 - **2 amazing A1Cs**
 - **Trainee Health Physicians (newly arrived on base)**
 - **Medical Readiness**
 - **PHEO (lead); but he was PCS'ing the next day**
 - **ER Nurse Case Manager**
- **Tour of Dolan Hall and Thompson Hall (classrooms) where transmission was suspected**
 - **Trainee commander stated that illness was impacting training due to a large number of instructor absenteeism – Mission was impacted!**
- **Transmission outside of 336th squadron occurs**
 - **Four cases in ER and surgery**

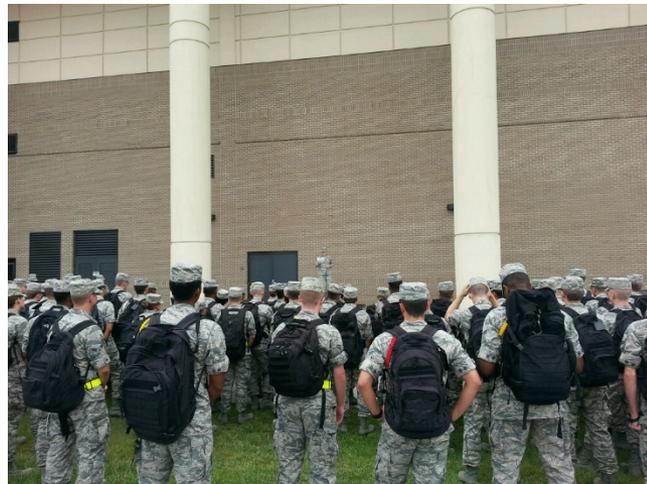


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Day 1



- **Trainees resistant to quarters due to fear of being held back**
 - **Quarters for just 2 days = washback**
- **Airmen briefing**
 - **Peer to peer is very effective communication strategy**
 - **Risk communication**
 - Explaining the outbreak
 - Education on transmission
 - How to protect themselves and others
 - Impacting the mission if individual comes in sick to class



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Day 2



- **Onset dates are from 11 August to 3 September 2015**
 - 24 cases have been identified
 - 15 cases are from 336th squadron
 - 4 instructors are on quarters
 - 4 cases are ER and surgery
 - 1 Dependent
- **Working Case Definition**

Probable:

An illness with onset after 11 August 15, characterized by a cough, and subjective fever in persons assigned to or exposed to the Keesler AFB trainee population.

Confirmed:

A probable case with positive chest x-ray and/or positive lab (PCR) in persons assigned to or exposed to the Keesler AFB trainee population.

-or-

Other symptoms of pneumonia (e.g., fatigue, shortness of breath, night sweats, myalgia, headache, etc.) with a positive chest x-ray and/or positive lab (PCR) in persons assigned to or exposed to the Keesler AFB trainee population.



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Day 2



- **Coordinate with laboratory personnel for ordering and submitting**
- **Coordinate with internal/external partners**
- **Plan for trainee population**
 - **Active case finding – screening for symptoms at Thompson Hall**
 - **Prophylaxis distribution after screening**
 - **Identify contacts**
 - **Treat probable or confirmed cases**
- **Trainees started to PCS**
 - **Fear of new outbreak on a different base**
- **Keesler also contacted departing base (from basic training) to find out if they had mycoplasma**



- **Actions needed within Public Health Office**
 - **Modification of line listing**
 - **Develop Epi curve**
 - **Develop extended questionnaire (to capture controls)**

Demographic Information:

Name (Last, MI, First):

Current age (in whole numbers): years

Gender: Male Female

Cell phone number:

If we have follow up questions about your survey, we will contact you.

Rank: (please check)

Enlisted

- Amn Basic
- Amn
- A1C
- SrA
- SSgt
- TSgt
- MSgt
- SMSgt+

Officer

- 2nd LT
- 1st LT
- Capt
- Maj
- LtCol
- Col+

Other:

- Civilian
- Contractor

Are you currently stationed at Keesler? Yes No

While at Keesler, were/are you a member of the 336th squadron? Yes No

While at Keesler, were/are you:

Instructor or Student



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Line Listing



Patient Name	SSN	Email	Phone (if needed)	Case Definition Met	Gender	SQ	Age	Rank	SQ notes	Staff/Student
				Probable						
				Confirmed					ER	
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						
				Confirmed						

Fever	Cough	exposure to Trainee population	Date of Onset	Date of Dx	Class Loc	Class room	Dorm
Y	Y	Y					
N	Y	Y					
Y	Y	Y					
N	Y	Y					
Y	Y	Y					
Y	Y	Y					
Y	Y	Y					
N	Y	Y					
Y	Y	Y					

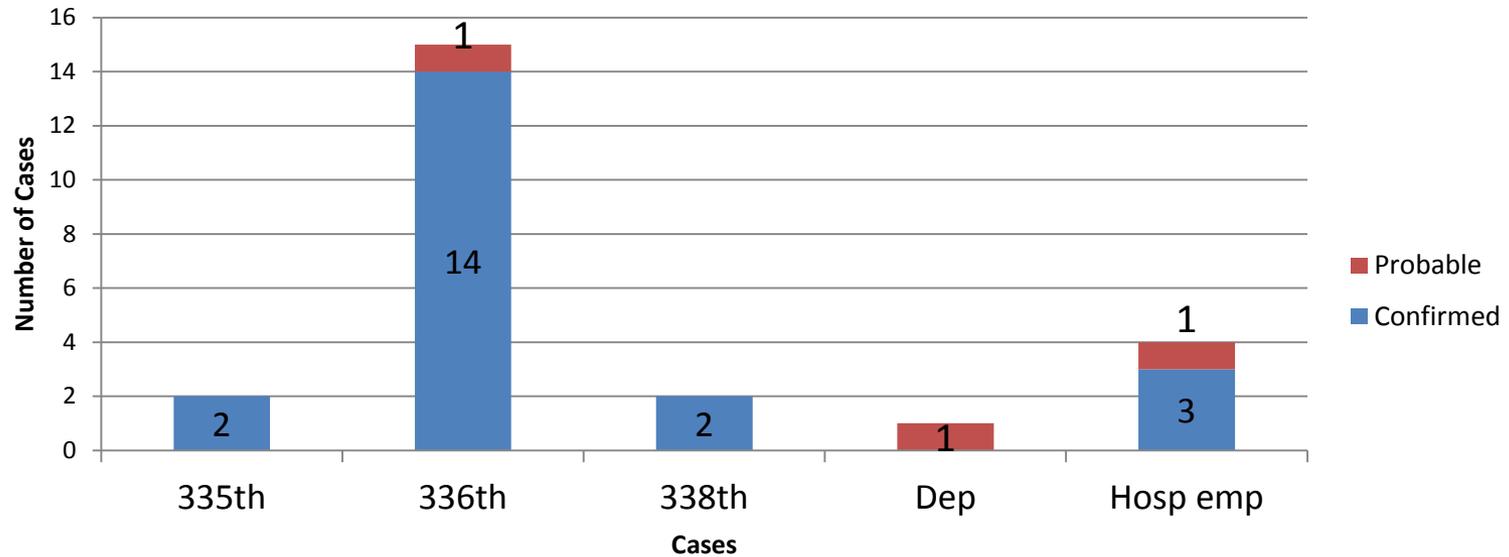


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Case Definition by Squadron



Case Definition by Squadron Keesler AFB, Aug-Sep 2015



As of: 4 Sep 2015 @1700hrs

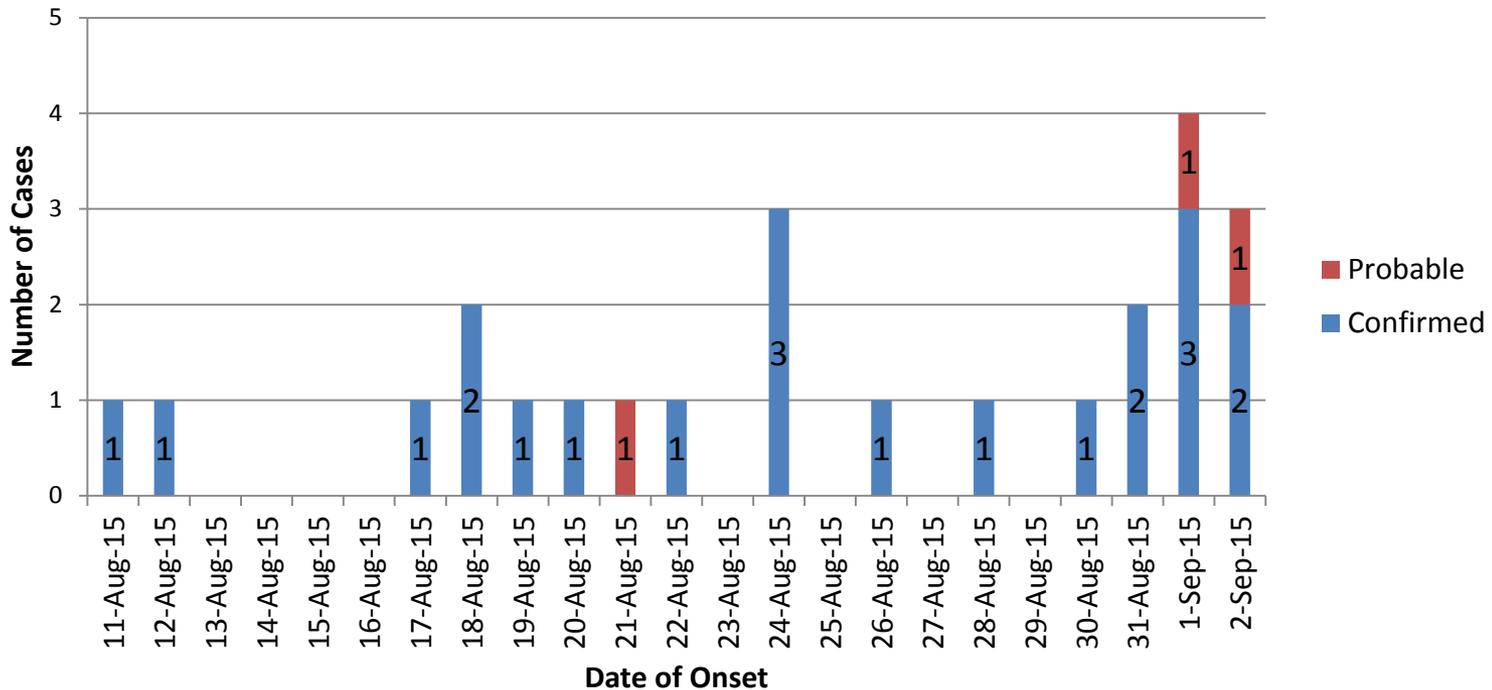


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Epidemic Curve



Date of Illness Onset Keesler AFB Aug-Sep 2015

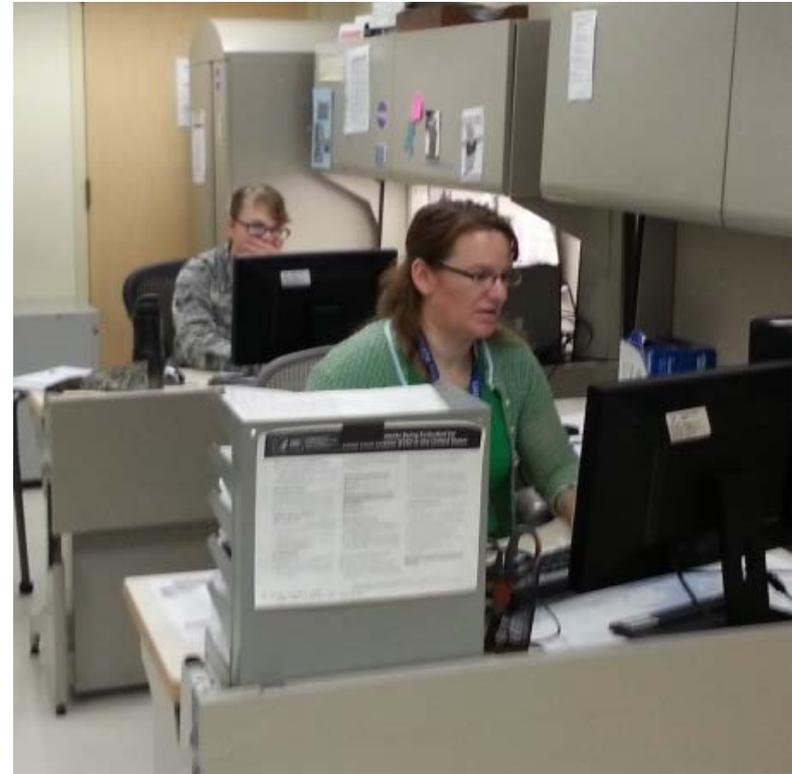


As of: 4 Sep 2015 @1700hrs



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Day 2



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Day 3



- **Transmission becoming more evident to be connected to classrooms**
 - **Majority are students and staff with classes in Thompson Hall**
- **Refined line listing with all cases**
- **Discussed trainee screening and prophylaxis plan**
- **Support for instructor prophylaxis line**
- **Treatment and prophylaxis**



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Plan of action



- **Leaders from Keesler met to create a prophylaxis plan – on a Saturday of a 3 Day Holiday weekend!**
 - Ideas were tracked through a group brainstorm



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Plan of action



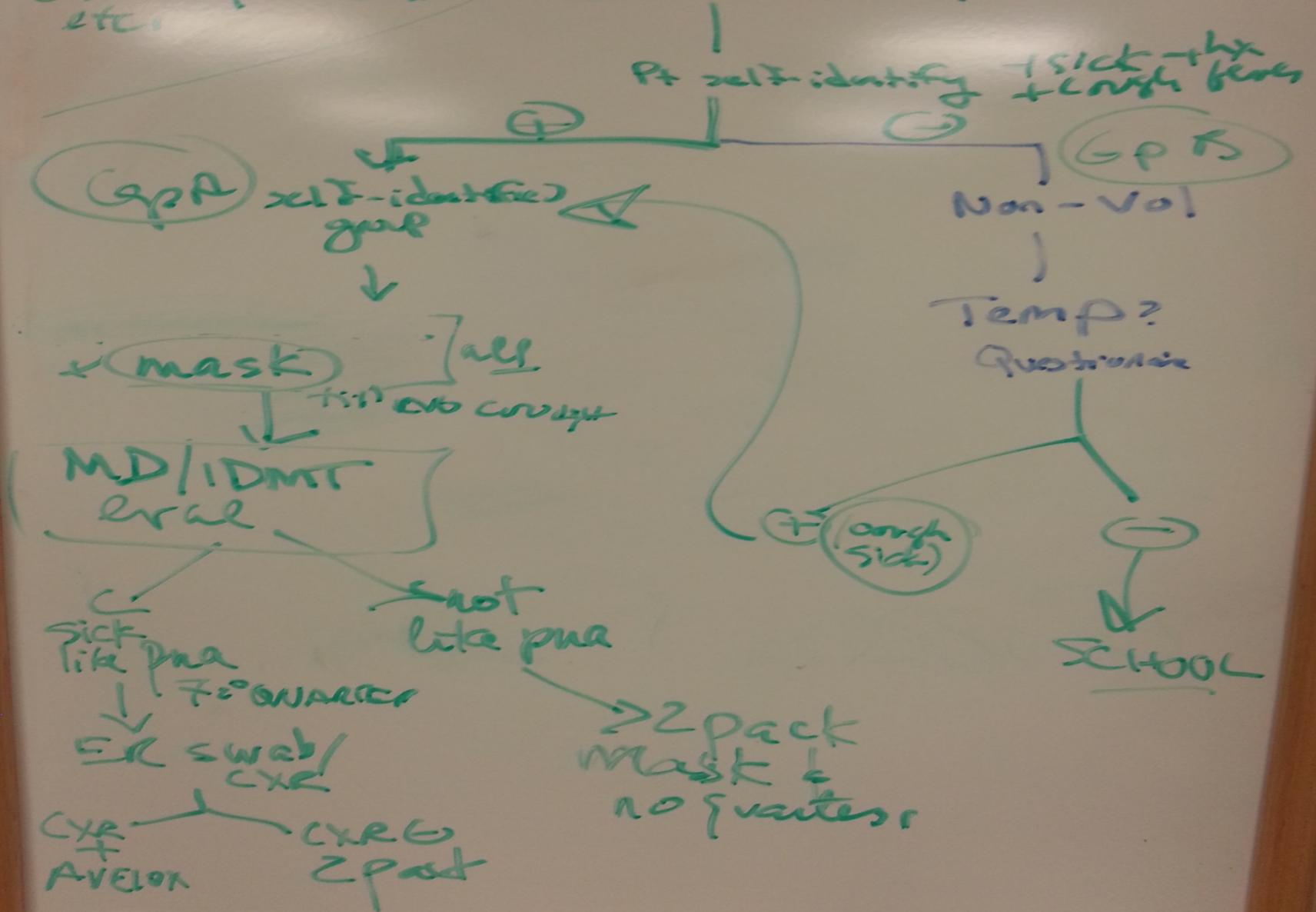
- **Holiday weekend interfered with instructor prophylaxis**
 - **All instructors were recalled (on a Sat of a 3 day weekend!)**
 - **All instructors were required to be at briefing**
 - **Couldn't make prophylaxis a requirement (but most wanted it)**
- **PH practiced the prophy line before it was implemented**
- **Students had already been released for the 3 day weekend**



NEED QUESTIONNAIRE

Name/# id etc

Student formation





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Strengths & Limitations



The major strengths identified as a result of the outbreak response activities were:

- Early coordination with internal partners, particularly the trainee squadron
- Early identification of case patients
- Execution of mass-prophylaxis plan
- Communication with internal/external partners
- Risk communication to the trainee population
- Coordination with USAFSAM/ local partners for surveillance data

The limitations we encountered:

- Full integration of multiple group organizations into the investigative processes
- Identification of cases among population-at-risk for fear of being held back
- Holiday weekend
- PCS of multiple key players during outbreak



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Continued Support



- Continued investigation of base-to-base transmission
- Relay laboratory results (a lot of samples tested at USAFSAM)
- PHR Continued Public Health support
 - Line listing for additional cases
 - Initiated a case control investigation
 - Developed an additional survey once we were back to interview cases AND controls to test hypothesis of classroom transmission
 - No classroom roster available
 - Students unable to recall classrooms during early weeks of training



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Contact Information



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- **Army:** APHC – Disease Epidemiology Program
Aberdeen Proving Ground – MD
Comm: (410) 436-7605 DSN: 584-7605
usarmy.apg.medcom-aphc.mbx.disease-epidemiologyprogram13@mail.mil

- **Navy:** Contact your cognizant NEPMU
NEPMU2: COMM: (757) 950-6600; DSN: (312) 377-6600
Email: usn.hampton-roads.navhospporsva.list.nepmu2norfolk-threatassess@mail.mil
NEPMU5: COMM: (619) 556-7070; DSN (312) 526-7070
Email: usn.san-diego.navenpvntmedufive.list.nepmu5-health-surveillance@mail.mil
NEPMU6: COMM: (808) 471-0237; DSN: (315) 471-0237
Email: usn.jbphh.navenpvntmedusixhi.list.nepmu6@mail.mil
NEPMU7: COMM (int): 011-34-956-82-2230 (local): 727-2230; DSN: 94-314-727-2230
Email: NEPMU7@eu.navy.mil

- **Air Force:** Contact your MAJCOM PH or USAFSAM/PHR
USAFSAM / PHR / Epidemiology Consult Service
Wright-Patterson AFB, Ohio
Comm: (937) 938-3207 DSN: 798-3207
usafsam.phrepiservic@us.af.mil

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Questions?



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