Meningitis:
Experiences and Lessons Learned

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Outbreak Timelines
Case Timeline

- August 2015
- September 2015
- October 2015
- November 2015
- December 2015
- January 2016
- February 2016

Mass Vax 3: 10/5-6/15

Mass Vax 4: 2/16-17/16
Oregon State University Meningococcal Outbreak Timeline

- 11/11/2016 Case 1
- 11/12/2016 Case 2
- 02/20/2017 Case 3

11/18/2016
MenB vaccine widely promoted to higher-risk population (approx. 7000 students)

Mass Vax #1
N=1865

4/17-4/18/2017
Mass Vax #2
N=1008
Coordinating and aligning complex teams
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Thursday, January 15, 2015</td>
<td>Case 1 diagnosed. Seen at UHC, transferred to Lebanon Community Hospital, then OHSU. Discharged and readmitted with reaction to meds.</td>
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<td>Friday, January 16, 2015</td>
<td>UOEM holds coordination meeting 1 p.m. UO determines Case 1 did not have on-campus job, obtains classmates list for Case 1. Letter from Dean of Students to faculty, classmates distributed. Students emailed and texted via UO Alert. Media interviews conducted. 35 students visit UHC for prophylaxis.</td>
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<td>Saturday, January 17, 2015</td>
<td>IAP distributed. UHC reports 1,000-1,500 doses of prophylaxis in pharmacy. UHC web traffic up 250%.</td>
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<tr>
<td>Sunday, January 18, 2015</td>
<td>UHC reports staff has treated &lt;100 people; flu season symptoms complicating diagnoses.</td>
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<td>Monday, January 19, 2015</td>
<td>UHC has dispensed 59 doses of prophylaxis to date.</td>
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<tr>
<td>Thursday, January 22, 2015</td>
<td>Email sent to classmates encouraging prophylaxis. UHC reports 34 doses dispensed on 1/16; 26 on 1/17; 8 on 1/19; 36 on 1/20.</td>
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<td>Monday, February 02, 2015</td>
<td>Case 2 reported. Residence hall student.</td>
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<td>Tuesday, February 03, 2015</td>
<td>All residents in Earl Hall receive email message about prophylaxis availability and prevention encouragement. Environmental Health and Safety coordinate with Housing for cleaning/disinfecting to begin on 2/4. UHC estimates about 145 antibiotics dispensed; one student referred to the hospital.</td>
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<td>Wednesday, February 04, 2015</td>
<td>Case 2 faculty and classmate notifications are sent. Letters goes out to all Housing staff about cleaning procedures and hygiene guidance for residents. UO requests help from LCPH in getting vaccine for mass vaccination, cost responsibility, size of vaccination population, administration space, thoroughput, medical staff needed, time between doses, tracking. R-G incorrectly reports third case; ran correction later that evening.</td>
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<tr>
<td>Thursday, February 05, 2015</td>
<td>Incorrect RG headline appears, citing LCPH PIO as source. Daily Emerald reports Case 3 “cleared”; citing LCPH PIO as source.</td>
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<td>Friday, February 06, 2015</td>
<td>Discussion about narrowing definition of “close contacts” based on outreach to Princeton University colleagues. Discussions occur about tighter IC structure and unified command if third case occurs.</td>
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<tr>
<td>Saturday, February 07, 2015</td>
<td>UHC dispenses only 7 doses of antibiotic; UHC screening flu-like symptoms for meningitis.</td>
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<tr>
<td>Sunday, February 08, 2015</td>
<td>Case 3 diagnosed; class contact data prepared; UHC preps for dispensation tomorrow; faculty letter prepped; UO Alert prepped.</td>
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<tr>
<td>Monday, February 09, 2015</td>
<td>Faculty letter updated to mention GTFs, interpreters, note takers.</td>
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Tuesday, February 10, 2015
UHC runs out of appointments; Bexsero shipment expected in next two days.
UOEM discusses mass vaccination clinic w/LCPH and state; Standing up Planning Section; discussed pricing, scope of mass vaccination.

Thursday, February 12, 2015
Prevention campaign digital messaging drafted.

Friday, February 13, 2015
UOEM meets with LCPH on mass vaccination clinic planning.
Digital messaging begins in Housing and UHC.

Tuesday, February 17, 2015
Case 4 fatality (Lauren Jones) 1:30 p.m.; meningitis unconfirmed. Student went to Sacred Heart on 2/16 with 103-degree fever; released 4:45 am 2/17
Emergency call held at 4:30 pm.
Message to student-athletes, Barnhart residents, all staff, all Housing staff, faculty sent re: prophylaxis.
Press release issued and media questions answered.
Lane County Health Department forwarding media to UO; parents go to dean of students.
Prophylaxis administered to Barnhart residents at 6:30 pm.
UHC administers 213 doses of antibiotic; Eugene Urgent Care adds staff members to help with UHC overflow.

New LAP created.

Wednesday, February 18, 2015
Case 4 faculty and classmates notified per established procedures.
Lauren Jones autopsy occurs.
UO declares emergency; authorizes accelerated purchasing procedures.
Negotiations begin with Novartis and Pfizer for doses in 10 days plus administrative help.
UHC confirms with Aetna, PacificSource, and OHP that Trumenna and Bexsero are 100% covered. Aetna requires "outbreak" status by the CDC.
UOEM becomes sole point of contact for all info to LCPH.
University activity codes established for accounting.
UHC administers 80 vaccinations.
UO meets with CDC, state, LCPH. CDC recommends lifting age limit on vaccination (currently 25).

Thursday, February 19, 2015
CDC, OHA, LCPH recommends mass vaccination for all 22,000 students.
UHC administers 71 vaccinations.

Friday, February 20, 2015
Conference call with 36 county health directors and public health officials.
Case 4 cause of death confirmed as meningitis.
Press conference by public health officials called for 1 p.m.
UHC dispenses 104 vaccinations, both kinds.
ORM begins holding space for mass vaccination clinic.

Saturday, February 21, 2015
UHC administers 141 shots; has 341 Trumenna and 191 Bexsero doses in stock. Staffing level is at capacity.
CDC agrees with OHA declaration of outbreak.
2016/17 OSU-BCHD Meningococcal Incident Coordination Teams

Purpose: Organize workload, workflow and planning among multiple sectors, with a central coordination team to oversee overarching goals, align efforts, identify gaps and otherwise facilitate progress in a timely and efficient way.

- **Incident Coordination Team**: Responsible for big picture coordination: identifying and aligning common goals, transmitting relevant data, outcomes and strategies among the 3 sectoral teams.
  - Two agency designees from OSU SHS, OHA, BCHD, GSRMC

- **Investigation/Prophy Operations Team**: Responsible for communicating to/from the Incident Coordination Team and within work team sector specialists on surveillance, prophylaxis, case mgmt. and healthcare advisories.
  - Two agency designees from OSU SHS, OHA, BCHD

- **Vaccination Planning Team**: Responsible for communicating to/from the Incident Coordination Team and within sector specialists on targeted mass vaccination plans, including vaccine procurement & billing, logistics, volunteer management.
  - Two agency designees from OSU SHS, OHA, BCHD, GSRMC

- **Communications/Information Management Team**: Responsible for communicating to/from the Incident Coordination Team and within sector specialists re: ongoing info/updates and communication to community providers, students, faculty/staff and parents.
  - Two agency designees from OSU SHS, OSU URM, OHA, BCHD, GSRMC
Mass Vaccination Operations
Clinic Logistics

• Vaccination Check
• Eligibility Check
• Forms
• Form Check
• Insurance
• Medical
• Vaccination
• Rest

• CDC Swap Study Registration
• Swag Table
“This communication is to advise you that on <insert date> Benton County Health Department received a report of <insert name of> illness related to Oregon State University.

Pursuant to OAR 333-019-0000, the Benton County Health Department, as the local public health authority, is required to investigate “in a timely manner all reports of reportable diseases, infections, or conditions.” Based on the nature of this report and its responsibilities under OAR 333-019-0000 through 333-019-0003 and ORS 433.001-.035, Benton County has determined that time is of the essence and the information it seeks from OSU is necessary to protect the health, safety and welfare of the persons who may have come into contact with the disease.

Benton County respectfully requests the following information in order to conduct its investigation into the above-described outbreak:

<LIST>"
Mass vaccination structure - OSU

IC
- Jenny

PIO/Comms
- Sue

Operations
- Linda
  - Station 1
    - Marcie
  - Station 6
    - Mark
  - Volunteers
    - Sue

Medical Stations
- Sarah
  - Station 2
    - OHA
  - Station 3
    - Jennifer/Laura
  - Station 4
    - TBD/Patti
  - Station 5
    - SHS Physician

Logistics
- Emily/Mark

Medical Advisor
- Dr. Thompson

Planning
- Supplies

Res Stat/(Sign In)
- Sue

IS Support
- Amy
Mass vaccination flow - OSU
Vaccination Requirements
Meningitis Type B

Meningitis disease is a rare but serious infection caused by either bacteria or a virus. The disease is typically transmitted via air droplets of respiratory secretions, direct contact with an infected person, or sharing items such as cigarettes or drinking glasses.

The Meningitis B vaccine was approved by the CDC for limited use (by currently-enrolled UO undergraduate students and those in high-risk populations) to prevent the spread of meningococcal disease during the 2015 outbreak. There are 2 Type B vaccines approved by the Food and Drug Administration (FDA) in 2014 and 2015:

- **Trumenba®** is approved for use in people 10-25 years of age as a 3-dose series.
- **Bexsero®** is approved for use in people 10-25 years of age as a 2-dose series.

Meningitis FAQs here

http://www.cdc.gov/meningitis/index.html
New Immunization Requirements

Our immunization requirements have been updated for Fall 2017

starting fall 2017
HB 3276 – Requires health benefit plan coverage of health services necessary to combat disease during an outbreak or epidemic.

- University health centers are uniquely positioned, in partnership with state and county health offices, to respond to public health emergencies.

- Students and their families are highly sensitive to cost and convenience – insurance or benefit claim denials will result in fewer students being protected.

- Impact of benefit network restrictions has imposed a significant administrative burden on the university health center.

- Close alignment with County Health Department is essential in broadening community protection during public health emergencies.
PSU Meningitis Clinic Exercise

• Planning Team
  • PSU Dpts
  • County Health

• Location:
  • Campus Rec Gym (2 courts)

• Overall budget $1,650
  • Space rental donated
  • LOTS of donated time

• Exercise Stats
  • 60 volunteers
    • Campus Health
    • Housing
    • Medical Reserve Corps
    • Other campus Ems (as evaluators)
  • 73 “Patients”
    • Faculty staff and students
  • Average 22 minutes in clinic
    • Does not count waiting at the end
Questions?