ENVIRONMENTAL HEALTH SPECIALISTS

Fishing for Fleas

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Program Manager

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Environmental Health Specialist II
Colorado Human Plague Cases
January 1, 2005 to September 30, 2015

Human plague cases reported each year

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<th>Year</th>
<th>Number of cases</th>
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<td>2006</td>
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<td>2015</td>
<td>4</td>
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<td><strong>Total</strong></td>
<td><strong>20</strong></td>
</tr>
<tr>
<td>County</td>
<td>Number of cases</td>
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<td>-------------</td>
<td>-----------------</td>
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<td>ADAMS</td>
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<td>LA PLATA</td>
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<td>LARIMER</td>
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<td>PUEBLO</td>
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<tr>
<td><strong>Total</strong></td>
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Confirmed Plague in Pueblo County

81007: CDOW
81023: PCCHD/CDPHE
81004: PCCHD/CDPHE
Case History

Signs & Symptoms

• Shortness of breath
• Weakness
• Right shoulder pain
• Generally feeling unwell

Diagnosis:
Septicemia
<table>
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<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
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<td>PCCHD Lab notified</td>
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<td>6</td>
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<td>CDPHE confirmed positive fleas</td>
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<tr>
<td>9</td>
<td>10 Residents notified</td>
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</tbody>
</table>
Area Map

Positive Flea Pool

Negative Flea Pool

Home

Positive Flea Pool
Fishing Day 1
Risks

- Number of staff
- Flagging
- Bagging
- Lab packaging
What didn’t work

TYVEK

FLEA FREEZE TIME

PROPHYLAXIS VS. WORKMAN’S COMP
Flagging Protocol

Field

Materials:
- Coolers (1 small, 1 large)
- Dry Ice
- Gallon ziplock bags (2 per flag)
- Feet flags
- Flagging snake
- Marker
- Bandaids (30% ADH)
- Boots
- Long gloves

Personal materials:
- Long-sleeve shirt
- Hat
- Sunscreen
- Water

Procedure:
1. Work in partners. One will be the "snaker" and the other the "bagger".
2. Apply PPE (a minimum of gown, boots, and gloves).
3. Collect and stock coolers:
   - Large box dryer ice
   - Small cooler flags, bags, extra gloves, boot & marker
4. "Snaker" attaches flag to the end of the snake.
5. "Snaker" runs the flag down the hole.
6. "Snaker" allows flag to sit for 30 seconds before slowly pulling it out. ("Bagger" must be ready with a ziplock bag.
7. "Snaker" places the end of the snake with the flag into the open bag
8. "Snaker" detaches the flag from the outside of the bag and seals the bag with as little air as possible inside the bag.
9. "Bagger" places the bag into a secondary ziplock bag and if flagging more than one area, writes the location on the bag.
10. "Bagger" places the bag into the dry ice cooler.

Lab

Materials:
- Multiple sheets of white paper
- Forceps
- Specimen container
- Gown
- Gloves
- Ziplock bags
- Lab requisition
- Packing slip
- Shipping box
- Shipping label
- Biological Substance Category B sticker
- Ice packs

Procedure:
1. Place all bags in the freezer for a minimum of three days.
2. Once frozen and ready to pick, place white sheets of paper on top of the lab bench.
3. Don PPE (a minimum of gown & gloves).
4. Open the bag on top of the white paper and pull out the flag.
5. Use forceps to pick off the flag from the flag and then place the flag in a specimen container.
6. Be sure to inspect the inside of the bag and in any soil for flea.
7. After all fleas are deposited in the container, place the container in a secondary ziplock bag with absorbent paper towels.
8. Write the requisition number on the bag.
9. Place the bag in shipping box with the required, completed requisition, packing slip, and ice packs.
10. Attach the shipping label and Biological Substance Category B sticker to the box.
11. Leave the box on the table next to the fax machine for the courier.
Uniform
# Mass Mailing/Postings

**PUBLICATION:** PUEBLO CITY-COUNTY (COLORADO)

**DATE:** August 2015

**SUBJECT:** PLAGUE WARNING

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## Plague

**What is plague?**
Plague is caused by a bacterium transmitted by fleas and can infect humans. It is primarily a disease of rodents and is spread to humans when a person is bitten by a infected flea or comes in contact with infected animals.

**How do people get it?**
- Bites of infected fleas
- Touching or skinning infected rats, and rabbits
- Inhaling droplets from an infected human (especially sick cats)

**Common forms of plague**
- Bubonic plague: most common form. It can be treated effectively if diagnosed early.
- Septicemic plague: occurs when plague bacteria multiply in the bloodstream, causing fever, chills, and shock.
- Pneumonic plague: occurs when a victim inhales droplets containing plague germs. It can be transmitted from person-to-person if not treated promptly.

**Protect yourself from plague**

### Preventing exposure to plague
- Avoid contact with infected animals, particularly wild rats and rabbits.
- Store pet food and water outside to prevent infestation.

### Contacting plague-infected persons
- Avoid contact with sick humans.
- Wash your hands frequently.

### What to do if you develop symptoms of plague:
- If you develop symptoms, seek medical attention immediately.
- Avoid contact with other people.

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**Public Health Information**

- For more information about plague, visit [www.cdc.gov/plague](http://www.cdc.gov/plague).
- [Promote - Protect - Prevent: www.pueblohealthdept.org](http://www.pueblohealthdept.org)
Surveillance Partners

Prevent • Promote • Protect