Basic Environmental Health Program
Fall 2013
PH 102: Public Health Preparedness Webinar

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Webinar Objectives
- Identify types of incidents that could have an environmental impact
- Identify environmental health issues resulting from natural and human-induced incidents
- Understand the role of LHD in emergency response
- Be prepared to staff a Disaster Recovery Center
  - Water disinfection
  - Food safety
  - Indoor air (mold, CO, oil spills)
- Know where to find resources
What is an Incident?

- An occurrence, caused by either human or natural phenomena, that requires response actions to prevent or minimize loss of life, or damage to property and/or the environment.
- All incidents start and end **LOCALLY**
- Local ➔ State ➔ Federal

What are Environmental Incidents?

- radiological, chemical, biological, natural and man-made
  Some examples:
  - Natural disasters: tornados, floods, ice storms, earthquakes, heat waves
  - Fire (structural and wildfire)
  - Human and animal disease
  - Outbreaks
  - Hazardous materials incidents
  - Oil Spills
Recent Incidents

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidents</th>
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<tbody>
<tr>
<td>2012</td>
<td>Jan – Radiation countermeasure: Cobalt 60</td>
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<tr>
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<td>Feb – Winter storm, Hazmat</td>
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<td>March – White powder letter</td>
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<td>April – Botulism, winter storm, wild fires</td>
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<td>May – Severe weather</td>
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<td>June – Active shooter, Wallenda high wire over the Falls</td>
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<td>July – Hepatitis A, storms</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Incidents</th>
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</thead>
<tbody>
<tr>
<td>2013</td>
<td>Jan – Winter storm Nemo</td>
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<tr>
<td></td>
<td>March – 2 Winter storms</td>
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<tr>
<td></td>
<td>April – Hazmat, Oil spill</td>
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<td></td>
<td>May – Severe summer storms</td>
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Current Trends

Observed Climate Changes in NYS

- More frequent and severe heat waves
- Changes in precipitation patterns leading to more intense droughts or increased flooding
- More intense storms and high winds
- Rising sea levels
- Worsening air quality and a longer pollen season

What are Environmental Health Issues?

- Drinking Water
- Wells
- Food Safety
- Flood Cleanup
- How to Disinfect
- Mold Questions
- Carbon Monoxide
- Septic Systems
- Petroleum Spills and Health
- Restaurant Inspections
- Asbestos Exposures
- Chemical Exposures
- Radiological Events
- Extreme Heat
- Extreme Cold
- Injury Prevention
District, county & NYC environmental health staff are on the frontlines of emergency response.

- Public water systems
- Food service establishments
- Children’s camps
- Campgrounds
- Agricultural fairs
- Hotels, motels
- Migrant farm worker housing
- Swimming pools
- Facilities that use radioactive materials
- Bathing beaches

Health Emergency Preparedness in NYS

- NYSDOH Office of Health Emergency Preparedness
  - Facilitates all health emergency preparedness and response activities for the NYSDOH
  - Has staff at Central and Regional Offices
  - Similar capacity at Local Health Departments and hospitals with preparedness programs or using existing staff

How Does it Work?

- Incident Command System (ICS) = how agencies work together to coordinate assets and resources during emergencies.
- Incident Management System (IMS) = NYSDOH adapted from ICS. Primary means to gather, analyze, and disseminate information, resources, and make decisions.

FEMA ICS Training Courses
http://www.training.fema.gov/EMIWeb/IC/ICResource/TrainingMaterials.html#item1
Incident Management System

IMS is the primary by which Department gathers, analyzes, disseminates information, resource makes decisions.

Incident Notification Protocol

Call comes into NYS Watch Center at SOEM or NYSDOH Duty Officer's System.

NYSDOH Office of Health Emergency Preparedness (OHEP)

Executive and program staff to respond and establish Incident Management System (IMS) structure.

For localized or regional events, LHDs (and respective Regional Offices) will be notified through the NYSDOH Notification System on the Health Commerce System (HCS).

NYSDOH Regional and Field Structure

NYSDOH Office of Health Emergency Preparedness (OHEP)

If large-scale event, all LHDs notified regardless of area affected.
How to Contact NYSDOH

- During business hours
  - Normal channels to district, regional, or central offices
- After hours
  - NYSDOH Duty Officer System
    - 1-866-881-2809
    - Press 1 for emergency
    - Press 2 for non-emergency

Communications

Role of Regional Offices, District Offices & Local Health Departments in Emergencies

- Varies by region, capabilities of Local Health Departments
- PHEP and HPP Regional Field Staff
- Regional Operations Center (ROC)
- Local Emergency Operations Center (Local EOC)
- Health Operations Center (HOC)
What may you be called upon to do and do you know what to do?

Disaster Recovery Centers
• A readily accessible facility or mobile office where applicants may go for information about Federal Emergency Management Agency (FEMA) or other disaster assistance programs, or for other related questions.

Who is at the DRC?
• FEMA staff
• American Red Cross (ARC)
• Small Business Administration (SBA)
• NYS Office of Temporary & Disability Assistance (OTDA)
• NYS Office of Children & Family Services (OCFS)
• Various other state agencies
• NYSDOH
• LHD staff
What you will need at the DRC

• Stamina (shifts are typically 12 hours).
• Patience (people are under a lot of stress – both residents and those trying to help).
• Ingenuity – these are not the best of circumstances. Be resourceful.
• Appropriate clothing. Be prepared.
• Flexibility – go with the flow.

Once you get to the DRC

• Sign-in indicating which agency you represent.
• Have reference manual including phone numbers for help answering all your questions
• Have laptop – bookmark helpful web pages (e.g. NYSDOH public website, CDC).
• Have box of appropriate publications to hand out.

NYS DOH
Desk Reference Guide for Disaster Relief Centers

• HEALTH DEPARTMENTS CONTACT INFO
• WEATHER DISASTER FREQUENTLY ASKED QUESTIONS WITH ANSWERS
• COMPREHENSIVE GUIDES (water, food, wells, cleanup)
• WATER SUPPLY: Residential, Flood Recovery, Well Testing, Certified Water Testing Labs, Fact Sheets, Contaminated Water, Water Wells
• BULK AND BOTTLED WATER
• BOIL WATER NOTICES
• MOLD, INDOOR AIR, CARBON MONOXIDE, INJURY PREVENTION
• SEPTIC SYSTEMS, SEWAGE, OIL SPILLS
Handouts available at DRCs (e.g. flooding)

What you should do at the DRC

• Introduce yourself to the site manager (fixed sites = OTDA or OCFS; mobile sites = FEMA)
• Set up your wares – laptop, handouts...
• Help people. You are the face of the DOH.
• Keep in touch with your office.
• Stretch out occasionally and get a good night’s rest.

Food Safety After the Storm
Contaminated Water

Contaminated water can cause diarrhea, vomiting, abdominal cramps, headaches, or other symptoms. Water of uncertain purity must always be disinfected before using it for drinking, food preparation, or personal hygiene. Before disinfecting water, let suspended particles settle to the bottom, or strain the untreated water through layers of paper towels, clean cloths, or paper coffee filters.

Drinkable Water

- If water is found to be contaminated, use bottled water if possible.
- If bottled water is not accessible, there are two methods to disinfect tap water.

Water Disinfection – method #1

- Disinfection by boiling produces the safest water
  - Bring water to a full rolling boil for one minute
  - Let the water cool before drinking
  - Boiled water will taste better if you put oxygen back in it by pouring it back and forth between two containers
Water Disinfection – method #2

• Using liquid chlorine bleach
  – Disinfect water by adding eight drops of liquid chlorine bleach (4-6% available chlorine) per gallon of water (sixteen drops if the water is cloudy)
  – Stir and let stand for 30 minutes

Refrigerators and Freezers

• Food in the refrigerator will remain cold for 4-6 hours if the door is kept closed.
• An unopened full freezer will stay at freezing for about 2 days and a half-full freezer about 1 day.
• If the power may be out for several days, dry ice or block ice should be used.
  - Handle dry ice with caution and in a well-ventilated area. Never touch with bare hands.
• Use coolers & ice or frozen gel packs to keep food cold if the power will be out for more than 4 hrs.
  ✴ Placing food outside is not advisable.

Cooking When the Power Goes Out

• For emergency cooking, fireplaces, wood stoves, BBQ grills or camp stoves can be used. Never use BBQ grills or camp stoves indoors. They give off carbon monoxide and cause sickness or death.
• Canned food can be eaten hot or cold directly from the can. If the can will be heated, it must be opened first and the label must be removed.
Recovering from the Storm

- Keep cold food at 45F or below.
- Discard food that required refrigeration and has been above 45F for more than two hours.
- Do not eat food that may have come into contact with flood water.
- Wash countertops, pots, pans, dishes, & utensils (inc. can openers) with soap & water. Rinse, then sanitize by immersing in solution of 1 Tbs bleach/gal water. Air dry fully before using.

Food: Keep, Eat, or Refreeze?

- Foods may be safely cooked & eaten or refrozen if they still contain ice crystals or that have completely thawed but were never above 45F.
  - Refreezing may result in loss of taste quality.
  - Consider cooking and eating or cooking and refreezing.

Do Not Eat--Discard

- Throw away moldy items or food with an unusual odor or appearance. Throw away foods requiring refrigeration if they have been above 45F for over two hours:
  - Raw or cooked meat, poultry, seafood
  - Meat topped pizza, lunchmeats
  - Casseroles, soups, stews
  - Milk/cream, yogurt, soft cheese
  - Cooked pasta, potato, rice, salads prepared from these foods
  - Cookie dough
  - Fresh eggs, egg substitutes
  - Cream-filled pastries
  - Custard, chiffon, cheese pies
  - Gravies

*If in doubt, throw it out!*
Food Okay to Keep
Some people store some of these foods in the fridge, but they can be kept at room temperature for a few days:

- Butter, margarine
- Hard cheese
- Fresh fruit and vegetables (except cut leafy greens, melons, or tomatoes and raw sprouts)
- Dried fruits, coconut
- Fresh herbs and spices
- Opened jars of vinegar-based salad dressing, peanut butter, jelly, relish, taco sauce, barbeque sauce
- Mustard, ketchup, olives
- Fruit pies

Public Drinking Water

- Unless service area is under advisory, water can be used for all purposes.
  – Check advisories for the customer’s location.
- Boil Water Advisory means that the water may contain disease causing organisms.
  – Precautions are needed for: drinking, cooking, bathing, infant formula, hygiene for sensitive people, infants, elderly, immune compromised.
  – Un-boiled water can be used for washing clothes and washing dishes.
Common Drinking Water Questions

Can I flush toilets? Wash my hands? How about sanitizing wipes? Is coffee making OK? Can I use my ice? Washing veggies? Cooking artichokes? How about baking? Can the dog drink? Fish tank? I have a carbon filter, so can I ignore the BWO ...? I have a softener ...? Green sand ...? Reverse osmosis...? How do I know when the water will be OK? Do I need to flush my plumbing afterwards?

Boil water information is on the NYSDOH website for consumers, health professionals, & water suppliers http://www.health.ny.gov/environmental/water/drinking/boilwater/

Wells and Septic Systems

1. Assess – could the well be contaminated?
2. Repair and Flush – do not drink or wash with well water until well has been restored by proper disinfection & flushing.
3. Disinfect – water that has been in contact with flood water should be disinfected before using.
4. Sample – after disinfection, test to confirm there is no contamination.

Indoor Environments
Can I Enter My House?

- Do you have permission from the local authorities?
  - Code enforcement officials usually inspect flooded buildings before they are reoccupied
- Check wiring, gas lines, furnaces, boilers, hot water heaters, sanitary systems
- Have you got tools and PPE?
- Proceed with caution...

FAQs on Indoor Air

Q. Should I have my indoor air quality tested?
   A. No. Testing is NOT recommended.

Q. How can I know if my air quality is OK?
   A. Make sure your carbon monoxide detectors are working.
   A. If you hear the carbon monoxide detector alarm, get out of the building and call 9-1-1.
   A. If you smell natural gas or sulfur odors, stay out of the building and call 9-1-1.

Indoor Health Issues

- Carbon Monoxide (CO)
  - Common sources: generators, space heaters, car exhaust, barbeque grills, wood fires
- Mold
- Oil Spills and Petroleum Odors
- Injury Hazards
  - Fire
  - Electrocution
  - Natural Gas and Propane
CO Poisoning

- Odorless, colorless, tasteless, non-irritating
- Flu-like symptoms
  - Headache, dizziness, nausea, weakness, sleepiness, fluttering of the heart, redness of skin, confusion
  - In large amounts can cause loss of consciousness, brain damage, and death

CO Prevention

- Evacuate and call 9-1-1
- CO Alarms/Detectors
  - Not the same as smoke alarms!
  - Place on every occupied floor
  - Place outside every bedroom (ideally)
  - Test them!
- No indoor fires, space heaters, barbeques
- No generators in attached garages or within 20 feet of homes

How to Get Rid of Mold

- Dry
  - Drain, mop and wipe dry
  - Air dry with fans and dehumidifiers
- Clean solid non-porous surfaces
  - Soap and water is a cleaning solution
  - Bleach and water is a disinfectant solution
- Soft, porous, rotted items should be discarded
- NO sampling and analysis is needed!
Oil Spills

• Report Spills (Oil, Gasoline, Chemical) to DEC
  **DEC Spills Hotline 800-457-7362**
• If odors are present, recommend relocation
• Control odors in the living areas
• Clean hard, non-porous surfaces with soap and water
  – Other oil stained items should be removed from the living space and placed on a tarp

Oil Spill Cleanup

• If a layer of oil is on top of water in a basement, remove the oil before pumping the water out.
  – For an oil film, absorbent pads may be sufficient to collect the oil
• Do NOT pump the water into your yard before removing the oil.
• Avoid tracking oil in the home.
• Use cat litter to absorb small amounts of oil.

Controlling Odors

• Fans can help to control odors. The DIRECTION of fan air flow is critical.
• Exhaust basement areas by blowing air OUT of basement through a single window.
• Fans used in the living space should blow outdoor air IN.
• Use caution when operating central heating or central air conditioning systems.