



Planning for the Expected: Infectious Diseases and All-Hazards Planning

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Dana Carr

Director, Health, Mental Health,
Environmental Health, and PE Programs
Office of Safe and Drug-Free Schools
U.S. Department of Education

U.S. Department of Education, Office of Safe and Drug-Free Schools
550 12th Street, S.W., 10th Floor, Washington, D.C. 20202

Introduction

- **Infectious diseases in schools**
- **Case Study: Pandemic Influenza**
- **How planning for infectious diseases fits into all-hazards planning**
 - Considerations for the four phases of planning
- **Conclusion**



Infectious Diseases in the US

- **Every year, schools close due to infectious disease outbreaks**
- **Infectious diseases are illnesses that are transmitted from one person to another via various routes**
 - Gastroenteritis
 - Pneumonia
 - Influenza



Some Common Routes of Transmission



- **Person-to-Person**
- **Contaminated surfaces**
- **Foodborne**
- **Waterborne**



Infectious Diseases and Children

- **Children and youth are particularly efficient vectors for disease transmission**
- **Children may have less developed immune systems than adults**
- **Children may not be fully immunized against vaccine-preventable diseases (or require boosters)**
- **Schools tend to be densely packed environments**
- **School environments may not be routinely cleaned and disinfected in a manner that reduces possibilities for disease transmission (i.e. playgrounds)**



Consequences of Infectious Diseases for Schools

- Absences may cause schools to close for days or weeks—Continuity of Operations plans may need to be enacted
- Students and staff may be affected by illnesses
- If handled poorly, community trust in schools is shaken
- Depending on the disease, may cause high rates of illness, potentially some deaths in the school community



Some Common Infectious Diseases That Affect Schools

■ Viral Infections

- Gastroenteritis – Noroviruses
- Influenza
- Varicella (Chicken Pox)
- Coxsackievirus (Hand, Foot and Mouth)

■ Bacterial Infections

- *E. Coli*
- MRSA
- Strep throat

■ Fungal Infections

- Ringworm



Case Study: Meningitis



Photo courtesy of the *Providence Journal*
(Kathy Borchers)

- A student in Warwick, RI died from meningitis, three others sickened in January, 2007
- High rates of pneumonia
- Schools closed for over 20,000 students for three days, day care centers, YMCAs also closed
- Mass mobilization between health and education department – antibiotics distributed to students and families

(*Lessons Learned*, vol. 2, Issue 3
<http://rem.s.ed.gov>)



Case Study: MRSA

- In Fall 2007, the death of a high school football player in Virginia focused the nation on MRSA in schools
- Within a month or two, several more MRSA outbreaks were reported across the nation, closing several schools and triggering cleaning efforts



Detecting a Problem in School

- **Identify an unusual cluster of disease**
 - i.e. an unusually high number of absences
- **Develop a case definition**
 - Who is sick?
 - When did they get sick?
 - What are the symptoms?
 - Are new people getting sick?



Different Types of Outbreaks

- ***Point Source Outbreak:*** An infected person comes to school sick, exposing those who come in contact with that person.
- ***Continuous Outbreak:*** There is a contaminated source, such as food in the lunchroom, that sickens many people from that source.



Case Study: Pandemic Influenza

- **Several Influenza strains circulate every year (known as “seasonal flu”)**
- **A Pandemic is characterized as a:**
 - New strain of influenza virus
 - Universal susceptibility
 - Sustained human-to-human transmission
 - Affects a large portion of the world and population



Challenges Unique to a Pandemic

- **Major social disruption**
- **Schools may be closed as part of a community response**
 - Low threshold for closures
 - Long-term closures, up to 12 weeks
- **Multiple locations will be affected simultaneously**
- **Schools will need to coordinate with other public and private sectors in response**
- **Health care sector will be overwhelmed**
 - Not enough vaccine or anti-viral medication for entire population



Historic Influenza Pandemics

- **1918: Spanish Flu (~ 50 million deaths worldwide, 500,000-675,000 in the US)**
- **1957: Asian Flu (1-2 million deaths worldwide, 70,000 in the US)**
- **1968-69: Hong Kong Flu (700,000 deaths worldwide, 34,000 in the US)**

- **Scientists believe that it is a matter of *when*, not *if* there will be another pandemic**



General Planning Considerations for Infectious Diseases

- **Schools may be forced to close for a period of time**
 - Days
 - Weeks
 - Up to 3 months
- **Schools will be key source of accurate and timely information**
- **Schools may decide to provide educational content or services to students during prolonged school closure**



Considerations for Prevention-Mitigation

- **Identify and talk to a contact in your local health department**
- **Identify roles and responsibilities of health department and other entities during an infectious disease outbreak and response (How would ICS differ under this type of incident?)**



Considerations for Prevention-Mitigation, Continued

- **Include a school nurse (or school nurse consultant) in your planning efforts**
- **Review legal authorities for school closures during declared emergencies and non-emergencies**



Considerations for Prevention-Mitigation, Continued

- Educate staff, parents, or students on good health and hygiene and provide time and opportunities to practice good habits (i.e. hand-washing, covering coughs and sneezes)
- Review and update cleaning and sanitizing policies (clean and disinfect regularly touched surfaces *regularly*)
 - This includes a review of safe chemical management policies! Ensure that products are being used as *directed* on the label by *trained* professionals.



Considerations for Preparedness

- **Generate and review communications plans, including identifying appropriate spokespeople (may not be the same as other emergencies)**
- **Evaluate supply policies (soap, paper towels, sanitizing chemicals, etc.)**



Considerations for Preparedness, Continued

- **Develop and implement a surveillance system to detect unusual rates of diseases in schools**
- **Test plans regularly, using both tabletop exercises and real-world situations**



Considerations for Response

- **Activate ICS**
- **Work with health officials to determine source of outbreak, scale, and case definition**
- **Communicate with teachers, staff, and parents**
- **Activate plan for school closures and determine process for continuing education contents, if necessary**
- **Determine if school facility needs remediation before it can reopen for students**



Considerations for Recovery

- **Determine process for re-opening schools or reconvening students**
- **Communicate with parents, students, staff, media**
- **Assess health and mental health needs of students and staff**
- **Provide mental health services as necessary**
- **Return to learning environment**



Additional Resources

- Centers for Disease Control and Prevention:
<http://www.cdc.gov>
- Pandemic Influenza Resources:
<http://www.pandemicflu.gov>
- Department of Education guidance for continuing education during a prolonged school closure:
<http://www.ed.gov/emergencyplan>
- Lessons Learned: <http://rems.ed.gov>
- Association of State and Territorial Health Officials: <http://www.astho.org>
- American Public Health Association:
<http://www.apha.com>
- National Association of School Nurses:
<http://www.nasn.org>



Thank you!

Dana Carr
Office of Safe and Drug-Free Schools
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dana.carr@ed.gov

202-245-2878

