

# H1N1 and Schools

Cynthia DiLaura Devore, MD, FAAP

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# Lingering questions from spring 2009:

1. By the end of school, we were told to treat H1N1 like seasonal flu. Why do we need to be concerned about it now?
2. Why do we need our own district Pandemic Plan? Won't we just follow public health guidance?
3. Was this just another media frenzy?

# 1. Why be concerned now?

- While similar to seasonal flu, H1N1 is novel, meaning it is brand new since April 2009, and few have developed immunity.
- Therefore, it can spread quickly and widely.
- It is similar, but is not behaving exactly the same as seasonal influenza, and it is yet unclear whether it will change and become even more virulent in the fall.
- As we learn more, guidance may change.

## 2. Why do we need a district pandemic plan?

- Public health agencies and officials will guide and assist districts in matters related to public health.
- There are other concerns besides public health, for example, public relations and district core operations.
- Every department needs to be involved in the process.

# Districts need to plan for prolonged school closure before it is an issue

- Departments must determine minimal operational needs and ability to function,
- Continuing instruction (1, 3, 6, 12 weeks)
- Employee pay, job flexibility, and personal responsibilities,
- Students, staff, and community education regarding public health & personal protection and prevention measures,
- Communications with the community
- Free breakfast and lunch?

### 3. Media frenzy or real concern?

- The risks are real, despite great public health initiatives that have mitigated impact in the US to date.
- Estimated 40% of the US population could become ill at the same time if spread is not controlled.
- That rate of illness could interrupt essential community functions like gas, electric, food & water supplies, and fire & police services.

# Preparedness is best protection:

- Understand what pandemic is all about
- Take recommended precautions
- Obey public health directives and recommendations
- Teach our children and families to do the same

# Understand the problem: Flu viruses, an overview

- Influenza is a virus with three subtypes: A, B, C
- Influenza A virus is further categorized into subtypes based on surface proteins.

- These surface proteins, or *antigens*, are known as hemagglutinin (H) and neuraminidase (N)
- Current subtypes of influenza A found in humans to date include H3N2, and H1N1 which originated in swine and infected humans for the very first time in April 2009.

# Antigenic Drift and Shift

- Viruses want to survive, and therefore, they mutate often to stay ahead of us trying to kill them off.
- In order to do this, they have frequent, subtle protein changes called antigenic drift
- Occasionally, viruses undergo formation of an entirely new subtype resulting in new or “novel”, rather than typical, hemagglutinin or neuraminidase proteins. This is called antigenic shift.

# Antigenic Shift

- When antigenic shift occurs, a novel, atypical, and previously unknown combination of hemagglutinin and neuraminidase appears, and few, if any individuals in a given population have prior immunity to the virus
- This creates a perfect set-up for a pandemic to occur which happened with H1N1 in April 2009.
- This is what can happen again with other mutations, including the feared “superbug” H5N2, or the marriage of avian and swine flu in a human host which we are trying to keep from happening.



# What's the difference between typical seasonal and novel H1N1 flu?

## Typical seasonal flu

- Winter month pattern,
- Ends around April,
- Tends not to hit the young and the healthy at ages 5-25 very hard
- Worst for elderly, infants, and those with existing medical conditions.
- Pregnant women may have significant complications
- Susceptible to anti-virals
- Annual vaccine available
- ~36,000 deaths per year

## Novel H1N1

- Winter, spring, summer and still going
- >50% of cases have been in ages 5-49
- Some elderly have apparent immunity
- Pregnant women, infants, and those with existing medical conditions may have significant complications
- Susceptible to some anti-virals
- Vaccine is under development, hopefully due out in mid fall
- ~1700 worldwide deaths so far

# How is flu spread?

- Flu is spread by direct contact with droplets left by coughs and sneezes. Droplets can also come in contact with your hands from other hands, desks, door knobs, objects such as keyboards, pens, dirty tissues, when you touch your mouth, nose, or eyes.
- H1N1 can live on surfaces for 2 to 12 hours, so an overnight should kill most.

# How should we clean schools?

- Clean “high touch” common surfaces daily with soap and water or routine cleaning agents. (railings, faucets, door knobs, counters, etc.)
- Clean any shared items between use (musical instruments, PE equipment, costumes, etc.)
- When using green products, be sure they are left on according to manufacturer’s directions. If a surface needs to remain wet for 10 minutes, you must use enough product.

# General maintenance tips

- Classrooms, offices, lunchrooms, gyms, band rooms should have tissues and trash cans accessible.
- All rooms should have either hand washing access with soap and water or supervised use of ideally alcohol based hand sanitizers.

# Vaccination information

- There is seasonal flu vaccine every year. H1N1 is not included in it this year, because it came after flu vaccine production.
- H1N1 vaccine is in clinical trials.
- 2 vaccines may be needed H1N1
- Vaccine should be available in mid-fall to high risk individuals.
- Vaccines usually are safer than diseases in most cases.

# H1N1 Vaccination

- We do not expect that there will be a shortage of novel H1N1 vaccine, but flu vaccine availability and demand can be unpredictable; there is a possibility that initially, the vaccine will be available in limited quantities.
- Therefore, recommendations exist regarding which people should be prioritized if the vaccine is initially available in extremely limited quantities.

# Priority groups for H1N1 vaccine:

- Pregnant women
- Household contacts/caregivers for children <6 mo.
- Healthcare and emergency medical services personnel
- All people from 6 months through 24 years of age
- Persons aged 25 through 64 years who have health conditions associated with higher risk of medical complications from influenza (asthma, diabetes, etc.).

# Hey, what about me?

- Once the demand for vaccine for the prioritized groups has been met, vaccinating everyone, first from the ages of 25 through 64 years, and then above 65 will commence.

- We do not know many details on the vaccine, because it is still in clinical trials.
- The CDC does not expect to run out of vaccine for those who want it, because many people do not avail themselves of seasonal flu vaccine, and they anticipate the same for H1N1.

# How will I know if I have seasonal flu or H1N1?

- You won't know for sure what sort of flu you have without a culture.
- Cultures are limited to seriously ill, hospitalized, or at risk populations now.
- However, if your ILI is outside of normal seasonal flu months, it is likely H1N1.
- It doesn't matter what sort of flu it is from a practical standpoint, because we are treating all flu similarly for now.

# What are influenza-like illness (ILI) symptoms?

- Fever (100 axillary, 101 orally, 102 rectally),
- Sore throat,
- Cough,
- Upper respiratory symptoms, (runny or stuffy nose)
- Muscle aches, headache, tiredness
- Sometimes vomiting and diarrhea,
- Feel more ill than common cold and for longer.

# Precautions to prevent getting ILI:

- Wash hands with soap and warm water for 20 seconds (sing "Happy Birthday" twice) whenever dirty, before eating or preparing food, and after toileting, or after coughing/sneezing into them.
- Use 60% alcohol based hand cleaners if soap and water are not available.
- Non-alcohol based hand cleaners are better than nothing, but may not be as good as washing or using alcohol based cleaners.

# Other Ways to Prevent All Types of Illness:

## TAKE CARE OF YOUR HEALTH

- Try to get some daily relaxation from stress.
- Eat healthy meals and maintain healthy weight
- Exercise for at least 30 minutes daily
- Drink alcohol only in moderation
- Avoid addicting substances
- Get enough sleep
- Consider the value of flu vaccines

# Health office will be busy

## School Nurses will:

- Take care of daily sick calls, but separate upper respiratory illnesses from others
- Track medically fragile children and pregnant students who need extra attention
- Assist staff and students about hand hygiene
- Monitor absences for public health surveillance
- Work closely with school physician on medical matters

# What can I expect if I go to the health office sick?

If you have a fever and one additional symptom of sore throat, cough, upper respiratory illness, vomiting or diarrhea:

1. You will be asked to wear a surgical mask,
2. You may be isolated in a designated flu area or separate room, and
3. You likely will have to leave the building asap and not return till 24 hours of being symptom free.

# Once sick, obey public health precautions:

- Stay home if you are sick with fever, cough, sore throat, muscle aches, vomiting or diarrhea.
- Stay home for 24 hours after last symptoms disappear off fever reducing medications, and return when you feel well enough to work a full day.
- Use cough/sneezing etiquette into a tissue which you dispose of immediately, or into the crook of your elbow, or into your hands which you wash immediately.

# Once sick...

- Do not leave your home if you are sick except to seek medical care. Avoid contact with others if you are ill.
- Call your physician or health care provider before you go to their office.
- If you still need to take ibuprofen or Tylenol to remain fever and symptom free it means you are still sick and need to stay home
- Avoid aspirin containing products while ill with influenza-like illness.
- Do all the same things with your family.

# Tips for teachers

- Consider wider spacing of desks this year, so there is at least a 3 foot distance between desks.
- Be a role model. Teach children about the same ways to prevent ILI as you just heard and use yourself.
- Be sure there are plenty of tissues, trash cans, and a means to clean hands afterwards.
- Identify children who appear ill, have flushed appearance, sweating or shivering, or feel warm, and send them to the nurse.

# Tips for teachers

- Encourage and reward respiratory etiquette.
- Encourage and reward excellent hand hygiene. Supervise alcohol based sanitizers.
- Discourage sharing personal items and food.
- Use CDC posters as reminders.
- Have flexibility in assignments so children who are ill with ILI are neither penalized for absences, nor pressured to return before they are well.
- Avoid attendance awards which might encourage children to come to school sick.

# Pregnancy

- Notify your OB immediately if you are experiencing ILI.
- It is safe to take anti-virals, ideally within 48 hrs of ILI.
- Pregnancy does not increase the risk of getting ILI, but once sick, the risk of complications is greater.
- Plan to get the vaccine if you are pregnant; you are a priority group.
- You may continue to teach unless otherwise directed by your OB, but avoid touching your face, and remember to use excellent hand hygiene.
- Most deaths were associated with delays in starting anti-virals or in women with underlying medical conditions.

# Pregnant students

- Pregnant students who believe they are ill with ILI should be referred to their OB immediately and be encouraged to follow the same advice just stated.
- Students should be encouraged to get the vaccine, and to call OB & take anti-virals if they become ill.
- Programs designed for pregnant students may require longer exclusion periods up to 7 days following ILI. Work with the school physician and your administrators.

# Medically fragile children defined:

- Children with significant need for intensive, life-sustaining medical assistance,
- Children who need assistance with activities of daily living, skilled nursing, or special medical equipment.
- Children who have chronic lung disease, severe cerebral palsy, muscular dystrophy, immunodeficiency, or problems regulating metabolism.

# Medically fragile children

- These children or classrooms may need to be handled differently from the general population for their safety, may require special management, and longer exclusion such as 7 days rather than 24 hours after symptoms are gone. Work with your school physician and administrator.
- Teacher flexibility will be especially important in these instances.

# What if a family member is sick, but you are well?

- You may come to work if you are not ill, even if a family member has confirmed seasonal influenza or H1N1.
- Continue to use scrupulous hand washing and respiratory etiquette.
- Watch yourself and your other family members for signs of ILI.
- Stay home or leave work at the first sign of ILI.

# **Plan and Prepare: Educating the community**

## **SPREAD THE CDC'S "TAKE 3" MESSAGE:**

- 1. Take time to get vaccinated**
- 2. Take everyday preventive actions like hand washing and cough etiquette**
- 3. Take flu anti-viral drugs if your doctor recommends them**

# Question and Answer

Q: Is the district being overly restrictive excluding children and staff for 24 hours after symptoms are gone when ill with ILI?

A: No. This is the guidance we have received from our public health agencies. As their guidance changes, our approach may change. Remember, people are most contagious when the symptoms are the worst, and least contagious as the symptoms resolve. Our experience in the spring allowed us to lessen, but not eliminate the exclusion from 7 days to 24 hours symptom free

# Question and Answer

Q: Is the district being overly lenient and putting us at danger keeping schools open and allowing sick people back after just 24 hours symptom free?

A: No. This is the guidance we have received from our public health agencies. Remember, people are most contagious when the symptoms are the worst, and least contagious as the symptoms resolve. A person can avoid ILI by using scrupulous hand washing, keeping hands from your face, and cautious social distancing.

# Question and Answer

Q: Are we discriminating against specific groups, like programs for pregnant teens or medically fragile children, if we require different exclusion times compared to the rest of the district?

A: No. This is the guidance we have received from our public health agencies. As their guidance changes, our approach may change. Pregnant teens and medically fragile children may experience more severe complications from influenza. For now, the best way to protect children at increased risk of complications is to reduce their exposure to people with influenza as additional protection.

# Important reminders

- An H1N1 vaccine should be available in mid-fall. Seasonal flu vaccines are here. Get vaccinated when vaccines are available.
- Anti-viral medications are effective in reducing the severity and length of ILI. They are generally reserved for persons at high risk and seriously ill individuals.
- Most cases of H1N1 and seasonal flu are self-limiting illnesses that last 4-7 days and recover fully without treatment.
- Even complicated cases have mostly good outcomes with early treatment.

**Most importantly...**

**Maintain a healthy perspective**



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Questions?