

Novel H1N1 Influenza

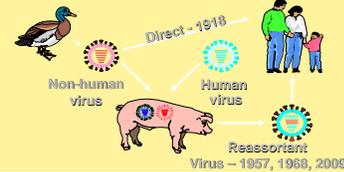
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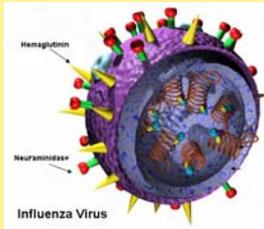
Novel H1N1 Flu Facts

- New influenza virus causing illness in people
 - Initially thought to be a “swine flu”
- Actually a “quadruple reassortant” virus
 - 2 genes from flu circulating in pigs (European & Asian strains)
 - Also contains avian & human flu genes



H1N1 Designation

- H and N refer to specific proteins on the virus surface
 - Multiple types of both H and N proteins
 - Other H1N1 strains in circulation
 - 2009 strain is new, however

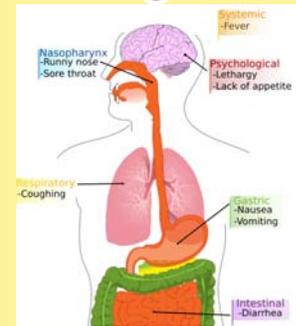


Novel H1N1 Flu Facts (2)

- It is contagious and can spread person-to-person
- Generally causes mild flu symptoms, but all flu can be dangerous
 - Severe illness and deaths have occurred, mostly in individuals with other medical conditions
- It has been determined to be at a pandemic level, meaning its spread is worldwide
 - **Note:** The term “pandemic” does not imply anything about disease virulence; it describes only the current spread and transmissibility of the illness

Characteristics	Pandemic Severity Index				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1 - <0.5	0.5 - <1.0	1.0 - <2.0	≥ 2.0
Excess Death Rate (per 100,000)	<30	30 - <150	150 - <300	300 - <600	≥600
Illness Rate (percentage of the population)	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40
Potential Number of Deaths (based on 2006 U.S. population)	<90,000	90,000 - <450,000	450,000 - <900,000	900,000 - <1.8 million	≥1.8 million
20 th Century U.S. Experience	Seasonal Influenza (illness rate 5-20%)	1957, 1968 Pandemic	None	None	1918 Pandemic

H1N1 Flu Symptoms



Seasonal Flu vs. Novel H1N1 Flu

Symptoms:

- fever
- cough
- sore throat
- runny or stuffy nose
- body aches
- headache
- chills
- fatigue



Symptoms:

- fever
- cough
- sore throat
- runny or stuffy nose
- body aches
- headache
- chills
- fatigue
- rare diarrhea and vomiting

Treatment of Flu

- Most people will not need to be treated
- Antivirals can decrease the severity of the flu or shorten the illness if started promptly
 - Note: 2009 H1N1 strain is resistant to 2 commonly used antivirals, but susceptible to Tamiflu
- Antibiotics DO NOT TREAT the flu virus



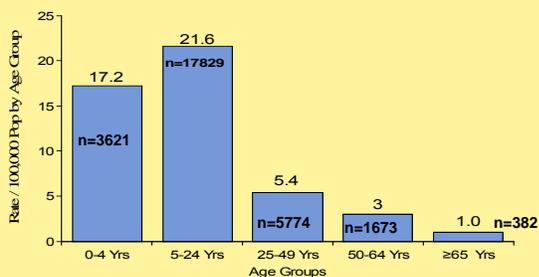
Treatment of Flu

- Most people will get better in 7-10 days without treatment
- Most people do not need to be tested or treated
- Possible treatment groups
 - Pregnant
 - Those with chronic medical conditions
 - Severely ill or hospitalized
- Post exposure prophylaxis limited to:
 - Pregnant
 - Those with chronic medical conditions

Epidemiology of Flu

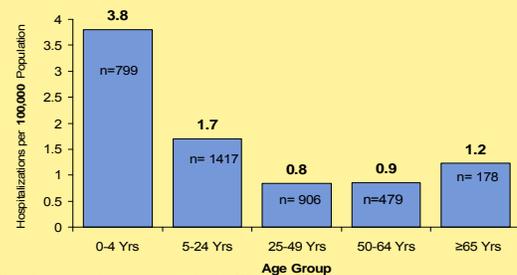
- Higher than expected cases in children and young adults
- Majority of pediatric deaths associated with novel H1N1 infection occurred among children that had underlying medical conditions
- Pregnant women six times more likely to have a complication
- As with all flu, those with underlying medical conditions at risk for complications

Epidemiology/Surveillance Pandemic H1N1 Cases by Age Group as of 09 JULY 2009 (n=35,860*)



*Excludes 1,386 cases with missing ages.
Rate / 100,000 by Single Year Age Groups; Denominator source: 2008 Census Estimates, U.S. Census Bureau at: <http://www.census.gov/popest/national/asrh/files/NC-EST2007-ALLDATA-B-File24.csv>

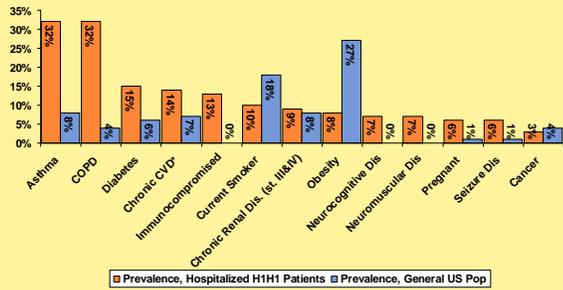
Epidemiology/Surveillance Pandemic H1N1 Hospitalization by Age Group (n=3,779) as of 09 JULY 2009



*Hospitalizations with unknown ages are not included (n=353)
*Rate / 100,000 by Single Year Age Groups; Denominator source: 2008 Census Estimates, U.S. Census Bureau at: <http://www.census.gov/popest/national/asrh/files/NC-EST2007-ALLDATA-B-File24.csv>

Epidemiology/Surveillance

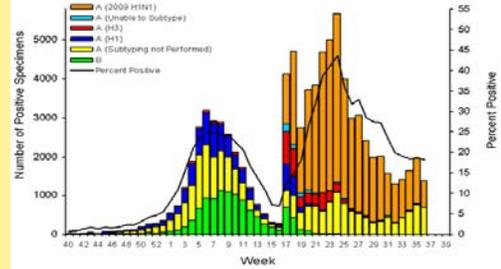
Pandemic H1N1 Hospitalizations Reported to CDC Underlying Conditions as of 19 JUN 2009 (n=268)



*Excludes hypertension

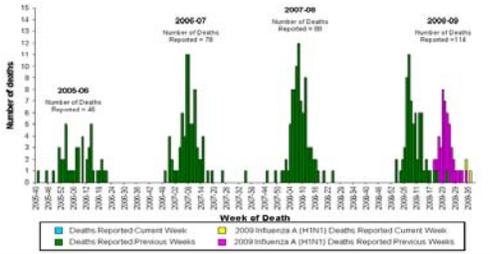
Week 36: National Specimen Types

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2008-09



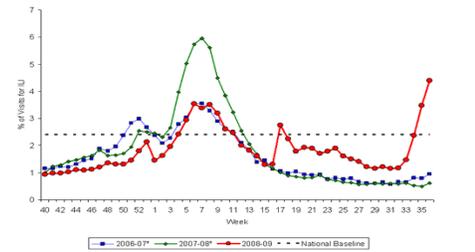
Week 36: Cumulative Pediatric Deaths

Number of Influenza-Associated Pediatric Deaths by Week of Death: 2005-06 season to present



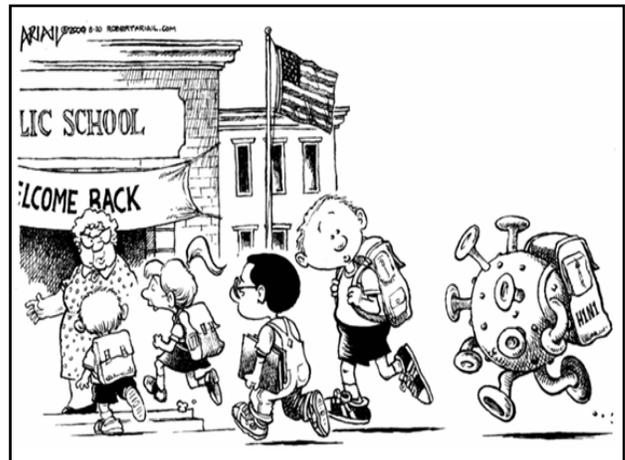
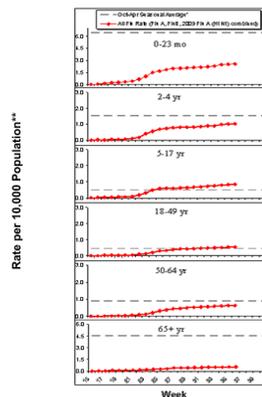
Week 36: National Influenza Like Illness

Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILI Net), National Summary 2008-09 and Previous Two Seasons



*There was no week 53 during the 2006-07 and 2007-08 seasons, therefore the week 53 data point for those seasons is an average of weeks 52 and 1.

EIP Influenza Laboratory-Confirmed Cumulative Hospitalization Rates, Spring/Summer 2009



Flu Prevention

- Cover your nose and mouth
- Clean your hands often
 - Soap and water
 - Alcohol based hand sanitizers at least 60-90% alcohol
- Stay home if sick
- Avoid touching your eyes, nose and mouth
- Avoid close contact with sick people
- Vaccination
 - Seasonal available NOW
 - H1N1 coming SOON

Flu Vaccine Composition

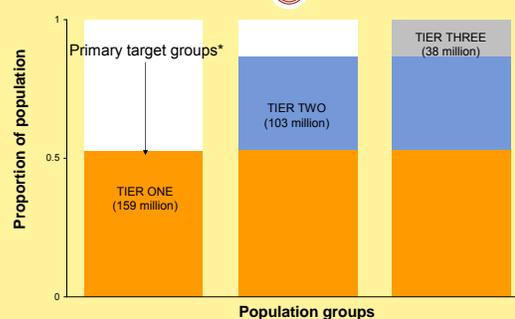
- Seasonal flu vaccine always includes 3 strains selected each year based on circulating types:
 - Influenza A (two strains)
 - Influenza B (strain varies)
- H1N1 vaccine contains only Novel Influenza A/H1N1

YOU NEED BOTH!!!!

H1N1 Vaccine Priority Categories

- Priority groups for H1N1 vaccination:
 - Pregnant women
 - Household contacts and caregivers for children younger than 6 months of age ("cocooning")
 - Healthcare and emergency medical services personnel
 - 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

Summary of Vaccination Over Time



Timing

- May get some H1N1 vaccine in October
- Once shipment starts will continue in a steady but slow stream
- Restrictions will be lifted rapidly
- There will eventually be enough vaccine to give everyone who wants one a vaccination

H1N1 Vaccination Recommendations

- TDOH strongly encourages individuals that fall into one of the priority categories listed to be vaccinated to reduce the risk of contracting H1N1 flu
- Individuals that have been sick with an influenza-like illness are still encouraged to be vaccinated against H1N1 flu

Flu Seasonal Flu and Novel H1N1 Vaccine

- **Formulations**
 - Injectable-killed virus (TIV)
 - Mist-live attenuated virus (LAIV)

H1N1 Flu Response – KCHD

- **Education**
 - Community
 - Medical providers
 - Our staff
- **Respond**
 - Keep up to date so we can provide the MOST current guidance
 - Enhance existing surveillance systems
 - Review and update our pandemic plan
- **Protect**
 - Giving seasonal flu vaccine now
 - Multiple plans for how to distribute H1N1 vaccine
 - Working with all vaccine providers to pre-register to receive H1N1 vaccine

H1N1 Flu Response – ETR

- **Preparation for subsequent waves**
 - County-level facilities listing updated to prepare for blast faxing
 - H1N1 information sent to ~900 providers throughout region
 - Local consideration of potential mass-vaccination clinic details
- **Presentations to LEPCs, local agencies, and county schools to address preparation as well as response**
- **Ongoing transmission in multiple areas of 15 county East TN Region (ETR)**
 - ETR Emergency Preparedness and Communicable Disease staff working closely with facilities/agencies to address emergent situations, e.g., school closures

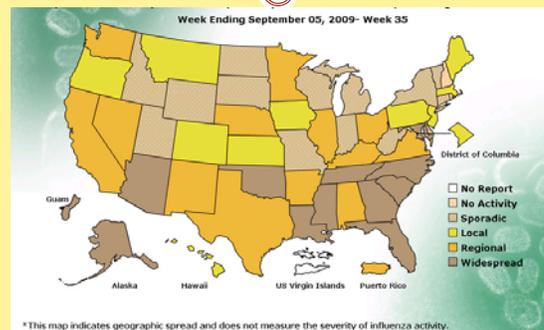
H1N1 Flu Response – TDOH

- **TDOH no longer reporting individual case counts**
- **Review of Pan Flu plans completed in April 2009**
 - Regional and County-level pandemic flu plans updated
 - Previous preparation for avian influenza pandemic served well
- **Preparation for subsequent waves underway**
 - Guidance for organizations/facilities available
 - Preparation for dual vaccination campaigns (Seasonal Flu and H1N1 Flu)
 - H1N1 information sent to hospitals and non-hospital facilities
 - TDOH website has additional info: <http://health.state.tn.us/>

H1N1 Flu Status – U.S.

- **Pandemic Planning & Response in place prior to H1N1**
 - Primary objective
 - ✦ Minimize sickness and death
 - Secondary objectives
 - ✦ Preserve functional society
 - ✦ Minimize economic disruption
- **CDC encouraging ongoing preparation for Fall waves**
- **As of end of August, other strains co-circulating w/ H1N1**
 - Too many cases to lab test and confirm all
 - As a result CDC no longer reporting
 - ✦ Individual case counts
 - ✦ H1N1 (specific) hospitalizations / deaths
 - States to report hospitalizations and deaths resulting from all types of flu, not just 2009 H1N1 flu

H1N1 Flu Status – U.S. (Map)

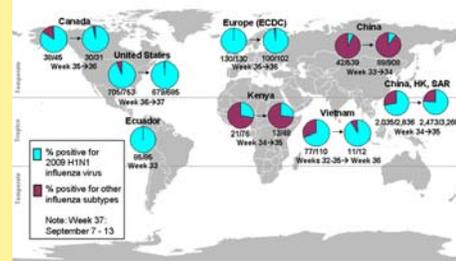


Flu Surveillance

- CDC's Sentinel Provider Network (SPN) tracks Influenza-like illnesses year-round at regional, state, and national levels
- Flu testing performed on selected samples to characterize strains in circulation
- Currently the dominant strain in circulation is H1N1
 - Other seasonal flu strains are also actively circulating and likely to increase as flu season begins
- Ongoing surveillance of flu helps track H1N1 spread
 - May identify if H1N1 is becoming a new seasonal strain
 - If so, 2009 H1N1 may become part of future seasonal vaccines

Flu Surveillance (2)

- International surveillance functions similarly
 - Co-circulation -- 2009 H1N1 & Seasonal Flu as of 09/13/09



The 2009-2010 Flu Season

- Unknown how the novel H1N1 flu virus will affect the upcoming flu season
 - Potential increase in virulence a concern
 - Public perception of flu risk, both seasonal and H1N1, impacts preventive measures and actions
 - Separate vaccinations may create confusion
- Vaccine trials nearing completion
 - FDA has approved use of one dose of 2009 H1N1 flu vaccine for persons 10 years of age and older
 - Single dose of H1N1 vaccine in addition to seasonal flu vaccine
- Public-ready vaccine now in production, based on well-practiced seasonal flu model



Anticipated H1N1 Vaccine Distribution

- 5 companies to produce the vaccine
 - Both live (Flu-Mist) and inactivated (injectable) vaccines to be produced
- Initial vaccine shipment expected mid-October (production delays can occur due to delicate process)
- Distribution determined based on production levels
 - Like seasonal flu vaccine, most H1N1 vaccine will be dispensed by private providers
 - Community-based mass vaccination program possible
- Medical facilities/providers must register through TN Web Immunization System (TWIS) to obtain vaccine

TDOH Role in Distribution

- TDOH charged with distribution of vaccine to providers enrolled in TWIS
 - Vaccine to be available through locations where seasonal flu vaccine normally given, including Health Departments
 - No shortage of H1N1 vaccine is anticipated but it may be available in limited quantities initially
- Distribution of medicine and PPE unlikely
 - Not providing antiviral treatment to the public currently, but plans are in place to respond quickly if required
 - HCWs that need masks provided appropriate personal protective equipment (PPE) by employers; facilities are stockpiling PPE now

Preparing Your Organization

- Keep current with CDC recommendations for your facility type -- www.cdc.gov/h1n1flu/guidance
- Know your organization's pandemic flu plan and how key points will be addressed:
 - Supply issues
 - Disinfection procedures
 - Sick/absentee policies
 - Telecommuting options
 - Visitor policies
 - Vaccination plans
 - Temporary shifting of responsibilities

Preparing Your Organization (2)

- Work with local agencies to build and maintain response capacity -- CDC checklists offer direction for:
 - Schools
 - Healthcare/Long-Term Care
 - Businesses
 - Faith-Based Organizations
 - EMS
 - Correctional Facilities
- Educate staff/clients regarding H1N1 prevention
- Model and encourage proper hygiene practices
- Ensure adequate hygiene supplies/facilities available

Planning Assumptions

When formulating plans, the following disease transmission assumptions should be included:

- No one is immune; estimated that 30% of population may fall ill
- As many as 40% of staff may be absent due to illness or caring for ill family member
- Most will become ill 2 days (range 1-10) after exposure
- People may be contagious 24 hours before symptoms
 - People are most contagious the first 2 days of illness
 - Sick children more contagious than adults

Planning Assumptions (2)

- On average, each ill person infects 2 or 3 others (if no precautions are taken)
- Pandemics move through community in waves
- Each wave will last 6-8 weeks
- Pandemic period may last 18 months to 2 years

Thank you for your attention!



Frequently Asked Questions about H1N1 Flu

How does the H1N1 flu virus spread?

Flu viruses spread mainly when infected persons cough or sneeze, but may also spread by touching something with flu viruses on it and then touching the mouth or nose.

What are the symptoms of H1N1 Flu?

Symptoms of H1N1 Flu are similar to seasonal flu:

- Fever
- Sore throat
- Headache
- Fatigue
- Cough
- Body aches
- Chills
- Diarrhea/Vomiting

Should I get the H1N1 vaccine?

If you fall into one of the priority categories, the TDOH strongly encourages you to be vaccinated to reduce your risk of contracting H1N1 flu. As more vaccine becomes available, others will likely be recommended to receive vaccine.

Can I get the H1N1 vaccine if I've already had the flu?

If you have been sick with an influenza-like illness but did not receive a laboratory-confirmed result of H1N1 influenza, you are still encouraged to be vaccinated against novel H1N1.

Can seasonal flu and H1N1 vaccines be given at the same time?

Seasonal influenza viruses are still expected to cause illness this fall and winter and are a health concern for millions of people. Seasonal flu and novel H1N1 vaccines may be administered on the same day if necessary*. However, seasonal vaccine is available now and TDOH encourages individuals not to postpone getting their seasonal flu vaccine.

* Note: Injectable seasonal and H1N1 vaccines may be administered on the same day; live virus vaccine (Flu-Mist) for both strains should not be given on the same day.

What should I do if I am (or my child is) sick?

If you are sick, stay home and avoid contact with other people as much as possible to keep from spreading illness to others. Contact your health care provider to determine whether influenza testing or treatment is needed.

Should I keep my child home from school?

If your child is sick with flu symptoms, keep the child home to avoid spreading the illness. If your child is healthy, follow public health advice regarding school closures.

Why won't the doctor test me for flu?

Your doctor will determine whether influenza testing is needed based on symptoms and history. Your doctor may choose not to test you because the H1N1 flu virus is circulating widely and the results would not be available in time to influence his/her treatment decision.

Why won't the doctor give me medicine?

Your doctor will determine if treatment is needed based on symptoms and medical conditions that you may have. If you are not at high risk of complications, your doctor may choose not to treat you for the flu; your illness should pass in approximately 7-10 days.

Does the health department give out medicine?

At this time, the health department is not providing medicine to the public, but plans are in place to respond quickly if required. Vaccine will be available through locations where seasonal flu vaccine is normally given, including the health department. No shortage of novel H1N1 vaccine is anticipated but it may be available in limited quantities initially.

Additional Information

•General:

- CDC H1N1 Flu and You – <http://www.cdc.gov/h1n1flu/qa.htm>
- CDC H1N1 Vaccine – http://www.cdc.gov/h1n1flu/vaccination/public/vaccination_qa_pub.htm
- Pandemic Flu Preparedness (family checklist, multi. languages) – <http://www.pandemicflu.gov/plan/individual/checklist.html>
- CDC Podcasts – <http://www2a.cdc.gov/podcasts/index.asp>
- CDC Flu widgets for websites – <http://www.cdc.gov/widgets/>
- Cover Your Cough Poster – <http://www.cdc.gov/flu/protect/covercough.htm>

•Workplace:

- CDC Guidance for Businesses – <http://www.cdc.gov/h1n1flu/business/guidance/>
- Pandemic Flu Preparedness (checklists for organizations, including businesses, institutions, and community organizations) – <http://www.pandemicflu.gov/plan/checklists.html>

•Healthcare/EMS:

- Pandemic Flu Preparedness (EMS and Medical Transport) – <http://www.pandemicflu.gov/plan/healthcare/emgncymedical.html>
- Pandemic Flu Preparedness (Long-Term Care/Residential) – <http://www.pandemicflu.gov/plan/healthcare/longtermcarechecklist.html>

•Schools:

- H1N1 Vaccine and School Guidance Webinar – <http://emergency.cdc.gov/coca/callinfo.asp>
- Kidtastics Podcast (Hand washing) – <http://www2a.cdc.gov/podcasts/player.asp?f=11072>
- Kidtastics Podcast (Novel H1N1 Flu - Note: Spanish available) – <http://www2a.cdc.gov/podcasts/player.asp?f=11416>
- Germ Stoppers Posters – <http://www.cdc.gov/germstopper/materials.htm>
- Pandemic Flu Preparedness (school tools, checklists) – <http://www.pandemicflu.gov/plan/school/index.html>
- School Network for Absenteeism Prevention (SNAP) Toolkit – <http://www.itsasnap.org/snap/pdfs/SNAP%20Toolkit%20FINAL%204.pdf>