

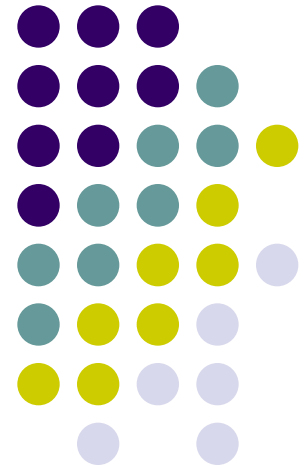
# Update on Influenza in RI

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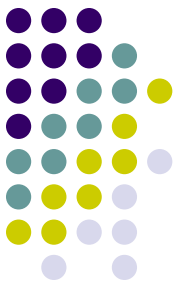
Kimberle Chapin MD

Director of Microbiology Lifespan Academic  
Medical Centers

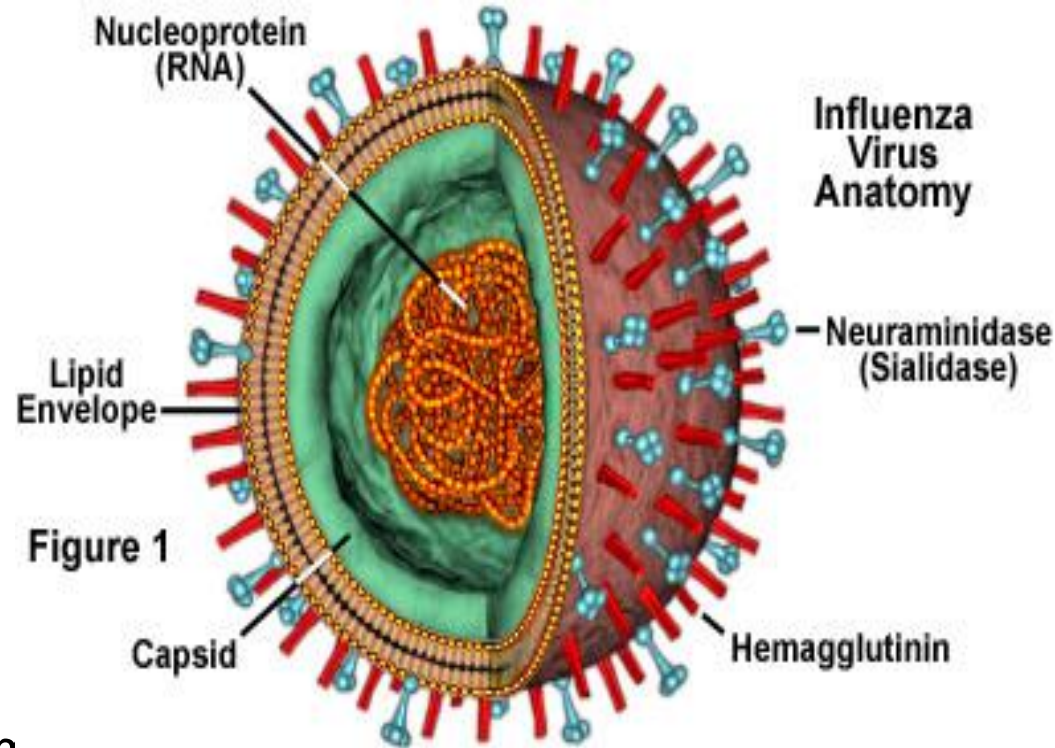
Associate Professor Medicine and Pathology  
Brown Alpert Medical School



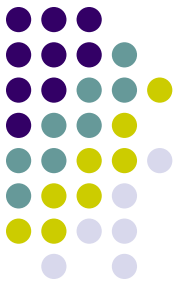
# What is Influenza? What are the H and the N?



- Virus
  - Not a bacteria
  - Antibiotics don't work
- Virus naturally occurs in humans, animals and birds
- HA and N protein spikes
- Segmented RNA Genome
  - Seasonal H1N1, H3N2
  - 2009 H1N1 (swine)
    - genetic core is different from seasonal H1N1

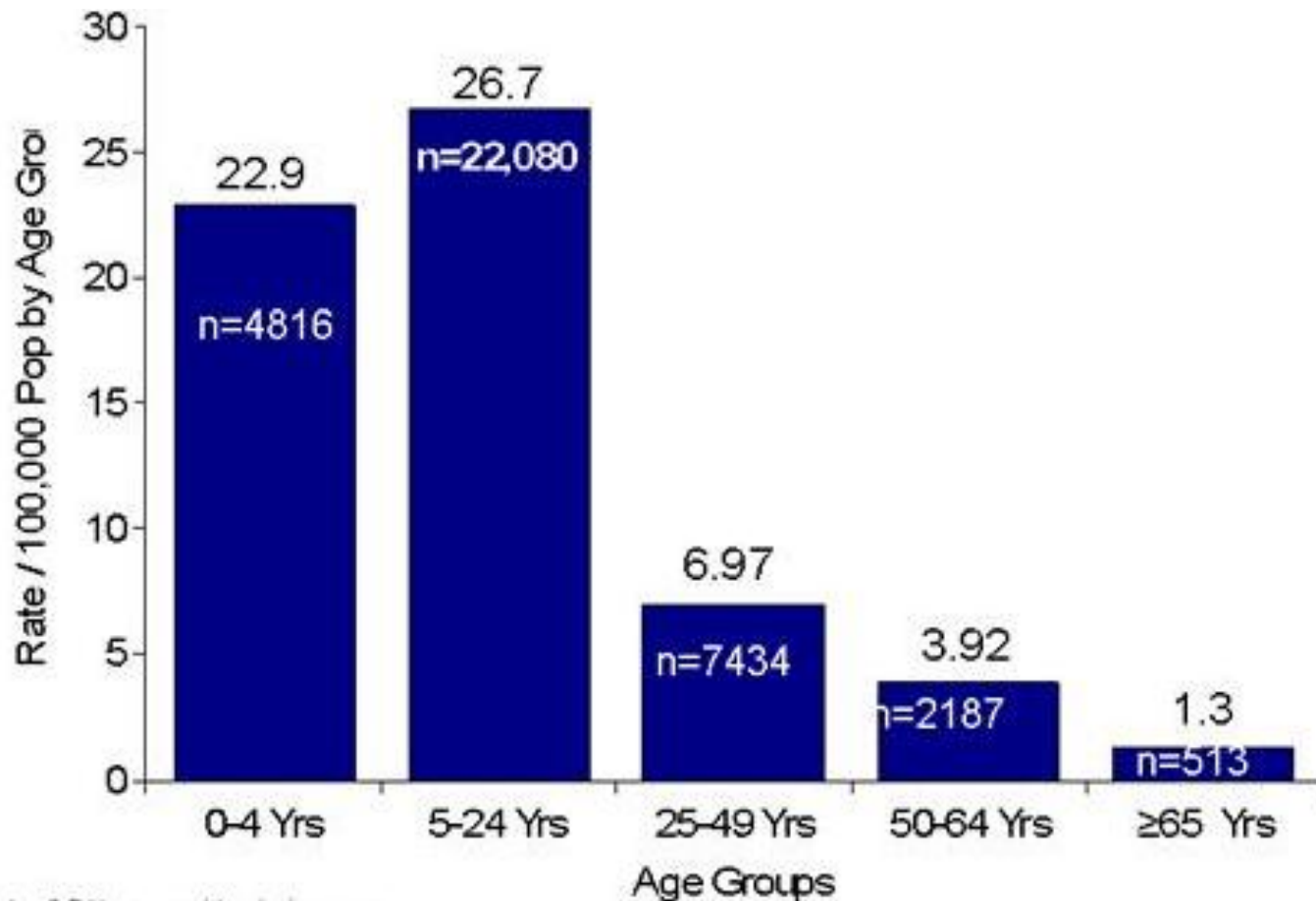
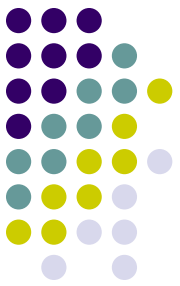


# Influenza Virus



- Spread
  - Aerosolized droplets from coughing or sneezing up to a 6 foot radius
  - Hand to face contact (nose, eyes, or mouth) after touching infected areas
  - Virus infectious only up to 2-3 hrs on surfaces
- Incubation period
  - 1 to 7 days (avg H1N1 3-4 days)
- Symptom duration
  - 3 to 7 days but up to 14 days (avg H1N1 3-5 days)
- Contagious
  - 1 day *before* symptoms to 10 days after symptoms
  - peak period while febrile

# H1N1 Age Distribution



\*Excludes 6,741 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-R-File24.csv>

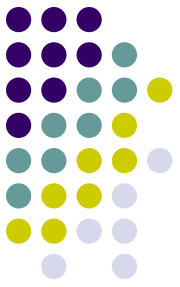
# Main High Risk Groups for H1N1 Complications



- Respiratory illnesses (Asthma, COPD)
- Cardiovascular Disease
- Diabetes
- Pregnancy
- Immuno-compromised individuals
- Cerebral Palsy & Muscular Dystrophy

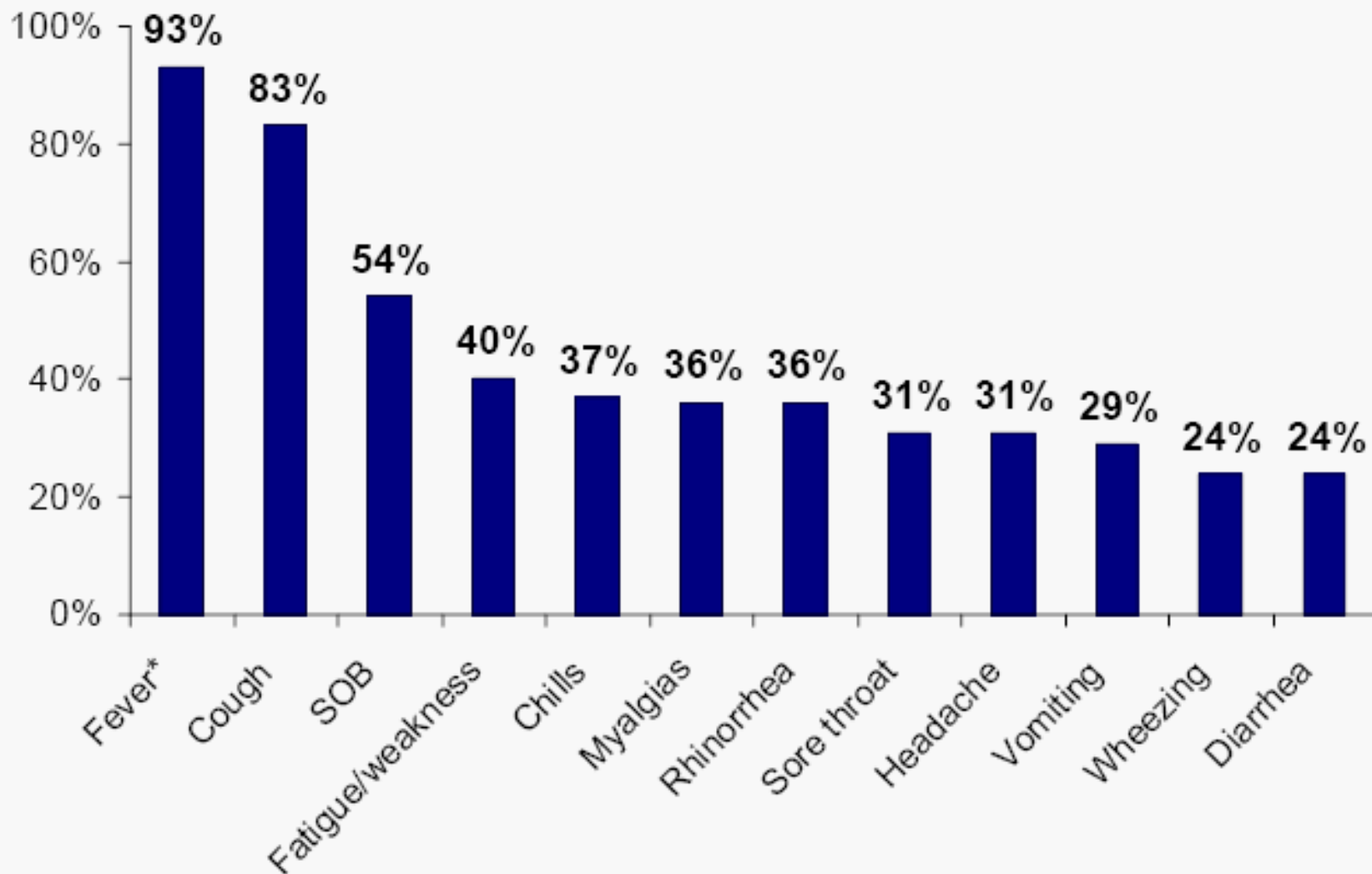
# What is ILI

## Influenza-Like Illness?

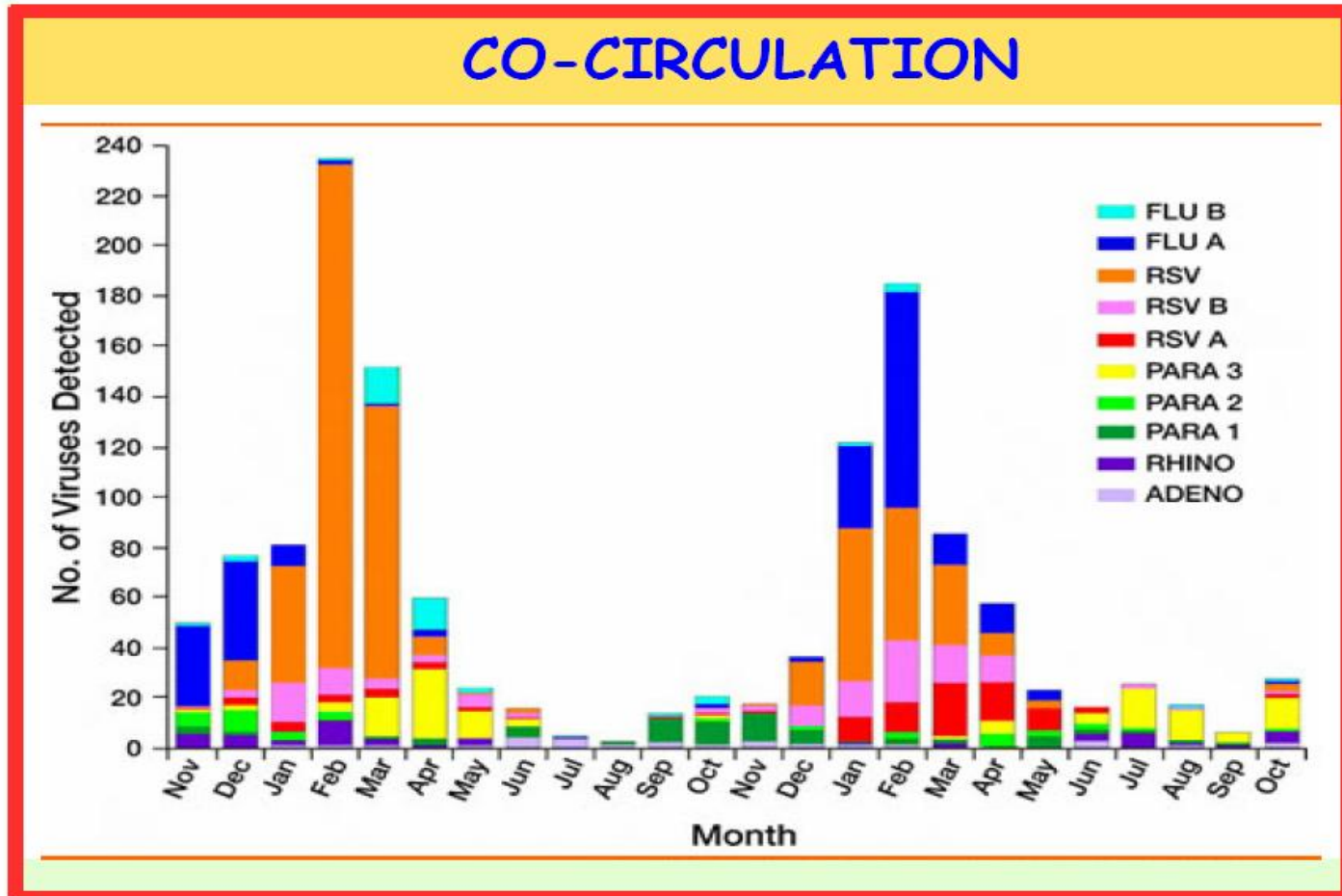


- Must-have symptoms
  - Fever plus sore throat or
  - Fever plus cough
- Other symptoms
  - Shortness of breath
  - Fatigue
  - Headache
  - Muscle & joint aches
  - Nausea, vomiting, or diarrhea
  - Pneumonia

# Clinical Characteristics of H1N1 US CDC Data



# Virus Circulation – 2 year period (children admitted)



Multiple viruses are circulating at the same time during the year which makes specific diagnosis of a virus difficult

# Viruses that Cause Respiratory Tract Infections in Adults and Children



<u>Virus</u>	<u>Frequency</u>
● Rhino	30-50%
● Corona	10-15%
● Influenza	5-15%
● Parainfluenza	5%
● Respiratory Syncytial	5%
● Adenovirus	<5%
● Metapneumovirus	<5%
● Enterovirus	<5%
● Unknown	20-30%

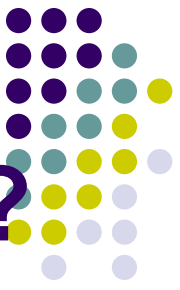
# SYMPTOMS OVERLAP



Virus	Cold	"Flu"	Croup	Bronchiolitis	Pneumonia
Influenza	++++	++++	+	+	++++
Parainfluenza	+++	+	++++	++++	++++
RSV	+++	+	++	++++	++++
Adenovirus	+++	++	++	++++	++++
Rhinovirus	++++	+	+	-	++
HMPV	++	+	+	++++	++++
229E, OC43	++	+	+	+	+
NL63	++	+	+++	+++	++

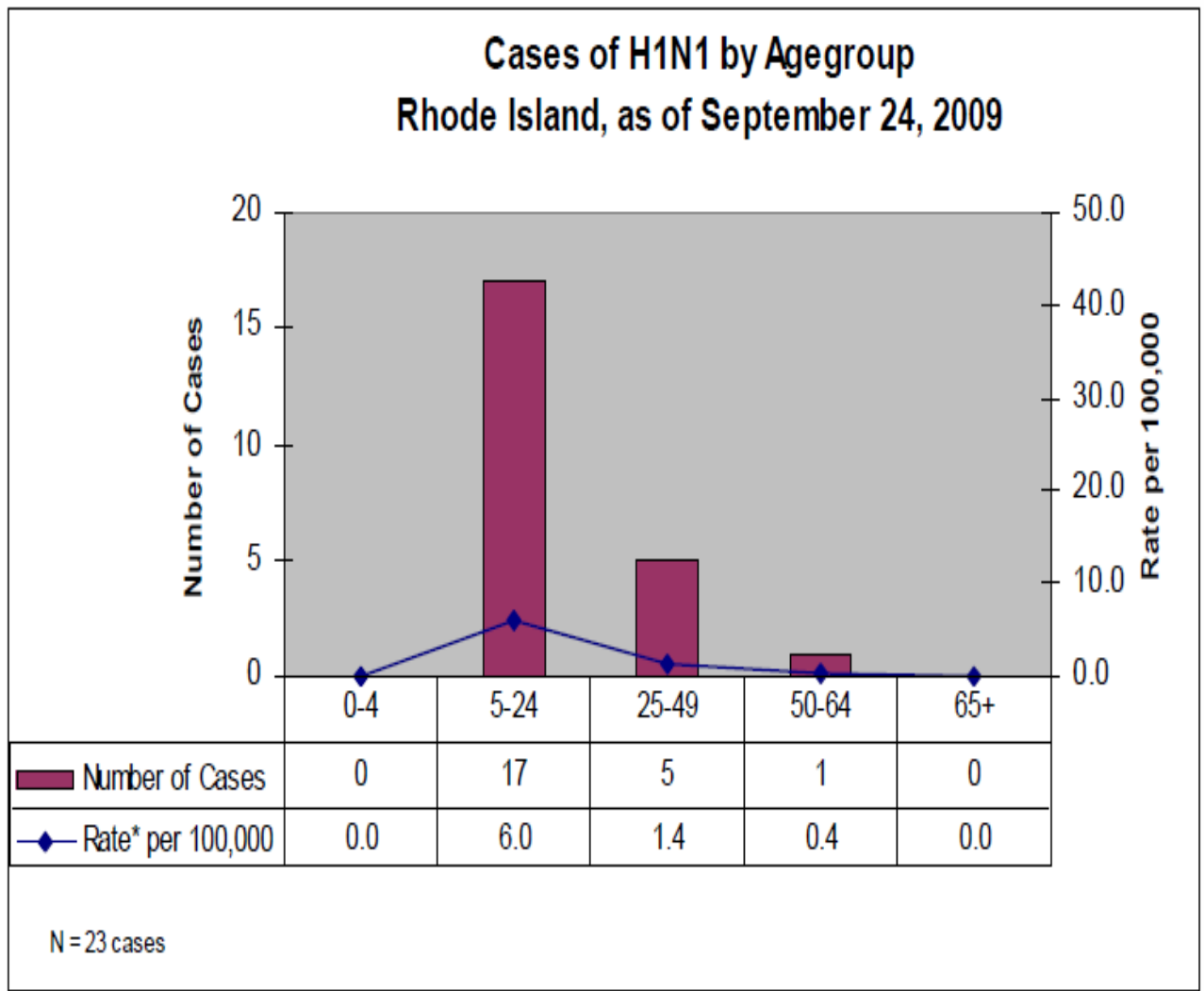
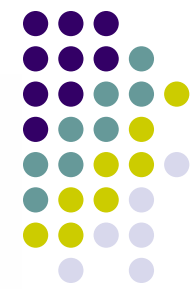
229E, OC43, NL63 – coronaviruses

Many viruses have overlapping symptoms which makes diagnosis of a specific virus difficult



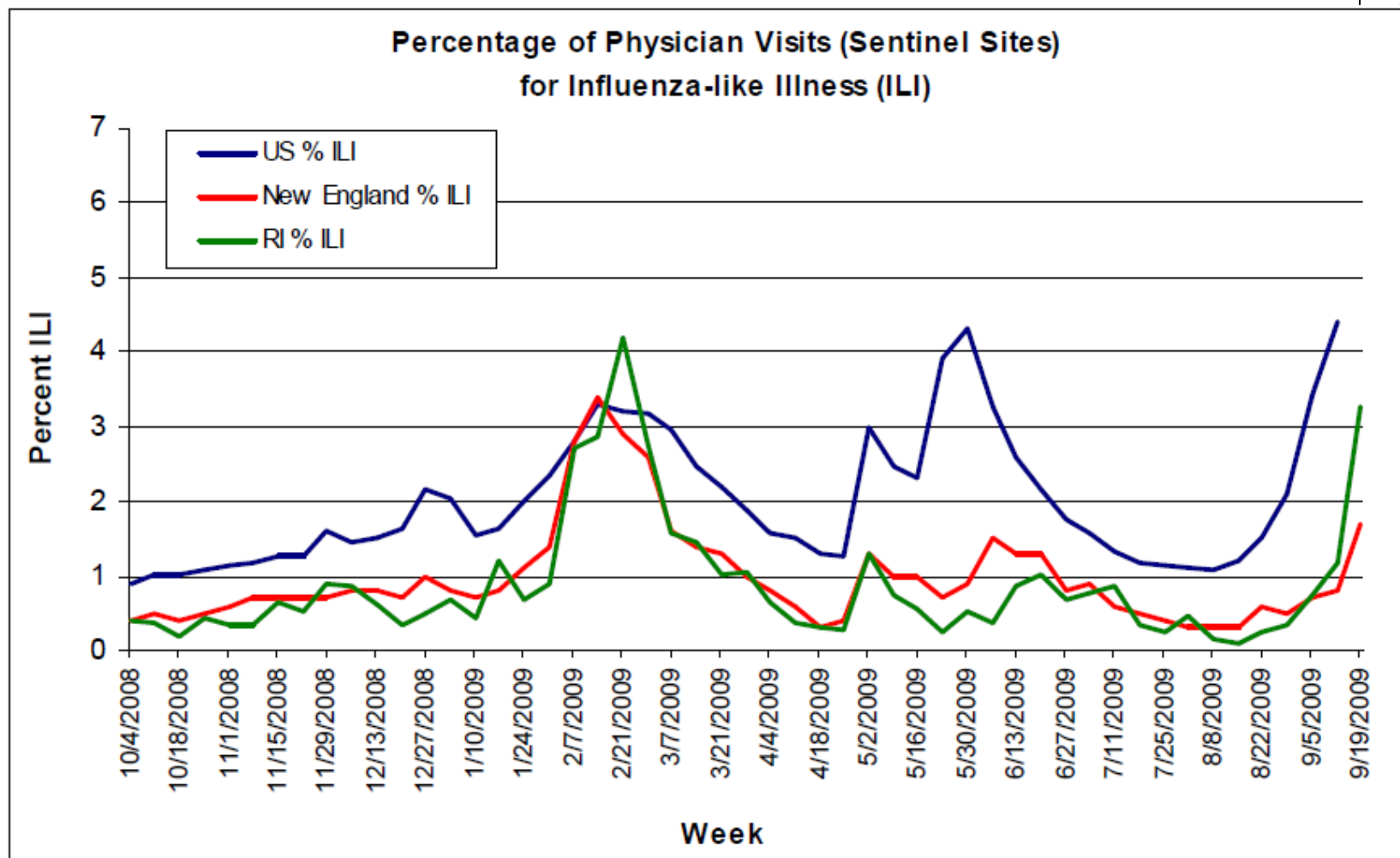
# Can my Doctor Diagnose the Flu?

- Rapid tests done in the office are not sensitive enough to pick up most cases
  - 50% sensitive for detection of disease
    - Which means - for every 100 positive cases of influenza the rapid test will miss 50
  - Rapid tests done in the office can not differentiate between seasonal H1N1 and 2009 H1N1 (swine)
    - Seasonal Influenza A is resistant to the most common antiviral (tamiflu)
- Therefore:
  - Healthcare providers may opt NOT to test or to treat with antivirals and recommend comfort measures
    - Fever reducing medications, fluids, rest



34 cases to date in RI confirmed; most in school age as if 10/09

These numbers will change weekly, refer to the DOH website

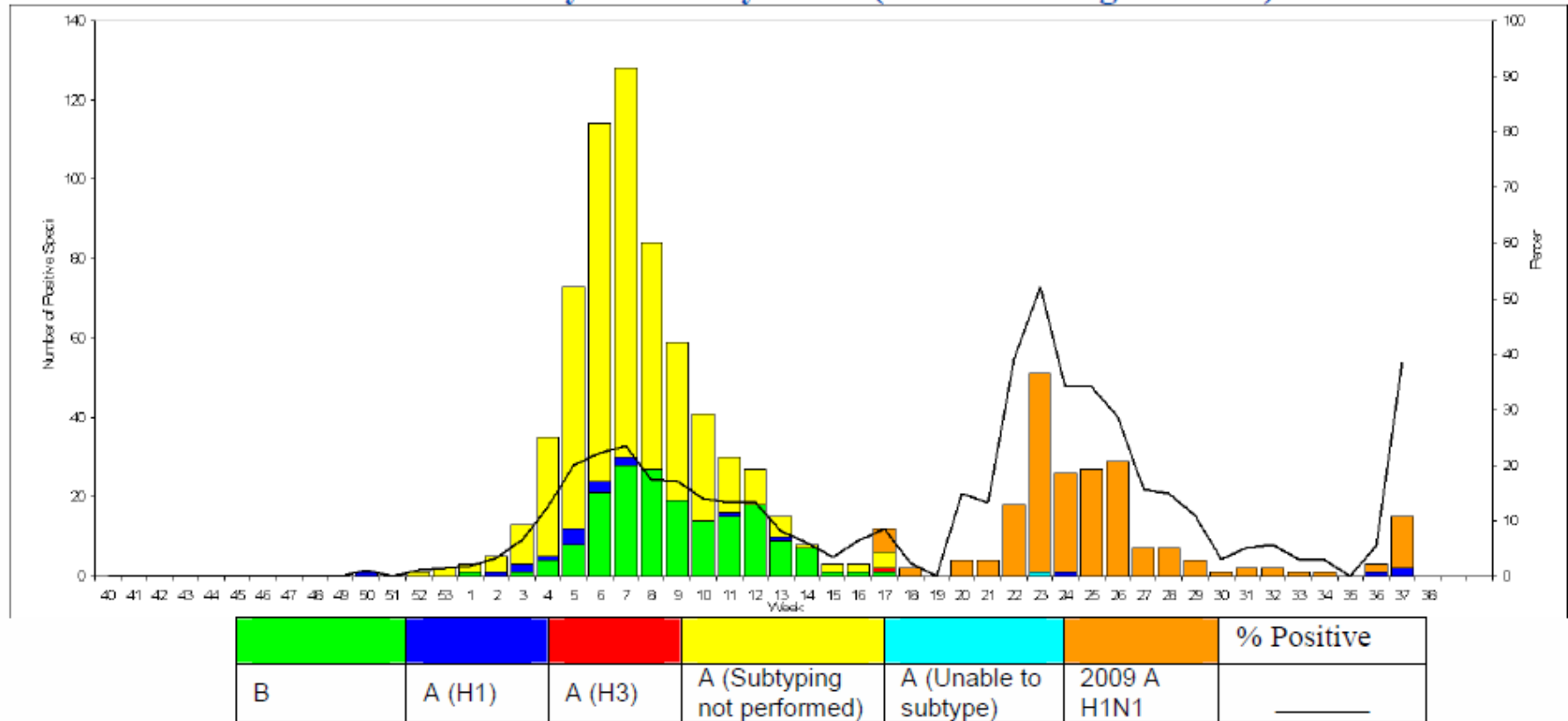


Regional data includes % ILI from CT, ME, MA, NH, RI, VT;

Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)



## Rhode Island Influenza Laboratory Results by Week (9/28/08 through 9/25/09)



RI has cases of BOTH 2009 H1N1 swine and Seasonal Influenza A H1N1 currently circulating as causes of ILI

# Rhode Island Specific Figures



- How are these figures collected?
  - Schools report absenteeism rates
  - Sentinel health-provider offices send specimens on ILI patients
  - ERs/acute care centers submit specimens in patients presenting with ILI
    - DOH looks at specific sites that may be “hot spots” and identifies outbreaks and informs providers weekly about activity

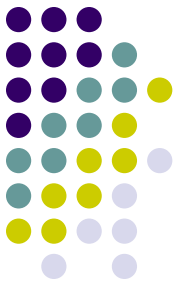
# Does the DOH Perform 2009 H1N1 (swine) Testing?



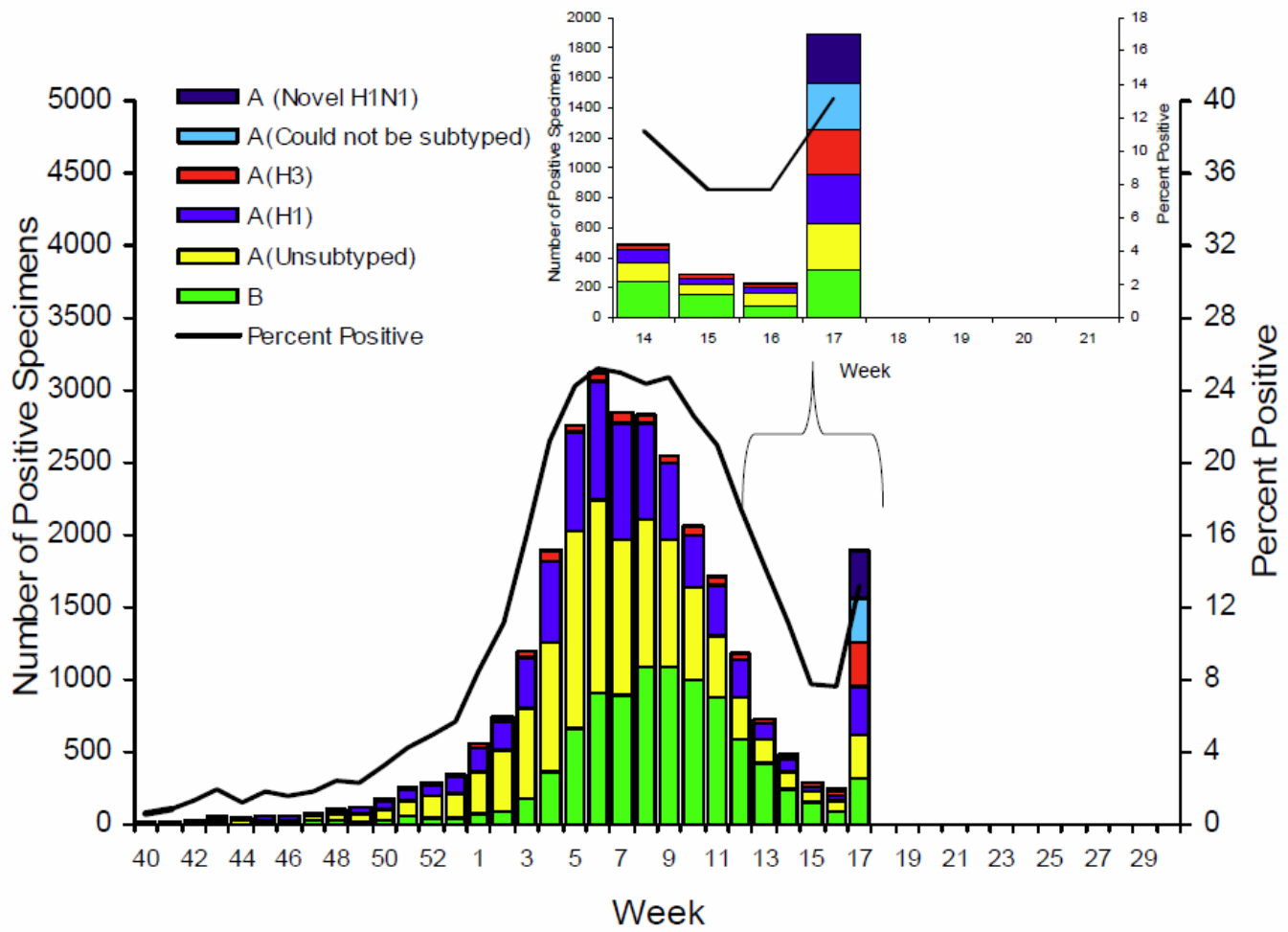
- ONLY select Patients
  - Patient with ILI that are:
    - Admitted to the hospital
    - Pregnant patients
- Healthcare providers can collect an NP swab and submit to a reference laboratory for specific testing

# Is the vaccine safe?

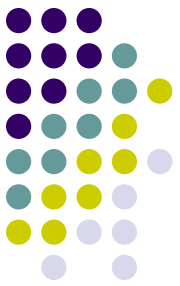
- Vaccine made the same as current seasonal flu vaccine and same manufacturers
- Two types are available
  - Shot
    - Heat-inactivated virus
  - Nasal spray
    - Attenuated live virus
  - Ten years and over – just one dose
  - Nine years and under – two doses ~ 30 days apart
- Highest at risk groups first to receive
- Check with your provider to see if:
  - They have registered with the DOH to receive swine flu vaccine
  - Which vaccine(s) are they administering
    - Nasal, shot or both



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



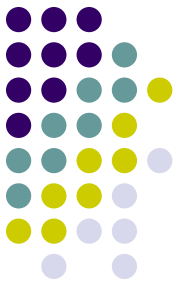
The current seasonal flu vaccine does not contain the 2009 H1N1 (swine) components because vaccine is made early in the year after the first seasonal cases are identified and typed. Swine showed up AFTER the manufacturing had already started.



# First in Line for the Vaccine

1. Pregnant women (all ages)
2. Infants 6 to 24 months of age
3. Children 25 to 59 months of age
4. Household contacts and caregivers of infants younger than 6 months of age
5. School-aged children (K-12)
6. Young adults 19 to 24 years of age
7. Healthcare workers and first responders
8. Adults 25 to 49 years of age (report high risk AND non-high-risk patients separately)
9. Adults 50 to 64 years of age (report high risk AND non-high-risk patients separately)
10. Adults 65+ years of age

# Managing the ill (From the DOH)



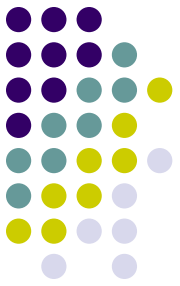
- Stay home until fever free for 24 hours without anti-fever medications
  - If ill and have chronic medical condition call physician
  - If ill and getting sicker call physician
- Be flexible and practical according to situation

# Managing the ill (from the DOH)



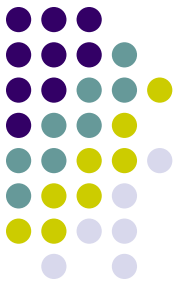
- FLEXIBILITY
- Identify a place for sick kids and/or faculty/staff waiting to go home
  - No special urgency with sending home
- Encourage schools & business to waive penalties for missing classes or work for people who are ill with ILI or H1N1
- Physician note should not be required for people to return to school or work after ILI or H1N1

# Wash Hands/Alcohol Hand Sanitizer



**Most common mode of spreading germs**

# Cough into your elbow



Influenza is spread by aerosolized DROPLET

# Use your own water bottle



# Get Vaccinated for both Seasonal Influenza and 2009 H1N1



Today's CDC Recommendation –

Don't Let Your Kids Do This and Stay Home when Sick

