

Enterovirus-D68

Upcoming Flu Season

Ebola

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EV-D68

Enterovirus D68 (EV-D68)

- One of more than 100 non-polio enteroviruses
- First identified in California in 1962
- Non-polio enteroviruses very common
- Cause 10 to 15 million infections in US each year
- Tens of thousands hospitalized each year for illnesses
- Most infected do not get sick or have mild illness
- Some have serious complications, especially infants and people with weakened immune systems

EV-D68

- Different enteroviruses cause different illnesses, such as respiratory, febrile rash, and neurologic
- Spread of enteroviruses often unpredictable
- Mix of enteroviruses circulates every year, and different types can be common in different years
- US-more likely infected in summer and fall
- Likely begin to decline by late fall

EV-D68

Who is at risk?

- Infants, children, teenagers most likely to get infected become ill
- No immunity (protection) from previous exposures
- Adults can get infected-no or mild symptoms
- Infected by having close contact with infected person
- Also infected by touching objects or surfaces with virus & touching mouth, nose, or eyes

EV-D68

2014

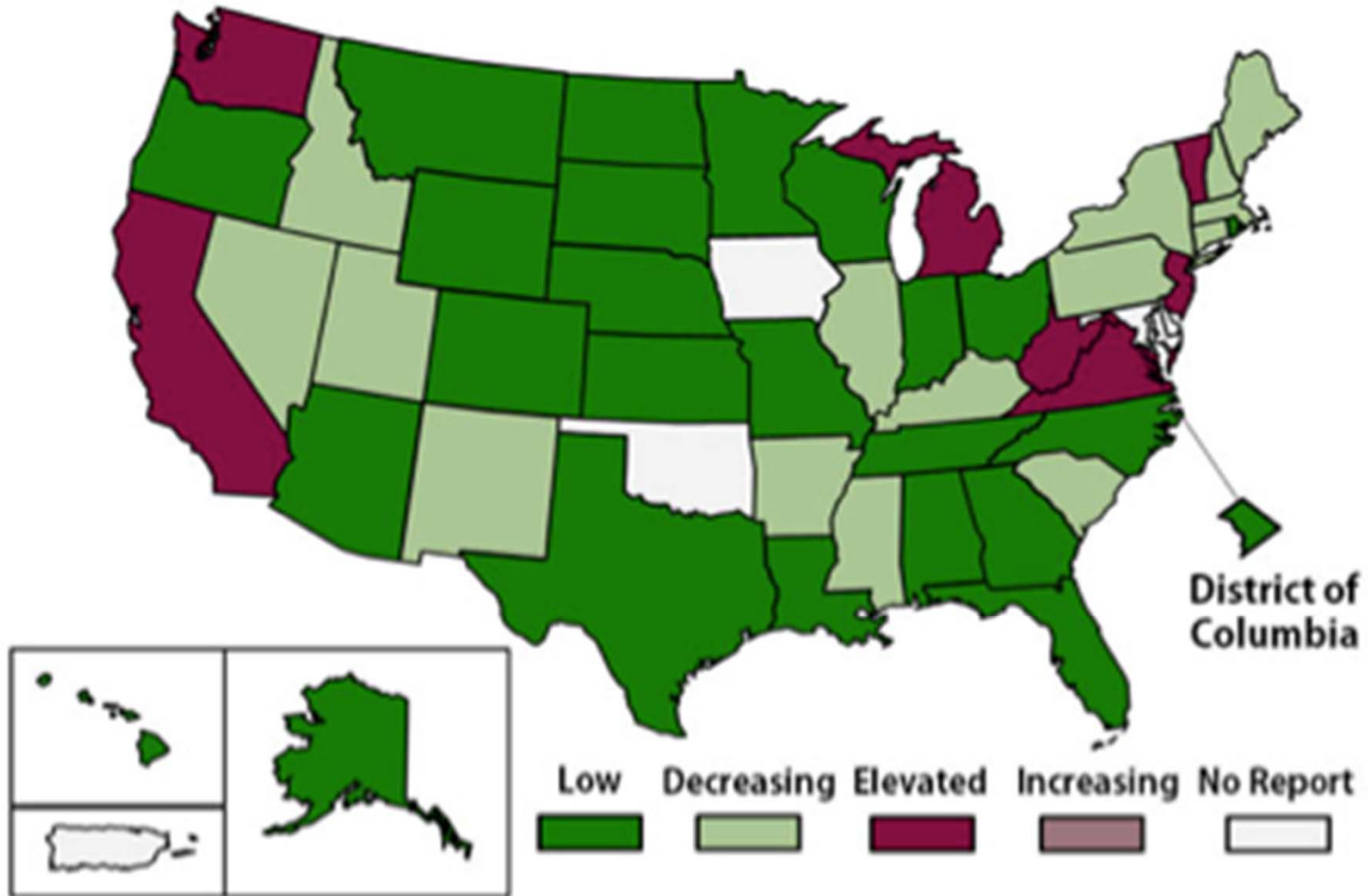
- Mix of enteroviruses and types circulate yearly
- Small numbers EV-D68 reported since 1987
- Number confirmed EV-D68 infections greater than previous years
- Almost all confirmed cases EV-D68 in children
- Many children had asthma or wheezing
- EV-D68 detected in nine patients who died and had samples submitted for testing

EV-D68

- Mid-August-October 30, 2014, CDC or state public health laboratories confirmed 1,105 people in 47 states and District of Columbia
- October 19-25, 39 states and District of Columbia reported EV-D68-like illness activity low or declining
- 7 states still have elevated activity.

EV-D68

Oct 19-25, 2014



EV-D68

What are the symptoms of EV-D68 infection?

- Mild to severe respiratory illness
- Mild symptoms-fever, runny nose, sneezing, cough, and body and muscle aches
- Severe symptoms may include wheezing and difficulty breathing
- Anyone with respiratory illness should contact their doctor if they are having difficulty breathing or if their symptoms are getting worse

EV-D68

How does the virus spread?

- Causes respiratory illness- virus found in respiratory secretions, such as saliva, nasal mucus, or sputum
- Spreads from person to person when infected person coughs, sneezes, or touches surface touched by others

EV-D68

Possible complications

- Every year, children in the United States develop type of neurologic illness
- Often causes not identified
- August 2 to October 30, 2014, 64 children with neurologic illness-limb weakness in 28 states
- CDC investigating if neurologic illness linked to outbreak caused by enterovirus D68 (EV-D68)

EV-D68

How is it diagnosed?

- Specific tests on specimens from nose & throat
- Many hospitals and some doctor's offices can test for enterovirus infection
- Most can't do specific testing for type of EV-D68
- CDC, some state health departments can test
- October CDC developed faster test for EV-D68
- CDC -only consider EV-D68 testing patients with severe respiratory illness and cause unclear

EV-D68

What are the treatments?

- No specific treatment for respiratory illness caused by EV-D68
- Some with severe respiratory illness may need hospitalization
- No antiviral medications currently available for EV-D68
- Stay home when sick

EV-D68

How to prevent getting and spread

- Wash hands often with soap and water for 20 seconds-[Handwashing: Clean Hands Save Lives](#)
- Avoid touching eyes, nose and mouth with unwashed hands
- Avoid close contact-kissing, hugging, and sharing cups or eating utensils with those ill
- Cover coughs, sneezes with tissue or sleeve, not hands
- Clean, disinfect frequently touched surfaces

EV-D68

Asthma

- Children at risk for severe symptoms
- Follow CDC's guidance to maintain control
- Discuss asthma action plan with provider
- Take asthma medications as directed, especially long term control medication(s)
- Keep reliever/rescue medication at hand
- Get flu vaccine when available

EV-D68

- If develop new or worsening asthma symptoms, follow the steps of asthma action plan
- If no improvement, call doctor right away
- Parents ensure child's caregiver and/or teacher aware of his/her condition, and how to help

Prevention

- No vaccine
- Many have no symptoms, difficult to prevent spread

Flu

Influenza (flu)

- Contagious virus-serious complications-200,000 hospitalizations, and 3,300-49,000 deaths
- Pneumonia and bronchitis examples of serious flu-related complications
- Can worsen certain health conditions, like diabetes, asthma, and heart and lung disease
- Healthy can experience serious complications
- Flu vaccine is single best way for protection

Flu

How flu spreads

- Mainly person-person by droplets through cough, sneeze or talk
- Droplets land in mouths or noses of people nearby
- Also by touching surface or object with virus on it and touching mouth, eyes or nose

Flu

- People able to infect others beginning 1 day **before** symptoms develop and up to 5-7 days **after** becoming sick
- Able to spread flu before one is sick and while sick
- Young children, severely ill, and those with severely weakened immune systems may infect others for longer than 5-7 days

Types

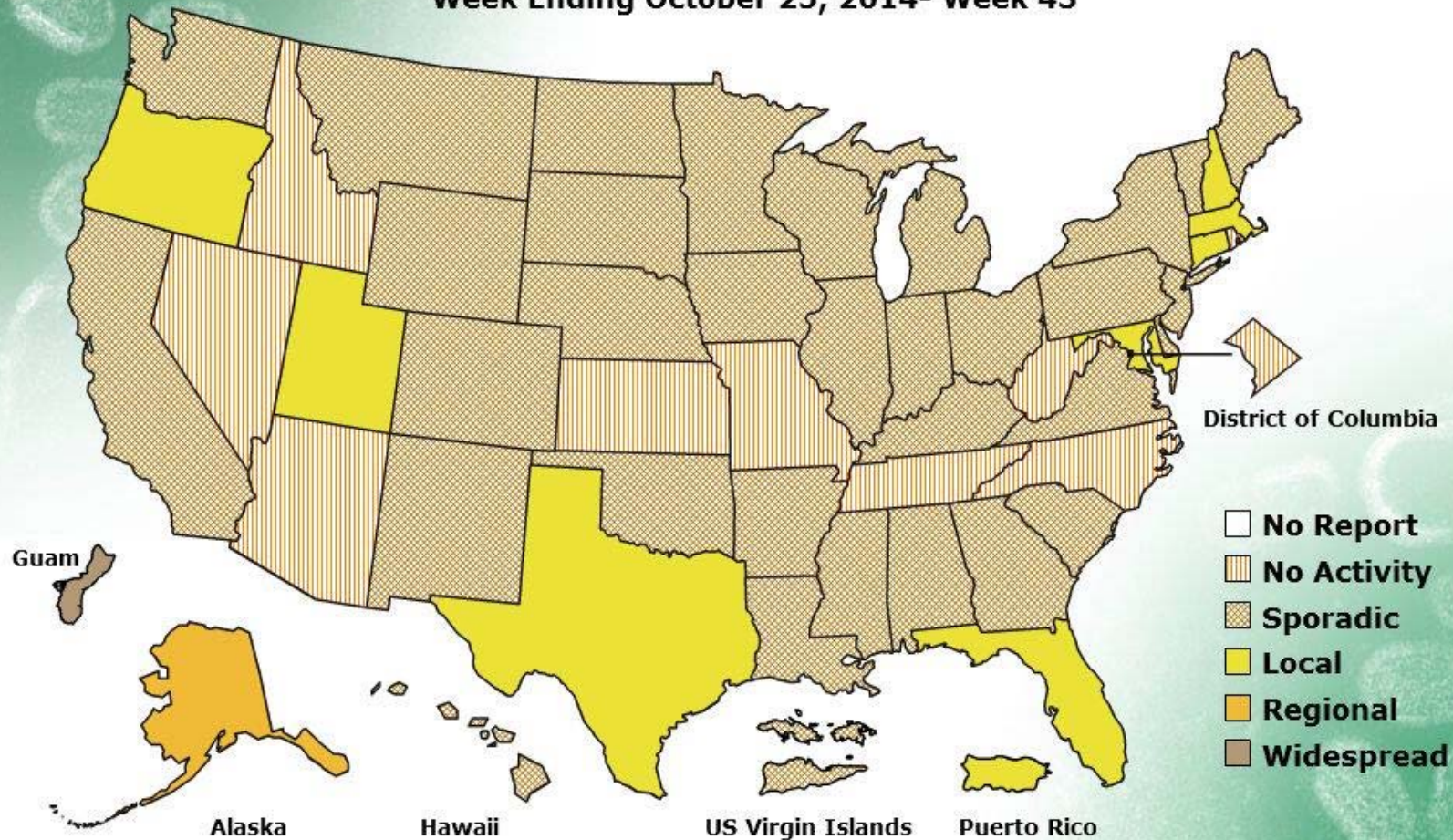
- Influenza A (H1N1) virus, influenza A (H3N2) virus and 2 types of influenza B

FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending October 25, 2014- Week 43



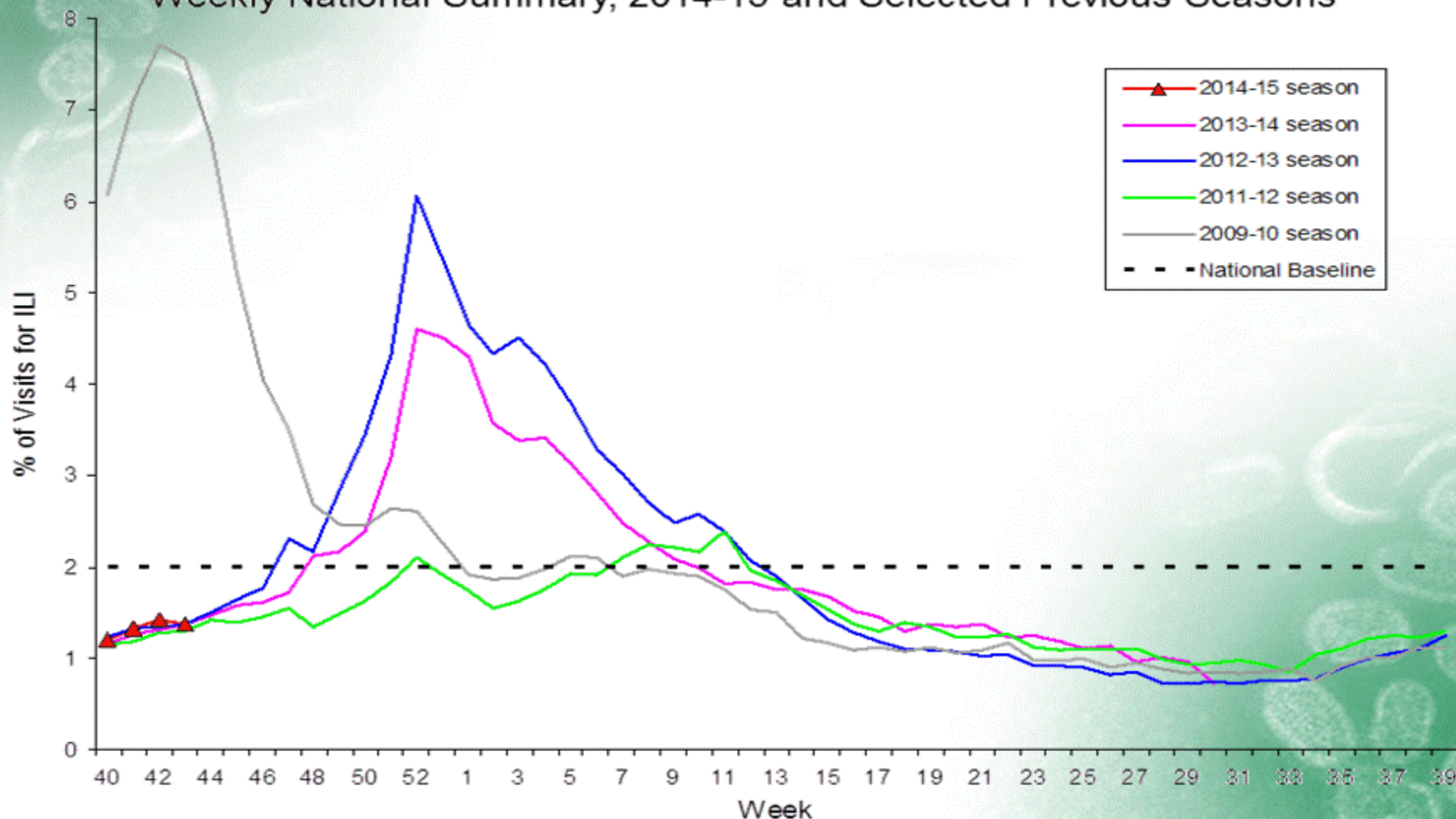
*This map indicates geographic spread and does not measure the severity of influenza activity.

FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2014-15 and Selected Previous Seasons

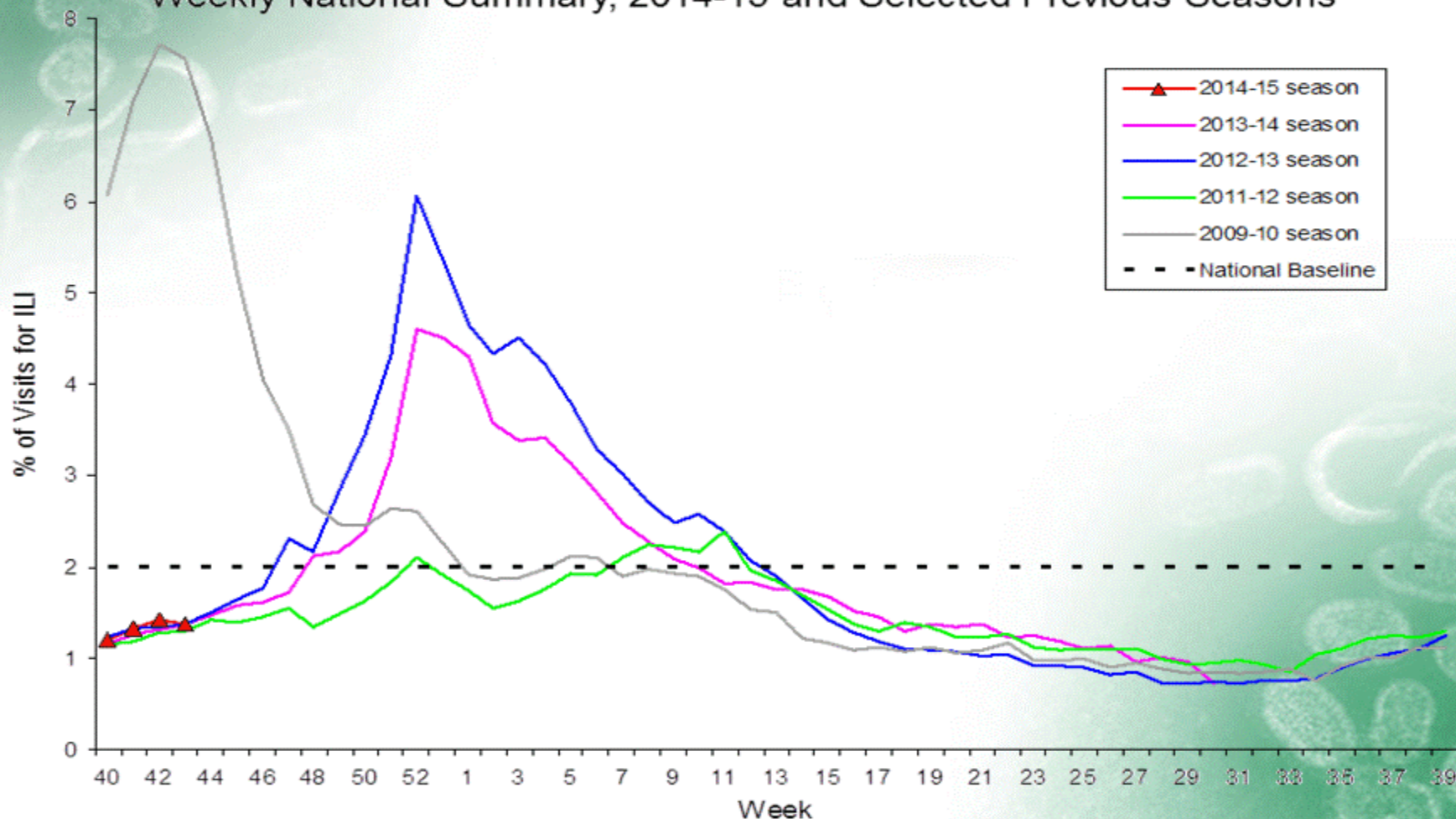


FLUVIEW



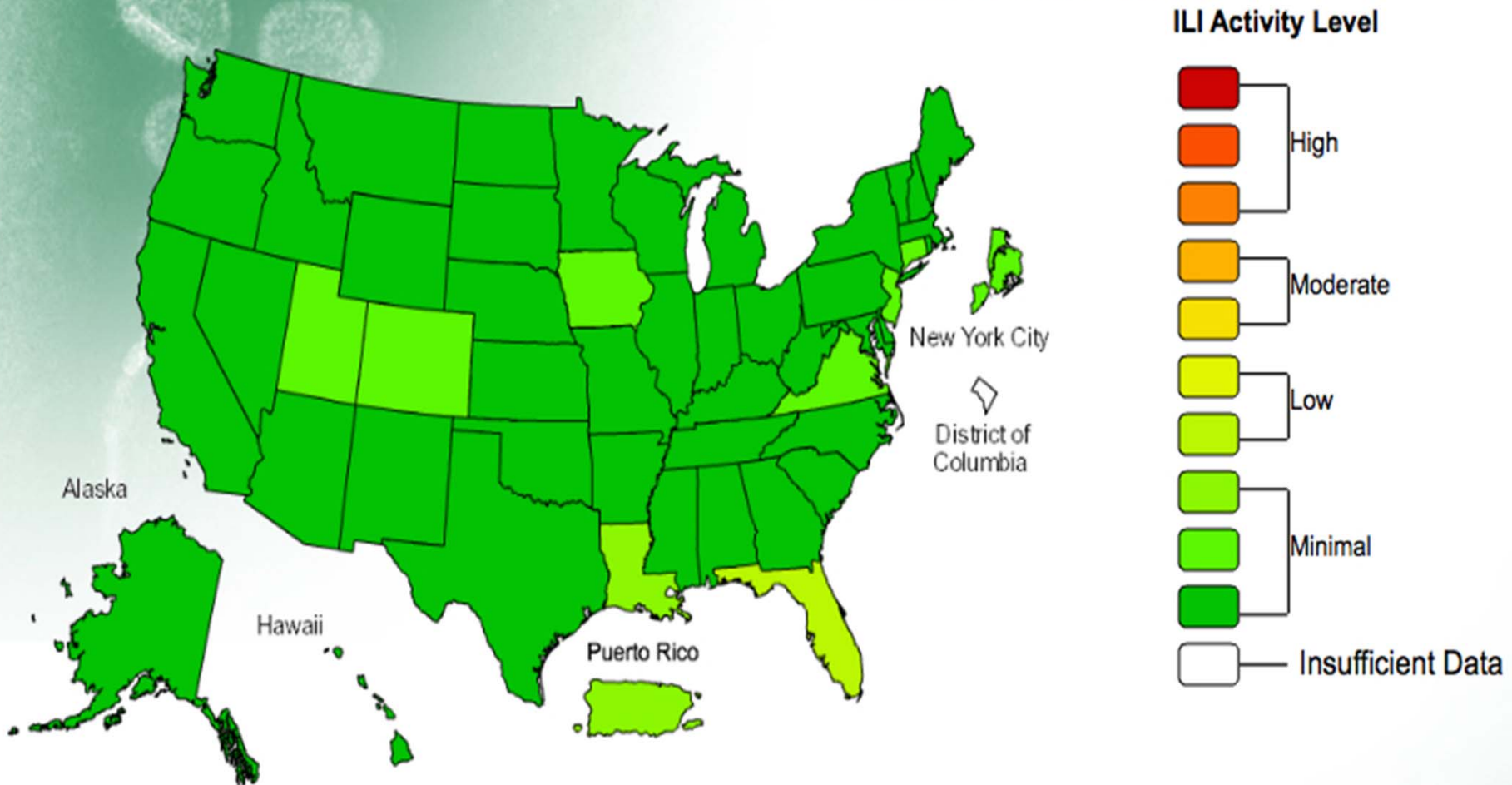
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FLUVIEW

A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILIN
2014-15 Influenza Season Week 43 ending Oct 25, 2014



Flu

How much flu vaccines for US 2014-2015 will be quadrivalent?

- 151 million to 156 million total doses projected to be available for 2014-2015
- Estimate 76 million doses will be quadrivalent
- Designed to protect against three different flu viruses (trivalent); A H1N1, A H3N2 and one B/Mass
- Adding B/Brisbane virus to vaccine aims to give broader protection against circulating flu viruses

Flu

When will flu vaccine become available?

- Produced by private manufacturer
- Worldwide virus samples determine components-
FDA decides in February
- Depends on when production is completed
- Shipments began in August, continue throughout
October and November until all distributed
- 10/17/2014 117.8 M of 151-156M doses distributed

Flu

How effective is the flu vaccine?

- Ability to prevent flu can range widely seasonally
- Effectiveness also can vary depending on who is being vaccinated
- At least two factors determine protection:
 - 1) characteristics of the person being vaccinated (such as their age and health) and
 - 2) similarity or "match" between the flu viruses vaccine is designed to protect against and flu in the community

Flu

Flu vaccination

- Can prevent illness
- Protects people around you more vulnerable like older adults, people with chronic health conditions and young children (especially infants younger than 6 months who are too young to be vaccinated)
- Vaccination also may make illness milder
- Vaccination can reduce risk of hospitalizations and deaths

Flu

Treatment

- Supportive-fluids, rest, analgesics
- Antiviral medication if needed-vulnerable

Flu

CDC recommends 3-steps to fighting the flu

What are everyday preventive actions?

- Avoid close contact with sick people
- If parent or child ill-stay home for at least 24 hours after fever is gone
- Limit contact with others to keep from infecting them
- Cover nose and mouth with tissue when coughing or sneezing-throw tissue away

Flu

Prevention

- Wash hands often with soap and water
- OR use an alcohol-based hand rub
- Avoid touching eyes, nose and mouth
- Clean and disinfect surfaces and objects that may be contaminated
- If an outbreak of flu or another illness occurs, follow public health advice

Flu

The Healthy Schools, Healthy People It's a SNAP!

(School Network for Absenteeism Prevention)

- Joint initiative of Centers for Disease Control and Prevention and American Cleaning Institute
- Improve hand hygiene habits to help prevent spread of infectious disease and reduce related absenteeism
- Grassroots, education-based effort to make hand cleaning integral part of school day

Flu

- Get entire school community talking about clean hands by providing tools for incorporating hand hygiene into multiple subject areas and activities
- Great way to get recognition for your school and share your success stories with others

Deadline now Jan 31

<http://www.itsasnap.org/snap/about.htm>

Flu

How to Clean and Disinfect Schools to Help Slow the Spread of Flu

1-How to Clean and Disinfect Schools to Help Slow the Spread of Flu

<http://www.cdc.gov/flu/school/cleaning.htm>

2-Guidance for School Administrators to Help Reduce the Spread of Seasonal Influenza in K-12 Schools

<http://www.cdc.gov/flu/school/guidance.htm>

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Ebola Virus Disease
(EVD)

aka

Viral Hemorrhagic Fever

AFRICA



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Patient Diagnosis

2 Sets of Criteria

Clinical

- Fever –subjective, >38 C or 100.4 F

OR

Symptoms of

- headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, unexplained bleeding

+

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Epidemiological Risks

Within past 21 days before symptoms

- contact with blood or other body fluid or human remains of Ebola or suspected Ebola patient
- residence in or travel to Liberia, Sierra Leone or Guinea
- direct handling of bats or non-human primates from disease in the 3 countries above

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CDC Contact Risks

1. High risk exposures

A high risk exposure includes any of the following:

- Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids of EVD patient
- Direct skin contact with, or exposure to blood or body fluids of, an EVD patient without appropriate personal protective equipment (PPE)
- Processing blood or body fluids of a confirmed EVD patient without appropriate PPE or standard biosafety precautions
- Direct contact with a dead body without appropriate PPE in a country where an EVD outbreak is occurring-Liberia, Sierra Leone, Guinea

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Contacts

Low risk exposures

2. Low risk exposure includes any of the following:

- Household contact with an EVD patient
- Close contact with EVD patients in health care facilities or community settings
- Close contact is defined as
 - being within approximately 3 feet (1 meter) of an EVD patient or within the patient's room or care area for a prolonged period of time (e.g., healthcare personnel, household members) while not wearing recommended PPE
 - having direct brief contact (e.g., shaking hands) with an EVD patient while not wearing recommended personal protective equipment.

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3. **Some Risk** includes any of the following:

- In countries with widespread Ebola virus transmission, direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
- Close contact in households, healthcare facilities, or community settings with a person with Ebola while the person was symptomatic
- Close contact is defined as being for a prolonged period of time while not wearing appropriate PPE within approximately 3 feet (1 meter) of a person with Ebola while the person was symptomatic

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4. **Low (but not zero) risk** includes any of the following:

Having been in a country with widespread Ebola virus transmission within the past 21 days and having had no known exposures

- Having brief direct contact (e.g., shaking hands) while not wearing appropriate PPE, with a person with Ebola while the person was in the early stage of disease
- Brief proximity, such as being in the same room for a brief period of time, with a person with Ebola while the person was symptomatic
- In countries without widespread Ebola virus transmission: direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
- Traveled on an aircraft with a person with Ebola while the person was symptomatic

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4. **No identifiable risk** includes:

- Contact with an asymptomatic person who had contact with person with Ebola
- Contact with a person with Ebola before the person developed symptoms
- Having been more than 21 days previously in a country with widespread Ebola virus transmission
- Having been in a country without widespread Ebola virus transmission and not having any other exposures as defined above

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Transmission

Virus can be spread in several ways

- Direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with blood or body fluids (including but not limited to urine, saliva, sweat, feces, vomit, breast milk, and semen) of an infected person
- Objects (like needles and syringes) contaminated with the virus
- Infected animals

Ebola is **not spread through the air or by water**, or in general, by food

- In Africa, Ebola may be spread as a result of handling bushmeat (wild animals hunted for food)
- Contact with infected bats
- Only mammals (for example, humans, bats, monkeys, and apes) have shown the ability to become infected with and spread Ebola virus
- Healthcare providers caring for Ebola patients, family and friends in close contact with Ebola patients at highest risk as they may come in contact with infected blood or body fluids of sick patients
- Once someone recovers from Ebola, they can no longer spread the virus
 - However, Ebola virus has been found in semen for up to 3 months
 - People who recover from Ebola are advised to abstain from sex or use condoms for 3 months

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Air Travel Arrivals

NYSDOH Commissioner's Order

10/27/14

- Limited to arriving at 5 US airports-JFK, Newark, Washington DC, Chicago, Atlanta
- Screened at airport by CDC/NYSDOH
- Local Health Department notified those requiring monitoring

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NYS Department of Health Risk Categories

Direct contact-both higher risk or lower risk exposure

“Higher risk exposure” includes, but is not limited to, the following experienced by a person while in a country where there exists widespread transmission of EVD (including Guinea, Liberia, and Sierra Leone):

1. Physical contact with, or exposure to blood or body fluids of, a person with EVD, or a person with a fever and a second symptom of EVD, or

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with a dead body, regardless of Personal Protective Equipment (PPE) used. This includes but is not limited to any person who performed direct medical or nursing care to persons with EVD in such countries;

2. Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids of a person with EVD, or of a person with a fever and a second symptom of EVD;
3. Processing blood or body fluids of a person with EVD, or a person with a fever and a second symptom of EVD, without appropriate PPE or standard biosafety precautions; and
4. Living in the same household as a person with EVD while such person has EVD symptoms.

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“Lower risk exposure” includes, but is not limited to, the following experienced by a person while in a country where there exists widespread transmission of EVD (including Guinea, Liberia, and Sierra Leone):

1. Coming within 3 feet of a person with EVD while not wearing appropriate PPE; and
2. Being in a room or other enclosed location with a person with EVD for a prolonged period of time while not wearing appropriate PPE as determined by the facts and circumstances of that particular case.

“No direct contact”: Arriving from a country where there exists widespread transmission of EVD (including Guinea, Liberia, and Sierra Leone), but with no reported “direct contact”, as defined herein.

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Classification

- **Direct contact**-high risk, some risk or low risk exposure
 - Quarantine Order for 21 days-not allowed to leave property
 - Twice daily unannounced visit by LHD staff-check for Temperature and symptoms
- **No direct contact**-arriving from any of the 3 countries with no direct contact
 - Remote monitoring of Temperature and symptoms by phone, video etc

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- If symptoms develop-transported by Stony Brook EMS to Stony Brook (designated by NYS DOH as Ebola hospital)
- EMS
 - To minimize EMS exposure special EMS team being developed to transport at risk and symptomatic Ebola individuals
- Article 28 facilities
 - All general hospitals, diagnostic and treatment centers, off-campus emergency departments, and ambulance services
 - Train personnel in Personal Protective Equipment (PPE)-no exposed skin
 - Develop protocol to isolate individuals with positive responses, contact LHD who will consult with NYSDOH/CDC
 - Protocol for transfer of individual to appropriate facility if needed

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Develop protocol to question patients presenting for care-clinical and travel/exposure questions

- Symptoms
 - Fever
 - Headache
 - Muscle pain
 - Vomiting
 - Diarrhea
 - Abdominal Pain
 - Unexplained bleeding
- Travel History
 - Travel to Liberia, Guinea, Sierra Leone in past 21 days

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- Current status
 - 150 patients/day arriving in US from 3 affected countries
 - 10-15/day at JFK
 - 2 non direct contacts under observation in SC
 - 14 in all of NYS outside of NYC
 - 3 individuals tested for Ebola-one positive
 - Test only positive within few days after symptoms develop
 - May need to provide food, housing, pet shelter, financial aid, heating oil, cell phone etc

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Remember

- Ebola contagious only after symptoms develop
- Spread only by contact with body fluids, bushmeat, bats, not airborne
- 21 day incubation period from time of exposure to development of disease