

# **2014-2015 Current US Influenza Activity and Antiviral Recommendations**

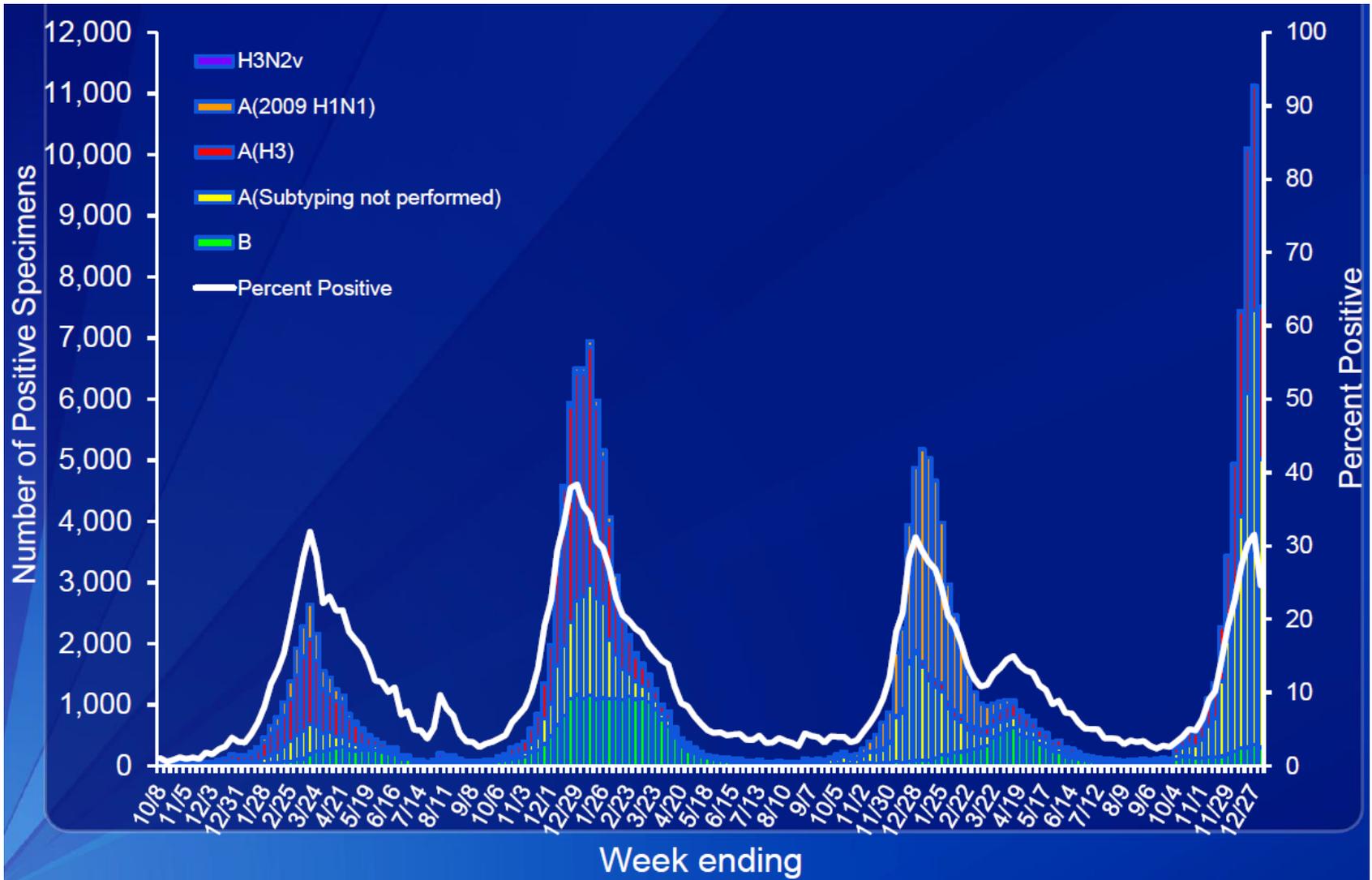
# **SUMMARY OF CURRENT 2014-15 INFLUENZA ACTIVITY**

# National Surveillance



<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

# U.S. Virologic Surveillance



# U.S. Virologic Surveillance

	<b>Week 53 (ending Jan 3, 2015)</b>
No. of specimens tested	30,469
No. of positive specimens (%)	7,515 (24.7%)
Positive specimens by type/subtype	
Influenza A	7,218 (96.0%)
2009 H1N1	8 (0.1%)
H3	2,486 (34.4%)
Subtyping not performed	4,724 (65.4%)
Influenza B	297 (4.0%)

# U.S. Virologic Surveillance

Of 288 viruses tested, 197 (68.4%) were antigenically or genetically different from the H3N2 vaccine virus.

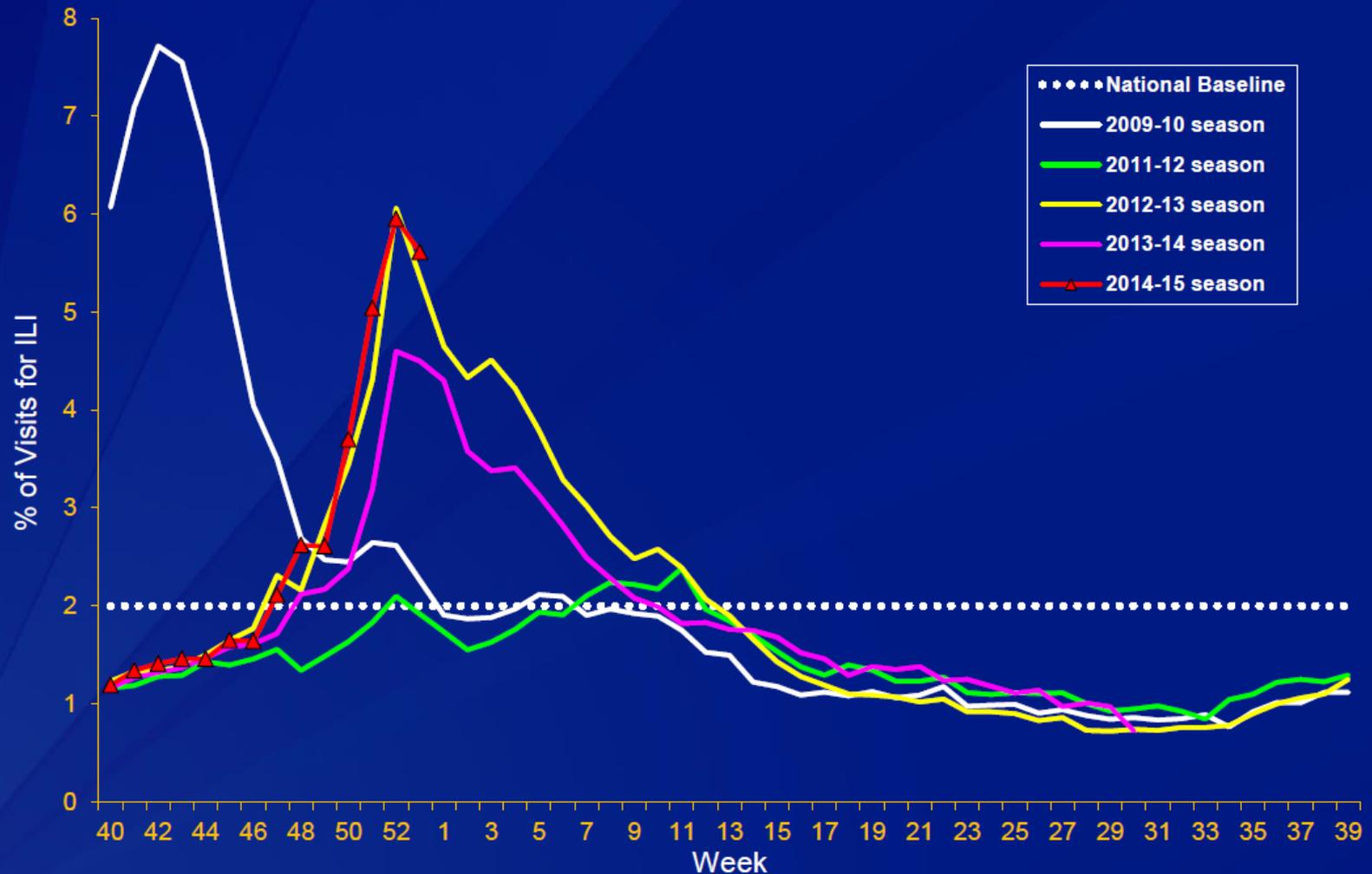
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# Laboratory – Antiviral Analysis

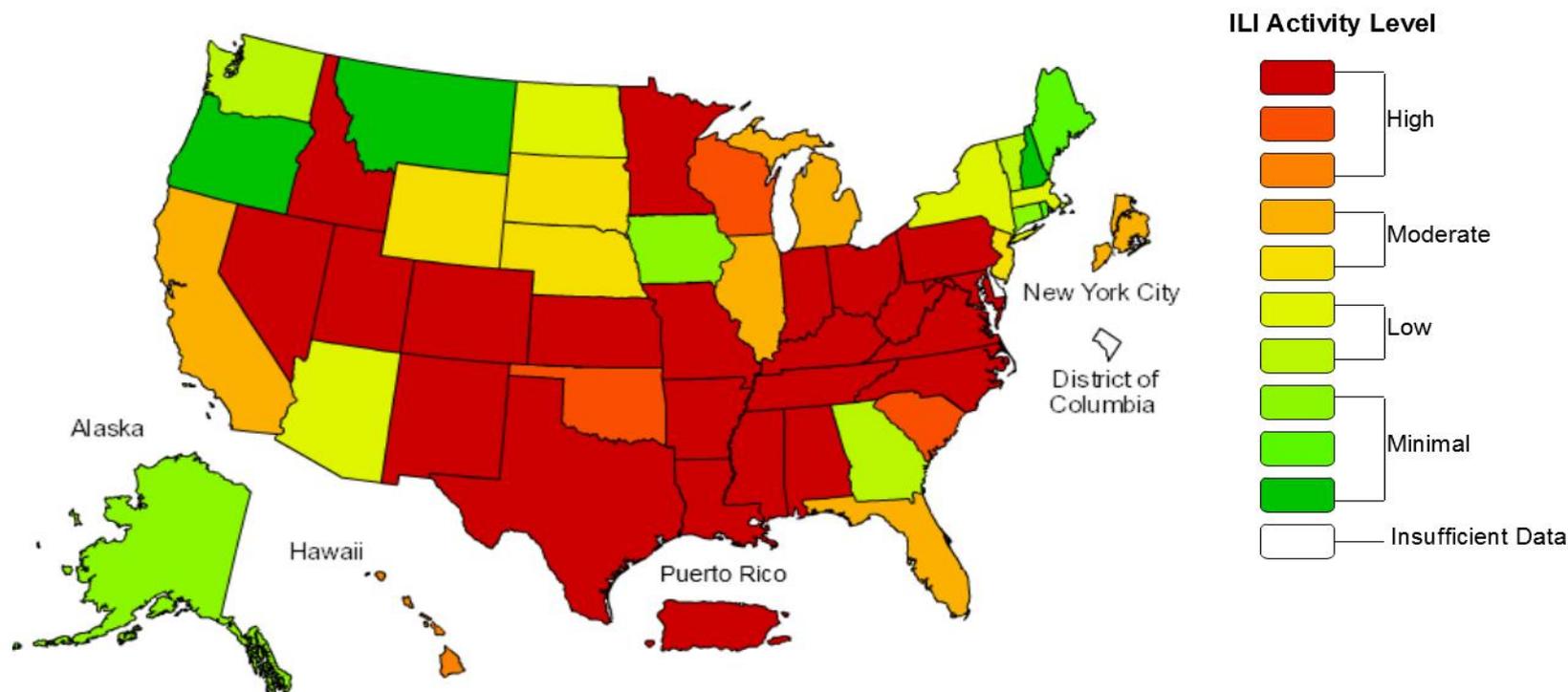
Viruses were tested for susceptibility to FDA-approved neuraminidase inhibitors in neuraminidase inhibition and/or pyrosequencing assays

Type/Subtype	Oseltamivir Resistant/Tested FY15	Zanamivir Resistant/Tested FY15
A(H1N1)pdm09	0/11	0/11
A(H3N2)	0/521	0/521
B	0/87	0/87

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



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2014-15 Influenza Season Week 53 ending Jan 03, 2015**

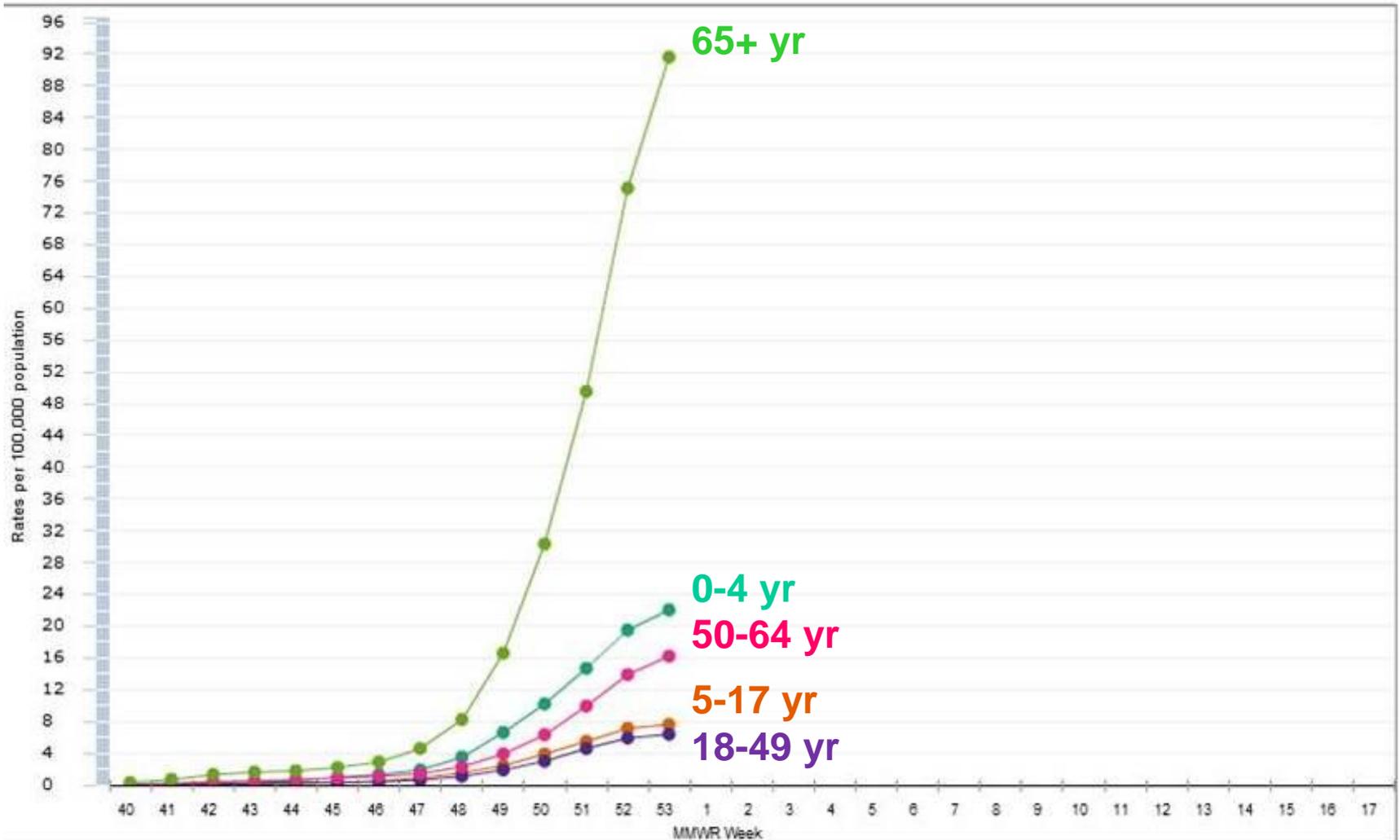


- **High / moderate ILI activity – 34 states**
- **Low / minimal activity – 15 states**



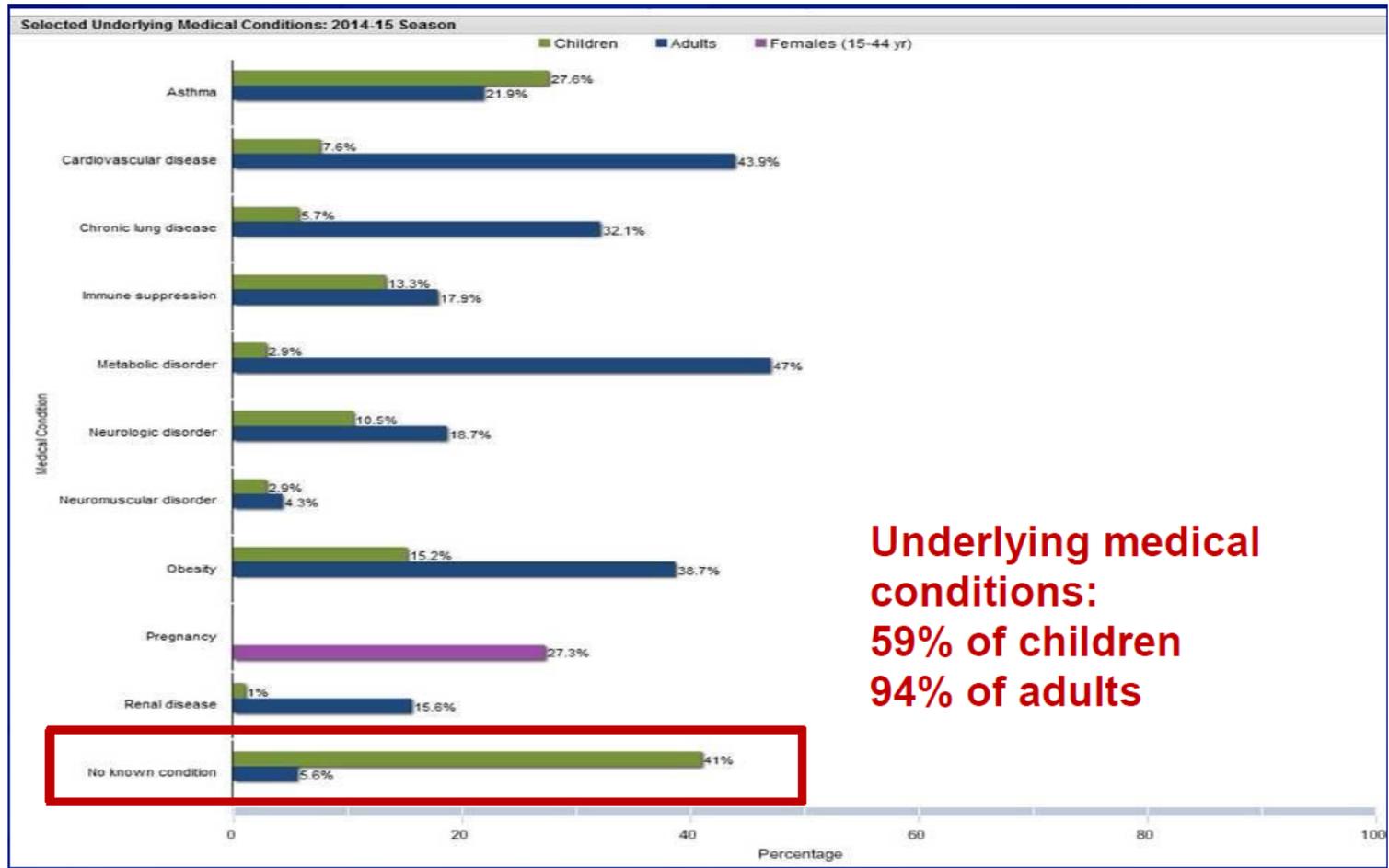
# Laboratory-Confirmed Influenza Hospitalizations

## Preliminary rates as of Jan 3, 2015



# Laboratory-Confirmed Influenza Hospitalizations

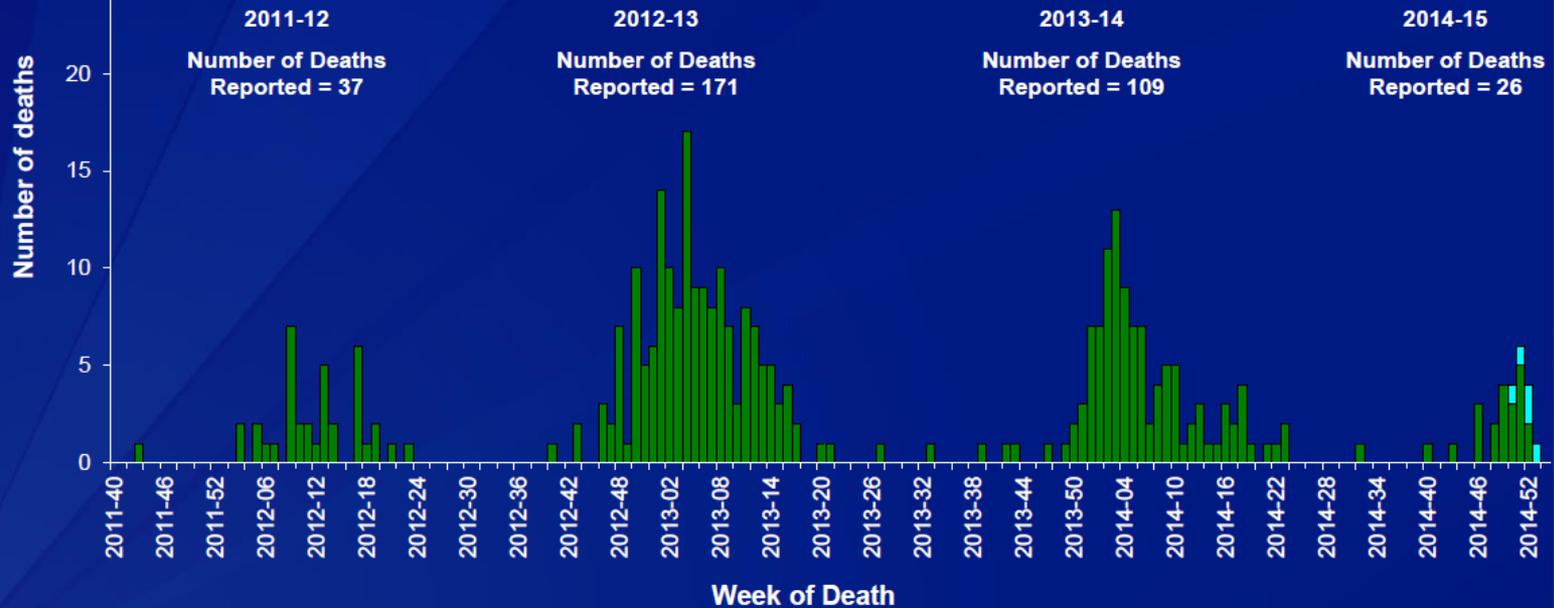
## Preliminary rates as of Jan 3, 2015





# Number of Influenza-Associated Pediatric Deaths by Week of Death: 2011-12 Season to Present

	Influenza A (2009 H1N1)	Influenza A (H3N2)	Influenza A (Subtype not Determined)	Influenza B	Influenza A and B Co-infection	Type not Determined	Total
# Deaths Reported Current Week – 53	0	0	5	0	0	0	5
# Deaths Since September 28, 2014	0	12	10	3	0	1	26



■ Deaths Reported Previous Week

■ Deaths Reported Current Week

# Season Overview

- **Influenza A(H3N2) viruses continue to be the most common so far in the United States**
  - H3N2 predominant years are often associated with higher mortality and hospitalization rates among older adults and young children
- **Activity so far this season is similar to the 2012-2013 season, the last season when H3N2 viruses predominated**
- **So far ~2/3 of H3 viruses analyzed are antigenically or genetically different from the H3N2 component in the 2014-15 vaccine**

# **ANTIVIRAL USE IN THE 2014-15 INFLUENZA SEASON**

# Antiviral Use

- **Evidence from current and previous influenza seasons suggests that antiviral drugs are underutilized**
  - Low awareness of antiviral recommendations
  - Wide range in perception about antiviral effectiveness
  - Many clinicians may require a positive diagnostic test before prescribing; results of rapid influenza diagnostic tests (not molecular) may not be accurate

# **CDC Health Update**

## **Reminders to Clinicians**

- 1) Influenza should be high on the list of possible diagnoses for ill patients**
- 2) All hospitalized and all high-risk patients with suspected or confirmed influenza should be treated as soon as possible without waiting for confirmatory testing**

# CDC Antiviral Recommendations

- **All patients in the following categories with suspected or confirmed influenza should be treated as soon as possible, without waiting for confirmatory influenza testing**
  - Patients with severe, complicated, or progressive illness
  - Patients at high risk for complications from influenza (either outpatient or hospitalized)

# CDC Antiviral Recommendations

- **Antiviral treatment may be prescribed on the basis of clinical judgment for other patients**
  - Previously healthy (non-high risk) outpatients with suspected or confirmed influenza

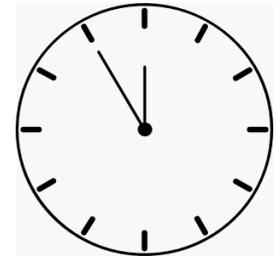
# Persons at High Risk for Influenza Complications

- ❑ Children <2 years
- ❑ Adults  $\geq 65$  years
- ❑ Pregnant and postpartum women
- ❑ American Indians and Alaska Natives
- ❑ Persons who are morbidly obese (BMI  $\geq 40$ )
- ❑ Residents of long-term care facilities

# **Persons at High Risk for Influenza Complications (continued)**

- ❑ Persons with immunosuppression**
- ❑ Persons <19 years who are receiving long-term aspirin therapy**
- ❑ Persons with underlying medical conditions: chronic pulmonary, cardiovascular (except hypertension alone), renal, hepatic, hematologic, and metabolic disorders (incl. diabetes), or neurologic and neurodevelopment conditions**

# Timing of Treatment



- ❑ **When indicated, antiviral treatment should be started as soon as possible after illness onset**
- ❑ **Ideally, treatment should be initiated within 48 hours of symptom onset**
- ❑ **Treatment should not be delayed even for a few hours to wait for the results of testing**
  - A negative rapid influenza antigen diagnostic test does **not** exclude a diagnosis of influenza

# Antiviral Medications

## ❑ Oral oseltamivir (Tamiflu®)

- Recommended for treatment of all ages, chemoprophylaxis for age  $\geq 3$  months

## ❑ Inhaled zanamivir (Relenza®)

- Recommended for treatment for age  $\geq 7$  years, chemoprophylaxis for age  $\geq 5$  years

## ❑ Intravenous peramivir (Rapivab®)

- Approved on December 19, 2014, for treatment of acute uncomplicated influenza in persons  $\geq 18$  years
- 600 mg dose infused over 15-30 min

# For Additional Information

- ❑ **Summary of Influenza Antiviral Treatment Recs for Clinicians:** <http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>
- ❑ **Guidance for Clinicians on the Use of RT-PCR and Other Molecular Assays for Diagnosis of Influenza Virus Infection:** <http://www.cdc.gov/flu/professionals/diagnosis/molecular-assays.htm>
- ❑ **Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities:** <http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>
- ❑ **FDA Influenza (Flu) Antiviral Drugs and Related Information (including package inserts):** <http://www.fda.gov/drugs/drugsafety/informationbydrugclass/ucm100228.htm>

# **Influenza**

# **Antiviral Procurement**

IHS National Supply Service Center  
Pharmacy Support Branch  
James J. Cummings, PharmD  
[james.cummings@ihs.gov](mailto:james.cummings@ihs.gov)

January 21, 2015

# Flu Vaccine still Available for this Season (2014-2015)

- Contact Ms. Christy Farrow (Gay)  
[christy.gay@ihs.gov](mailto:christy.gay@ihs.gov)
  - She will forward a Flu 413 Form for ordering

Products Available	Price per 10 doses
Multi-Dose Vial (MDV) -10 doses/vial	\$37.45
PFS - 0.25mL - 10 doses/package Pediatric (6-35 months) (Quadrivalent)	\$159.75
PFS – 0.5mL – 10 doses/package Peds/Adult (36 months & older) (Quadrivalent)	\$120.91
High Dose PFS - 0.5mL - 10 doses/package	\$221.96

# Antiviral Ordering & Procurement

- Tamiflu 75mg Capsules blocked from ordering through McKesson and must be purchased through NSSC until stockpile depleted/expires
- Contact “Gabe” Wyatt ([Aaron.Wyatt@ihs.gov](mailto:Aaron.Wyatt@ihs.gov)) and he will forward a 413 form
  - Complete 413 and fax to “Gabe” (405) 951-6054, or e-mail
- NSSC has a limited number of all other Tamiflu strengths and dosage forms which may be ordered through McKesson when available.

# Influenza Antivirals

- **Tamiflu® Capsules, 75mg, BT/10 priced at \$19.24 per bottle**  
– Expires 06/2016 for on hand quantities—blocked in McKesson,  
**Please contact NSSC for purchasing**
- Tamiflu® Capsules, 30mg Blister Pack, 10's priced at \$63.68 per pack  
– Expires 07/2016
- Tamiflu® Capsules, 45mg Blister Pack, 10's priced at \$63.64 per pack  
– Expires 05/2016
- Tamiflu® Oral Suspension 6MG/ML, 60ML BT priced at \$69.28 per bottle  
– Expires 07/2015
- **Relenza® Disk Inhaler 5MG 5X4 priced at \$21.83 each**  
– Expires 08/2016

- **Please Note:** Tamiflu orders after 1:30PM Central Standard Time will be processed the next day thru NSSC
- Emergency orders should be processed through McKesson and Service First as this continues to be the fastest and most effective method to receive these products in a critical situation.

# **Rapivab™ (peramivir) 200mg vials (for Intravenous use)**

- ✓ RAPIVAB™ 200 MG/20 ML VIAL (3 vials/pkg)
- ✓ Available thru McKesson Plasma & Biologics
  - MPB  1-877-625-2566
- ✓ **\$950** (Open market pricing) not on contract
- ✓ Facility must be a hospital
- ✓ Next day delivery



# Influenza Update

January 21, 2015

Cheyenne C. Jim, MS

IHS Immunization Program Analyst

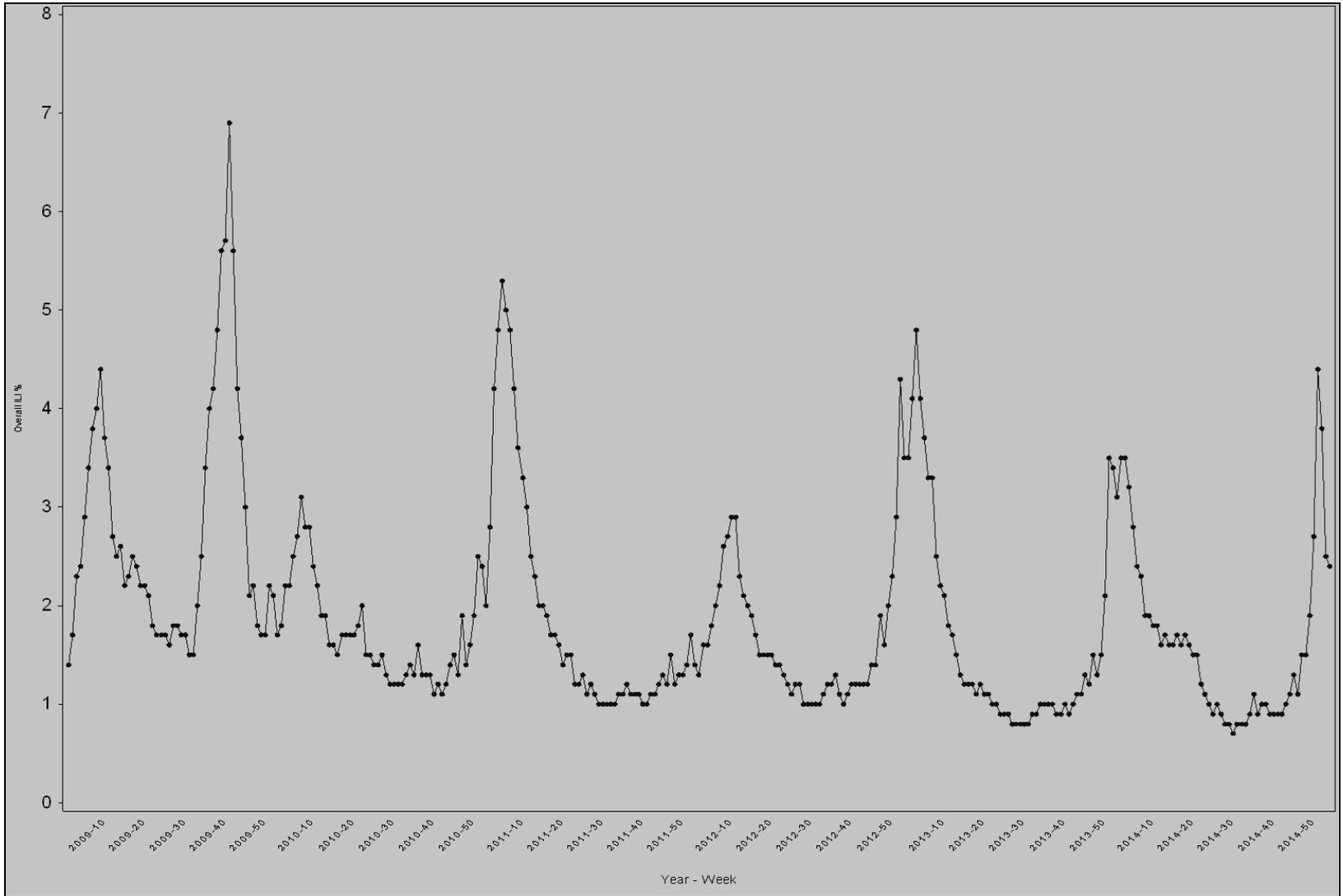


# Topics

- Describe current influenza-like-illness trends across the IHS
- Know influenza vaccine coverage rates for your IHS Area

# **IHS INFLUENZA AWARENESS SYSTEM (IIAS)**

**All IHS Areas**  
**Influenza-Like Illness (ILI) All Surveillance Years - Continuous**  
**Percentage of Visits for ILI per week**  
**01/04/09 to 1/17/15**



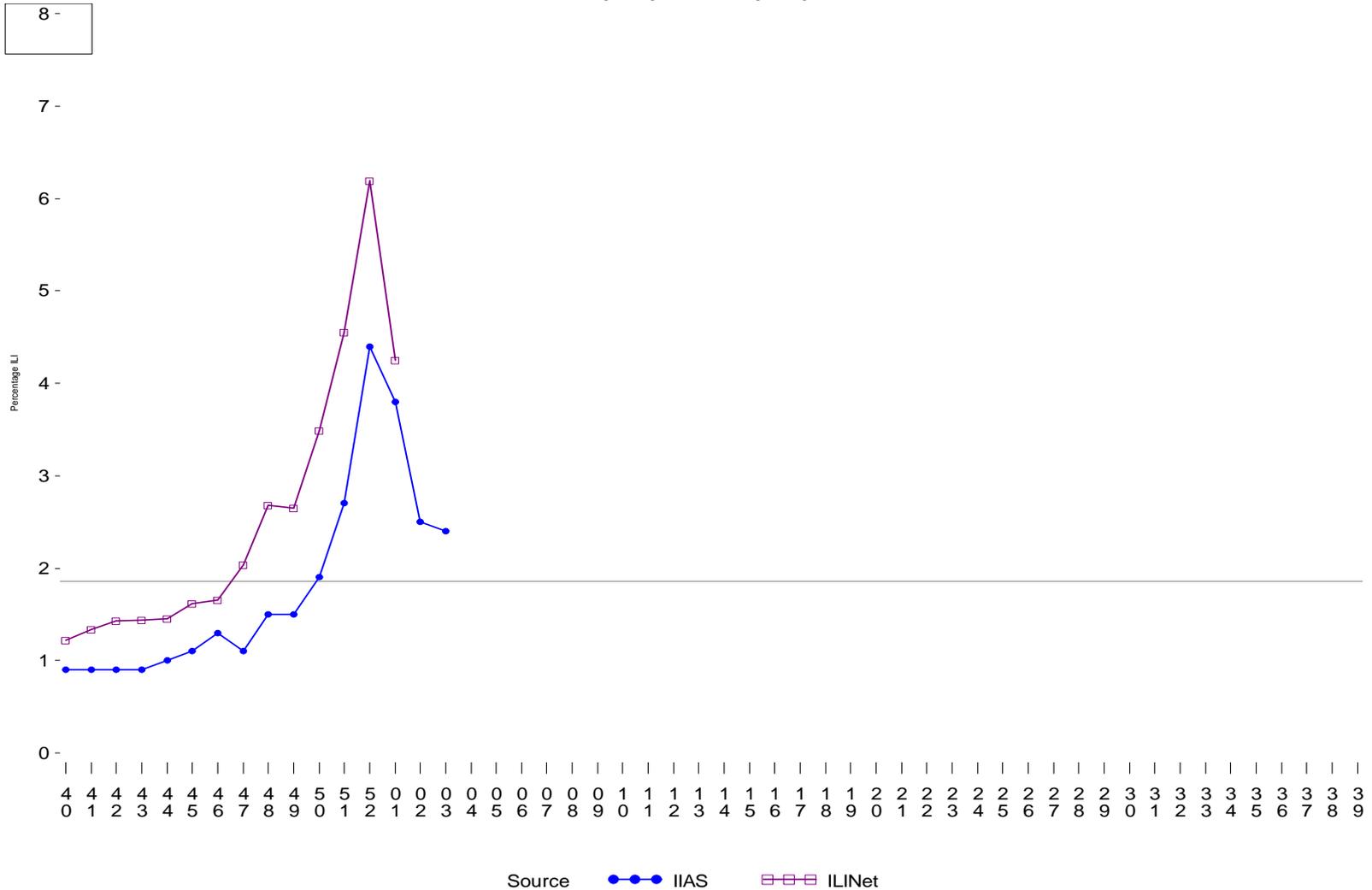
Percentage of ILI visits is number of ILI visits divided by total number of daily visits

# Proportion of Outpatient Visits for Influenza-Like Illness (ILI)

## Percent ILI for FluYear 2014 - 2015

### ILINet vs. IIAS

#### 9/28/14 to 1/17/15

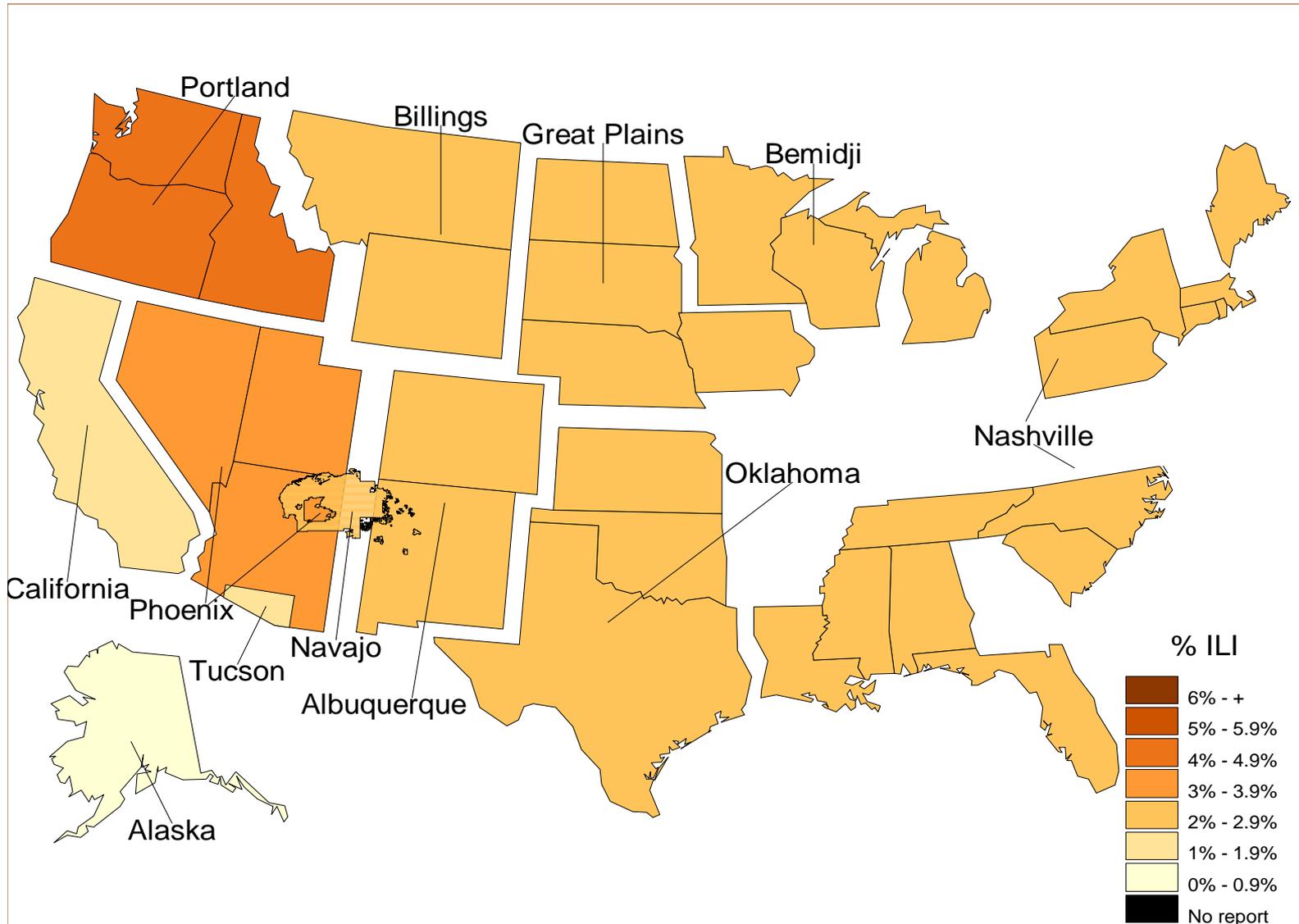


Percentage of ILI visits is number of ILI visits divided by total number of daily visits (outpatient visits).  
 The horizontal line represents the 2013-2014 baseline. The baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons plus two standard deviations.  
 Sources: ILINet - CDC Sentinal Surveillance System for Influenza-Like Illness, IIAS - IHS Influenza Awareness System



# ILI Activity by IHS Area

## Week 3



**All IHS Areas**  
**Seasonal Influenza Vaccine Coverage by Age Group\***  
**06/29/14 to 1/17/15**  
**Active Clinical Population\*\***

Age Group	Active Clinical Population**	Seasonal Flu Vaccine (At Least 1 Dose)***	% Seasonal Flu (At Least 1 Dose)	Seasonal Flu Vaccine (At Least 2 Doses)	% Seasonal Flu (At Least 2 Doses)	Total # Doses Administered****
0 - 5 months	5,439	107	2.0	4	0.1	111
6 - 23 months	26,947	14,225	52.8	3,010	11.2	17,277
2 - 4 years	65,646	20,367	31.0	411	0.6	20,852
5 - 17 years	245,696	82,064	33.4	770	0.3	83,148
18 - 49 years	520,082	132,854	25.5	1,413	0.3	134,786
50 - 64 years	208,970	86,532	41.4	945	0.5	87,863
65 + years	116,555	57,392	49.2	721	0.6	58,475
Children (6 months-17 years)	338,289	116,656	34.5	4,191	1.2	121,277
Adults (18 + years)	845,607	276,778	32.7	3,079	0.4	281,124
All (6 months +)	1,183,896	393,434	33.2	7,270	0.6	402,401

\* Limited to sites that exported both doses administered and active clinical population data.

\*\* Active Clinical is defined as patients who have had at least 2 visits in the last 3 years.

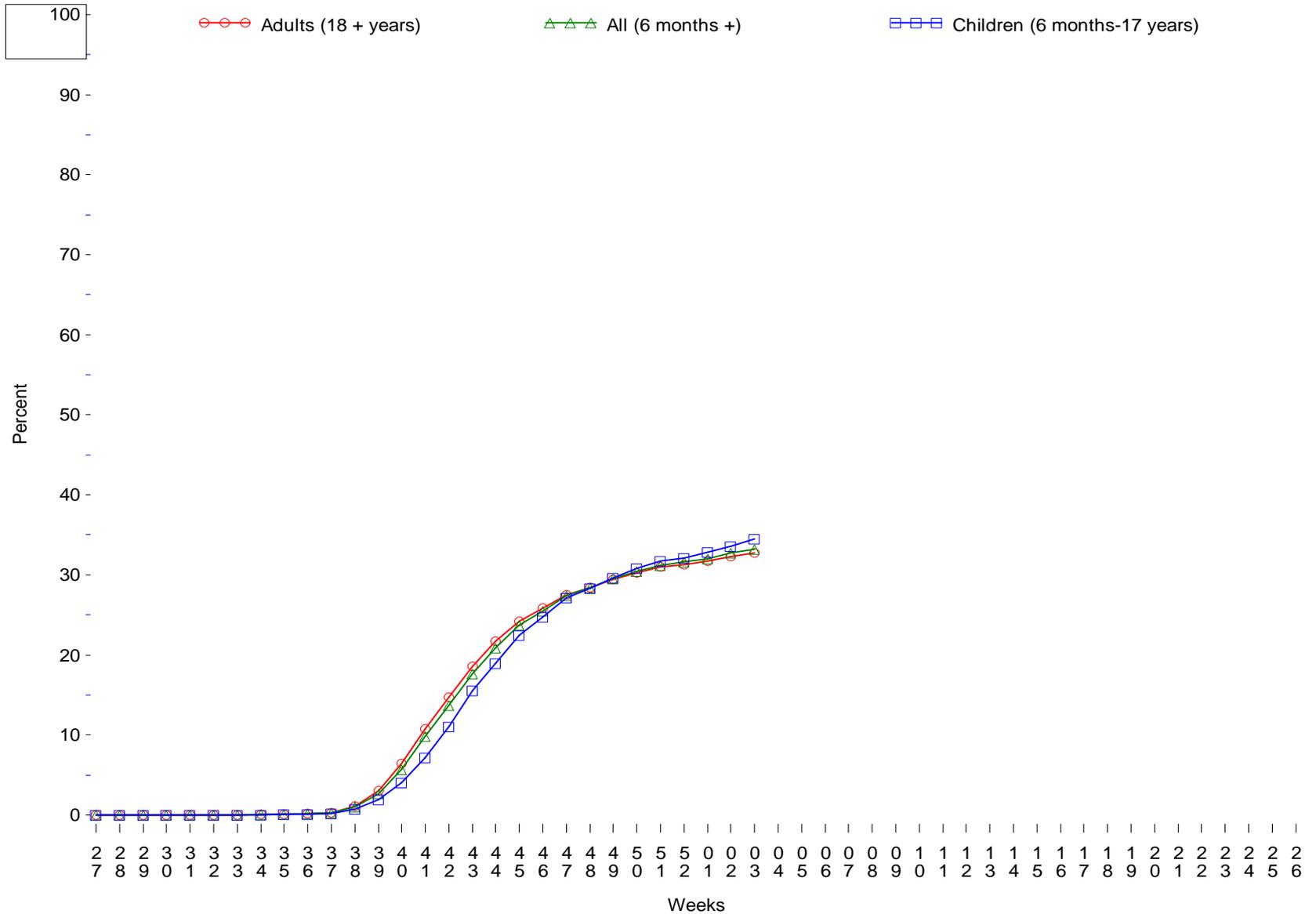
\*\*\* Number of unique patients with at least 1 dose.

\*\*\*\* Total # Doses Administered = All doses administered to patients including doses not included in coverage calculation due to lack of Active Clinical Population data.

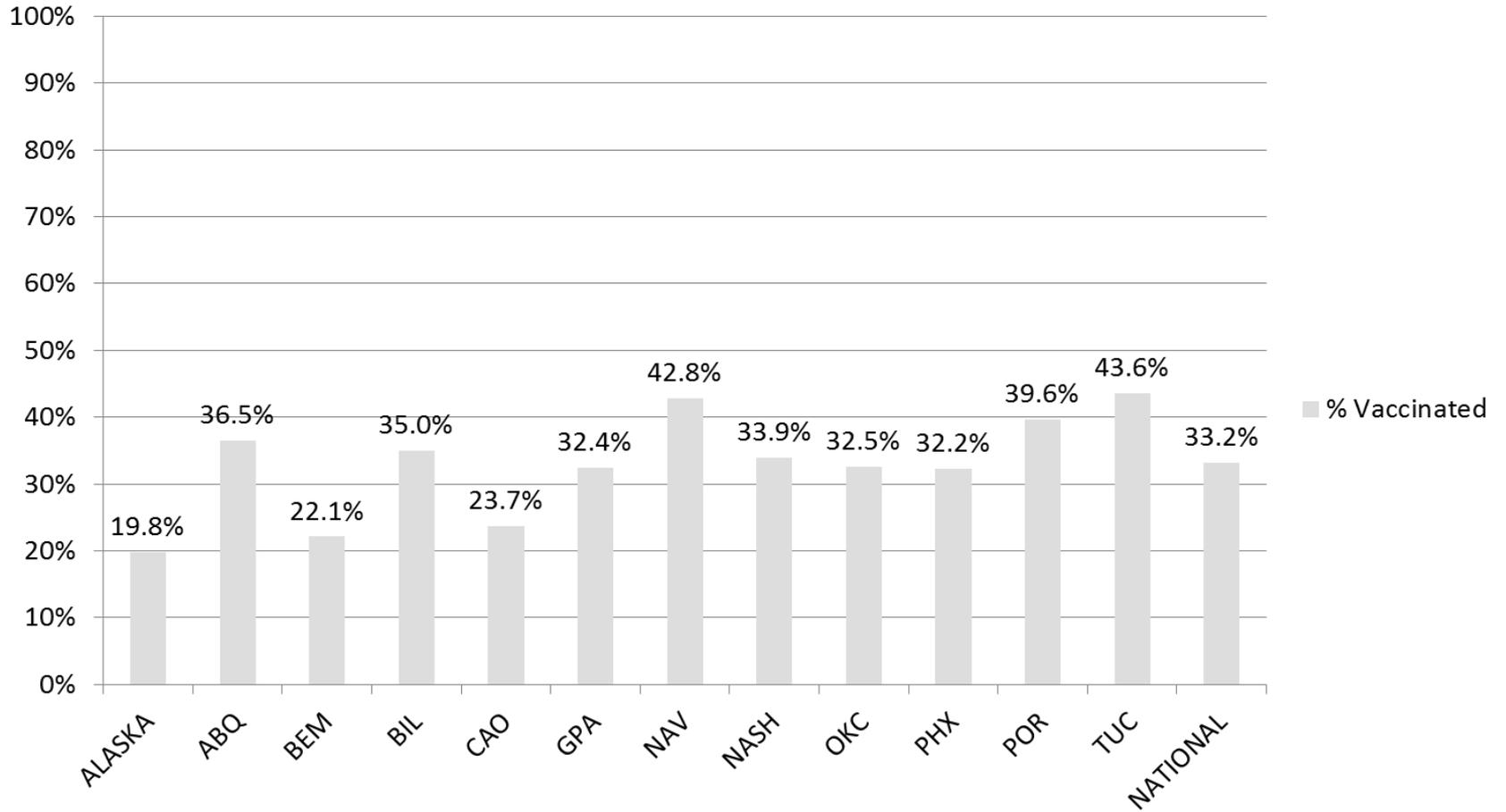
# All IHS Areas

## Cumulative One-Dose Seasonal Influenza Vaccine Coverage 06/29/14 to 1/17/15

### Active Clinical Population



# Seasonal Influenza Vaccine Coverage 6 Months and older Active Clinical User Week 3



# Summary

- ILI activity is high in IHS and is likely to continue for several weeks
- While vaccine effectiveness may be reduced against drifted H3N2 strains, vaccine remains the most effective tool to prevent influenza
  - Currently only 33% of IHS patient population has been vaccinated
- Early antiviral treatment is an important adjunct to vaccination

# **Pharmacy Based Immunization Services**

Noah Argual, Pharm.D.  
San Carlos Service Unit  
San Carlos, Arizona  
January 21, 2015

# Topics

- Discuss pharmacy staffing, workflow and duties
- Present pharmacy based immunization clinic vaccinations administered, goals, and barriers
- Discuss the impact of pharmacy immunizations on the number of immunizations provided

# Pharmacy staff and clinics

- 9 pharmacists and 3 pharmacy technicians
- Pharmacy Based Diabetes Care Clinic
  - 2 pharmacists
- Pharmacy Based Anticoagulation Clinic
  - 2 pharmacists
- Pharmacy Based Immunization Clinic
  - 7 pharmacists, all are certified

# Pharmacy Work Flow And duties

- Pharmacists or pharmacy technicians offer flu shots to any patient > age 18
  - Non-native Commissioned Corps officers and civilian employees are eligible to receive immunizations
- Flu shot flyers on pharmacy window, outpatient clinic bulletin board
- Flu shots are available from 8:00AM to 5:00PM, M-F
- Designated pharmacist for immunization only
- Pharmacists rotate weekly

# Pharmacy based immunization goals

- Identify patients
- Make vaccines accessible
- Utilize vaccine schedules
- Educate and motivate patients
- Increase immunization rates
- Reduce preventable diseases
- Reduce appointment demand

# PRESCRIPTIVE AUTHORITY/STANDING ORDERS

- Pharmacist providers may:
  - prescribe and administer any vaccine as recommended by the CDC/ACIP

# Vaccines Provided by pharmacists

- Influenza vaccine
- Pneumococcal vaccine
- Varicella vaccine
- Herpes zoster vaccine
- Hepatitis A vaccine
- Hepatitis B vaccine
- Injectable poliovirus vaccine (IPV)
- Meningococcal vaccine
- Haemophilus influenza type B vaccine (HIB)
- Human papillomavirus vaccine (HPV)
- Measles, mumps, and rubella vaccine (MMR)
- Tetanus, diphtheria with or without pertussis vaccines (e.g. Tdap, Td)

# Barriers that we need to overcome

- Patient Refusal
  - Flu shot makes me sick
  - Flu shot does not work
  - I don't have time, I will come back next week
- Heavy Workload
  - Improve timely documentation
  - Improve documentation of refusals
- Limited Space

# Scheduling, follow-up and Billing

- No appointment needed
- Walk-in only, small percentage are referred from the MDs
- HPV or HepB follow up needs improvement
- Medicare and Medicaid are billed for eligible patients
- Private insurances are billed for both native and non-native beneficiaries

# Alternative SCSU Immunization locations

- Public Health Nurses
- Outpatient Treatment Room
- Emergency Department
- Community Outreach- Apache Gold Casino

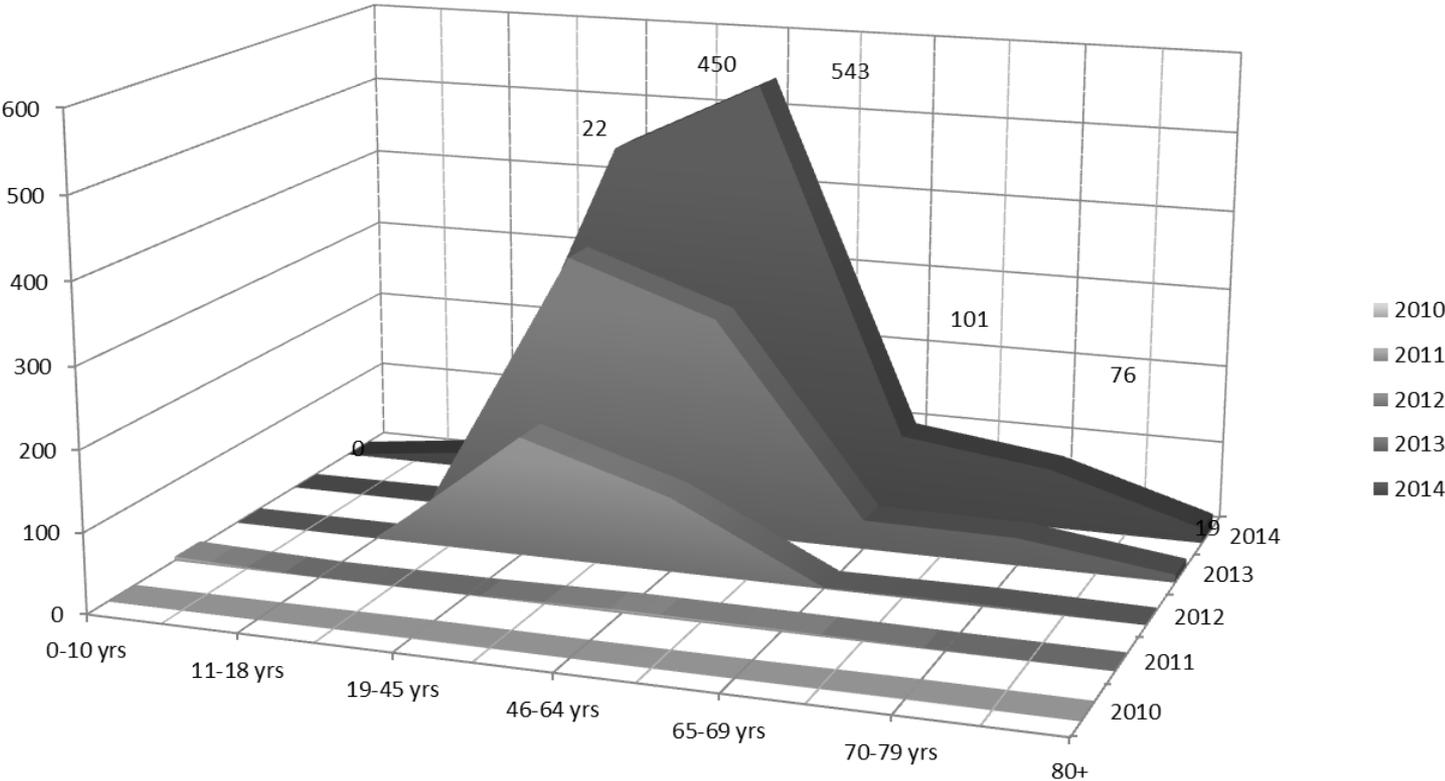
San Carlos Service Unit Pharmacy Based Immunization Clinic

# **IMMUNIZATION DATA**

# Total pharmacy immunizations by age group

<b>Age Group</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
0-10 yrs		5			
11-18 yrs				1	22
19-45 yrs	1	1	151	341	450
46-64 yrs		4	94	277	543
65-69 yrs		3	2	37	101
70-79 yrs	1	1	3	35	76
80+				10	19
<b>Total</b>	<b>2</b>	<b>14</b>	<b>250</b>	<b>701</b>	<b>1,211</b>

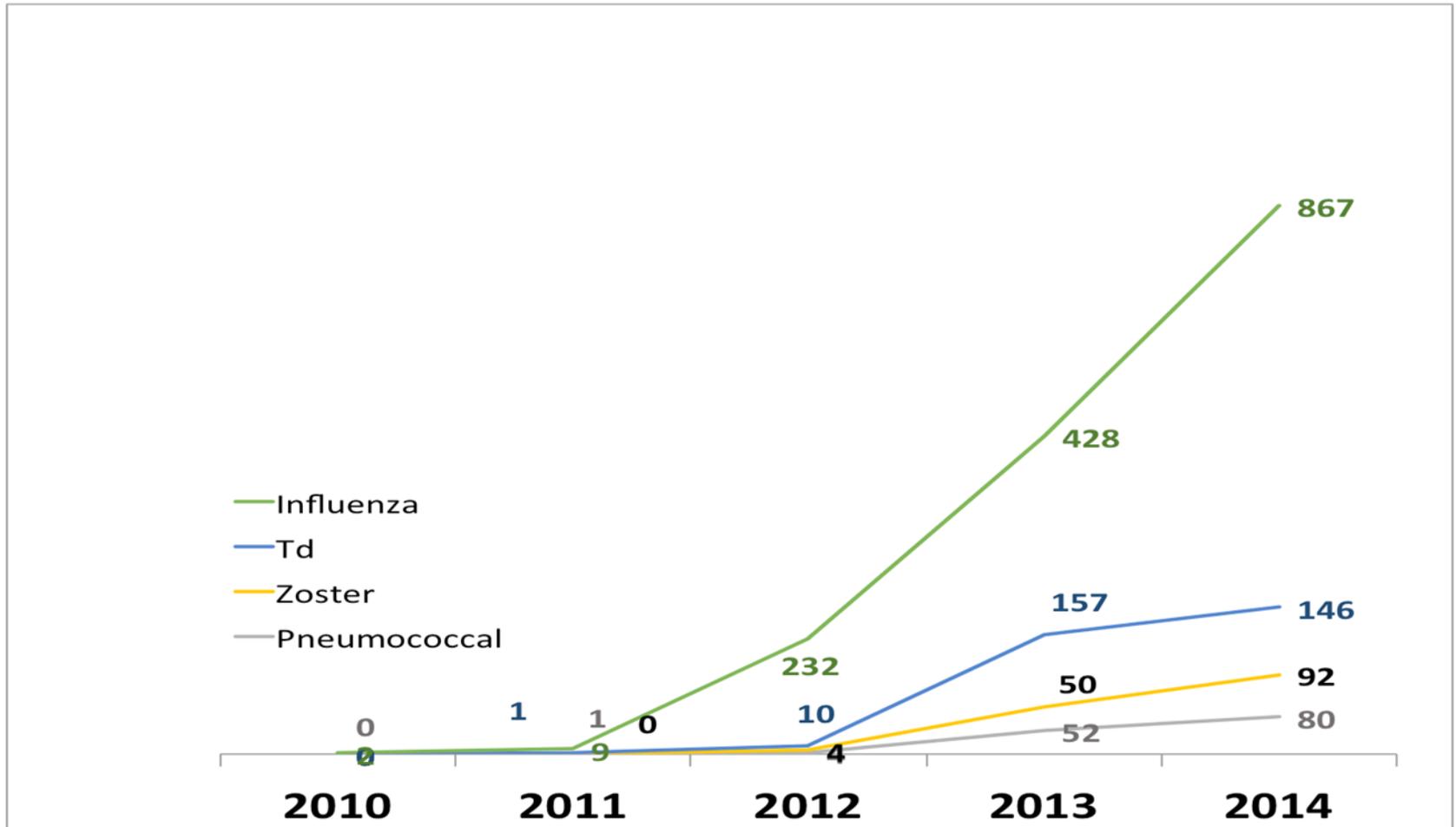
# Pharmacy immunizations by age group



# Pharmacy based immunization clinic

Immunization	2010	2011	2012	2013	2014
DTAP				4	1
DTAP-HEP B-IPV		2		1	6
Hep A				1	1
Hep A and Hep B				1	
Hep B				1	6
HIB		1			
HPV				2	8
Influenza	2	9	232	428	867
Meningococcal				3	1
MMR					1
Pneumococcal		1	4	52	80
Rabies					2
Td (Tdap)		1	10	157	146
Varicella				1	
Zoster			4	50	92
<b>Total</b>	<b>2</b>	<b>14</b>	<b>250</b>	<b>701</b>	<b>1,211</b>

# Pharmacy based immunization clinic

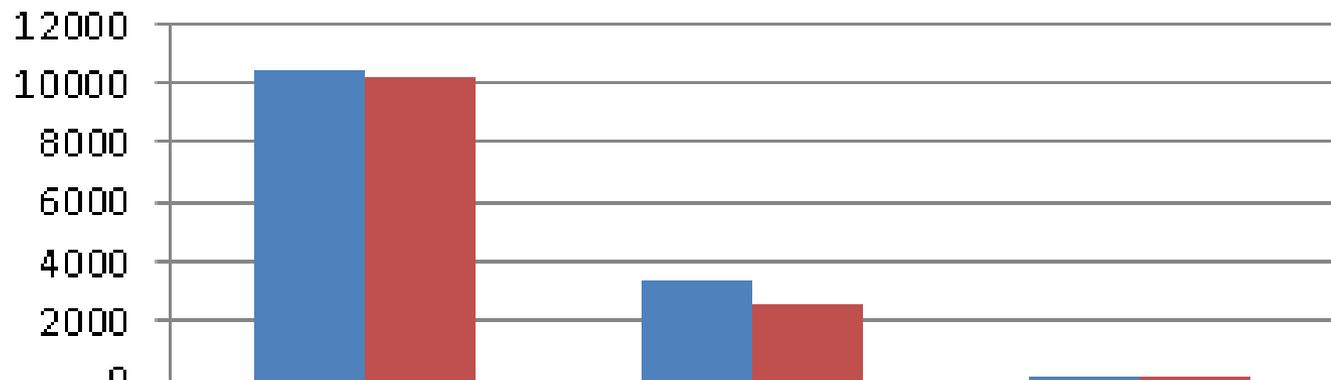


San Carlos Service Unit Influenza Data

# **IMMUNIZATION DATA**

# SCSU Total Flu Vaccinations For Flu Seasons 2013 AND 2014

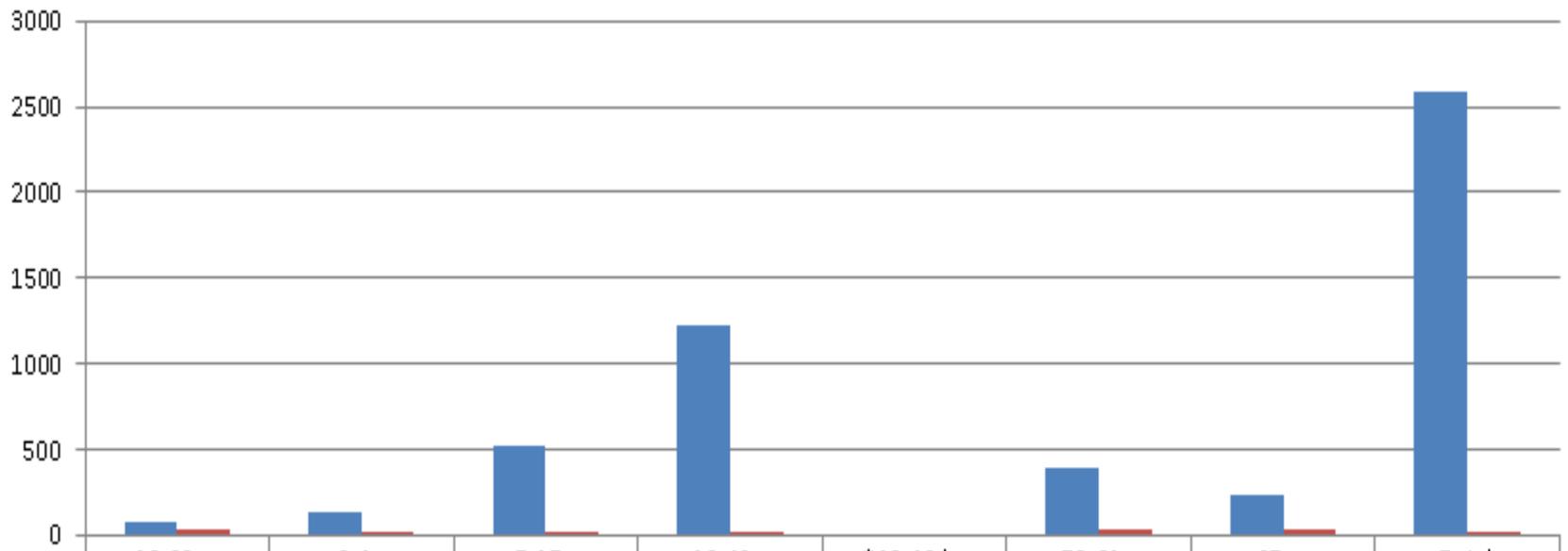
## San Carlos Service Unit Flu Vaccination



■ 2013 Flu Season	10373	3370	32
■ 1/2/2015	10217	2592	25

# 2014 Flu Season vaccination report as of January 2, 2015

## San Carlos Service Unit Flu Vaccinations 1/2/2015



# vaccinated	73	138	524	1226	0	393	238	2592
% vaccinated	27	17	23	25	0	28	36	25

# In SUMMARY

- 87% of SCSU pharmacists participate in the Immunization Clinic to meet the Healthy People 2020 goal of > 90%
- Barriers exist but are not insurmountable
- Between 2012 and 2014, pharmacy based immunizations have increased 484%
- 2014 flu season immunization rates average about 25% across all age groups except the 2-4, <20% and >65, almost 40%
- Pharmacy based immunization clinics help increase immunization rates and decrease burden on other health care providers

