DoD Global, Laboratory-Based, Influenza Surveillance Program

USAF School of Aerospace Medicine 2014 - 2015

Cumulative Results

Locations	74
Collected	2512
Tested	2175

Influenza A	**827**
A(H1N1)pdm09	1
A(H3N2)	820
A & Parainfluenza	1
A/not subtyped	5

Influenza B	**38**
B/Unknown or pending lineage	28
B & Rhino/Enterovirus	1
B/Victoria	1
B/Yamagata	8

Other Respiratory Pathogens	**357**
Adenovirus	34
Bordetella Pertussis	0
Chlamydophila pneumoniae	0
Coronavirus	22
Human Metapneumovirus	7
Mycoplasma pneumoniae	21
Parainfluenza	76
RSV	33
Rhino/Enterovirus	125
Non-influenza Co-infections	39

Lab data are current as of 12 January 2015. Results are preliminary and may change as more results are received.

Respiratory Highlights
28 December 2014 - 10 January 2015 (Surveillance Weeks 53 & 1)

- During 28 December 2014 - 10 January 2015, a total of 437 specimens were collected and received from 58 locations. Results were finalized for 165 specimens from 44 locations. During Week 53, the laboratory identified 73 influenza A(H3N2), two influenza A/not subtyped and six influenza B. During Week 1, 44 influenza A(H3N2) and one influenza B were identified. See Table 1 below for results of other respiratory viruses identified during Weeks 53 & 1.
- On 9 January 2015, CDC released an official health update (HAN) regarding treatment of patients with influenza with antiviral medication for the current influenza season. This is in response to the widespread influenza A(H3N2) activity in the US and the antigenic and genetic differences in the H3N2 viruses identified and the H3N2 vaccine virus. CDC continues to encourage influenza vaccination and prompt treatment with flu antiviral drugs for people at high risk of serious flu complications (cited 14 January 2015).
- Molecular sequence analysis included in this report on page 8.

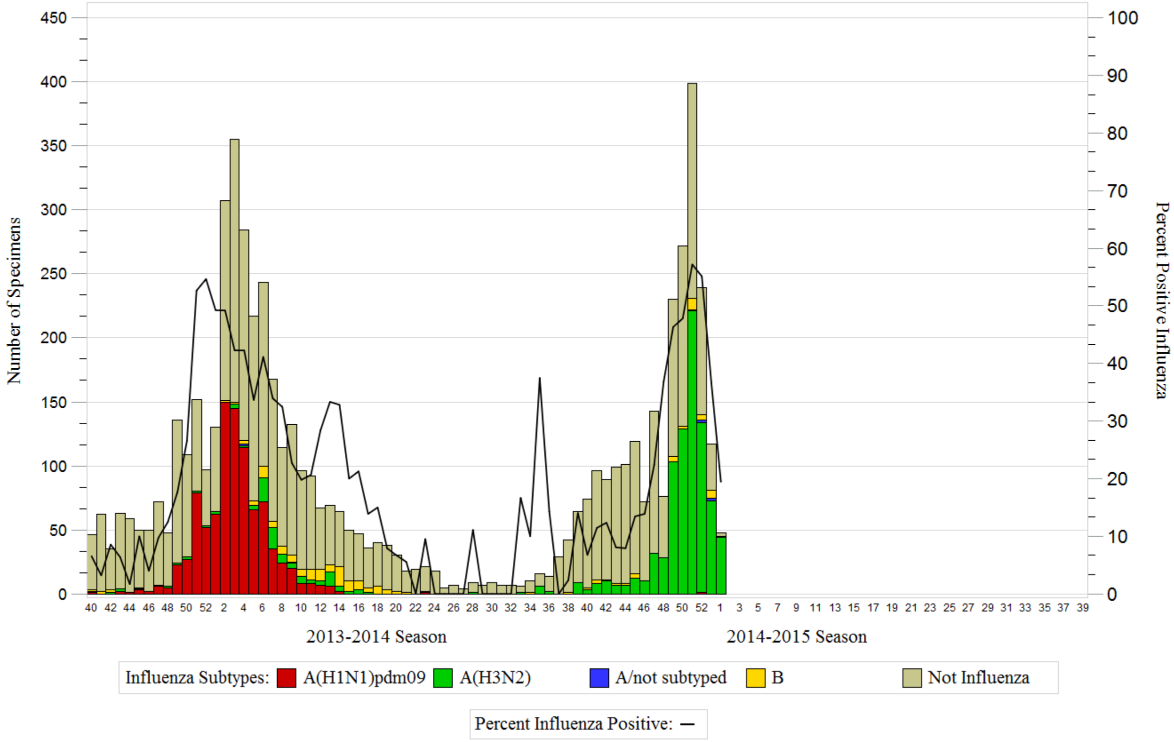
Table 1. Results by region and location for specimens collected and finalized during Weeks 53 & 1

Region*		A(H3N2)	A/not subtyped	B	Adenovirus	Parainfluenza	RSV	Rhino/Entero	No Pathogen	Total
PACOM	JR Marianas - Andersen AFB, Guam	-	-	-	-	-	-	1	-	1
	Misawa AB, Japan	1	-	-	-	-	-	-	-	1
	Yokota AB, Japan	4	-	1	-	-	-	-	-	5
Region 1	Hanscom AFB, MA	3	-	-	-	-	-	-	-	3
	NHCNE Newport, RI	1	-	-	-	-	-	-	-	1
Region 2	Ft Drum, NY	-	-	-	-	-	-	-	1	1
	JB McGuire-Dix-Lakehurst, NJ	3	-	-	-	-	-	-	-	3
	USMA - West Point, NY	4	-	-	-	-	-	-	2	6
Region 3	CG Base Portsmouth, VA	3	-	-	-	-	-	-	-	3
	Dover AFB, DE	2	-	-	-	-	-	-	-	2
	JB Anacostia-Bolling, DC	1	-	-	-	-	-	-	-	1
	JB Andrews, MD	-	-	-	-	-	1	-	-	1
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	1	1
Region 4	CGS Mobile, AL	2	-	-	-	-	-	-	-	2
	Columbus AFB, MS	-	-	-	-	-	-	-	1	1
	Eglin AFB, FL	2	-	2	-	-	-	-	1	5
	Ft Bragg, NC	6	-	-	-	2	-	-	1	9
	Ft Campbell, KY	7	1	-	1	-	-	-	1	10
	Hurlburt Field, FL	-	-	-	-	-	-	-	1	1
	Maxwell AFB, AL	1	-	1	-	-	-	-	-	2
	Moody AFB, GA	-	-	1	-	-	-	-	-	1
	NH Beaufort, SC	-	-	-	-	-	-	-	1	1
	Robins AFB, GA	7	-	1	-	-	-	-	-	8
	Seymour Johnson AFB, NC	3	-	-	-	-	-	-	1	4
	Tyndall AFB, FL	-	-	-	-	-	1	-	-	1
	USCG Base Elizabeth City, NC	2	-	-	-	-	-	-	-	2
Region 5	Scott AFB, IL	2	-	-	-	-	-	-	-	2
	Wright-Patterson AFB, OH	3	-	-	-	-	2	-	1	6
Region 6	Altus AFB, OK	1	-	-	-	-	-	-	-	1
	Laughlin AFB, TX	1	-	-	-	-	-	-	-	1
	Sheppard AFB, TX	7	-	-	-	-	-	-	-	7
	Tinker AFB, OK	11	-	-	-	-	-	-	2	13
Region 7	McConnell AFB, KS	-	-	-	-	-	-	-	1	1
	Offutt AFB, NE	5	-	-	-	1	-	-	1	7
Region 8	Ellsworth AFB, SD	4	-	-	-	-	-	-	-	4
	FE Warren AFB, WY	6	-	-	-	-	-	-	-	6
	Hill AFB, UT	2	-	-	-	1	-	-	1	4
	Minot AFB, ND	1	-	-	-	-	1	-	-	2
	Peterson AFB, CO	2	-	-	-	-	-	-	1	3
	USAF Academy, CO	1	-	-	-	-	-	-	-	1
Region 9	Edwards AFB, CA	2	-	-	-	-	-	-	-	2
	Travis AFB, CA	3	-	-	-	-	-	-	1	4
	USCG Island Alameda, CA	1	-	-	-	-	-	-	-	1
Region 10	NH Bremerton, WA	13	1	1	1	1	-	-	7	24
Total		117	2	7	2	5	5	1	26	165

**US Regions are based on Health & Human Services regions. Other locations are defined by COCOM.*

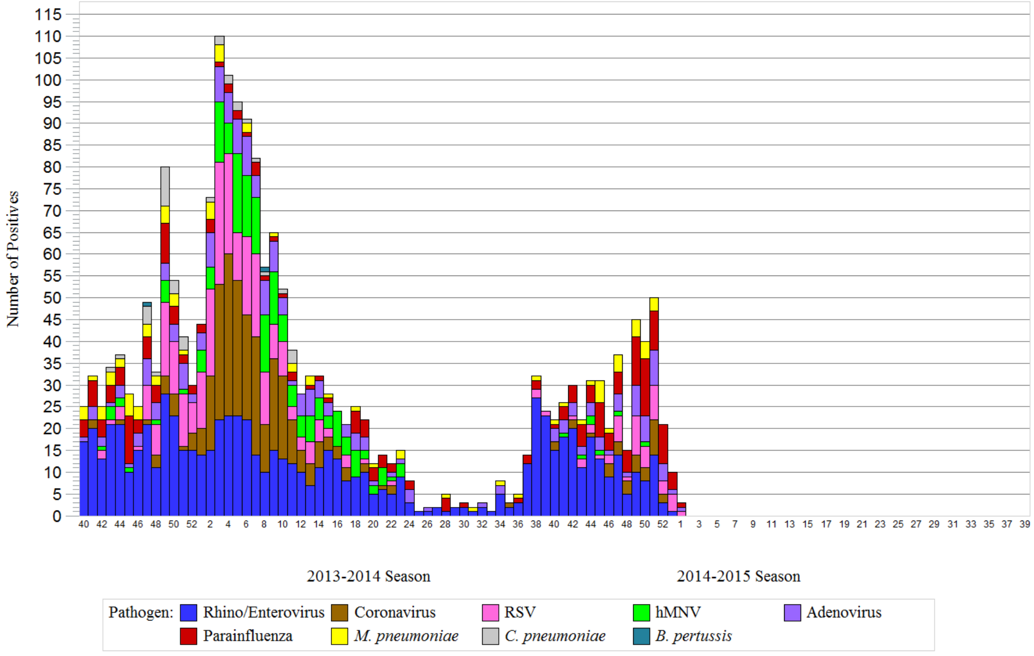
Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2013-2014 surveillance year and through Week 1 of the 2014-2015 surveillance year



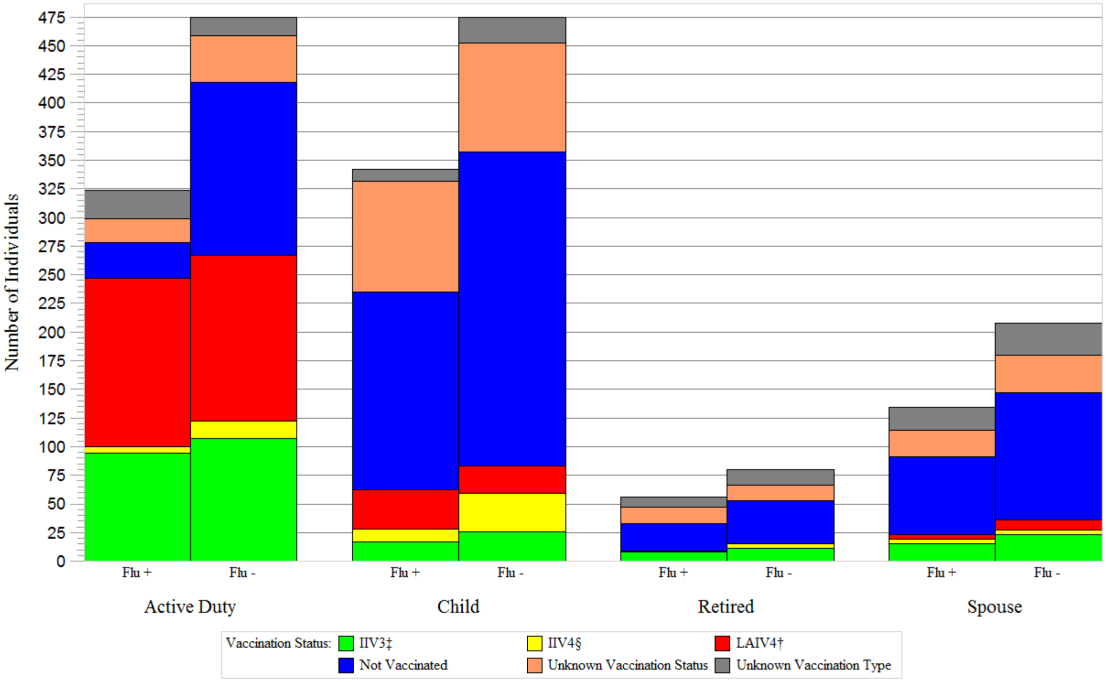
Note: One specimen positive for influenza A(H3N2)v has been excluded from the graph during the 2013-2014 season.

Graph 2. Other respiratory pathogen results by week: 2013-2014 surveillance year and through Week 1 of the 2014-2015 surveillance year



Note: Due to change in protocol between the surveillance years 2013-2014 and 2014-2015, a direct comparison between the years cannot be made.

Graph 3. Vaccination status by beneficiary type for the 2014-2015 surveillance year through Week 1



‡ Influenza, inactivated vaccine (trivalent)

§ Influenza, inactivated vaccine (quadrivalent)

† Live, attenuated influenza vaccine (quadrivalent)

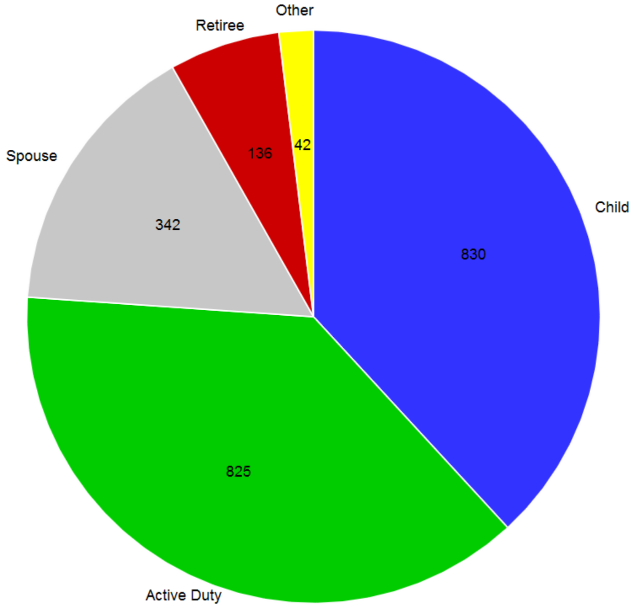
Table 2. ILI by age group for the 2014-2015 surveillance year through Week 1

Age Group	Frequency	Percent
0-5	430	19.77
6-9	180	8.28
10-17	221	10.16
18-24	293	13.47
25-44	772	35.49
45-64	225	10.34
65+	54	2.48

Demographic Summary

Of 2,175 ILI cases, 825 are service members (37.9%), 830 are children (38.2%), 342 (15.7%) are spouses, and 178 (8.2%) are retirees & other beneficiaries. There are no unknown beneficiary types. The median age of ILI cases with known age (n=2,175) is 24.0 (range 0, 94) and 831 (38.2%) of these specimens are from ILI cases less than 18 years of age.

Graph 4. ILI by beneficiary status for the 2014-2015 surveillance year through Week 1



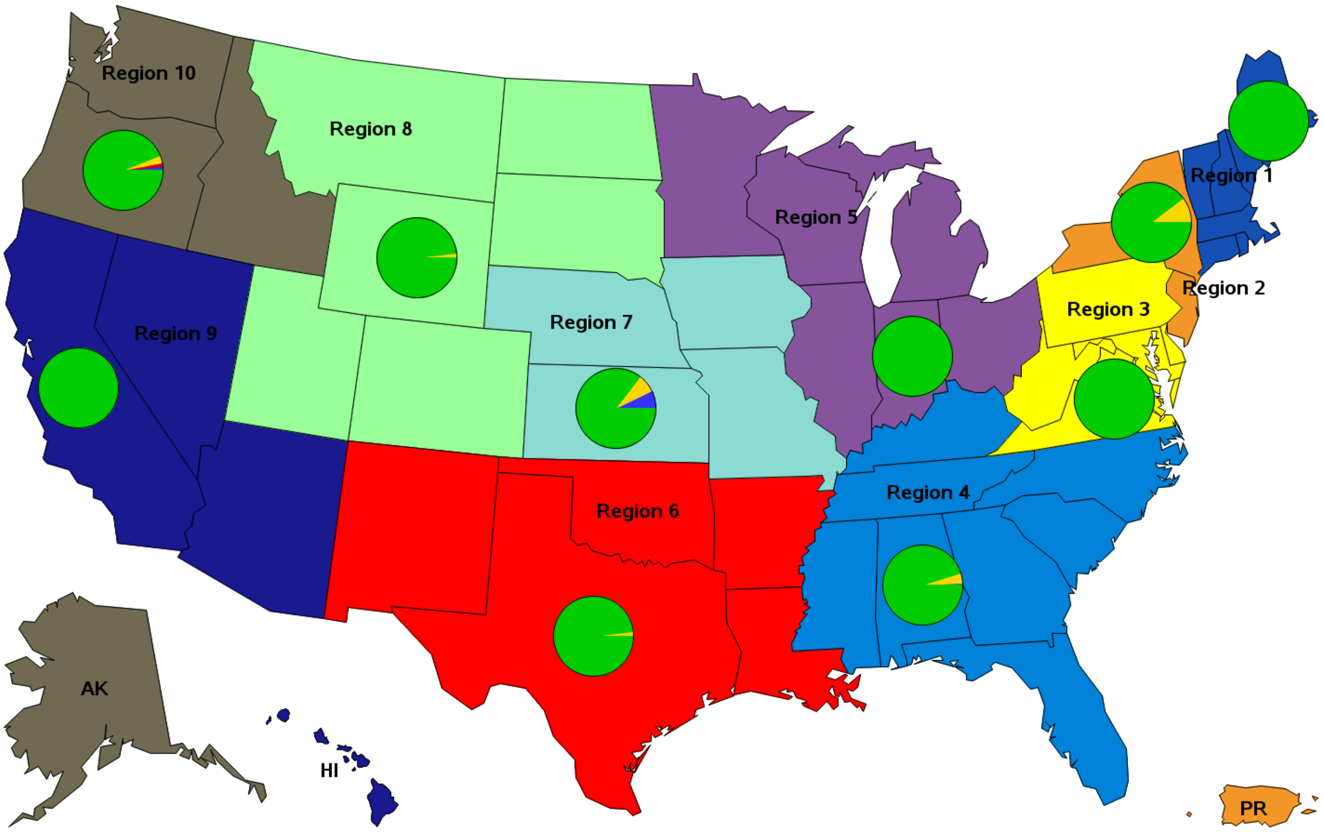
Laboratory Results—Through Current Surveillance Week 1

Table 3. Cumulative results by region and location for specimens collected during the 2014-2015 surveillance year

Region*		A(H1N1)pdm09	A(H3N2)	A/not subtyped	B	B/Victoria	B/Yamagata	B & Rhino/Entero	Adenovirus	Coronavirus	hMNV	*M. pneumoniae*	Parainfluenza	RSV	Rhino/Entero	Non-Influenza Co-Infection	No Pathogen	Total
Deployed	Country 1, Location B	-	19	-	-	-	-	-	-	2	-	-	-	-	3	-	37	61
	Country 2, Location A	-	21	-	-	-	-	-	-	-	-	-	-	-	1	-	11	33
PACOM	CFA Okinawa, Japan	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	15	19
	Eielson AFB, AK	-	3	-	1	-	-	-	2	-	-	-	-	-	1	-	5	12
	JB Elmendorf-Richardson, AK	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12
	JR Marianas - Andersen AFB, Guam	-	9	-	1	-	4	-	1	-	3	-	1	2	4	1	16	42
	Kadena AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	3
	Kunsan AB, South Korea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Misawa AB, Japan	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	3	6
	Osan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4
	Yokota AB, Japan	-	11	-	1	-	-	-	2	-	-	-	1	-	-	1	6	22
Region 1	Hanscom AFB, MA	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	6	9
	NHCNE Newport, RI	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1	8	11
	USCG Academy, CT	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	3	5
Region 2	Ft Drum, NY	-	15	-	4	-	-	-	1	1	-	1	2	-	9	5	27	65
	JB McGuire-Dix-Lakehurst, NJ	-	11	-	-	-	-	-	-	-	-	-	-	-	2	-	3	16
	USMA - West Point, NY	-	8	-	-	-	-	-	-	4	-	3	1	1	6	2	37	62
Region 3	CG Base Portsmouth, VA	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
	Dover AFB, DE	-	9	-	-	-	-	-	-	-	-	-	1	-	-	-	2	12
	JB Anacostia-Bolling, DC	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	JB Andrews, MD	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	3	6
	JB Langley-Eustis, VA	-	6	-	-	-	-	-	1	-	-	-	1	-	-	1	8	17
	NCRM - Ft Belvoir CH, VA	-	-	-	-	-	-	-	1	-	-	-	1	-	4	1	4	11
	NCRM - Walter Reed NMMC, MD	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	NMC Portsmouth, VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 4	CGS Mobile, AL	-	8	-	-	-	-	-	-	-	-	-	-	-	1	-	-	9
	Columbus AFB, MS	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	12	15
	Eglin AFB, FL	-	7	-	3	-	-	-	-	-	-	1	-	1	1	1	21	35
	Ft Bragg, NC	-	23	-	-	-	-	-	1	-	1	-	4	6	-	-	15	50
	Ft Campbell, KY	-	15	1	1	-	-	-	1	-	-	-	4	1	3	-	11	37
	Hurlburt Field, FL	-	14	-	-	-	-	-	1	-	-	1	-	1	3	1	12	33
	JB Charleston (AF), SC	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7
	JB Charleston (Navy), SC	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	1	4
	Keesler AFB, MS	-	6	-	1	-	-	-	2	-	-	-	-	1	1	2	12	25
	MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7
	Maxwell AFB, AL	-	25	-	4	-	-	-	-	-	-	-	1	1	4	-	29	64
	Moody AFB, GA	-	65	-	3	1	1	-	3	6	1	1	6	1	9	2	29	128
	NH Beaufort, SC	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	3	7
	NH Camp Lejeune, NC	-	58	-	-	-	-	-	-	-	-	-	-	-	1	2	7	68
	NH Jacksonville, FL	-	1	-	-	-	-	-	1	-	1	-	-	-	4	1	-	8
	Robins AFB, GA	-	27	1	1	-	-	-	-	-	-	-	-	-	-	-	17	46
	Seymour Johnson AFB, NC	-	13	-	-	-	-	-	-	-	-	-	1	1	4	-	8	27
	Shaw AFB, SC	-	3	-	-	-	-	-	-	-	-	-	-	-	1	-	7	11
	Tyndall AFB, FL	-	12	-	-	-	3	-	-	-	-	-	-	1	-	1	9	26
	USCG Base Elizabeth City, NC	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Region 5	Scott AFB, IL	-	23	-	-	-	-	-	1	1	-	-	1	-	1	-	16	43
	Wright-Patterson AFB, OH	-	8	-	-	-	-	-	-	1	-	-	-	2	5	-	21	37
Region 6	Altus AFB, OK	-	4	-	-	-	-	1	2	1	-	-	-	-	2	2	12	24
	Barksdale AFB, LA	-	9	-	1	-	-	-	-	-	-	-	-	-	-	1	3	14
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Holloman AFB, NM	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Laughlin AFB, TX	-	4	-	-	-	-	-	1	-	-	2	-	-	-	2	7	16
	Little Rock AFB, AR	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	19	21
	Sheppard AFB, TX	-	57	-	-	-	-	-	1	3	-	1	1	1	-	4	31	99
	Tinker AFB, OK	-	67	-	1	-	-	-	1	2	-	1	5	1	5	-	61	144
	USCG New Orleans, LA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 7	McConnell AFB, KS	-	3	-	-	-	-	-	-	1	-	-	-	-	-	-	6	10
	Offutt AFB, NE	-	32	2	3	-	-	-	1	-	-	2	8	-	8	-	77	133
Region 8	Buckley AFB, CO	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	7	10
	Ellsworth AFB, SD	-	7	-	1	-	-	-	1	-	-	1	3	-	2	-	8	23
	FE Warren AFB, WY	-	20	-	-	-	-	-	1	-	-	-	6	-	1	-	13	41
	Hill AFB, UT	-	24	-	1	-	-	-	-	-	-	-	3	-	3	-	10	41
	Minot AFB, ND	-	3	-	-	-	-	-	-	-	-	3	2	1	1	-	4	14
	Peterson AFB, CO	-	44	-	-	-	-	-	-	-	-	1	2	1	3	1	23	75
	USAF Academy, CO	-	17	-	-	-	-	-	-	-	-	1	-	-	1	-	9	28
Region 9	Davis-Monthan AFB, AZ	-	1	-	-	-	-	-	-	-	-	-	1	-	-	1	17	20
	Edwards AFB, CA	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	8
	Luke AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5
	Nellis AFB, NV	-	5	-	-	-	-	-	1	-	-	-	-	-	-	-	5	11
	Travis AFB, CA	-	11	-	-	-	-	-	1	-	-	1	9	4	6	1	73	106
	USCG Island Alameda, CA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 10	Fairchild AFB, WA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Mt Home AFB, ID	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-	3	6
	NH Bremerton, WA	1	48	1	1	-	-	-	4	-	-	1	9	4	11	4	106	190
Total		1	820	5	28	1	8	1	34	22	7	21	76	33	125	39	953	2174

**US Regions are based on Health & Human Services regions. Other locations are defined by COCOM.*

Map 1. Percentage of influenza positives by region for the 2014-2015 surveillance year through Week 1

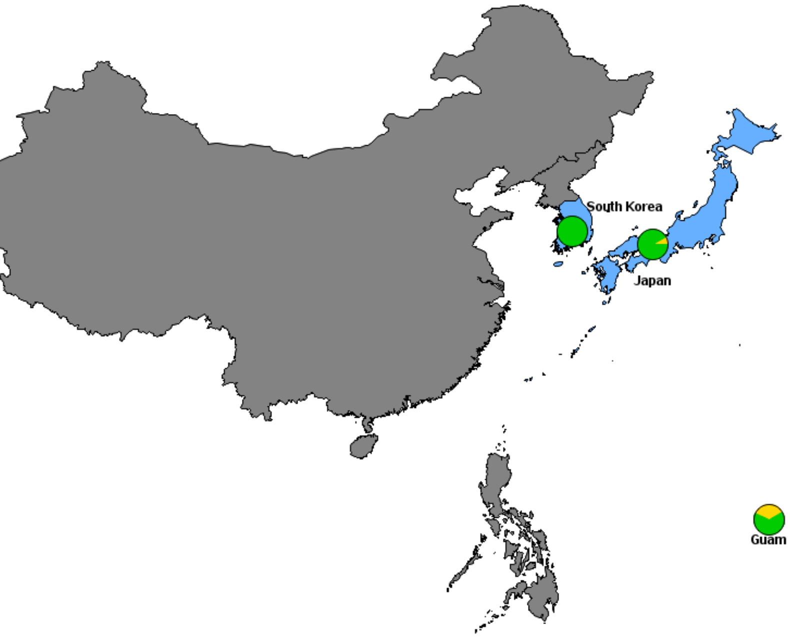


Region	Flu (+)	Flu (-)	% Positive
Region 1	4	32	11.11
Region 2	38	129	22.75
Region 3	22	35	38.6
Region 4	308	376	45.03
Region 5	31	62	33.33
Region 6	148	209	41.46
Region 7	41	126	24.55
Region 8	119	140	45.95
Region 9	22	153	12.57
Region 10	64	195	24.71

Legend

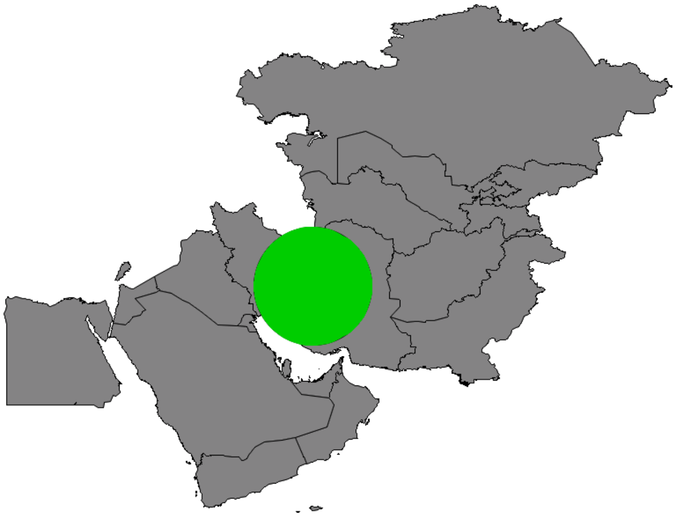
- ○ No Influenza Detected or No Submissions
- 🟢 Influenza A(H3N2)
- 🔴 Influenza A(H1N1)pdm09
- 🟡 Influenza B
- 🔵 Influenza A/not subtyped

Map 2. Percentage of influenza positives by region for the 2014-2015 surveillance year through Week 1 (Pacific)



Country	Flu (+)	Flu (-)	% Positive
Guam	12	26	31.58
Japan	1	26	3.7
South Korea	1	3	25

Map 3. Percentage of influenza positives by region for the 2014-2015 surveillance year through Week 1 (CENTCOM)



Country	Flu (+)	Flu (-)	% Positive
Country 1	19	42	31.15
Country 2	21	41	33.87
Country 6	1	11	8.33

*Note – Specimens for CENTCOM were tested at USAFSAM or Landstuhl Regional Medical Center (LRMC).

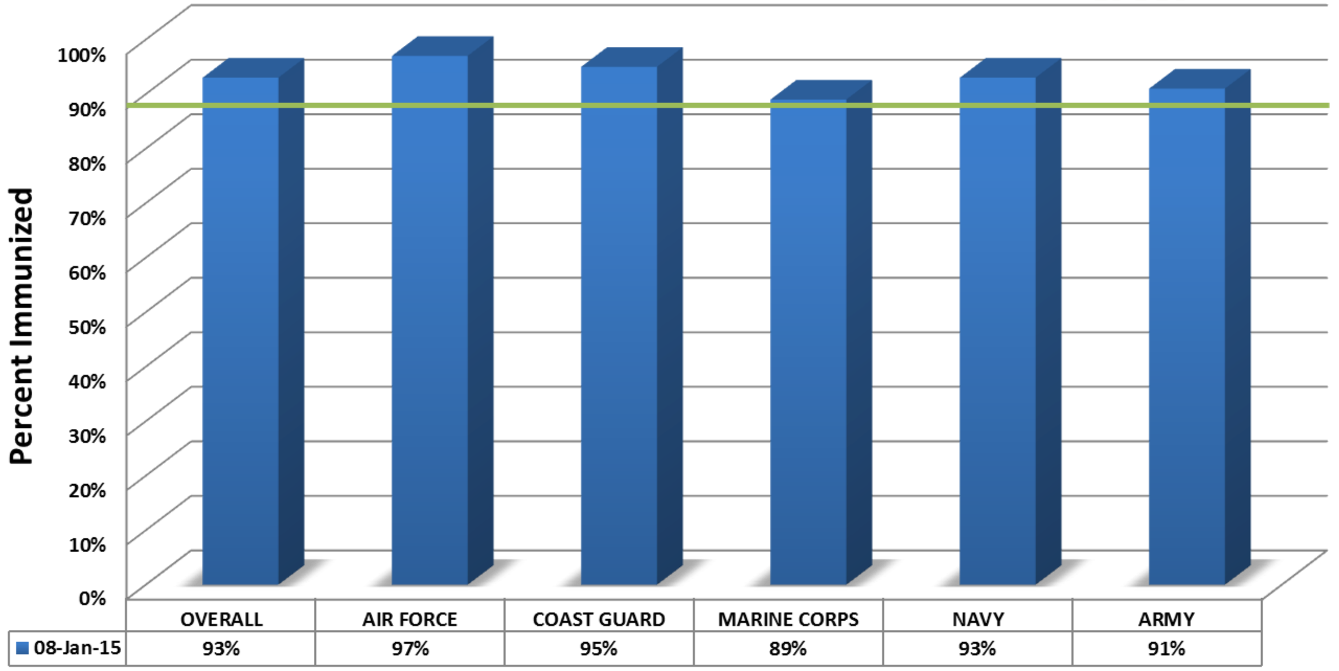
Legend

- ⚪ No Influenza Detected or No Submissions
- 🟢 Influenza A(H3N2)
- 🔴 Influenza A(H1N1)pdm09
- 🟡 Influenza B
- 🔵 Influenza A/not subtyped

Countries marked in blue contain sentinel sites

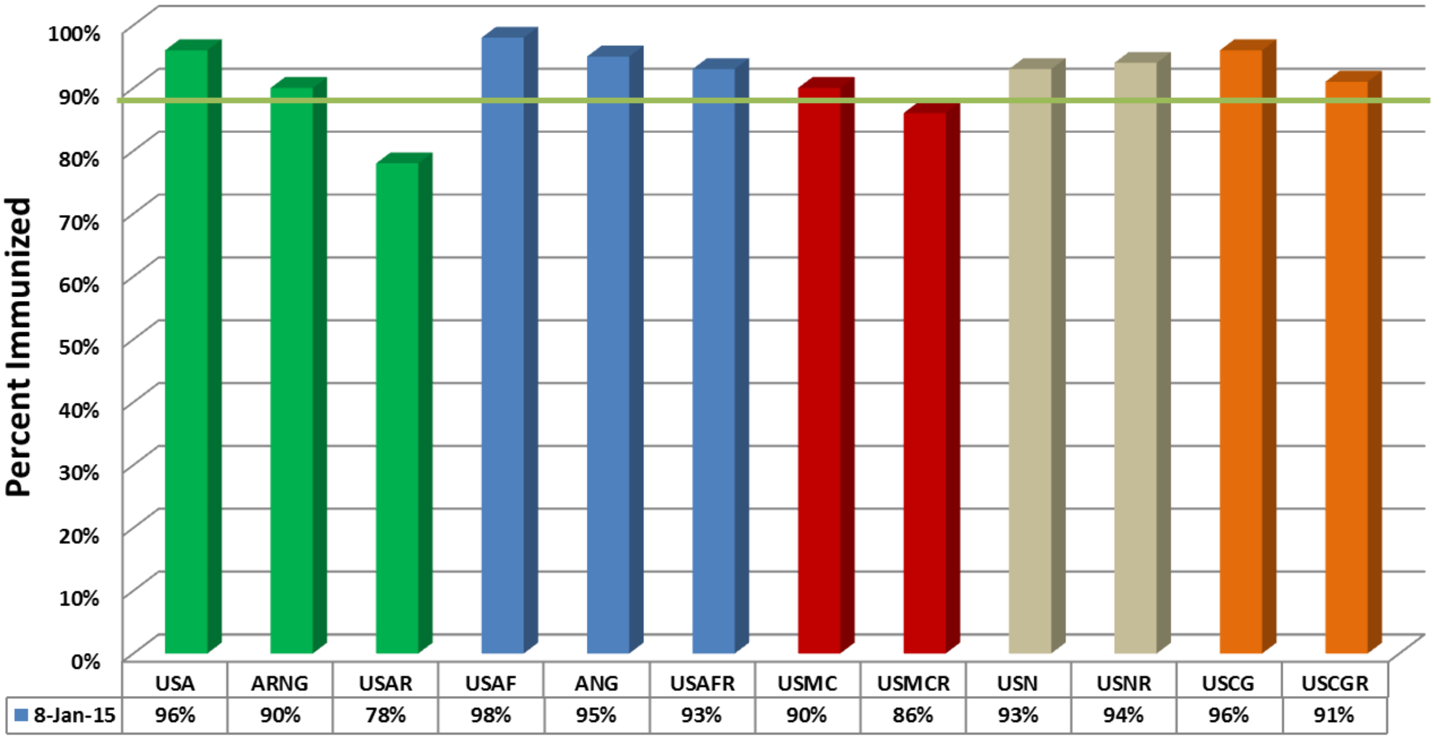
Graph 5. Influenza immunization status: Percent immunized by service‡

DOD goal: 90% by 15 DEC



Graph 6. Influenza immunization status: Percent immunized by service‡

DOD goal: 90% by 15 DEC



‡Courtesy of DHA Immunizations

Molecular Sequence Analysis Report

USAFSAM Epidemiology Laboratory Service

This is the second report for the 2014-2015 season. Out of 89 total specimens collected between 15 September 2014 and 4 December 2014 and subsequently analyzed by USAFSAM, 82 were Influenza A(H3N2) virus specimens (92%) and seven were Influenza B virus specimens (8%).

		A(H3N2)	B/Yamagata	B/Victoria
CONUS	**Alabama** Maxwell AFB	5		
	Alaska Eielson AFB	2		
	Alaska Elmendorf AFB	3		
	Florida Hurlburt Field	4		
	Florida Tyndall AFB	1	2	
	Georgia Moody AFB	26	1	1
	Georgia Robins AFB	2		
	Mississippi Keesler AFB	2		
	New Jersey JB McGuire-Dix-Lakehurst	1		
	North Carolina Ft Bragg	2		
	North Carolina NH Camp Lejeune	23		
	North Carolina Seymour Johnson AFB	1		
	Oklahoma Tinker AFB	1		
	Texas Sheppard AFB	2		
OCONUS	**Country 1** Location B	6		
	Guam Andersen AFB	1	2	
	Hawaii Tripler AMC		1	
TOTAL		**82**	**6**	**1**

The hemagglutinin (HA) gene from select influenza positives was sequenced using dye terminator, Sanger-based methods. Preliminary data are based on the sequence analysis of the hemagglutinin gene. Antigenic sites, receptor binding sites and glycosylation motifs are predicated upon correlations with previously published experimental evidence.[1,3,4] Sequence data was constructed and analyzed using multiple software programs. Genetic and predicted antigenic information that resulted from this analysis is shared with United States Centers for Disease Control and Prevention (CDC), World Health Organization (WHO) and potentially contribute to the seasonal Northern and Southern Hemisphere vaccine component selections.

Influenza A(H3N2)

- Isolates are characterized in a neighbor-joining phylogenetic tree with reference strains and other recently sequenced isolates rooted from the previous vaccine, A/Victoria/361/2011-like virus [Figure 1].

- The A(H3N2) specimen characterized for this report by USAFSAM exhibited an overall protein identity of 97.1-98.7% as compared to the A(H3N2) component of the 2014-2015 vaccine formulation, A/Texas/50/2012-like virus.

- Gain or loss of *N*-linked glycosylation sites has been shown to alter HA protein surface topology. A gain in glycosylation could be advantageous to the virus by virtue of a masking effect on important antibody recognition sites, thus potentially modulating viral antigenicity.[4] Observations are based solely on sequence motifs. For the specimens characterized in this report, six mutations: T128A (threonine to alanine), N122D (asparagine to aspartic acid), N144S (asparagine to serine), T160I (threonine to isoleucine), T248A (threonine to alanine), and T248I (threonine to isoleucine), were observed that could cause a loss of a glycosylation motif. K160T (lysine to threonine) mutation was observed that could cause a gain of a glycosylation motif.

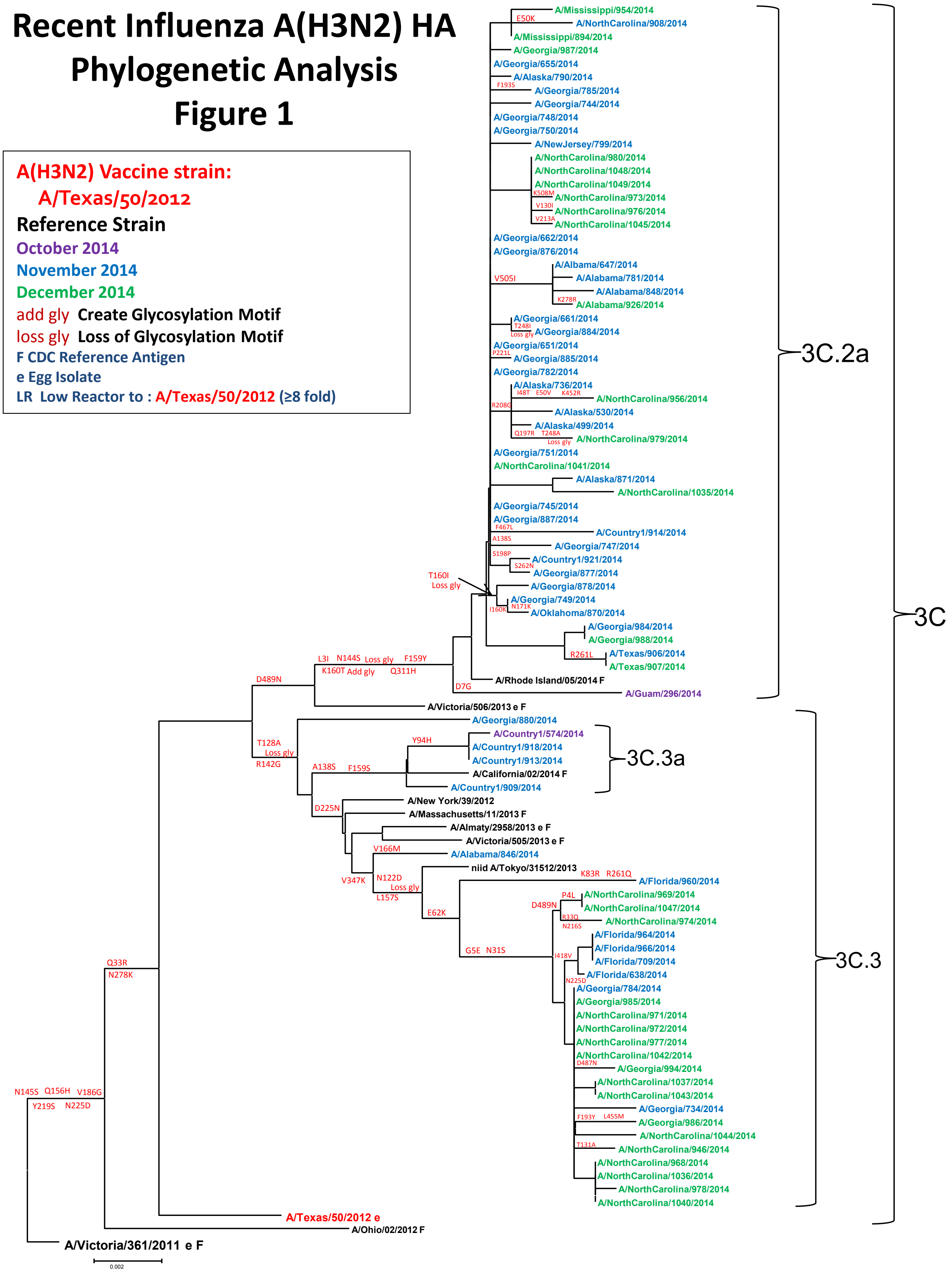
- Based on the mutations observed, all of the A(H3N2) viruses analyzed belong to clade 3C. Within this clade, 51 (62%) viruses classify as group 3C.2a and 31 (38%) viruses classify as group 3C.3. Four (13%) of the 3C.3 specimens further classify as group 3C.3a.

- A/Switzerland/9715293/2013 clusters into group 3C.3a (not shown). Approximately half of the circulating A/H3N2 Influenza viruses during the 2014-2015 season thus far have been identified as being more closely related to A/Switzerland/9715293/2013, the 2014-2015 Southern hemisphere vaccine component, than to A/Texas/50/2012.

Out of the total 62 mutations, 19 occurred at predicted antigenic sites and four at the receptor binding site.[2,5]

Recent Influenza A(H3N2) HA Phylogenetic Analysis
Figure 1

A(H3N2) Vaccine strain:
A/Texas/50/2012
Reference Strain
October 2014
November 2014
December 2014
add gly **Create Glycosylation Motif**
loss gly **Loss of Glycosylation Motif**
F CDC Reference Antigen
e Egg Isolate
LR Low Reactor to : A/Texas/50/2012 (≥8 fold)



Influenza B

- The influenza B isolate is characterized in lineage specific; neighbor-joining phylogenetic trees with reference strains and other recently sequenced isolates. The phylogenetic trees are rooted from previous vaccines, B/Florida/04/2006-like virus for Yamagata specimens [Figure 2] and B/Ohio/01/2005-like virus for the Victoria specimen [Figure 3].

- The distinguishing characteristic between the two lineages (Victoria & Yamagata) is defined by an amino acid deletion in viruses belonging to the Yamagata lineage.[1] Six of the Influenza B specimens characterized for this report reside within the Yamagata lineage (86%) while one specimen resides within the Victoria lineage (14%).

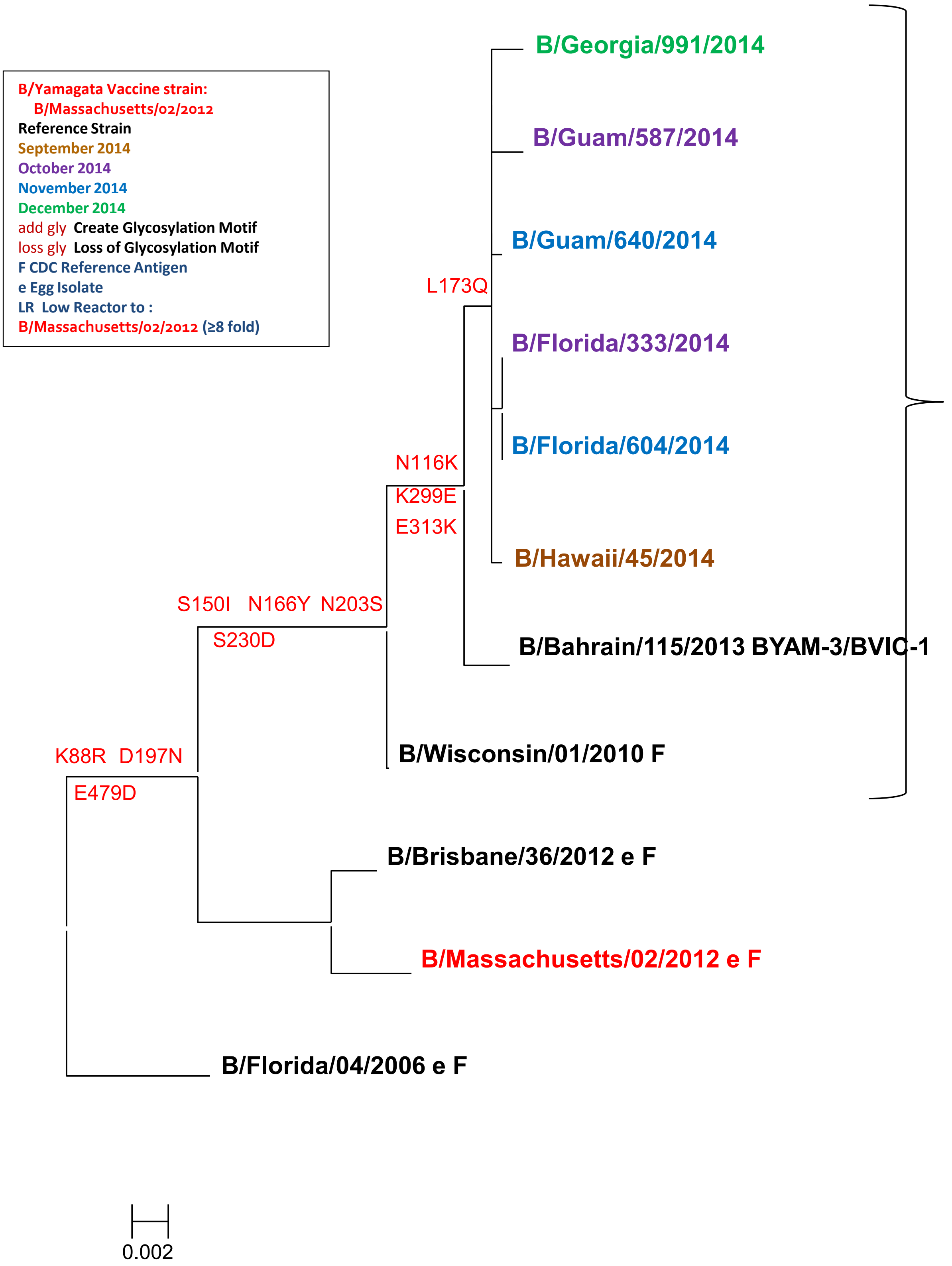
- The Influenza B/Yamagata specimens characterized for this report exhibited an overall protein identity of 97.4% when compared to the 2014-2015 Influenza B/Yamagata vaccine strain, B/Massachusetts/02/2012-like virus. When compared to the 2014-2015 Influenza B Victoria vaccine strain, B/Brisbane/60/2008-like virus, the B Victoria specimen exhibited a protein homology of 99.6%.

- All six specimens of the Influenza B/Yamagata lineage classify into group 3, similar to the 2012-2013 B/Yamagata vaccine strain B/Wisconsin/1/2010-like virus. Group 3 strains share four amino acid changes, S150I (serine to isoleucine), N166Y (asparagine to tyrosine), N203S (asparagine to serine) and S230D (serine to aspartic acid).

- The single Influenza B Victoria specimen in this report was characterized as being in group 1A, identified by the mutations N75K (asparagine to lysine), N165K (asparagine to lysine), and S172P (serine to proline).

Recent Influenza B/Yamagata Lineage HA Phylogenetic Analysis

Figure 2

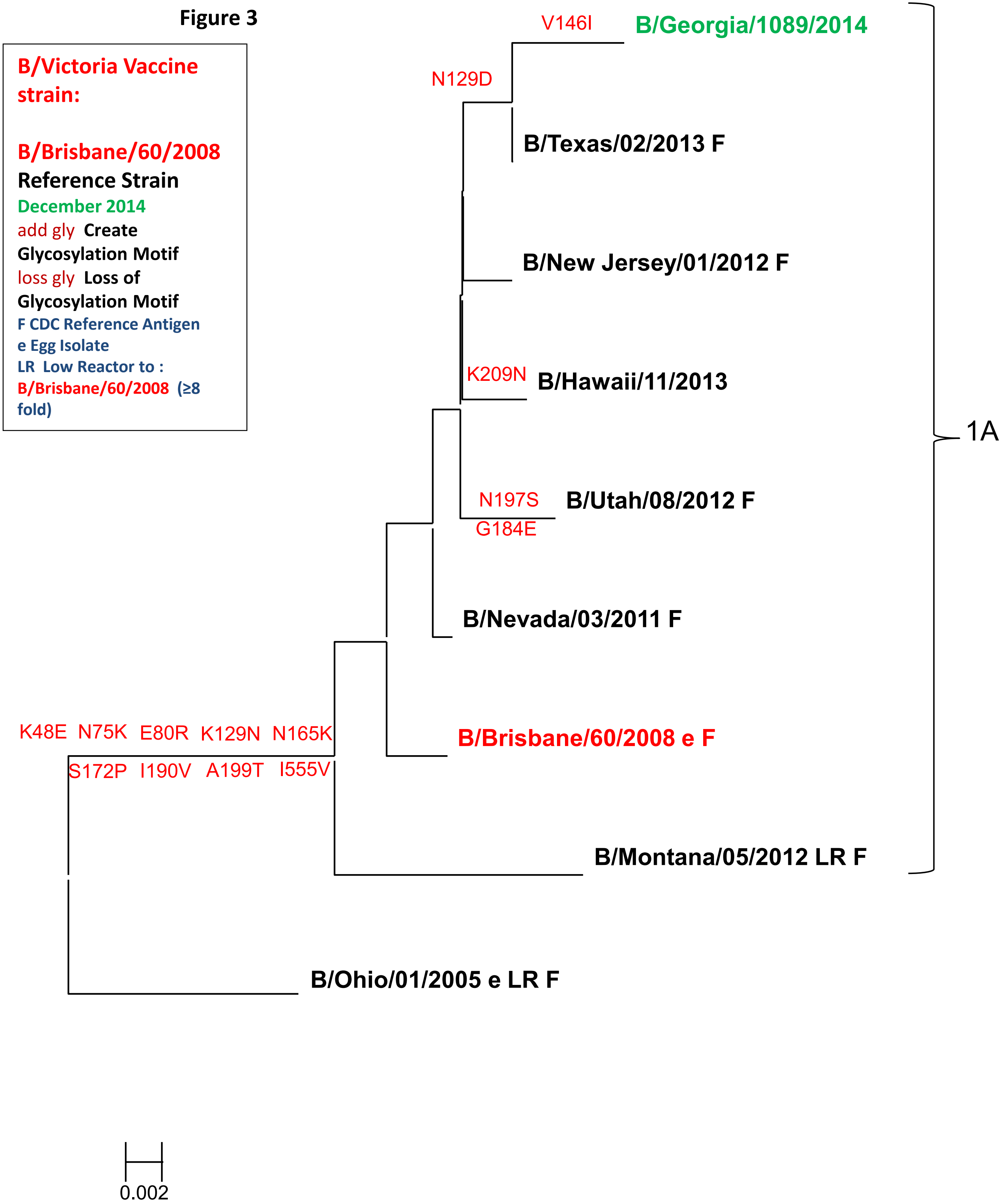


Recent Influenza B/Victoria Lineage HA Phylogenetic Analysis

Figure 3

B/Victoria Vaccine strain:

B/Brisbane/60/2008
Reference Strain
December 2014
add gly **Create Glycosylation Motif**
loss gly **Loss of Glycosylation Motif**
F CDC Reference Antigen
e Egg Isolate
LR Low Reactor to : B/Brisbane/60/2008 (≥8 fold)



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USAFSAM POCs for sequence data and analysis are:

Maj Robel Yohannes: robel.yohannes@us.af.mil

Mr. Bill Gruner: william.gruner.1.ctr@us.af.mil

Mr. Saul Sarria: saul.sarria.ctr@us.af.mil

DoD Global Laboratory-Based Influenza Surveillance Program

USAF School of Aerospace Medicine

2014 - 2015

Respiratory Surveillance
2014-2015 Year
(beginning 28 September 2014)

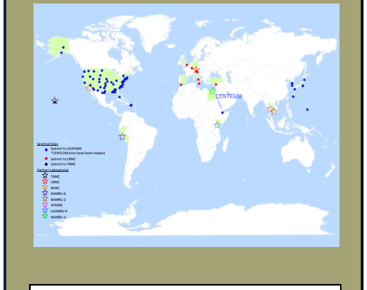
USAF School of Aerospace Medicine

2510 5th Street, Bldg 20840
Wright-Patterson AFB, OH
45433-7913

For Public Health Services
937-938-3196; DSN 798-3196

For Laboratory Services
937-938-3163; DSN 798-3163

E-mail
USAFSAM.PHRFlu@us.af.mil



Contributions to the CDC for National Influenza Surveillance

All sequence data are sent to the CDC and selected original specimens or isolates are sent for further characterization and possible use as influenza vaccine seed viruses. Specimens may also undergo antiviral testing.

DoD Global, Influenza Surveillance Program

https://gumbo2.area52.afnoapps.usaf.mil/epi-consult/influenza

Background

The DoD-wide program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. The surveillance network includes the U.S. Air Force School of Aerospace Medicine (USAFSAM) (sentinel site respiratory surveillance), the Naval Health Research Center (recruit and shipboard population-based respiratory surveillance), the Naval Medical Research Unit (NAMRU-3) in Cairo, Egypt, the Naval Medical Research Unit (NAMRU-2) in Phnom Penh, Cambodia, the Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok, Thailand, the Naval Medical Research Unit-6 (NAMRU-6) in Lima, Peru, and the United States Army Medical Research Unit-Kenya (USAMRU-K) located in Nairobi, Kenya. This work is supported by the Air Force and the Division of Global Emerging Infections Surveillance and Response System (GEIS) Operations, a Division of the Armed Forces Health Surveillance Center (AFHSC).

Sentinel Site Surveillance at USAFSAM

In 1976, the U.S. Air Force Medical Service began conducting routine, global, laboratory-based influenza surveillance. Air Force efforts expanded to DoD-wide in 1997. USAFSAM manages the surveillance program that includes global surveillance among DoD beneficiaries at over 80 sentinel sites (including deployed locations) and many non-sentinel sites (please see map on the left). Unique sentinel sites include three DoD overseas medical research laboratories (AFRIMS, NAMRU-6, USAMRU-K) and the US Army Public Health Command Region South (PHCR-S). These sites collect specimens from local residents in surrounding countries that may not otherwise be covered in existing surveillance efforts.

Since the 2006-2007 season, Landstuhl Regional Medical Center (LRMC) has served EUCOM as a USAFSAM contributing laboratory. The initiative seeks to provide more timely results and efficient transport of specimens.

For an expanded view of this report, visit our website. Also available on the website is a list of previous weekly surveillance reports, program information (including an educational briefing and instruction pamphlets for clinic staff), and an overview of historical data. Please visit the AFHSC/GEIS website for an overview of influenza surveillance at all collaborating organizations.

Errata:

Collaborating Partners

In addition to all participating DoD military sentinel sites, several collaborating partners (described above) may be further understood by reviewing the partner's website.