

DoD Global, Laboratory-Based, Influenza Surveillance Program

USAF School of Aerospace Medicine 2014 - 2015

Cumulative Results

Locations	77
Collected	2,924
Tested	2,491



Respiratory Highlights 4 - 17 January 2015 (Surveillance Weeks 1 & 2)

- During 4 - 17 January 2015, a total of 673 specimens were collected and received from 74 locations. Results were finalized for 271 specimens from 54 locations. During Week 1, the laboratory identified 146 influenza A(H3N2), one influenza A(H3N2) & Coronavirus, six influenza A/not subtyped and four influenza B. During Week 2, 34 influenza A(H3N2), 22 influenza A/not subtyped and two influenza B were identified. See Table 1 below for results of other respiratory viruses identified during Weeks 1 & 2.
- On 16 January 2015, the CDC released early estimates of seasonal influenza vaccine effectiveness for the United States. The effectiveness of the current season's vaccine was estimated at 23%, with statistically significant results seen only in individuals aged six months-17 years (26% effectiveness). ([CDC MMWR](#), cited 20 January 2015).

Influenza A	1,007
A(H1N1)pdm09	1
A(H3N2)	968
A & Parainfluenza	1
A/not subtyped	36
A(H3N2) & Coronavirus	1
Influenza B	43
B/Unknown or pending lineage	33
B & Rhino/Enterovirus	1
B/Victoria	1
B/Yamagata	8

Other Respiratory Pathogens	392
Adenovirus	37
<i>Bordetella Pertussis</i>	0
<i>Chlamydia pneumoniae</i>	0
Coronavirus	24
Human Metapneumovirus	8
<i>Mycoplasma pneumoniae</i>	21
Parainfluenza	83
RSV	51
Rhino/Enterovirus	127
Non-influenza Co-infections	41

Lab data are current as of 19 January 2015. Results are preliminary and may change as more results are received.

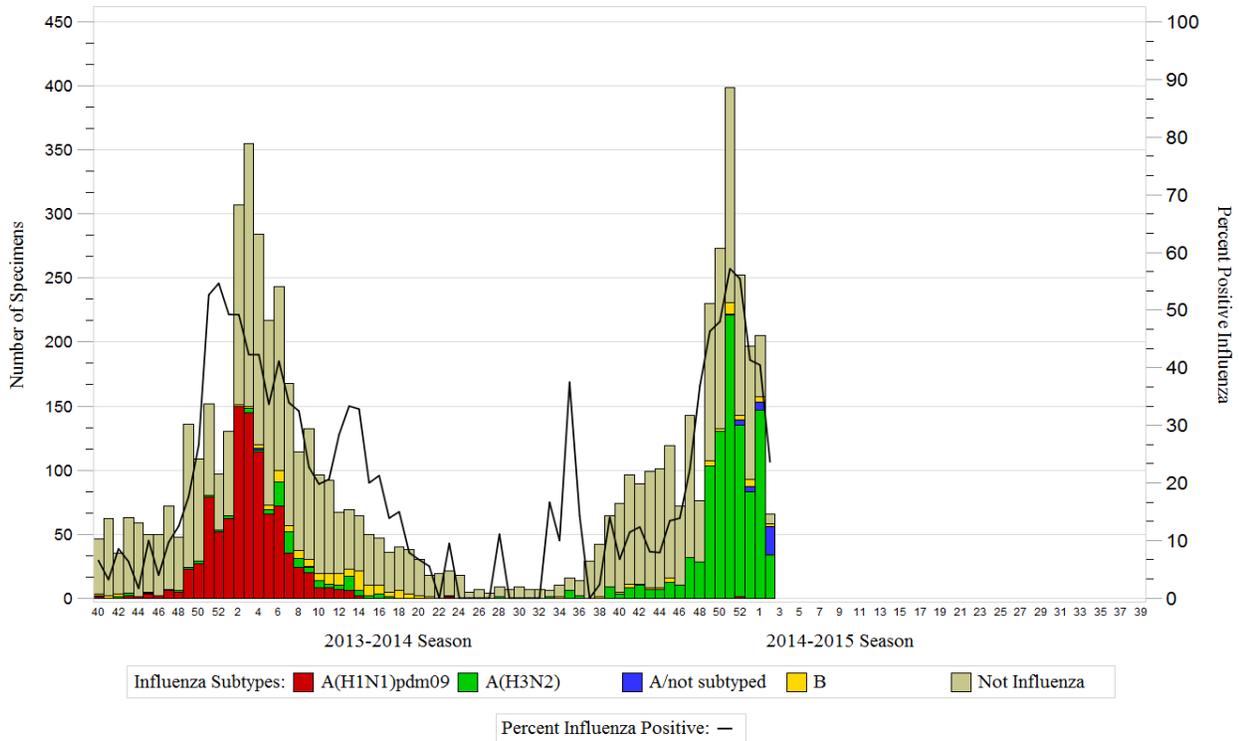
Table 1. Results by region and location for specimens collected and finalized during Weeks 1 & 2

Region*	Country 2, Location A	A(H1N2)	A/not subtyped	A(H3N2) & Corona	B	Adenovirus	Parainfluenza	RSV	Rhino/Enterovirus	No Pathogen	Total
Deployed	Country 2, Location A	4	1	3	-	-	-	-	-	-	8
PACOM	CEA Okinawa, Japan	1	-	-	-	-	-	-	-	-	1
	JR Marianas - Andersen AFB, Guam	-	1	-	-	-	-	-	-	-	1
	Kunsan AB, South Korea	1	-	-	-	-	-	-	-	-	1
	Miyama AB, Japan	-	2	-	-	-	-	-	-	-	2
	Osan AB, South Korea	1	-	-	-	-	-	-	-	-	1
	Tripler AMC, HI	4	-	-	-	-	-	-	-	-	4
	Yokota AB, Japan	8	-	-	-	-	-	-	-	-	8
Region 1	Hanscom AFB, MA	4	-	-	-	-	-	1	-	-	2
	NHCNE Newport, RI	2	1	-	-	-	-	-	-	-	3
	USCG Academy, CT	-	-	-	-	-	-	-	-	-	2
Region 2	Ft Drum, NY	2	1	-	-	-	-	2	-	-	5
	JB McGuire-Dix-Lakehurst, NJ	7	6	1	-	-	-	1	2	17	
	USMA - West Point, NY	12	2	-	-	-	1	-	5	20	
Region 3	JB Anacostia-Bolling, DC	-	1	-	-	-	-	-	-	-	1
	JB Andrews, MD	1	-	-	-	-	-	-	-	-	1
Region 4	CGS Mobile, AL	3	-	-	-	-	-	-	-	-	3
	Columbus AFB, MS	2	-	-	-	-	-	-	-	-	2
	Eglin AFB, FL	1	-	-	-	-	-	-	-	-	1
	Ft Bragg, NC	6	1	-	-	1	-	-	-	-	4
	Ft Campbell, KY	4	-	1	1	-	-	-	-	-	3
	Hurlburt Field, FL	1	-	-	-	-	-	-	-	-	1
	JB Charleston (AF), SC	-	1	-	-	-	-	-	-	-	1
	Maxwell AFB, AL	3	-	1	-	-	-	-	-	-	1
	Moody AFB, GA	7	-	-	-	-	-	2	-	-	9
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	1
	Robins AFB, GA	5	-	-	-	-	-	-	-	-	2
	Seymour Johnson AFB, NC	3	-	-	1	-	-	-	-	-	4
	Shaw AFB, SC	1	-	-	-	-	-	-	-	-	1
	USCG Base Elizabeth City, NC	1	-	-	-	-	-	-	-	-	1
Region 5	Scott AFB, IL	-	-	-	-	-	-	-	-	-	1
Region 6	Altus AFB, OK	1	-	-	-	-	-	1	-	-	2
	Barksdale AFB, LA	-	-	-	-	-	-	-	-	-	1
	Laughlin AFB, TX	-	-	-	-	-	-	-	-	-	1
	Little Rock AFB, AR	1	1	-	-	-	-	-	-	-	2
	Sheppard AFB, TX	9	-	-	1	-	-	-	-	-	2
	Tinker AFB, OK	13	3	-	-	-	-	-	-	-	16
Region 7	McConnell AFB, KS	4	-	-	-	-	-	-	3	-	7
	Offutt AFB, NE	7	-	-	-	-	-	-	-	-	7
Region 8	Ellsworth AFB, SD	7	-	-	-	-	-	1	-	-	8
	FE Warren AFB, WY	9	2	-	-	-	-	2	-	-	13
	Hill AFB, UT	5	-	-	-	-	-	-	-	-	5
	Malmstrom AFB, MT	-	-	-	-	-	-	1	-	-	1
	Minot AFB, ND	2	-	-	-	-	-	1	-	-	3
	Peterson AFB, CO	2	2	-	-	-	-	-	-	-	4
	USAF Academy, CO	3	1	-	-	-	-	-	-	-	4
Region 9	Davis-Monthan AFB, AZ	4	-	-	-	-	-	-	-	-	1
	Edwards AFB, CA	4	-	-	-	-	-	1	-	-	5
	Luke AFB, AZ	1	1	-	-	-	-	-	-	-	2
	Travis AFB, CA	5	-	-	-	-	-	1	-	-	3
	USCG Island Alameda, CA	2	-	-	-	-	-	-	-	-	2
Region 10	Fairchild AFB, WA	-	1	-	-	-	-	-	-	-	1
	Mt Home AFB, ID	1	-	-	-	-	-	-	-	-	1
	NH Bremerton, WA	16	-	1	-	-	-	1	-	-	19
Total		180	28	1	6	3	8	8	1	36	271

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

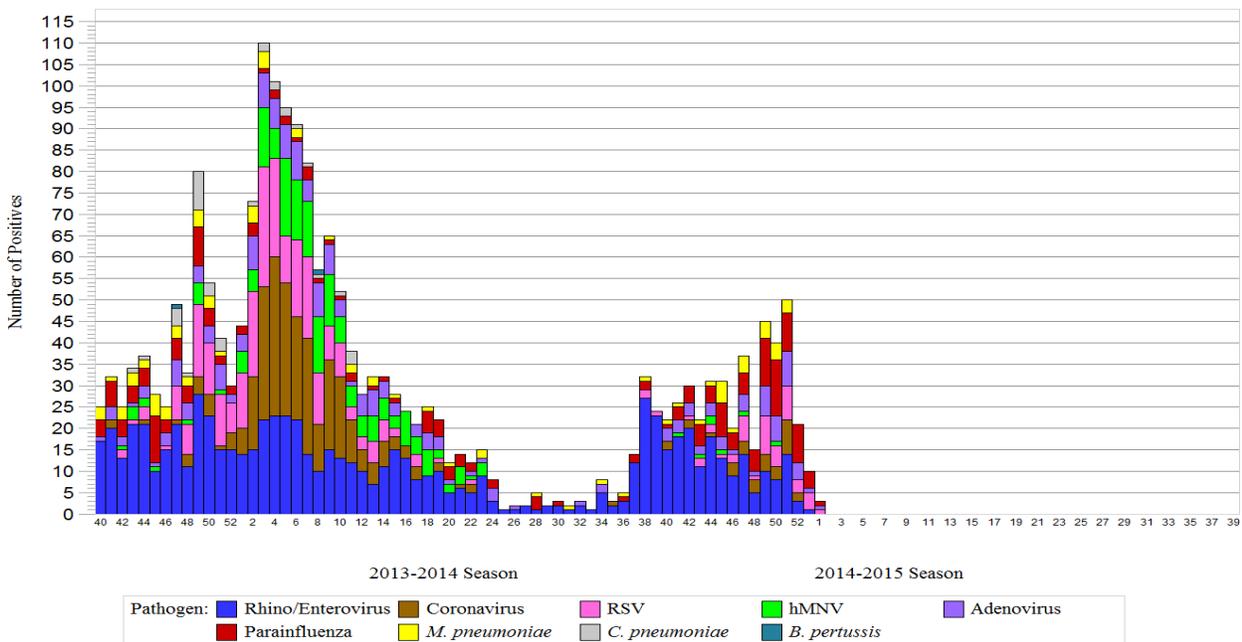
Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2013-2014 surveillance year and through Week 2 of the 2014-2015 surveillance year



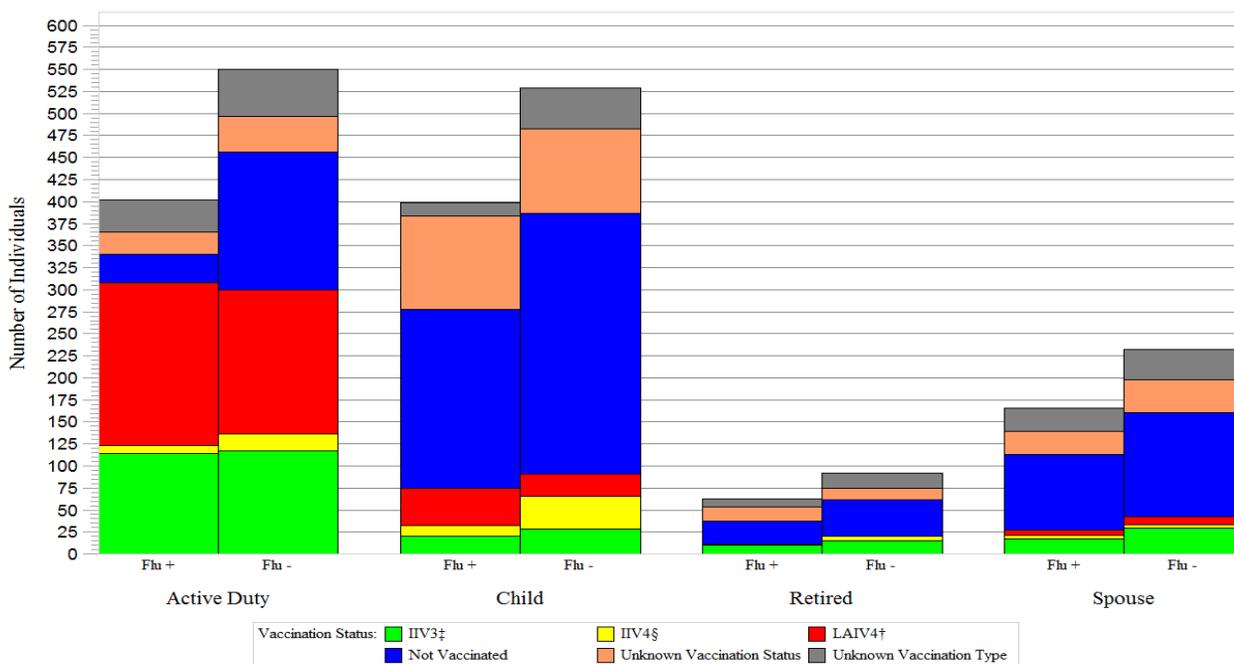
Note: One specimen positive for influenza A(H3N2)v has been excluded from the graph during the 2013-2014 season.

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



‡ Influenza, inactivated vaccine (trivalent)
 § Influenza, inactivated vaccine (quadrivalent)
 † Live, attenuated influenza vaccine (quadrivalent)

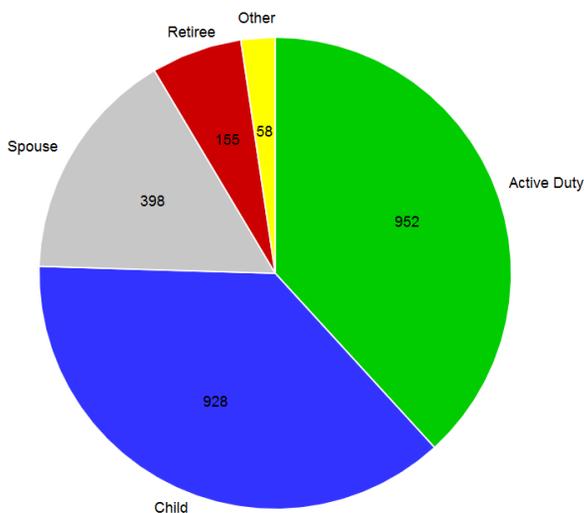
Table 2. ILI by age group for the 2014-2015 surveillance year through Week 2

Age Group	Frequency	Percent
0-5	486	19.51
6-9	194	7.79
10-17	249	10.00
18-24	351	14.09
25-44	881	35.37
45-64	261	10.48
65+	66	2.65
Unknown	3	0.12

Demographic Summary

Of 2,491 ILI cases, 952 are service members (38.2%), 928 are children (37.3%), 398 (16.0%) are spouses, and 213 (8.5%) are retirees & other beneficiaries. There are no unknown beneficiary types. The median age of ILI cases with known age (n=2,488) is 24.5 (range 0, 94) and 929 (37.3%) 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 2



Laboratory Results—Through Current Surveillance Week 2

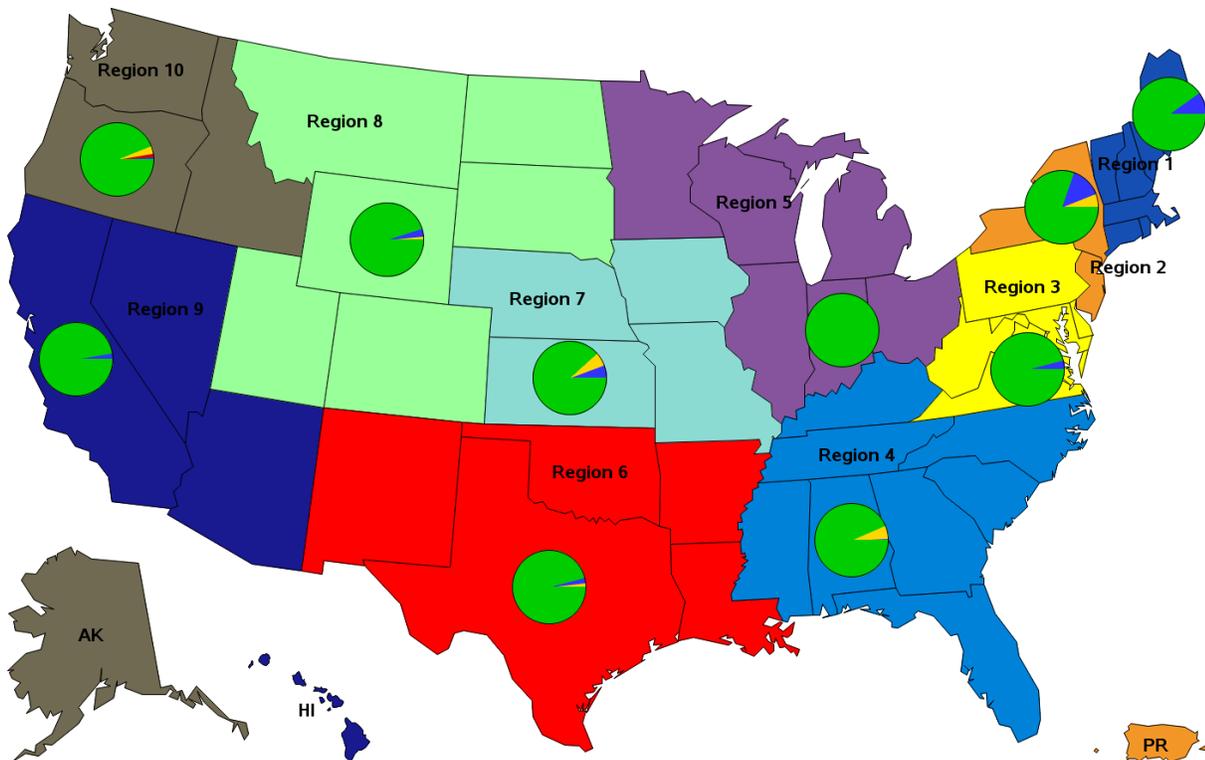
Table 3. Cumulative results by region and location for specimens collected during the 2014-2015 surveillance year

Region*		A(H1N1)pdm09	A(H3N2)	A/Not subtyped	A/Not subtyped & Para	A(H3N2) & Corona	B	B/Victoria	B/Yanagata	B & Rhino/Entero	Adenovirus	Coronavirus	hMPV	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Co-Infection	No Pathogen	Total			
Deployed	Country 1, Location B	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	61		
	Country 2, Location A	-	29	6	-	-	3	-	-	-	-	-	-	-	-	-	-	1	-	-	11	50	
PACOM	CFA Okinawa, Japan	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	15	20	
	Eielson AFB, AK	-	3	-	-	-	1	-	-	-	2	-	-	-	-	-	-	1	-	-	5	12	
	JB Elmendorf-Richardson, AK	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12	
	JR Marianas - Andersen AFB, Guam	-	9	1	-	-	1	-	4	-	1	-	3	-	1	2	4	1	-	-	16	43	
	Kadena AB, Japan	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	3	
	Kunsan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	
	Misawa AB, Japan	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	3	8	
	Osan AB, South Korea	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	
	Tripler AMC, HI	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
	Yokota AB, Japan	-	18	-	-	-	1	-	-	-	2	-	-	-	-	1	-	-	-	-	1	8	31
Region 1	Hanscom AFB, MA	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	8	15	
	NHCNE Newport, RI	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	8	14	14	
	USCG Academy, CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	5	7	
Region 2	Ft Drum, NY	-	17	1	-	-	4	-	-	1	1	-	1	2	2	9	5	-	-	27	70		
	JB McGuire-Dix-Lakehurst, NJ	-	16	6	-	1	-	-	-	-	-	-	-	-	-	-	-	3	-	6	32		
	USMA - West Point, NY	-	19	2	-	-	-	-	-	-	4	-	3	2	1	6	2	43	-	-	82	82	
Region 3	CG Base Portsmouth, VA	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	
	Dover AFB, DE	-	9	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	12	
	JB Anacostia-Bolling, DC	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
	JB Andrews, MD	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	3	7	
	JB Langley-Eustis, VA	-	6	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	8	17	
	NCRM - Ft Belvoir CH, VA	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	4	1	4	11	11	
	NCRM - Walter Reed NMMC, MD	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	NMC Portsmouth, VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	Region 4	CGS Mobile, AL	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	11
		Columbus AFB, MS	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	17
Eglin AFB, FL		-	7	-	-	-	3	-	-	-	-	-	-	-	1	-	2	1	1	24	39		
Ft Bragg, NC		-	26	1	-	-	-	-	-	1	2	1	-	4	7	-	-	-	-	-	22	64	
Ft Campbell, KY		-	18	-	-	-	2	-	-	1	-	-	-	4	1	3	-	-	-	-	14	43	
Hurlburt Field, FL		-	15	-	-	-	-	-	-	1	-	-	-	1	-	1	3	1	13	-	35	35	
JB Charleston (AF), SC		-	6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	8	
JB Charleston (Navy), SC		-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	1	4	
Keesler AFB, MS		-	6	-	-	-	1	-	-	2	-	-	-	-	-	1	1	2	12	-	25	25	
MacDill AFB, FL		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	
Maxwell AFB, AL		-	28	-	-	-	4	-	-	-	-	-	-	-	1	1	4	-	-	-	33	71	
Moody AFB, GA		-	74	-	-	-	3	1	1	-	3	6	1	1	6	3	9	2	29	-	139	139	
NH Beaufort, SC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	3	7	7	
NH Camp Lejeune, NC		-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	8	-	69	69	
NH Jacksonville, FL		-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	4	1	-	-	8	
Robins AFB, GA		-	29	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	19	50	
Seymour Johnson AFB, NC		-	13	-	-	-	-	-	-	1	-	-	-	-	-	1	1	4	-	-	8	28	
Shaw AFB, SC		-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	7	12	
Tyndall AFB, FL		-	12	-	-	-	-	3	-	1	-	-	-	-	-	-	-	1	-	-	1	9	27
USCG Base Elizabeth City, NC		-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Region 5	Scott AFB, IL	-	23	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	17	44	
	Wright-Patterson AFB, OH	-	8	-	-	-	-	-	-	1	-	-	-	-	-	2	5	-	-	-	27	43	
Region 6	Altus AFB, OK	-	4	-	-	-	-	-	1	2	1	-	-	-	1	2	2	12	-	25	25		
	Barksdale AFB, LA	-	9	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	4	15	
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3		
	Holloman AFB, NM	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	Laughlin AFB, TX	-	4	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	2	8	17
	Little Rock AFB, AR	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	24	
	Sheppard AFB, TX	-	61	-	-	-	-	-	-	2	3	-	1	1	2	1	4	3	-	-	57	112	
	Tinker AFB, OK	-	75	3	-	-	1	-	-	1	2	-	1	5	1	5	-	-	-	-	60	154	
	USCG New Orleans, LA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	Region 7	McConnell AFB, KS	-	7	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	9	18
Offutt AFB, NE		-	39	2	-	-	3	-	-	-	1	-	-	2	8	-	8	-	-	-	86	149	
Region 8	Buckley AFB, CO	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	7	10	
	Ellsworth AFB, SD	-	12	-	-	-	1	-	-	1	-	-	1	4	-	2	-	-	-	-	8	29	
	EE Warren AFB, WY	-	23	2	-	-	-	-	-	1	-	-	-	-	8	-	1	-	-	-	13	48	
	Hill AFB, UT	-	29	-	-	-	1	-	-	-	-	-	-	-	3	1	3	-	-	-	11	48	
	Malmstrom AFB, MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	Minot AFB, ND	-	5	-	-	-	-	-	-	-	-	-	3	2	1	1	-	-	-	-	4	16	
	Peterson AFB, CO	-	48	2	-	-	-	-	-	-	-	-	1	2	1	3	1	23	-	-	81	81	
	USAF Academy, CO	-	20	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	9	32	
	Region 9	Davis-Monthan AFB, AZ	-	5	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	18	25
		Edwards AFB, CA	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	11
Luke AFB, AZ		-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	7	
Nellis AFB, NV		-	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	5	11	
Travis AFB, CA		-	16	-	-	-	-	-	-	1	-	-	1	10	4	6	1	83	-	-	122	122	
USCG Island Alameda, CA		-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Region 10	Fairchild AFB, WA	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	
	Mt Home AFB, ID	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	7	
	NH Bremerton, WA	1	64	-	-	-	2	-	-	4	-	1	1	9	12	11	6	127	-	-	238	238	
Total		1	968	36	1	1	33	1	8	1	37	24	8	21	83	51	127	41	1049	2491	2491		

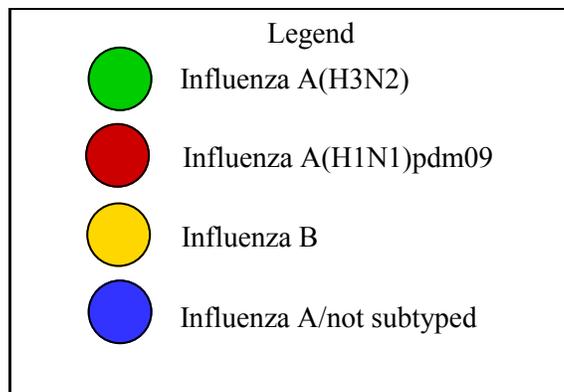
*US Regions are based on Health & Human Services regions. Other locations are defined by COCOM.

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

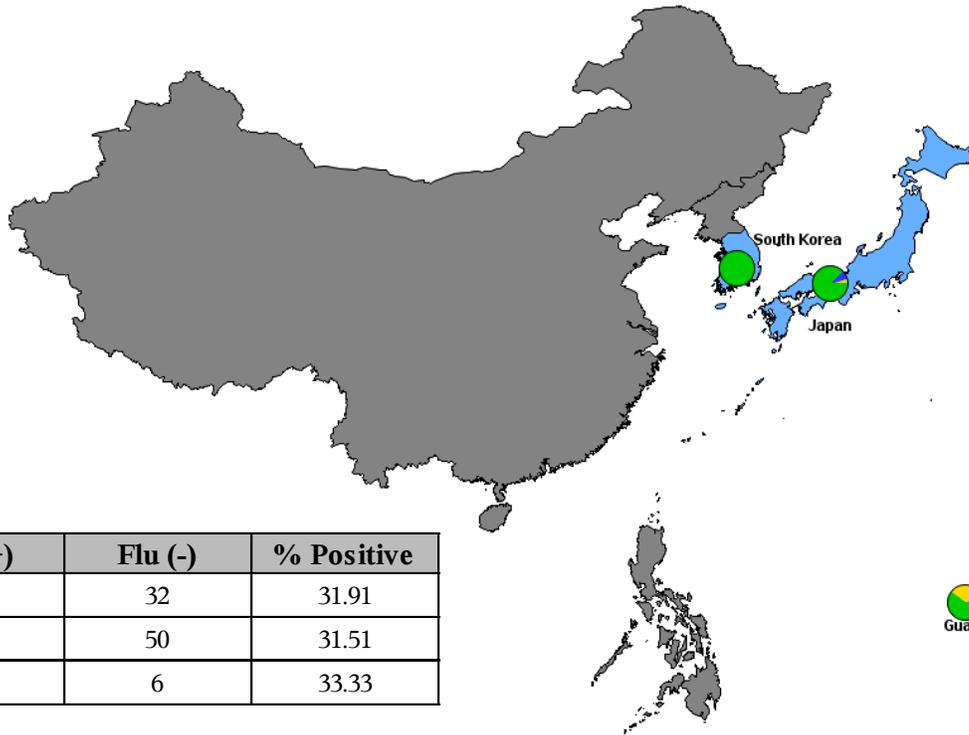


Region	Flu (+)	Flu (-)	% Positive
Region 1	10	41	19.61
Region 2	66	150	30.56
Region 3	24	36	40.00
Region 4	335	408	45.09
Region 5	31	65	32.29
Region 6	166	245	40.39
Region 7	52	148	26.00
Region 8	146	165	46.95
Region 9	40	189	17.47
Region 10	82	232	26.11



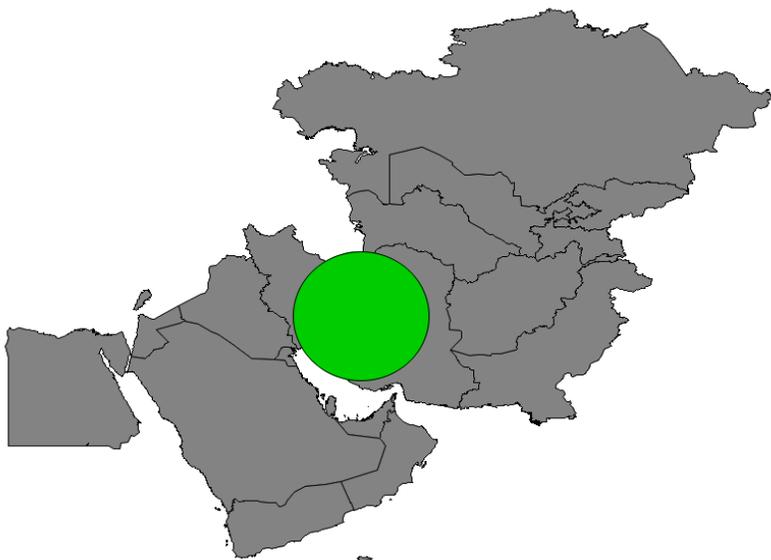
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Map 2. Percentage of influenza positives by region for the 2014-2015 surveillance year through Week 2 (Pacific)



Country	Flu (+)	Flu (-)	% Positive
Guam	15	32	31.91
Japan	23	50	31.51
South Korea	3	6	33.33

Map 3. Percentage of influenza positives by region for the 2014-2015 surveillance year through Week 2 (CENTCOM)



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

Country	Flu (+)	Flu (-)	% Positive
Country 1	19	50	27.54
Country 2	38	28	57.58
Country 6	2	13	13.33

Legend

- Influenza A(H3N2)
- Influenza A(H1N1)pdm09
- Influenza B
- Influenza A/not subtyped

Countries marked in blue contain sentinel sites

DoD Global Laboratory-Based Influenza Surveillance Program

USAF School of Aerospace Medicine

2014 - 2015

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



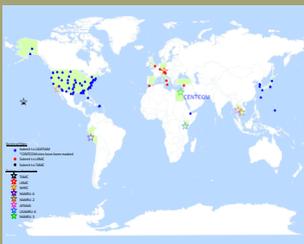
USAF School of Aerospace Medicine

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)

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.



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