

DoD Global, Laboratory-Based, Influenza Surveillance Program

USAF School of Aerospace Medicine 2014 - 2015

Cumulative Results	
	Season
Locations	57
Collected	386
Tested	337



Respiratory Highlights 19 October - 1 November 2014 (Surveillance Week 43 & 44)

- During 19 October to 1 November 2014, a total of 159 specimens were collected and received from 40 locations. Results were finalized for 111 specimens from 33 locations. During Week 43, seven influenza A(H3N2) and one influenza B were identified. During Week 44, one influenza A/not subtyped and one influenza A(H3N2) were identified. See Table 1 below for results of other respiratory viruses.
- As of 13 November 2014, USAFSAM received 85 specimens from 15 bases requesting EV-D68 testing. Fifty-three specimens tested positive for Rhinovirus/Enterovirus on multiplex PCR. Results are available from 30/33 specimens submitted to the CDC for EV-D68 testing. Of these 30 specimens, 12 tested positive for EV-D68 (seven from JB Langley-Eustis and one from each location: Keesler AFB, JB Andrews, NCRM Ft. Belvoir, and NH Camp Lejeune). USAFSAM will forward all specimens to the CDC that come in with an EV-D68 concern and test positive for Rhinovirus/Enterovirus on multiplex PCR.

Influenza A	20
A(H1N1)pdm09	0
A(H3N2)	19
A/not subtyped	1
Influenza B	7
B/Unknown or pending lineage	6
B & Rhinovirus/Enterovirus	1
B/Victoria	0
B/Yamagata	0

Other Respiratory Pathogens	102
Adenovirus	6
<i>Bordetella Pertussis</i>	0
<i>Chlamydomydia pneumoniae</i>	0
Coronavirus	2
Human Metapneumovirus	2
<i>Mycoplasma pneumoniae</i>	2
Parainfluenza	14
RSV	3
Rhino/Enterovirus	63
Non-influenza Co-infections	10

Lab data are current as of 3 November 2014. Results are preliminary and may change as more results are received.

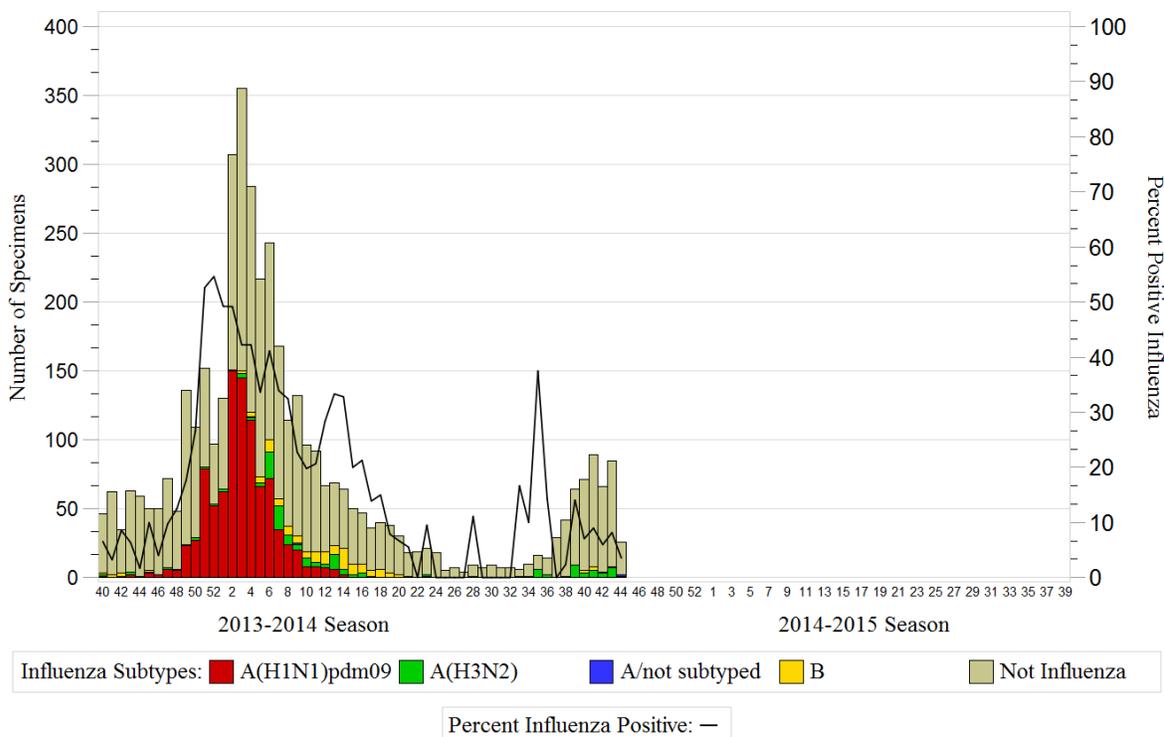
Table 1. Results by region and location for specimens collected and finalized during Week 43 & 44

Region*	Location	A(H3N2)	A/not subtyped	B	Adenovirus	hMNV	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & Rhino/Entero	Corona & RSV	M. pneumoniae & Rhino/Entero	No Pathogen	Total
PACOM	CFA Okinawa, Japan	-	-	-	-	-	-	-	-	-	-	-	-	5	5
	JR Marianas - Andersen AFB, Guam	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Region 1	NHCNE Newport, RI	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 2	Ft Drum, NY	-	-	-	-	1	1	-	1	1	-	-	-	4	8
	USMA - West Point, NY	-	-	-	-	-	1	-	2	-	-	-	-	6	9
Region 3	NCRM - Ft Belvoir CH, VA	-	-	-	-	-	-	-	-	-	-	1	-	2	3
Region 4	Ft Campbell, KY	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	Hurlburt Field, FL	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	JB Charleston (Navy), SC	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Maxwell AFB, AL	2	-	-	-	-	-	-	-	-	-	-	-	5	7
	Moody AFB, GA	1	-	-	1	1	-	-	2	-	-	-	-	1	6
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	NH Jacksonville, FL	-	-	-	-	-	-	-	1	-	-	1	-	-	2
Region 5	Seymour Johnson AFB, NC	1	-	-	-	-	-	3	-	-	-	-	-	4	4
	Tyndall AFB, FL	1	1	1	-	-	-	-	-	-	-	-	-	2	5
	Scott AFB, IL	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 6	Wright-Patterson AFB, OH	-	-	-	-	-	-	1	-	-	-	-	-	-	1
	Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 7	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Laughlin AFB, TX	-	-	-	1	-	-	-	-	-	-	-	-	3	4
	Little Rock AFB, AR	1	-	-	-	-	-	-	-	-	-	-	-	2	3
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Tinker AFB, OK	-	-	-	-	-	-	-	2	-	-	-	-	4	6
Region 8	Offutt AFB, NE	-	-	-	-	-	2	-	1	-	-	-	-	3	6
Region 9	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	FE Warren AFB, WY	-	-	-	-	-	-	-	-	-	-	-	-	6	6
	Hill AFB, UT	-	-	-	-	-	-	2	-	-	-	-	-	-	2
	Peterson AFB, CO	-	-	-	-	-	1	-	3	-	-	-	-	2	6
Region 10	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Edwards AFB, CA	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Travis AFB, CA	-	-	-	-	-	-	1	-	-	-	-	-	5	6
Region 10	Mt Home AFB, ID	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	NH Bremerton, WA	-	-	-	-	-	-	-	2	-	-	-	-	2	4
Total		8	1	1	2	1	2	7	2	19	1	1	1	65	111

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

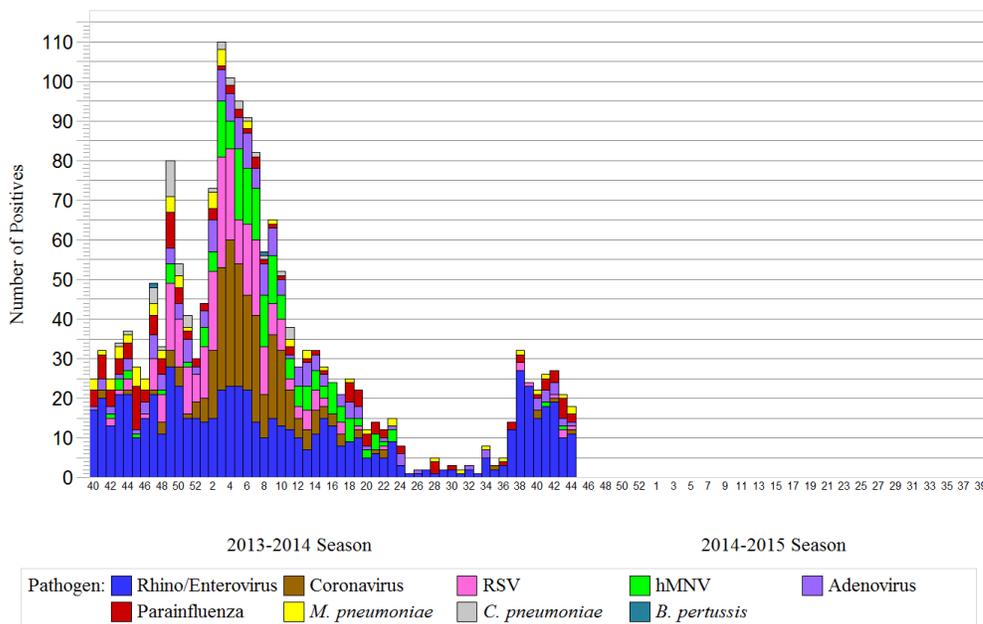
Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2013-2014 surveillance year and through Week 44 of the 2014-2015 surveillance year



Note: A(H3N2)v has been excluded from the graph

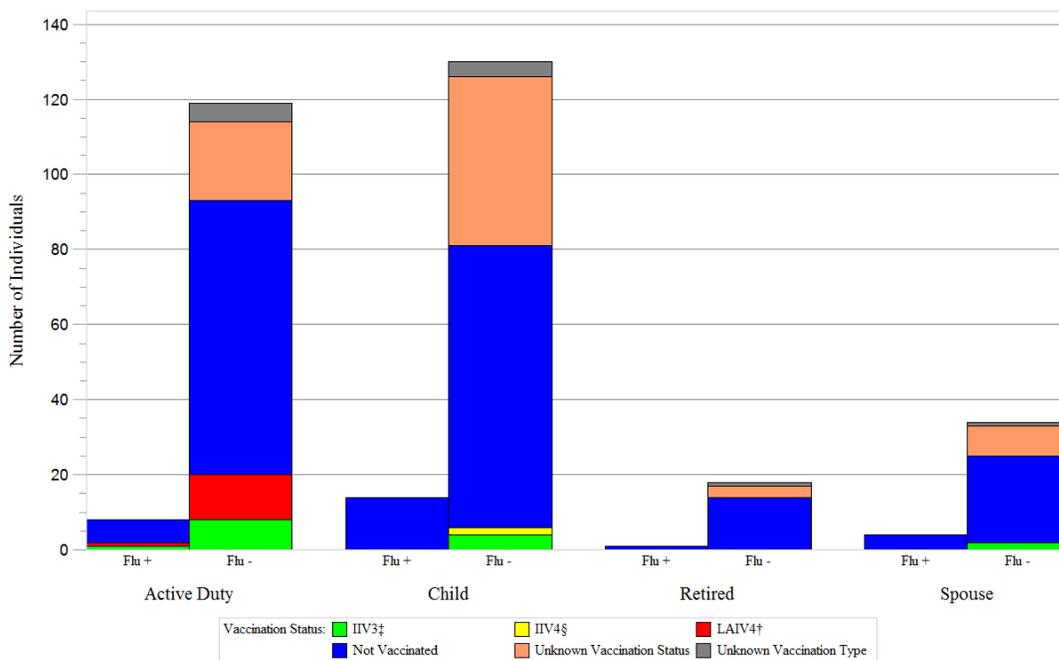
Graph 2. Other respiratory pathogen results by week: 2013-2014 surveillance year and through Week 44 of the 2014-2015 surveillance year



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

DoD Global, Laboratory-Based, Influenza Surveillance Program

Graph 3. Vaccination status by beneficiary type for the 2014-2015 surveillance year through Week 44



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

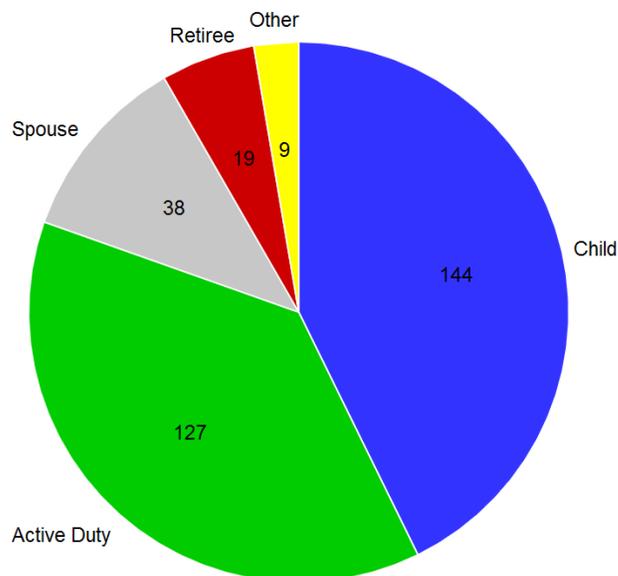
Table 2. ILI by age group for the 2014-2015 surveillance year through Week 44

Age Group	Frequency	Percent
0-5	82	24.33
6-9	35	10.39
10-18	29	8.61
19-24	54	16.02
25-44	98	29.08
45-64	30	8.90
65+	9	2.67

Demographic Summary

Of 337 ILI cases, 127 are service members (37.7%), 144 are children (42.7%), 38 (11.3%) are spouses, and 28 (8.3%) are retirees & other beneficiaries. There are no unknown beneficiary types. The median age of ILI cases with known age (n=337) is 21.0 (range 0, 84) and 146 (43.3%) of these specimens are from ILI cases 18 years of age or younger.

Graph 4. ILI by beneficiary status for the 2014-2015 surveillance year through Week 44



Laboratory Results—Through Current Surveillance Week 44

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

Region*		A(H3N2)	A/not subtyped	B	B & Rhino/Entero	Adenovirus	Coronavirus	hMPV	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Co-Infection	No Pathogen	Total	
Deployed	Country 1, Location B	-	-	-	-	-	-	-	-	-	-	-	-	4	4	
	Country 2, Location A	-	-	-	-	-	-	-	-	-	-	-	-	7	7	
PACOM	CFA Okinawa, Japan	-	-	-	-	-	-	-	-	-	-	1	-	7	8	
	Eielson AFB, AK	-	-	1	-	-	-	-	-	-	-	1	-	1	3	
	JB Elmendorf-Richardson, AK	1	-	-	-	-	-	-	-	-	-	-	-	-	2	3
	JR Marianas - Andersen AFB, Guam	7	-	3	-	-	-	1	1	1	-	1	-	3	17	
	Osan AB, South Korea	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
	NHCNE Newport, RI	-	-	-	-	-	-	-	-	-	-	1	-	3	4	
	USCG Academy, CT	-	-	-	-	-	-	-	1	-	1	-	-	2	4	
Region 2	Ft Drum, NY	-	-	1	-	1	-	-	1	2	-	5	3	15	28	
	USMA - West Point, NY	-	-	-	-	-	-	-	-	1	-	3	-	3	13	
Region 3	JB Andrews, MD	-	-	-	-	-	-	-	-	-	-	-	2	-	1	3
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	1	-	-	-	1	5	7	
	NCRM - Ft Belvoir CH, VA	-	-	-	-	1	-	-	-	-	-	4	1	3	9	
Region 4	Columbus AFB, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Eglin AFB, FL	-	-	-	-	-	-	-	-	-	-	1	-	1	6	7
	Ft Campbell, KY	-	-	-	-	-	-	-	-	-	1	1	-	2	4	
	Hurlburt Field, FL	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
	JB Charleston (Navy), SC	-	-	-	-	-	-	-	-	-	2	-	-	1	3	
	Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	-	-	3	3	
	Maxwell AFB, AL	2	-	-	-	-	-	-	-	-	2	-	-	7	11	
	Moody AFB, GA	1	-	-	1	1	1	-	-	-	3	-	-	3	10	
	NH Beaufort, SC	-	-	-	-	-	-	-	-	-	-	-	1	-	1	
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	1	-	2	3	
	NH Jacksonville, FL	1	-	-	1	-	-	-	-	-	4	1	-	7	7	
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	4	4	
	Seymour Johnson AFB, NC	1	-	-	-	-	-	-	-	-	4	-	-	4	6	
	Shaw AFB, SC	-	-	-	-	-	-	-	-	-	-	1	-	-	1	
	Tyndall AFB, FL	1	1	1	-	-	-	-	-	-	-	-	-	2	5	
	Region 5	Scott AFB, IL	1	-	-	-	-	-	-	-	-	-	-	-	1	2
Wright-Patterson AFB, OH		-	-	-	-	-	-	-	-	-	3	-	5	8		
Region 6	Altus AFB, OK	-	-	1	-	-	-	-	-	-	1	1	4	7		
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	2	2		
	Laughlin AFB, TX	-	-	-	1	-	-	-	-	-	-	-	3	4		
	Little Rock AFB, AR	1	-	-	-	-	-	-	-	-	-	-	-	4	5	
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	-	-	-	3	3		
	Tinker AFB, OK	-	-	-	-	1	-	-	1	-	2	-	15	19		
Region 7	Offutt AFB, NE	-	-	-	-	-	-	-	2	-	2	-	6	10		
Region 8	Buckley AFB, CO	-	-	-	-	-	-	-	-	-	1	-	1	2		
	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	1	-	4	5		
	FE Warren AFB, WY	-	-	-	-	-	-	-	-	-	1	-	6	7		
	Hill AFB, UT	-	-	-	-	-	-	-	2	-	1	-	3	6		
	Minot AFB, ND	-	-	-	-	-	-	-	-	-	1	-	-	1		
	Peterson AFB, CO	-	-	-	-	-	-	-	1	-	3	1	9	14		
	USAF Academy, CO	-	-	-	-	-	-	-	-	-	1	-	1	2		
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	6	6		
	Edwards AFB, CA	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Luke AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	2	2		
	Nellis AFB, NV	-	-	-	1	-	-	-	-	-	-	-	2	3		
Region 10	Travis AFB, CA	1	-	-	-	-	-	-	2	2	5	-	22	32		
	Fairchild AFB, WA	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Mt Home AFB, ID	1	-	-	-	-	-	-	-	-	-	-	-	1		
Total	NH Bremerton, WA	-	-	-	-	-	-	-	-	-	3	-	3	6		
		19	1	6	1	6	2	2	2	14	3	63	10	208	337	

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

DoD Influenza Surveillance Program Sentinel Sites—EUCOM Through Week 44 ending 1 November 2014

In cooperation and agreement with U.S. Army Public Health Command Region-Europe (PHCR-E), the DoD Global, Laboratory-based, Influenza Surveillance Program has analyzed data from surveillance sites that submit specimens to Landstuhl Regional Medical Center (LRMC), Germany. LRMC’s laboratory is the forward laboratory for military sites in Europe.

Results are presented through 1 November 2014 unless otherwise indicated.

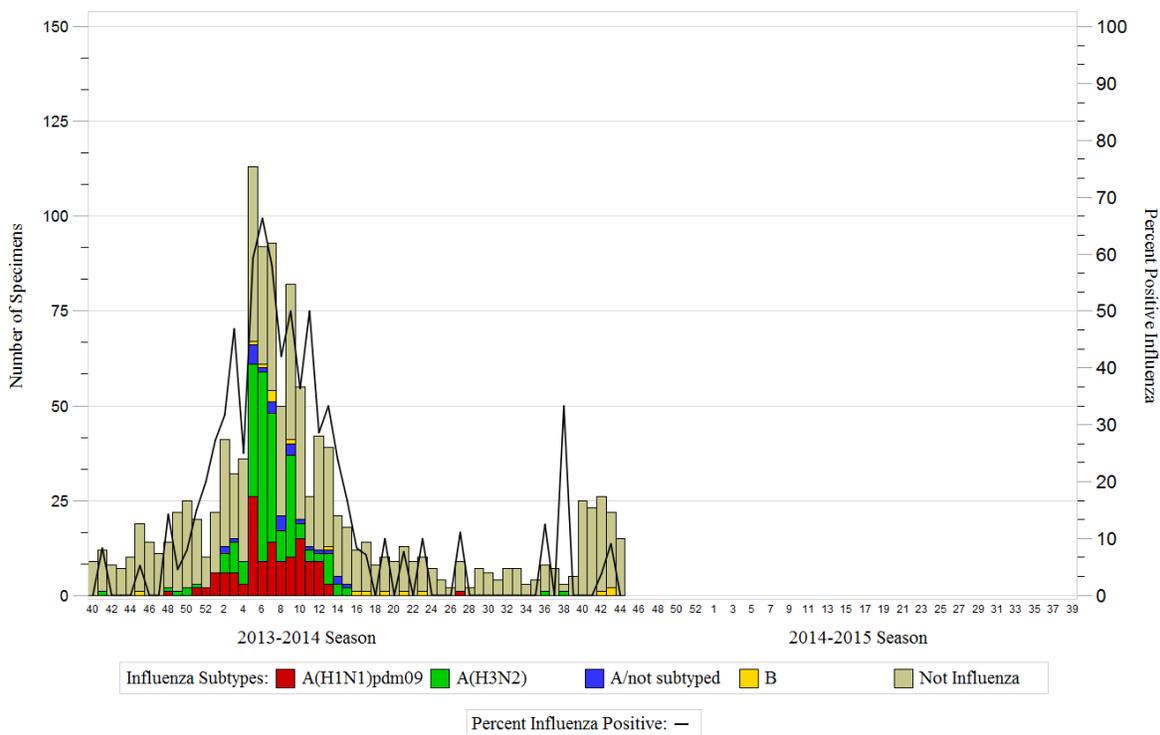
Table 1. Number of respiratory specimens by region and location, 2014-2015 influenza season Week 44, DoD sentinel surveillance sites submitting to LRMC

Region		Parainfluenza	Rhinovirus/Enterovirus	Para & Rhino/Entero	No Pathogen	Total
EUCOM	Landstuhl RMC, Germany	1	1	-	4	6
	RAF Lakenheath, England	-	-	-	3	3
	Ramstein AB, Germany	-	-	1	-	1
	USAG Stuttgart, Germany	-	1	-	-	1
	USAG Vicenza, Italy	-	1	-	3	4
Total		1	3	1	10	15

Table 2. Cumulative number of respiratory specimens by region and location, 2014-2015 influenza season, DoD sentinel surveillance sites submitting to LRMC

Region*		B	B & Rhino/Entero	Adenovirus	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & Rhino/Entero	Para & Rhino/Entero	No Pathogen	Total
Deployed	Country 6, Location A	-	-	-	-	-	1	-	-	2	3
EUCOM	Aviano AB, Italy	-	-	-	-	-	-	-	-	3	3
	Incirlik AB, Turkey	-	-	1	2	-	2	1	-	2	8
	Landstuhl RMC, Germany	-	-	-	2	-	6	2	-	13	23
	NAS Sigonella, Italy	-	-	-	-	-	1	-	-	-	1
	NSA Naples, Italy	-	-	-	-	1	3	-	-	1	5
	RAF Lakenheath, England	-	-	-	-	-	10	-	-	13	23
	Ramstein AB, Germany	-	1	-	1	-	2	-	1	5	10
	Spangdahlem AB, Germany	-	-	-	-	-	-	-	-	3	3
	USAG Grafenwoehr, Germany	2	-	-	-	-	1	-	-	2	5
	USAG Stuttgart, Germany	-	-	-	-	-	3	-	-	3	6
	USAG Vicenza, Italy	-	-	-	1	-	7	-	-	6	14
	Vilseck AHC, Germany	-	-	-	-	-	2	-	-	5	7
Total		2	1	1	6	1	38	3	1	58	111

Graph 1. Percent influenza positive by week, 2014-2015 influenza season, DoD sentinel surveillance sites submitting to LRMC



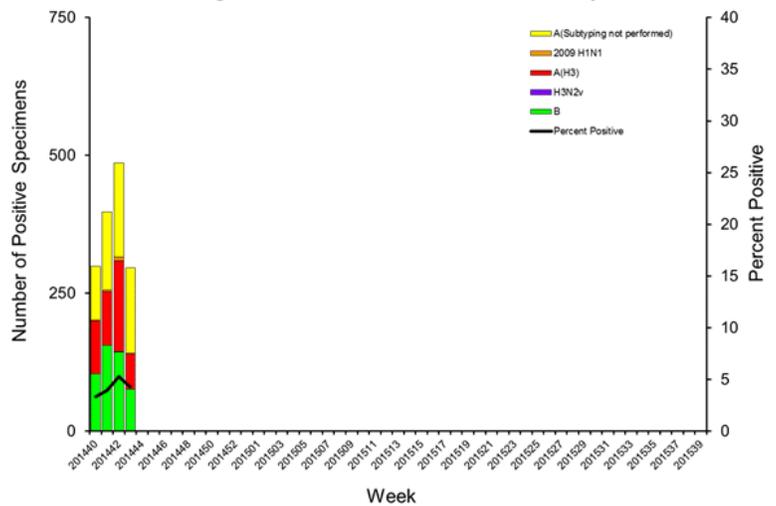
Influenza-Like Illness (ILI) Overview

CDC National Surveillance

During Week 43 (19-25 October 2014), influenza activity was low in the United States. **Viral Surveillance:** Of 7,449 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 43, 320 (4.3%) were positive for influenza.

Pneumonia and Influenza (P&I) Mortality: The proportion of deaths attributed to P&I was below the epidemic threshold. **Influenza-Associated Pediatric Deaths:** No influenza-associated pediatric deaths were reported. **Outpatient Illness Surveillance:** The proportion of outpatient visits for ILI was 1.4%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. One state experienced low ILI activity; Puerto Rico, New York City and 49 states experienced minimal ILI activity; and the District of Columbia had insufficient data. **Geographic Spread of Influenza:** The geographic spread of influenza in Guam was reported as widespread; one state reported regional activity; Puerto Rico and eight states reported local activity; the U.S. Virgin Islands and 32 states reported sporadic activity; and the District of Columbia and nine states reported no influenza activity. See the [CDC report](#) for more information (Week 43 report, cited 3 November 2014).

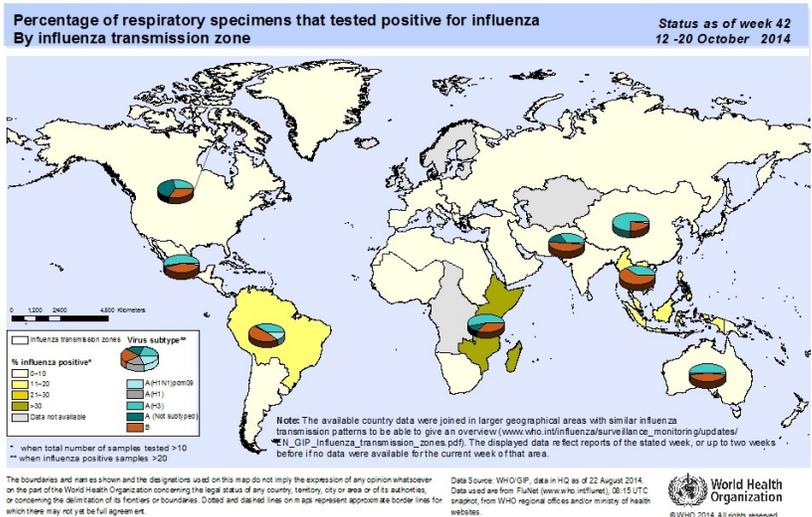
Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15



World Health Organization (WHO) Global Surveillance

Report Summary: Globally, influenza activity was low, with the exception of some Pacific Islands. In North America, influenza activity began to increase slightly but remained low. In Europe overall influenza activity remained at interseasonal levels. In tropical countries of the Americas, influenza detections decreased with RSV causing most ILI and severe acute respiratory infections. In Africa, Eastern, and Western Asia, influenza activity was low. In tropical Asia, influenza activity continued to decrease or remained low with influenza B predominant in India and Vietnam. In the Southern Hemisphere, influenza activity reached interseasonal levels except in several Pacific Islands where ILI activity remained high.

Based on FluNet reporting (as of 31 October 2014), during Weeks 41 to 42 (5-18 October 2014), National Influenza Centers (NICs) and other national influenza laboratories from 43 countries, areas or territories reported data. The WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 31,820 specimens. 1,318 were positive for influenza viruses, of which 778 (59%) were typed as influenza A and 540 (41%) as influenza B. Of the subtyped influenza A viruses, 46 (11%) were influenza A(H1N1)pdm09 and 374 (89%) were influenza A(H3N2). Of the characterized B viruses, 28 (100%) belonged to the B/Yamagata lineage and 0 (0%) to the B/Victoria lineage. Due to changes in data collection platforms, data from the WHO Regional Office for Europe are temporarily not available at the global level. Those data will be uploaded to FluNet and FluID as soon as possible. Information on European influenza activity can be found at <http://www.flunewseurope.org/>. Additional and updated information on non-seasonal influenza viruses can be found at the [WHO website](#) (3 November 2014 report, cited 3 November 2014).



DoD Global Laboratory-Based Influenza Surveillance Program



USAF School of Aerospace Medicine

2014 - 2015

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



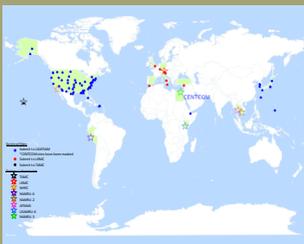
USAF School of Aerospace Medicine

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.



Distribution Statement A: Distribution is unlimited. 88ABW-2014-5266, 13 Nov 2014

Email: USAFSAM.PHRFlu@us.af.mil, <https://gumbo2.area52.afnoapps.usaf.mil/epi-consult/influenza>