

DoD Global, Laboratory-Based, Influenza Surveillance Program

USAF School of Aerospace Medicine 2014 - 2015

Cumulative Results	
Season	
Locations	51
Collected	201
Tested	169



Respiratory Highlights 5-18 October 2014 (Surveillance Week 41 & 42)

- During 5-18 October, a total of 129 specimens were collected and received from 37 locations. Results were finalized for 98 specimens from 33 locations. During Week 41, five influenza A(H3N2) and three influenza B were identified. During Week 42, one influenza A/not subtyped was identified. See Table 1 below for results of other respiratory viruses.
- The CDC has developed a faster confirmatory test for enterovirus D68 (EV-D68), a pathogen associated with a nationwide outbreak of severe respiratory illness. Accelerated testing will cause an increase in the number of confirmed cases, but this should not be interpreted as a real-time change or worsening of the outbreak. To date, CDC or state public health laboratories have confirmed a total of 938 people in 46 states and the District of Columbia with respiratory illness caused by EV-D68. The CDC expects EV-D68 infections will likely begin to decline by late fall. For more information or to view states with confirmed cases [click here](#) (cited from www.cdc.gov on 21 October 2014).

Influenza A	9
A(H1N1)pdm09	0
A(H3N2)	8
A/not subtyped	1
Influenza B	5
B/Unknown or pending lineage	4
B & Rhinovirus/Enterovirus	1
B/Victoria	0
B/Yamagata	0

Other Respiratory Pathogens	56
Adenovirus	4
<i>Bordetella Pertussis</i>	0
<i>Chlamydomydia pneumoniae</i>	0
Coronavirus	1
Human Metapneumovirus	0
<i>Mycoplasma pneumoniae</i>	1
Parainfluenza	6
RSV	1
Rhino/Enterovirus	37
Non-influenza Co-infections	6

Lab data are current as of 20 October 2014. Results are preliminary and may change as more results are received.

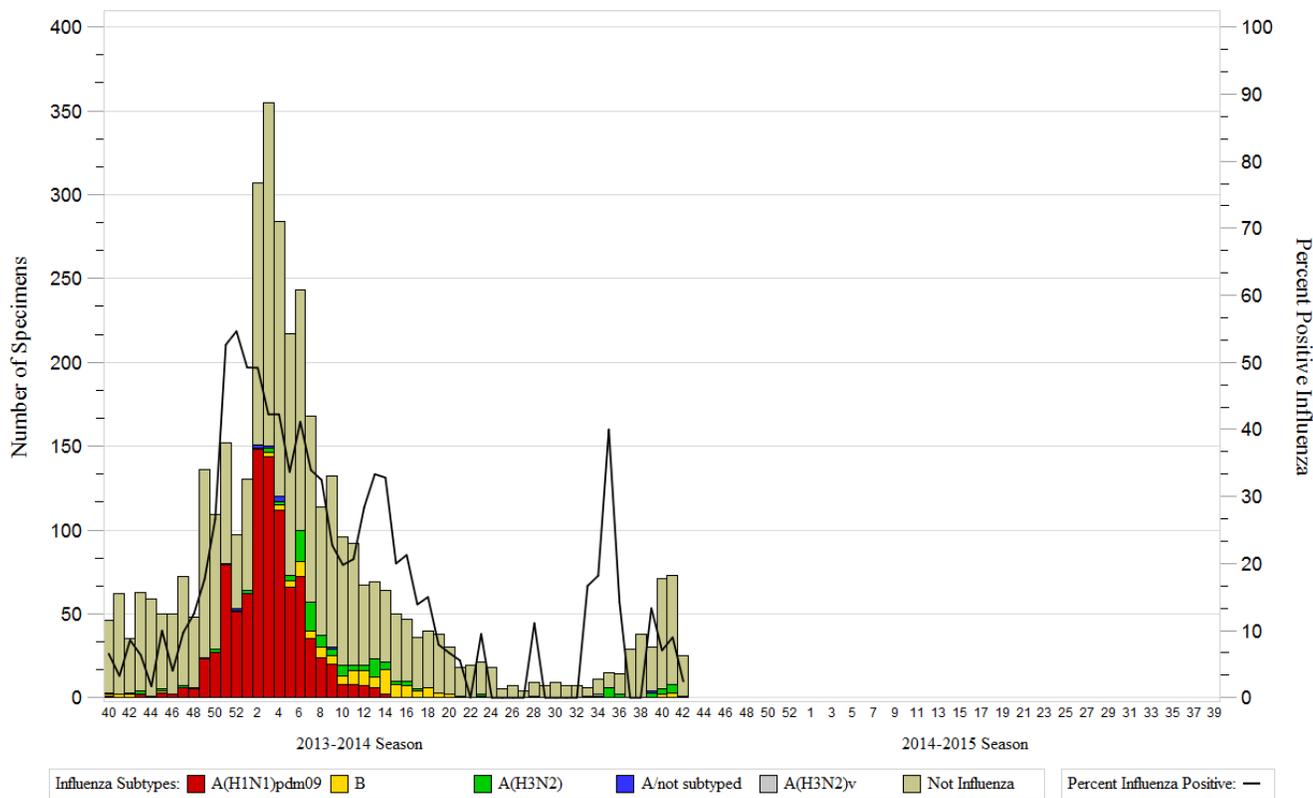
Table 1. Results by region and location for specimens collected and finalized during Week 41 & 42

Region*		A(H3N2)	A/not subtyped	B	Adenovirus	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & Rhino/Enterovirus	M. pneumoniae & Rhino/Enterovirus	No Pathogen	Total
PACOM	JR Marianas - Andersen AFB, Guam	3	2	-	1	1	-	-	-	-	-	1	8
	Osan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	2
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	1	-	1
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	-	-	-	1
	NHCNE Newport, RI	-	-	-	-	-	-	-	1	-	-	-	2
	USCG Academy, CT	-	-	-	-	1	-	1	-	-	-	-	2
Region 2	Ft Drum, NY	-	1	1	-	-	-	3	1	-	-	-	6
	USMA - West Point, NY	-	-	-	-	-	-	-	-	-	-	-	4
Region 3	JB Andrews, MD	-	-	-	-	-	-	2	-	-	-	-	2
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	-	-	-	-	1
	NCRM - Walter Reed NMMC, MD	-	-	1	-	-	-	3	-	-	-	-	4
Region 4	Columbus AFB, MS	-	-	-	-	-	-	-	-	-	-	-	2
	Eglin AFB, FL	-	-	-	-	-	-	1	-	-	-	-	3
	Ft Campbell, KY	-	-	-	-	-	-	1	-	-	-	-	1
	JB Charleston (Navy), SC	-	-	-	-	-	-	2	-	-	-	-	2
	MacDill AFB, FL	-	-	-	-	-	-	-	1	-	-	-	2
	Maxwell AFB, AL	-	-	-	-	-	-	1	-	-	-	-	2
	NH Jacksonville, FL	1	-	1	-	-	-	2	-	-	-	-	4
Seymour Johnson AFB, NC	-	-	-	-	-	-	1	-	-	-	-	1	
Region 5	Wright-Patterson AFB, OH	-	-	-	-	-	-	2	-	-	-	-	3
Region 6	Altus AFB, OK	-	-	-	-	-	-	1	-	-	-	-	2
	Tinker AFB, OK	-	-	-	-	-	1	-	-	-	-	-	6
Region 7	Offutt AFB, NE	-	-	-	-	-	-	-	-	-	-	-	1
Region 8	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	-	-	1
	EE Warren AFB, WY	-	-	-	-	-	-	1	-	-	-	-	1
	Hill AFB, UT	-	-	-	-	-	-	1	-	-	-	-	2
	Minot AFB, ND	-	-	-	-	-	-	1	-	-	-	-	1
	Peterson AFB, CO	-	-	-	-	-	-	-	1	-	-	-	4
	USAF Academy, CO	-	-	-	-	-	-	-	-	-	-	-	1
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	1
	Luke AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	1
	Nellis AFB, NV	-	-	1	-	-	-	-	-	-	-	-	1
	Travis AFB, CA	1	-	-	2	1	3	-	-	-	-	-	8
													15
Total		5	1	3	4	1	5	1	27	1	1	49	98

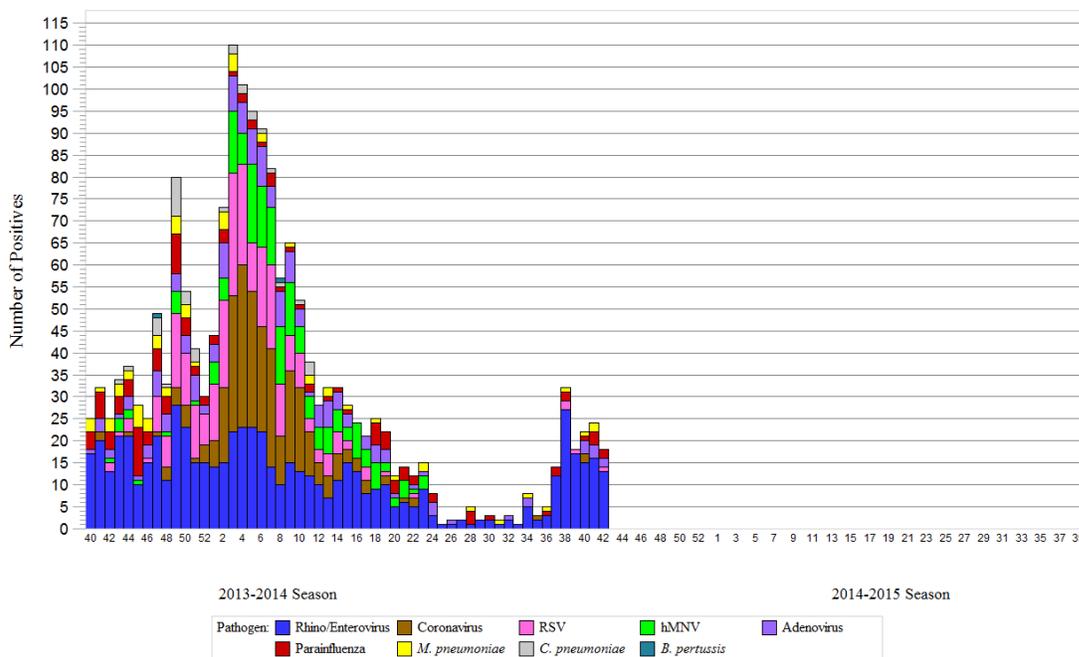
*US Regions are based on Health & Human Services regions. Other locations are defined by COCOM.

Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2013-2014 surveillance year and through Week 42 of the 2014-2015 surveillance year

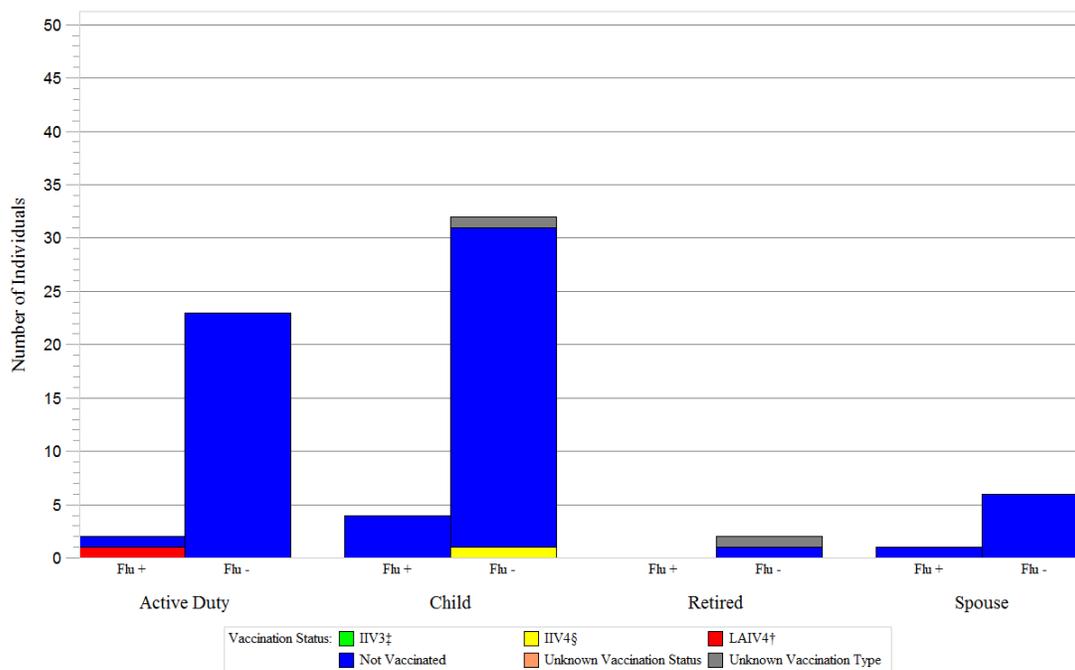


Graph 2. Other respiratory pathogen results by week: 2013-2014 surveillance year and through Week 42 of the 2014-2015 surveillance year



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 41*



‡ Influenza, inactivated vaccine (trivalent)

§ Influenza, inactivated vaccine (quadrivalent)

† Live, attenuated influenza vaccine (quadrivalent)

* Graph does not include vaccination status data for Week 42

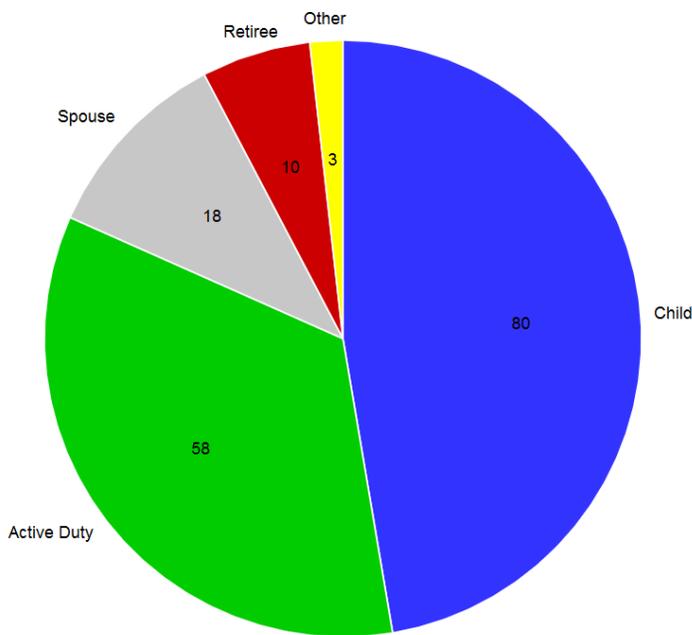
Table 2. ILI by age group for the 2014-2015 surveillance year through Week 42

Age Group	Frequency	Percent
0-5	47	27.81
6-9	18	10.65
10-18	16	9.47
19-24	25	14.79
25-44	42	24.85
45-64	14	8.28
65+	7	4.14

Demographic Summary

Of 169 ILI cases, 58 are service members (34.3%), 80 are children (47.3%), 18 (10.7%) are spouses, and 13 (7.7%) are retirees & other beneficiaries. There are no unknown beneficiary types. The median age of ILI cases with known age (n=169) is 19.0 (range 0, 84) and 81 (47.9%) 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 42



Laboratory Results—Through Current Surveillance Week 42

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/Enterovirus	Adenovirus	Coronavirus	<i>M. pneumoniae</i>	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Co-Infection **	No Pathogen	Total
Deployed	Country 1, Location B	-	-	-	-	-	-	-	-	-	-	-	4	4
PACOM	CFA Okinawa, Japan	-	-	-	-	-	-	-	-	-	-	-	1	1
	Eielson AFB, AK	-	-	1	-	-	-	-	-	-	1	-	-	2
	JB Elmendorf-Richardson, AK	-	-	-	-	-	-	-	-	-	-	-	1	1
	JR Marianas - Andersen AFB, Guam	6	-	2	-	-	-	1	1	-	-	-	2	12
	Osan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	1	2
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	-	1	-	1
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	-	-	-	1	1
	NHCNE Newport, RI	-	-	-	-	-	-	-	-	-	1	-	1	2
	USCG Academy, CT	-	-	-	-	-	-	-	1	-	1	-	2	4
Region 2	Ft Drum, NY	-	-	1	-	1	-	-	-	-	4	1	10	17
	USMA - West Point, NY	-	-	-	-	-	-	-	-	-	1	-	7	8
Region 3	JB Andrews, MD	-	-	-	-	-	-	-	-	-	2	-	-	2
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	1	-	-	1	3	5
	NCRM - Walter Reed NMMC, MD	-	-	-	-	1	-	-	-	-	3	-	-	4
Region 4	Columbus AFB, MS	-	-	-	-	-	-	-	-	-	-	-	2	2
	Eglin AFB, FL	-	-	-	-	-	-	-	-	-	1	-	5	6
	Ft Campbell, KY	-	-	-	-	-	-	-	-	-	1	-	-	1
	Hurlburt Field, FL	-	-	-	-	-	-	-	-	-	-	-	1	1
	JB Charleston (Navy), SC	-	-	-	-	-	-	-	-	-	2	-	-	2
	Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	1	1
	MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	-	2	2
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	2	-	2	4
	Moody AFB, GA	-	-	-	-	-	-	-	-	-	-	-	1	1
	NH Beaufort, SC	-	-	-	-	-	-	-	-	-	-	1	-	1
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	-	2	2
	NH Jacksonville, FL	1	-	-	-	1	-	-	-	-	3	-	-	5
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	2	2
	Seymour Johnson AFB, NC	-	-	-	-	-	-	-	-	-	1	-	1	2
	Shaw AFB, SC	-	-	-	-	-	-	-	-	-	1	-	-	1
Region 5	Wright-Patterson AFB, OH	-	-	-	-	-	-	-	-	-	2	-	3	5
Region 6	Altus AFB, OK	-	-	-	1	-	-	-	-	-	1	1	3	6
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	1	1
	Little Rock AFB, AR	-	-	-	-	-	-	-	-	-	-	-	1	1
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	-	-	-	1	1
	Tinker AFB, OK	-	-	-	-	-	1	-	1	-	-	-	8	10
Region 7	Offutt AFB, NE	-	-	-	-	-	-	-	-	-	-	-	3	3
Region 8	Buckley AFB, CO	-	-	-	-	-	-	-	-	-	1	-	-	1
	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	1	-	2	3
	FE Warren AFB, WY	-	-	-	-	-	-	-	-	-	1	-	-	1
	Hill AFB, UT	-	-	-	-	-	-	-	-	-	1	-	1	2
	Minot AFB, ND	-	-	-	-	-	-	-	-	-	1	-	-	1
	Peterson AFB, CO	-	-	-	-	-	-	-	-	-	1	5	6	
USAF Academy, CO	-	-	-	-	-	-	-	-	-	1	-	1	2	
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	1	1
	Luke AFB, AZ	-	-	-	-	-	-	-	-	-	-	-	1	1
	Nellis AFB, NV	-	-	-	-	1	-	-	-	-	-	-	1	2
	Travis AFB, CA	1	-	-	-	-	-	-	2	1	4	-	14	22
Region 10	Fairchild AFB, WA	-	-	-	-	-	-	-	-	-	-	1	1	
Total		8	1	4	1	4	1	1	6	1	37	6	99	169

Influenza-Like Illness (ILI) Overview

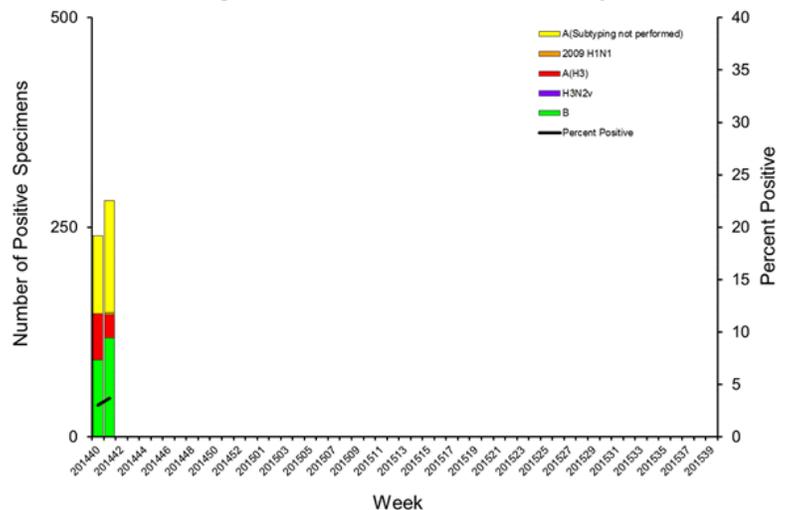
CDC National Surveillance

During Week 41 (5-11 October 2014), influenza activity was low in the United States. **Viral Surveillance:** Of 7,655 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during Week 41, 282 (3.7%) were positive for influenza.

Pneumonia and Influenza Mortality (P&I): 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 1.3%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Puerto Rico experienced moderate ILI activity; New York City and 49 states experienced minimal ILI activity and the District of Columbia and one state had insufficient data. **Geographic Spread of Influenza:**

The geographic spread of influenza in Guam was reported as widespread; Puerto Rico and four states reported local activity; the District of Columbia and 36 states reported sporadic activity; and the U.S. Virgin Islands and 10 states reported no influenza activity. See the [CDC report](#) for more information (Week 41 report, cited 21 October 2014).

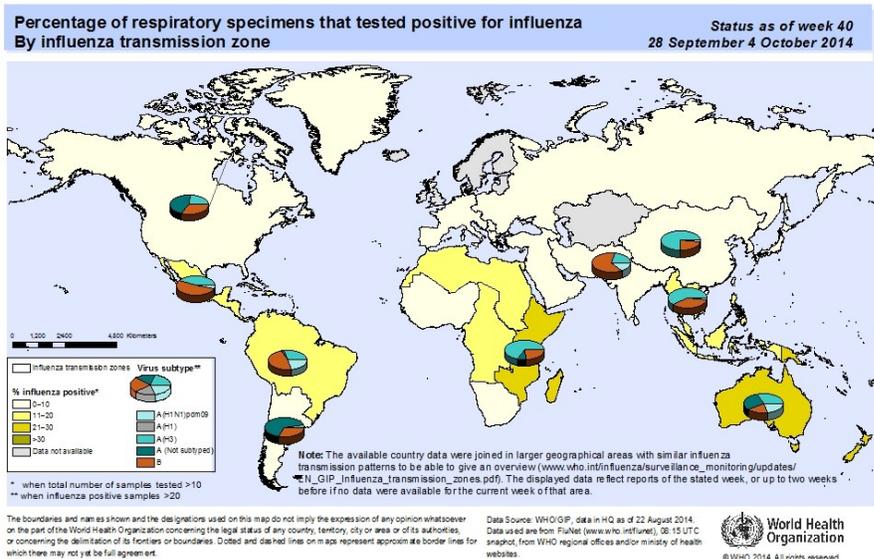
Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15



World Health Organization (WHO) Global Surveillance

Report Summary: Globally, influenza activity remained low, with the exception of some tropical countries in the Americas and some Pacific Islands. In Europe and North America, overall influenza activity remained at interseasonal levels. In tropical countries of the Americas, influenza B co-circulated with RSV. In Africa and Western Asia, influenza activity was low. In Eastern Asia, influenza activity in most countries remained low or decreased after some influenza A (H3N2) activity in August and September. In tropical Asia, influenza activity continued to decrease or remain low with influenza A (H3N2) predominant. In the Southern Hemisphere, influenza activity decreased in general except in several Pacific Islands where ILI activity remained high. In the temperate zone of South America, ILI decreased and continued to be associated with RSV. Influenza A(H3N2) virus was the most frequently detected influenza virus. In Australia and New Zealand, influenza activity also decreased. The WHO recommendation on the composition of influenza vaccines for the Southern Hemisphere 2015 was announced on 25 September and are posted here: http://www.who.int/influenza/vaccines/virus/recommendations/2015_south/en/. Additional and updated information on non-seasonal influenza viruses can be found at the [WHO website](#) (20 October 2014 report, cited 21 October 2014).

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DoD Global Laboratory-Based Influenza Surveillance Program

USAF School of Aerospace Medicine

2014 - 2015

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



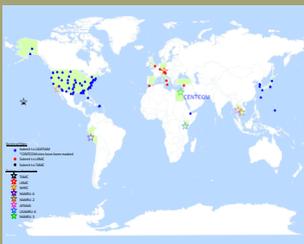
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Contributions to the CDC for National Influenza Surveillance

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.

