USAF School of Aerospace Medicine & Defense Health Agency

DoD Global, Laboratory-Based, Influenza Surveillance Program

2016-2017

Cumulative Results

Locations	61
Collected	642
Tested	595

Influenza A	**18**
A(H1N1)pdm09	2
A(H3N2)	16
A/not subtyped	0

Influenza B*	**3**
B	3

Other Respiratory Pathogens	**278**
Adenovirus	14
Bordetella pertussis	0
Chlamydophila pneumoniae	1
Coronavirus	10
Human Metapneumovirus	6
Mycoplasma pneumoniae	18
Parainfluenza	56
RSV	17
Rhino/Enterovirus	123
Non-influenza Viral Coinfections	28
Non-influenza Bacterial Coinfections	5
-*M. pneumo* coinfections (5)	

Lab data are current as of 5 December 2016. Results are preliminary and may change as more results are received.
**Influenza B lineages will be reported in the periodic molecular sequencing reports.*

Respiratory Highlights
20 November - 3 December 2016 (Surveillance Weeks 47 & 48)

- During 20 November - 3 December 2016 , a total of 146 specimens were collected from 36 locations. Results were finalized for 110 specimens from 32 locations. During Week 47, one influenza A(H3N2) was identified. During Week 48, one influenza A(H1N1)pdm09, five influenza A(H3N2), and one influenza B were identified. Approximately 1.4% of specimens tested positive for influenza during Week 47. Approximately 9% of specimens tested positive for influenza during Week 48. The influenza percent positive for the season is approximately 3%.
- According to the CDC, the most frequently identified influenza virus subtype reported for Week 47 was influenza A(H3N2). The percentage of respiratory specimens testing positive for influenza increased slightly, but remained low (CDC Flu View, cited 6 December 2016).

Table of Contents

Respiratory Highlights	Page 1
Results by Region and Location for Specimens Collected during Weeks 47 - 48	Page 2
Laboratory Results - Cumulative for Season and Demographic Summary	Page 3
Vaccination Status by Beneficiary Type and Service	Page 4
Geographic Distribution of Influenza Subtype and Activity Level Maps	Page 5
Cumulative Results by Region and Location	Pages 6 & 7
DoD Global, Laboratory-Based, Influenza Surveillance Program Background	Page 8

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

Table 1. Results by region and location for specimens collected during Weeks 47 & 48

Region*		A(H1N1)pdm09	A(H3N2)	B	Adenovirus	Coronavirus	hMNV	*M. pneumoniae*	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & Para	Adeno & RSV	Para & Rhino/Entero	RSV & Rhino/Entero	No Pathogen	Total
PACOM	Kunsan AB, South Korea	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	2	-	-	-	-	7	9
Region 1	USCG Academy, CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 2	Ft Drum, NY	-	-	-	-	-	1	-	-	1	-	1	-	1	-	-	4
	JB McGuire-Dix-Lakehurst, NJ	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	4
	USMA - West Point, NY	-	-	-	-	-	1	1	-	-	1	-	-	-	-	5	8
Region 3	Dover AFB, DE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	1	3	-	-	1	-	1	6	12
Region 4	Eglin AFB, FL	-	-	1	-	-	-	-	-	-	2	-	-	-	-	2	5
	Ft Bragg, NC	-	-	-	-	-	-	-	1	-	3	-	-	-	-	2	6
	Keesler AFB, MS	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Moody AFB, GA	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2
	Seymour Johnson AFB, NC	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	Shaw AFB, SC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7
Region 5	Wright-Patterson AFB, OH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 6	Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Tinker AFB, OK	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2
Region 7	McConnell AFB, KS	-	3	-	-	-	-	-	-	-	-	-	-	-	-	2	5
	Offutt AFB, NE	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2
Region 8	Ellsworth AFB, SD	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2
	Hill AFB, UT	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	3
	Minot AFB, ND	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	2
	Peterson AFB, CO	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	3
	Luke AFB, AZ	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
	Nellis AFB, NV	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	Travis AFB, CA	-	1	-	-	-	-	-	-	-	1	-	-	-	-	4	6
Region 10	Fairchild AFB, WA	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	3
	Mt Home AFB, ID	-	1	-	1	-	-	-	2	-	2	-	-	-	-	3	9
Total		1	6	1	3	3	2	2	10	6	16	1	1	1	1	56	110

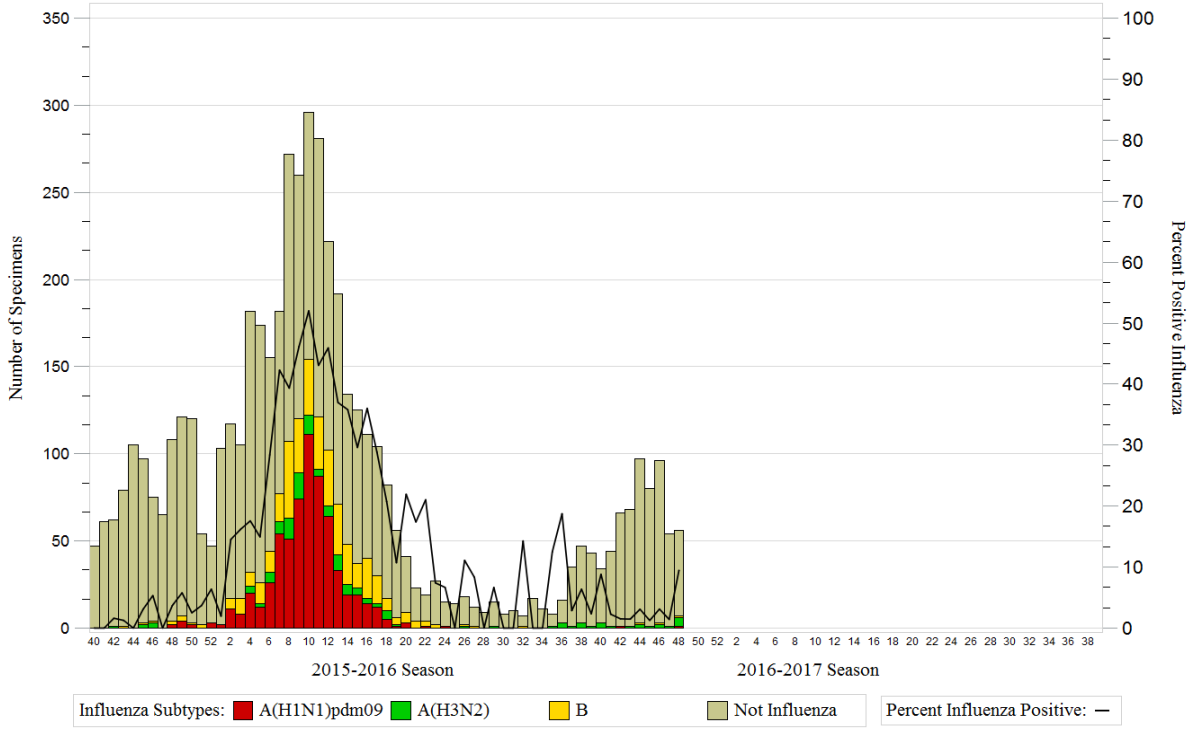
**CONUS locations are based on Health & Human Services regions. Other locations are defined by COCOM.*

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

DoD Global, Laboratory-Based, Influenza Surveillance Program

Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2015-2016 surveillance year and through Week 48 of the 2016-2017 surveillance year

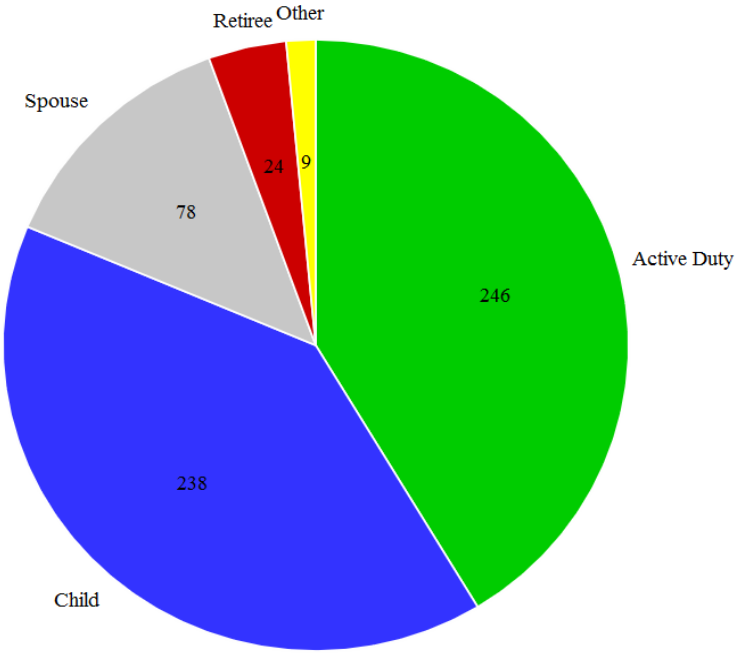


Note: Dual influenza coinfections are excluded from this graph. Specimens with pending results are used in the denominator to calculate percent positive, but are not displayed in the graph.

Table 2. ILI by age group for the 2016-2017 surveillance year through Week 48

Age Group	Frequency	Percent
0-5	146	24.54
6-9	34	5.71
10-17	58	9.75
18-24	105	17.65
25-44	202	33.95
45-64	31	5.21
65+	19	3.19

Graph 2. ILI by beneficiary status for the 2016-2017 surveillance year through Week 48

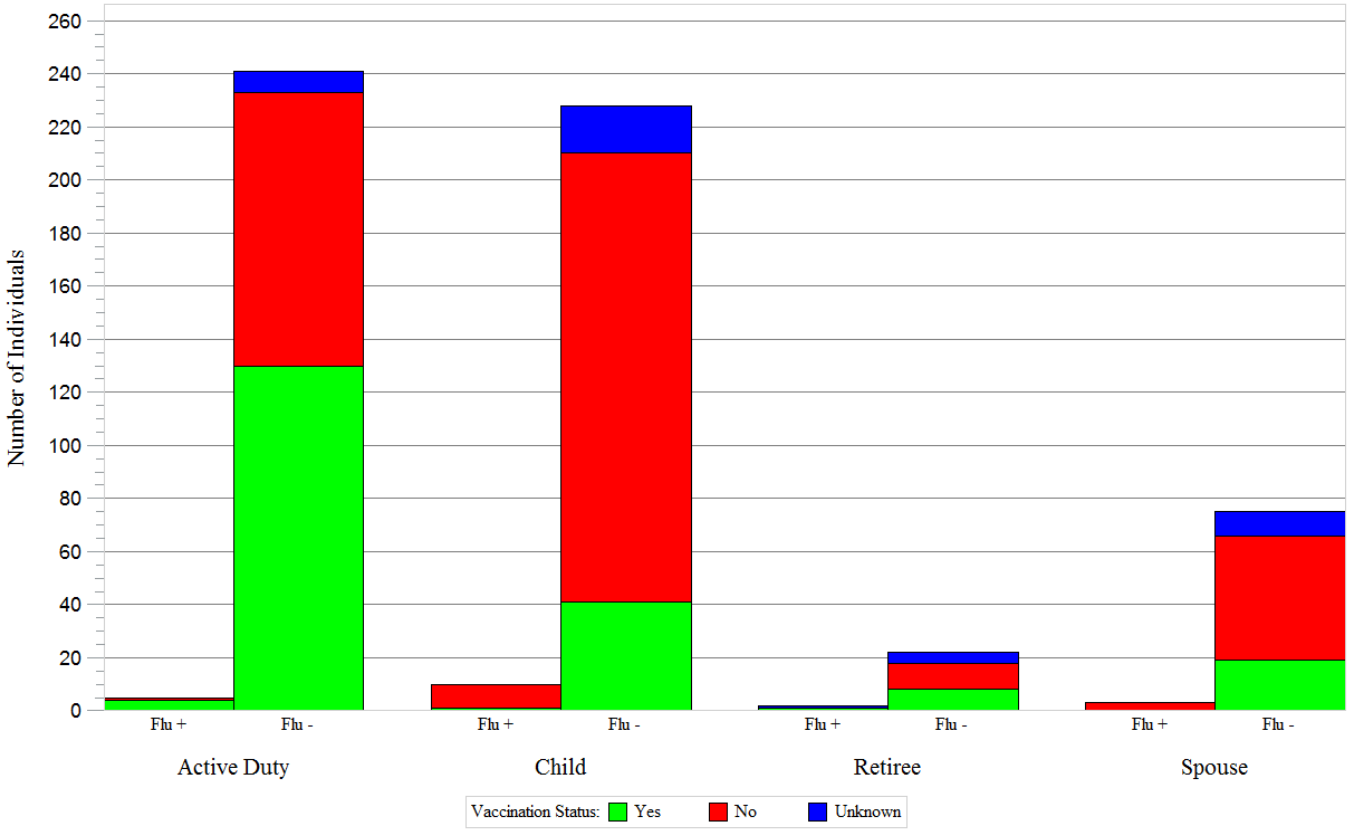


Demographic Summary

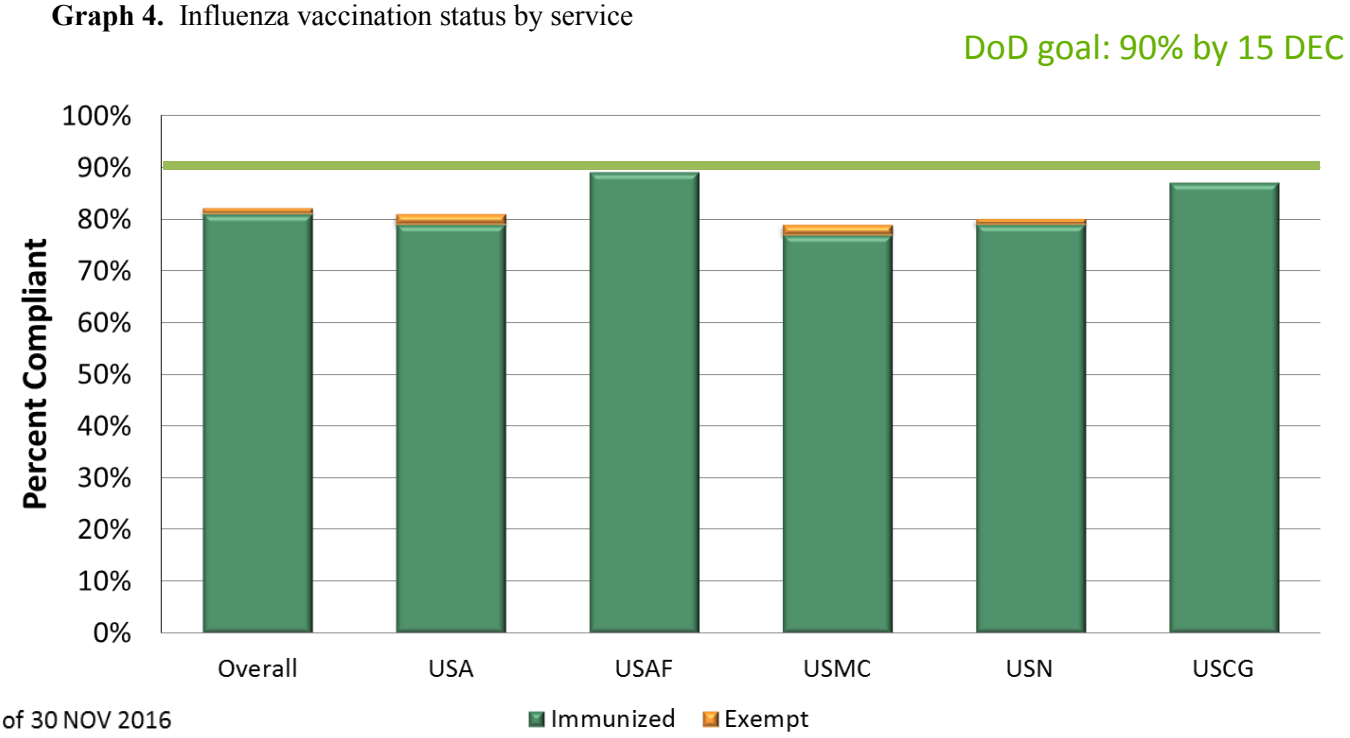
Of 595 ILI cases, 246 (41.3%) are service members, 238 (40.0%) are children, 78 (13.1%) are spouses, and 33 (5.6%) are retirees and other beneficiaries. The median age of ILI cases with known age (n=595) is 22 (range 0, 87).

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

Graph 3. Vaccination status by beneficiary type for the 2016-2017 surveillance year through Week 48



Graph 4. Influenza vaccination status by service

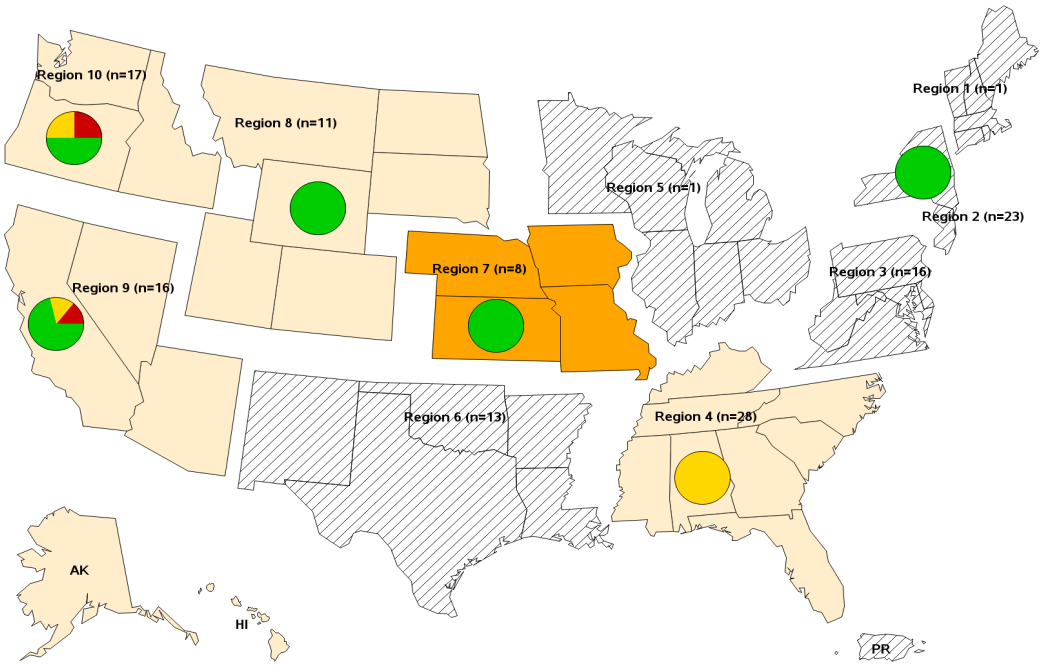


As of 30 NOV 2016
No exemptions reflect less than 1% exempted
Data Sources: Army – MEDPROS; Air Force – ASIMS; Navy, Marine Corps & Coast Guard – MRRS

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

DoD Global, Laboratory-Based, Influenza Surveillance Program

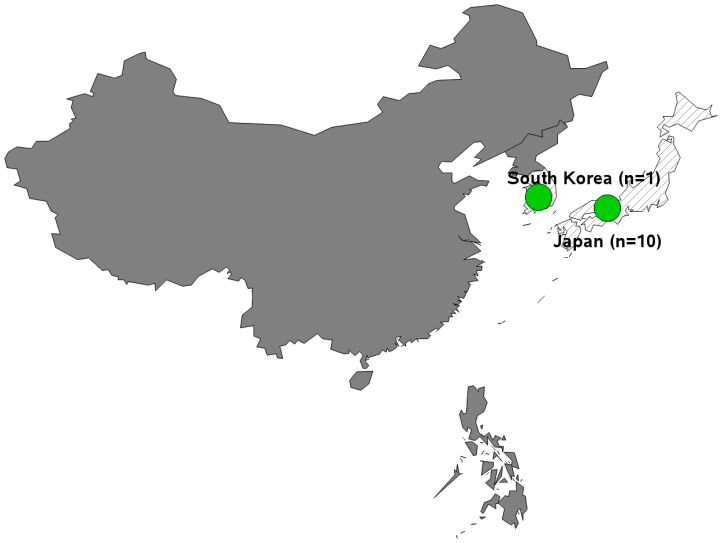
Map 1. Influenza subtypes and activity level by U.S. region for the 2016-2017 surveillance year through Week 48



HI - Region 9
AK - Region 10

PR - Region 2

Map 2. Influenza subtypes and activity level by country for the 2016-2017 surveillance year through Week 48 (Pacific)



Legend

Influenza Activity - Past 2 weeks

(n = # of submissions)

- No activity (0% +) or no submissions
- Low (<25% +)
- Moderate (25-49% +)
- High (>50% +)

Influenza Results - Cumulative

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

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

Laboratory Results—Through Current Surveillance Week 48

Table 3. Cumulative results by region and location for specimens collected during the 2016-2017 surveillance year

Region*		A(H1N1)pdm09	A(H3N2)	B	Adenovirus	*C. pneumoniae*	Coronavirus	hMNV	*M. pneumoniae*	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Viral Coinfection	Non-Influenza Bacterial Coinfection	No Pathogen	Total
PACOM	Eielson AFB, AK	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	JB Elmendorf-Richardson, AK	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	JR Marianas - Andersen AFB, Guam	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Kadena AB, Japan	-	2	-	-	-	-	-	-	2	-	2	-	-	5	11
	Kunsan AB, South Korea	-	-	-	-	-	1	-	-	-	-	1	-	-	-	2
	Misawa AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Osan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	-	-	4	5
	Tripler AMC, HI	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Yokota AB, Japan	-	1	-	-	-	-	-	2	-	1	4	3	-	26	37
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	1	-	-	1	-	1	3
	USCG Academy, CT	-	-	-	-	-	-	-	1	-	-	3	-	2	2	8
Region 2	Ft Drum, NY	-	-	-	1	-	-	1	-	1	1	1	2	-	2	9
	JB McGuire-Dix-Lakehurst, NJ	-	-	-	1	-	2	-	2	4	1	5	1	-	17	33
	USMA - West Point, NY	-	1	-	3	-	1	1	1	4	-	4	1	-	26	42
Region 3	Dover AFB, DE	-	-	-	1	-	-	-	-	-	-	1	-	-	5	7
	JB Langley-Eustis, VA	-	-	-	-	-	-	1	1	3	9	20	8	-	27	69
	NMC Portsmouth, VA	-	-	-	-	-	-	-	-	-	-	1	-	-	2	3
Region 4	Columbus AFB, MS	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
	Eglin AFB, FL	-	-	1	1	-	-	-	-	-	-	6	-	-	9	17
	Ft Bragg, NC	-	-	-	-	-	-	-	1	2	-	6	2	2	5	18
	Ft Campbell, KY	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	Hurlburt Field, FL	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	JB Charleston (AF), SC	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Keesler AFB, MS	-	-	-	-	-	-	-	-	1	1	-	1	-	4	7
	MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	1	-	1	-	-	4	6
	Moody AFB, GA	-	-	-	1	-	-	-	-	1	3	2	3	1	5	16
	NH Beaufort, SC	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	NH Jacksonville, FL	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Seymour Johnson AFB, NC	-	-	-	1	-	-	-	-	-	-	1	-	-	-	2
	Shaw AFB, SC	-	-	-	-	-	-	-	1	-	-	2	-	-	14	17

(Cont'd on page 7)

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

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

Laboratory Results—Through Current Surveillance Week 48

Table 3. Cumulative results by region and location for specimens collected during the 2016-2017 surveillance year *(Cont'd from page 6)*

Region*		A(H1N1)pdm09	A(H3N2)	B	Adenovirus	*C. pneumoniae*	Coronavirus	hMNV	*M. pneumoniae*	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Viral Coinfection	Non-Influenza Bacterial Coinfection	No Pathogen	Total
Region 5	Scott AFB, IL	-	-	-	-	-	-	-	-	2	-	-	-	-	4	6
	Wright-Patterson AFB, OH	-	-	-	-	-	-	-	1	1	-	1	1	-	5	9
Region 6	Altus AFB, OK	-	-	-	1	-	-	-	-	-	-	1	-	-	6	8
	Barksdale AFB, LA	-	-	-	-	-	-	-	-	1	-	1	-	-	1	3
	Cannon AFB, NM	-	-	-	-	-	-	-	1	-	-	1	-	-	3	5
	Ft Polk, LA	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Laughlin AFB, TX	-	-	-	-	-	-	2	-	-	-	-	-	-	1	3
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	2	-	3	-	-	3	8
	Tinker AFB, OK	-	-	-	-	-	-	-	-	1	1	4	-	-	4	10
	Vance AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
Region 7	McConnell AFB, KS	-	3	-	-	-	-	-	-	-	-	4	-	-	7	14
	Offutt AFB, NE	-	-	-	1	-	1	-	-	-	-	4	-	-	6	12
Region 8	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	1	-	3	-	-	5	9
	FE Warren AFB, WY	-	-	-	1	-	-	-	1	1	-	2	-	-	7	12
	Hill AFB, UT	-	-	-	-	-	-	-	-	1	-	4	-	-	7	12
	Malmstrom AFB, MT	-	-	-	-	-	-	-	1	-	-	1	-	-	2	4
	Minot AFB, ND	-	-	-	-	-	-	-	1	-	-	2	-	-	1	4
	Peterson AFB, CO	-	1	-	-	-	-	-	-	1	-	2	1	-	4	9
	USAF Academy, CO	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Region 9	Beale AFB, CA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	5	-	2	-	-	1	8
	Luke AFB, AZ	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2
	Nellis AFB, NV	1	1	1	1	-	-	-	-	4	-	3	2	-	4	17
	Travis AFB, CA	-	3	-	-	-	1	-	-	2	-	5	-	-	11	22
Region 10	Fairchild AFB, WA	1	-	1	-	-	2	-	-	3	-	4	-	-	16	27
	Mt Home AFB, ID	-	1	-	1	1	-	-	1	10	-	10	2	-	19	45
	NH Bremerton, WA	-	1	-	-	-	-	-	-	-	-	3	-	-	-	4
Total		2	16	3	14	1	10	6	18	56	17	123	28	5	296	595

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

88ABW-2015-5508 and PA email guidance dated 10 November 2015.

USAF School of Aerospace Medicine & Defense Health Agency

DoD Global, Laboratory-Based, Influenza Surveillance Program

Background

The DoD-wide program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. The surveillance network includes the Defense Health Agency/Armed Forces Health Surveillance Branch—Air Force Satellite Cell (DHA/AFHSB-AF) and 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 (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 GEIS Operations, a Division of the Armed Forces Health Surveillance Branch (AFHSB).

Sentinel Site Surveillance

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. DHA/AFHSB-AF and USAFSAM manages the surveillance program that includes global surveillance among DoD beneficiaries at over 95 sentinel sites (including deployed locations) and many non-sentinel sites (please see map below). Collaborating partner laboratories include five DoD overseas medical research laboratories (AFRIMS, NAMRU-2, NAMRU-3, NAMRU-6, USAMRU-K) who collect specimens from local residents in surrounding countries that may not otherwise be covered in existing surveillance efforts. Additionally, the Naval Health Research Center (NHRC) in San Diego, CA collects specimens from DoD recruit training centers and conducts surveillance along the Mexico border.

Landstuhl Regional Medical Center (LRMC) and Tripler Army Medical Center (TAMC) assist the program by processing DoD specimens for the EUCOM region and the State of Hawaii, respectively. This process seeks to provide more timely results and efficient transport of specimens.

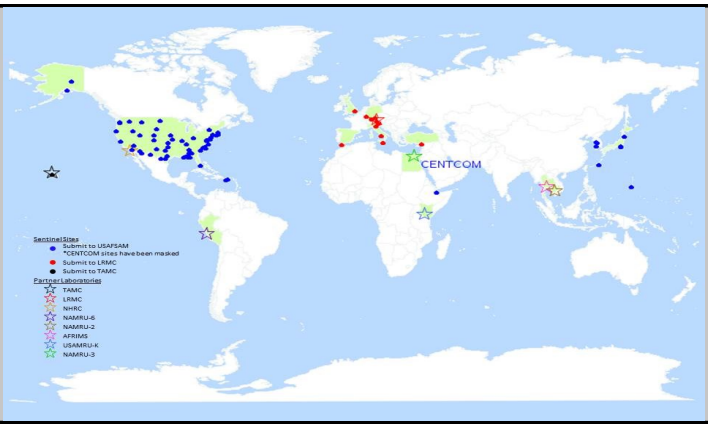
Available on our website (listed below) is a list of previous weekly surveillance reports, program information (including an educational briefing and instruction pamphlets for clinic staff), and a dashboard containing respiratory data for our sentinel sites.

Errata:

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

For Laboratory Services
937-938-4140; DSN 798-4140

USAFSAM.PHRFlu@us.af.mil



Collaborating Partners

In addition to all participating DoD military sentinel sites, collaborating laboratories and medical centers (described above) may be further understood by reviewing the sites' website. Click on the sites' icon to be directed to their webpage.

88ABW-2015-5508 and PA email guidance dated 10 November 2015.