USAF School of Aerospace Medicine & Defense Health Agency

DoD Global, Laboratory-Based, Influenza Surveillance Program

2016-2017

Cumulative Results

Locations	59
Collected	462
Tested	435

Influenza A	**10**
A(H1N1)pdm09	1
A(H3N2)	9
A/not subtyped	0

Influenza B*	**2**
B	2

Other Respiratory Pathogens	**217**
Adenovirus	9
Bordetella pertussis	0
Chlamydophila pneumoniae	1
Coronavirus	7
Human Metapneumovirus	4
Mycoplasma pneumoniae	15
Parainfluenza	41
RSV	11
Rhino/Enterovirus	104
Non-influenza Viral Coinfections	21
Non-influenza Bacterial Coinfections	4
-*M. pneumo* coinfections (4)	

Lab data are current as of 21 November 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
6 November - 19 November 2016 (Surveillance Weeks 45 & 46)

- During 6 November - 19 November 2016, a total of 149 specimens were collected from 41 locations. Results were finalized for 129 specimens from 38 locations. During Week 45, one influenza A(H3N2) was identified. During Week 46, one influenza A(H3N2) and one influenza B virus were identified. Approximately 1% of specimens tested positive for influenza during Week 45 and 3% tested positive for influenza during Week 46. The influenza percent positive for the season is approximately 3%.

- There have been numerous outbreaks of highly pathogenic avian influenza (HPAI) across the globe in recent weeks. H5N8 outbreaks have been reported across Europe and in some areas of the Middle East, H5N6 outbreaks have been reported in Japan and South Korea, and an H5N1 outbreak has been reported in Nigeria. Global health officials have recently been warning of the likely spread of HPAI by migratory birds (CIDRAP, cited 22 November 2016).

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

Table 1. Results by region and location for specimens collected during Weeks 45 & 46

Region*		A(H3N2)	B	Adenovirus	Coronavirus	hMNV	*M. pneumoniae*	Parainfluenza	RSV	Rhinovirus/Enterovirus	Corona & Para	Corona & Rhino/Entero	*M. pneumo* & RSV & Rhino/Entero	Para & Rhino/Entero	RSV & Rhino/Entero	No Pathogen	Total
PACOM	Eielson AFB, AK	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	Kadena AB, Japan	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	4
	Osan AB, South Korea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	USCG Academy, CT	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	2
Region 2	Ft Drum, NY	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	2
	JB McGuire-Dix-Lakehurst, NJ	-	-	1	1	-	1	1	-	1	-	-	-	-	-	6	11
	USMA - West Point, NY	1	-	-	-	-	-	1	-	-	-	-	-	-	-	4	6
Region 3	JB Langley-Eustis, VA	-	-	-	-	-	1	1	3	9	-	-	-	1	3	6	24
Region 4	Eglin AFB, FL	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Ft Bragg, NC	-	-	-	-	-	1	-	-	1	-	-	1	-	-	1	4
	Ft Campbell, KY	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Moody AFB, GA	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Seymour Johnson AFB, NC	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	Shaw AFB, SC	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	4
Region 5	Scott AFB, IL	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	2
	Wright-Patterson AFB, OH	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	2
Region 6	Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Barksdale AFB, LA	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
	Cannon AFB, NM	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	2
	Ft Polk, LA	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	2
	Sheppard AFB, TX	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	2
	Tinker AFB, OK	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	3
	Vance AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 7	McConnell AFB, KS	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Offutt AFB, NE	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
Region 8	Hill AFB, UT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Minot AFB, ND	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Peterson AFB, CO	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2
Region 9	Beale AFB, CA	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Davis-Monthan AFB, AZ	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	3
	Nellis AFB, NV	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	2
	Travis AFB, CA	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1	3
Region 10	Fairchild AFB, WA	-	1	-	-	-	-	2	-	2	-	-	-	-	-	6	11
	Mt Home AFB, ID	-	-	-	-	-	-	2	-	3	-	-	-	-	-	6	11
Total		2	1	3	2	1	7	17	6	28	1	1	1	1	3	55	129

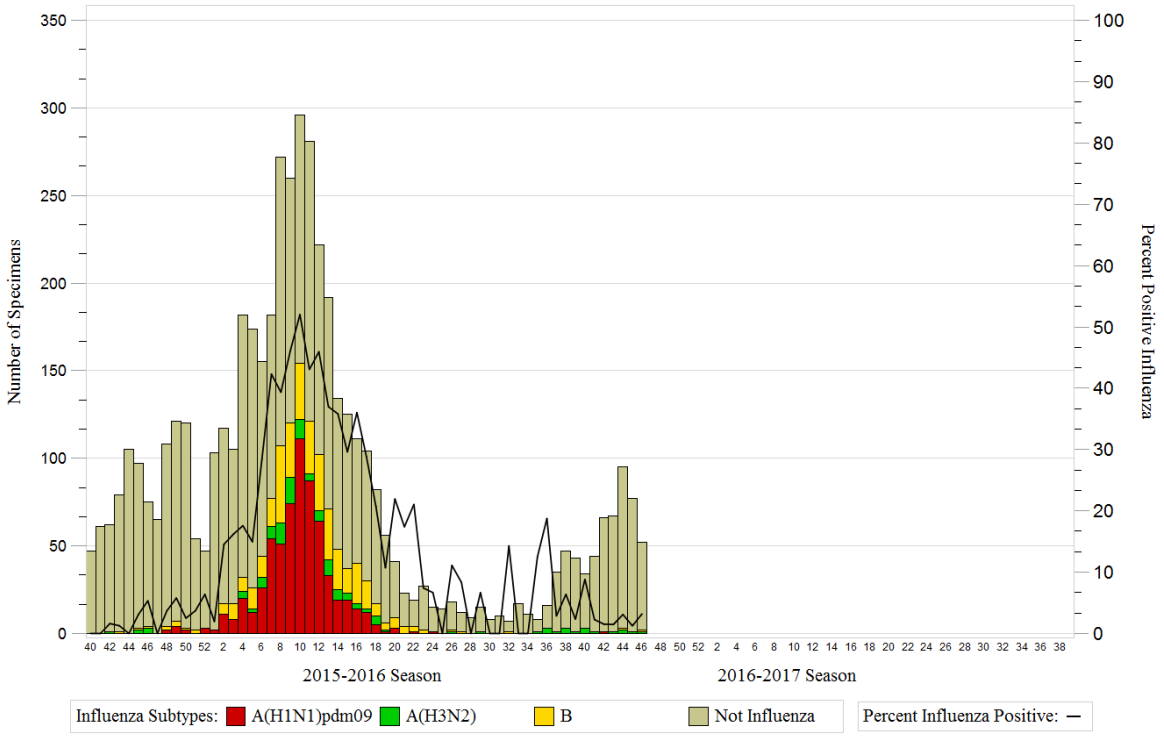
**CONUS locations are based on Health & Human Services regions. Other locations are defined by COCOM.*

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 46 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.

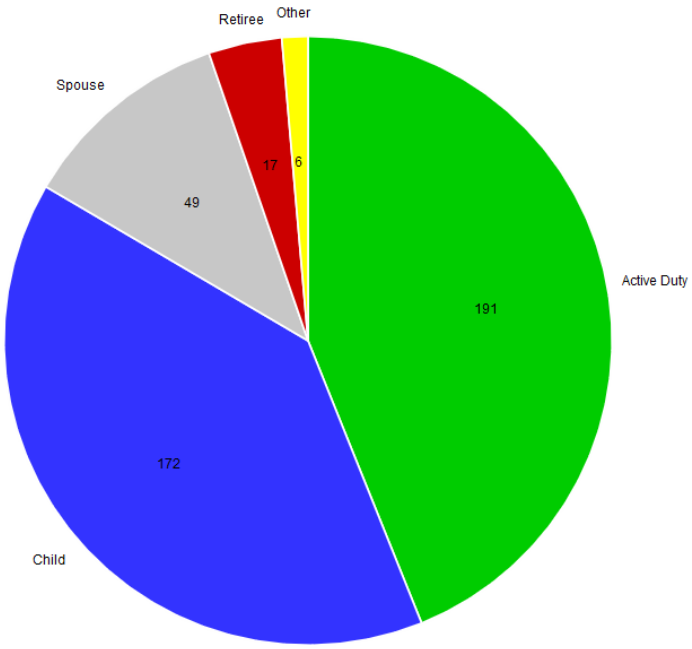
Table 2. ILI by age group for the 2016-2017 surveillance year through Week 46

Age Group	Frequency	Percent
0-5	102	23.45
6-9	23	5.29
10-17	47	10.80
18-24	74	17.01
25-44	154	35.40
45-64	23	5.29
65+	12	2.76

Demographic Summary

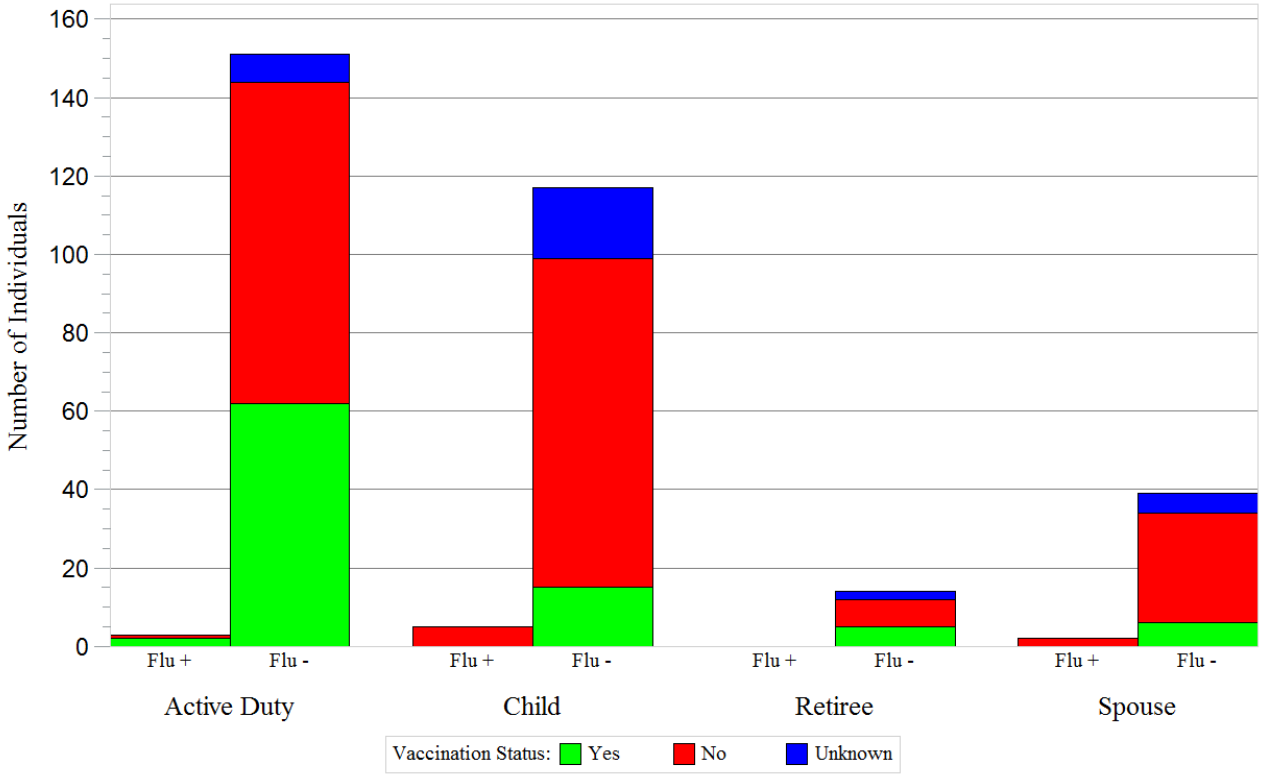
Of 435 ILI cases, 191 (43.9%) are service members, 172 (39.5%) are children, 49 (11.3%) are spouses, and 23 (5.3%) are retirees and other beneficiaries. The median age of ILI cases with known age (n=435) is 22 (range 0, 87).

Graph 2. ILI by beneficiary status for the 2016-2017 surveillance year through Week 46



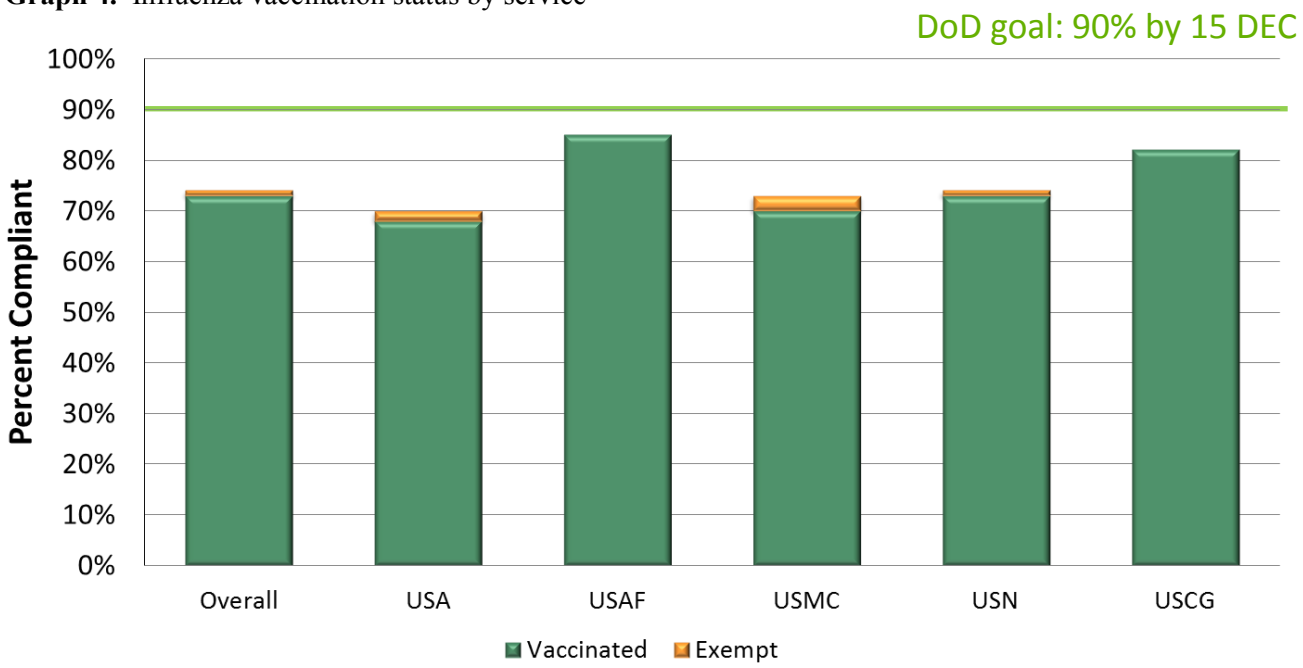
88ABW-2015-5508 and PA email guidance dated 10 November 2015.

Graph 3. Vaccination status by beneficiary type for the 2016-2017 surveillance year through Week 45*



*Vaccination status by beneficiary type for Week 46 was not available at time of publication.

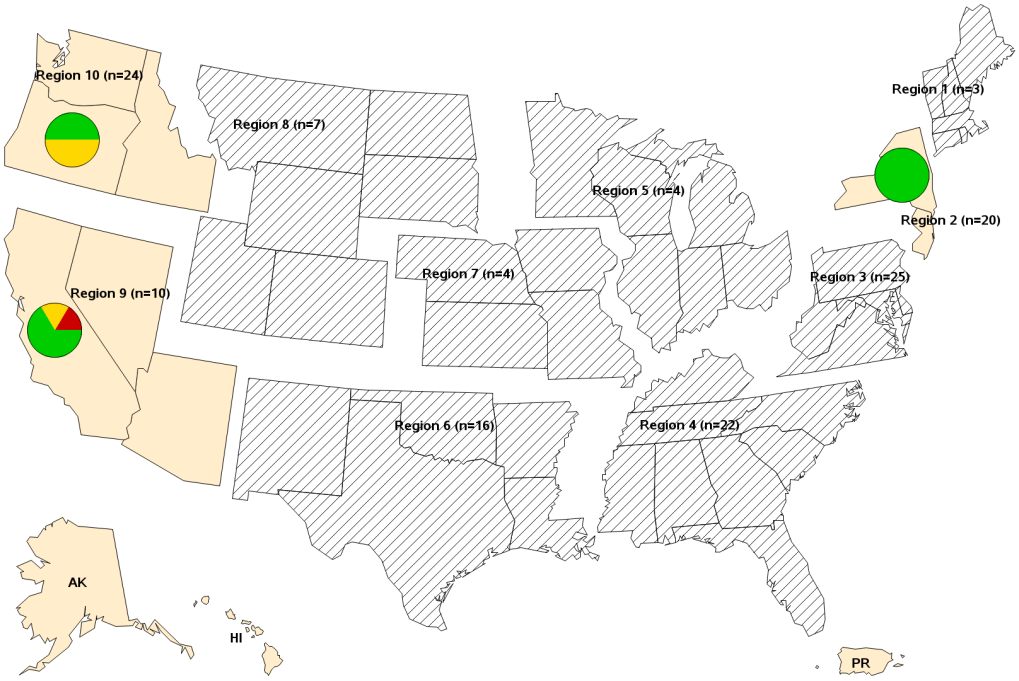
Graph 4. Influenza vaccination status by service



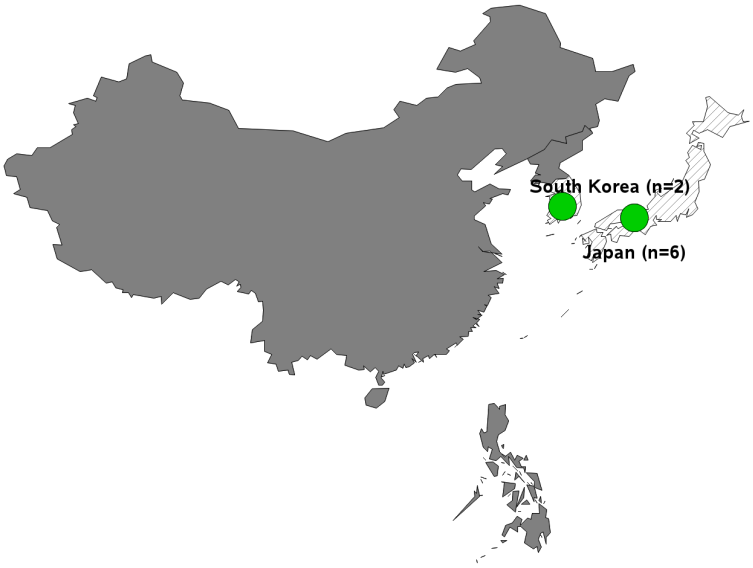
As of 16 NOV 2016
No exemptions reflect less than 1% exempted
Data Sources: Army – MEDPROS; Air Force – ASIMS; Navy, Marine Corps & Coast Guard – MRRS

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 46



Map 2. Influenza subtypes and activity level by country for the 2016-2017 surveillance year through Week 46 (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 46

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	-	1	-	-	5	10
	Kunsan AB, South Korea	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
	Misawa AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Osan AB, South Korea	-	1	-	-	-	-	-	-	-	-	-	-	-	4	5
	Yokota AB, Japan	-	-	-	-	-	-	-	1	-	1	1	3	-	13	19
Region 1	Hanscom AFB, MA	-	-	-	-	-	-	-	-	1	-	-	1	-	1	3
	USCG Academy, CT	-	-	-	-	-	-	-	1	-	-	3	-	2	-	6
Region 2	Ft Drum, NY	-	-	-	1	-	-	-	-	1	-	1	-	-	1	4
	JB McGuire-Dix-Lakehurst, NJ	-	-	-	1	-	2	-	2	4	-	5	1	-	14	29
	USMA - West Point, NY	-	1	-	2	-	1	-	-	3	-	3	1	-	18	29
Region 3	Dover AFB, DE	-	-	-	1	-	-	-	-	-	-	1	-	-	3	5
	JB Langley-Eustis, VA	-	-	-	-	-	-	1	1	2	6	20	6	-	19	55
	NMC Portsmouth, VA	-	-	-	-	-	-	-	-	-	-	1	-	-	2	3
Region 4	Columbus AFB, MS	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
	Eglin AFB, FL	-	-	-	-	-	-	-	-	-	-	4	-	-	5	9
	Ft Bragg, NC	-	-	-	-	-	-	-	1	1	-	3	2	2	3	12
	Ft Campbell, KY	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	Hurlburt Field, FL	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	JB Charleston (AF), SC	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Keesler AFB, MS	-	-	-	-	-	-	-	-	1	-	-	1	-	2	4
	MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	1	-	1	-	-	3	5
	Moody AFB, GA	-	-	-	-	-	-	-	-	1	3	2	1	-	3	10
	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
	Shaw AFB, SC	-	-	-	-	-	-	-	1	-	-	2	-	-	7	10
Region 5	Scott AFB, IL	-	-	-	-	-	-	-	-	2	-	-	-	-	4	6
	Wright-Patterson AFB, OH	-	-	-	-	-	-	-	1	1	-	1	1	-	4	8

(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 46

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 6	Altus AFB, OK	-	-	-	1	-	-	-	-	-	-	1	-	-	4	6
	Barksdale AFB, LA	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2
	Cannon AFB, NM	-	-	-	-	-	-	-	1	-	-	1	-	-	1	3
	Ft Polk, LA	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Laughlin AFB, TX	-	-	-	-	-	-	2	-	-	-	-	-	-	1	3
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	1	-	3	-	-	2	6
	Tinker AFB, OK	-	-	-	-	-	-	-	-	-	1	3	-	-	4	8
	Vance AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
Region 7	McConnell AFB, KS	-	-	-	-	-	-	-	-	-	-	4	-	-	5	9
	Offutt AFB, NE	-	-	-	-	-	1	-	-	-	-	4	-	-	4	9
Region 8	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	-	3	-	-	3	6
	FE Warren AFB, WY	-	-	-	1	-	-	-	1	1	-	2	-	-	6	11
	Hill AFB, UT	-	-	-	-	-	-	-	-	-	-	2	-	-	5	7
	Malmstrom AFB, MT	-	-	-	-	-	-	-	1	-	-	1	-	-	1	3
	Minot AFB, ND	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2
	Peterson AFB, CO	-	-	-	-	-	-	-	-	1	-	2	1	-	3	7
	USAF Academy, CO	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Region 9	Beale AFB, CA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	3	-	2	-	-	-	5
	Nellis AFB, NV	1	1	1	1	-	-	-	-	3	-	3	2	-	2	14
	Travis AFB, CA	-	2	-	-	-	1	-	-	1	-	4	-	-	7	15
Region 10	Fairchild AFB, WA	-	-	1	-	-	2	-	-	2	-	4	-	-	15	24
	Mt Home AFB, ID	-	-	-	-	1	-	-	1	7	-	7	1	-	12	29
	NH Bremerton, WA	-	1	-	-	-	-	-	-	-	-	3	-	-	-	4
Total		1	9	2	9	1	7	4	15	41	11	104	21	4	206	435

**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.

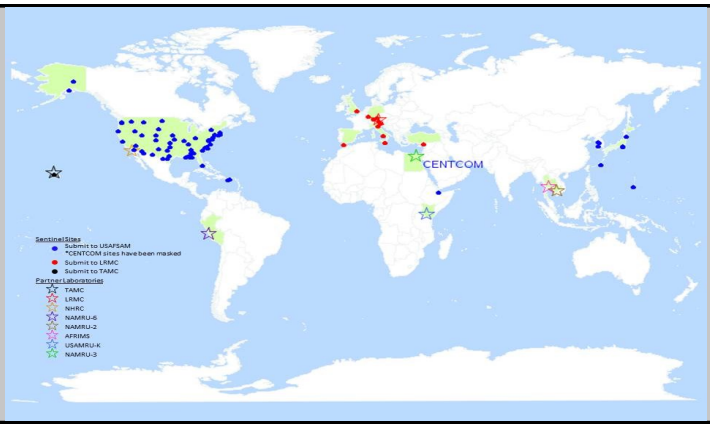
Available on our website (listed below) is a list of previous weekly surveillance reports, program information (including an educational briefing and instruction pamphlets for clinic staff), and a dashboard containing respiratory data for our sentinel sites.

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.