USAF School of Aerospace Medicine & Defense Health Agency

DoD Global Respiratory Pathogen Surveillance Program

2017-2018

Cumulative Results

Locations	80
Collected	1101
Tested	966

Influenza A	**72**
A(H1N1)pdm09	9
A(H3N2)	61
A(H3N2) & Rhino/Enterovirus	2

Influenza B*	**11**
B	10
B & Coronavirus	1

Other Respiratory Pathogens	**419**
Adenovirus	11
Chlamydophila pneumoniae	1
Coronavirus	16
Human Metapneumovirus	9
Mycoplasma pneumoniae	16
Parainfluenza	74
RSV	33
Rhinovirus/Enterovirus	214
Non-influenza Viral Coinfections	43
Non-influenza Bacterial Coinfections	2
-*C. pneumo* coinfections *(1)*	
-*M. pneumo* coinfections *(1)*	

No Pathogen Detected	**464**

Results are preliminary and may change as more results are finalized.
**Influenza B lineages and specimens submitted for sequencing only will be reported in the periodic molecular sequencing reports.*

Respiratory Highlights
19 November - 2 December 2017 (Surveillance Weeks 47 & 48)

- During 19 November - 2 December 2017, a total of 222 specimens were collected and received from 50 locations. Results were finalized for 106 specimens from 36 locations. During Week 47, nine influenza A(H3N2), five influenza A(H1N1)pdm09, three influenza B, and one influenza B co-infection were detected with an influenza percent positive of approximately 23%. During Week 48, nine influenza A(H3N2), two influenza A(H1N1)pdm09, and one influenza B were detected with an influenza percent positive of approximately 41%.
- According to the CDC FluView, influenza activity increased slightly during Week 48 in the U.S. with influenza A remaining the predominant virus type. There were two influenza-associated pediatric deaths. The proportion of outpatient Influenza-Like Illness (ILI) visits remained at 2.3%, continuing to exceed the national baseline of 2.2%. (CDC, FluView Report Week 48, cited 8 December 2017).
- A new study was conducted estimating seasonal influenza-associated mortality rates from years 2010-2012 in Bangladesh to identify the level of burden and measure the effectiveness of public health interventions currently being implemented. Surveillance data and laboratory specimens from hospitalized patients were collected using a hospital-based influenza surveillance (HBIS) system, which included 12 facilities across Bangladesh. Thirteen percent of these hospitalized patients tested positive for influenza. During the 2010-2011 influenza season, the estimated influenza-associated mortality rate was measured at 6 per 100,000 for children under the age of five and 41 per 100,000 for those over the age of 60. During the 2011 -2012 season, the estimated influenza-associated mortality rate was measured at 13 per 100,000 among children under the age of five and 88 per 100,000 among those over the age of 60. Based on these findings, the researchers concluded that further preventive measures need

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	Page 3
Vaccination Status by Beneficiary Type and Service Demographic Summary	Page 4
Geographic Distribution of Influenza Subtype and Activity Level Maps	Page 5
DoD Global, Respiratory Pathogen Surveillance Program Background	Page 6

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

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

Region*		A(H1N1)pdm09	A(H3N2)	B	B & Corona	Adenovirus	*C. pneumoniae*	hMPV	*M. pneumoniae*	Parainfluenza	RSV	Rhinovirus/Enterovirus	Corona & RSV	Corona & Rhino/Entero	RSV & Rhino/Entero	No Pathogen	Total
EUCOM	Landstuhl RMC, Germany	-	-	1	-	-	1	-	-	-	1	2	-	-	-	1	6
	NAVSTA Rota, Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	NSA Naples, Italy	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3
	RAF Lakenheath, England	1	-	-	-	1	-	-	-	-	2	-	-	-	-	3	7
	Ramstein AB, Germany	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	4
	USAG Baumholder, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	USAG Grafenwoehr, Germany	-	-	-	-	-	-	-	-	-	-	2	-	-	-	3	5
	USAG Wiesbaden, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Vilseck AHC, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
PACOM	Misawa AB, Japan	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	Yokota AB, Japan	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	3
Region 2	Ft Drum, NY	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	USMA - West Point, NY	-	-	-	-	1	-	-	1	-	1	3	-	-	-	1	7
Region 3	JB Andrews, MD	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	NCRM - Walter Reed NMMC, MD	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Region 4	Eglin AFB, FL	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2
	Ft Bragg, NC	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Hurlburt Field, FL	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Moody AFB, GA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Robins AFB, GA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Shaw AFB, SC	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 5	Scott AFB, IL	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Wright-Patterson AFB, OH	-	5	1	-	-	-	1	1	2	-	1	1	-	-	3	15
Region 6	Altus AFB, OK	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	2
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
	Tinker AFB, OK	4	-	-	-	-	-	-	-	-	-	1	-	-	-	1	6
Region 7	McConnell AFB, KS	-	4	-	-	-	-	-	-	-	-	-	-	-	-	1	5
	Offutt AFB, NE	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	3
Region 8	Peterson AFB, CO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	USAF Academy, CO	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
Region 9	Travis AFB, CA	-	1	-	-	-	-	-	-	2	-	-	-	-	-	-	3
Region 10	Fairchild AFB, WA	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	2
	Mt Home AFB, ID	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
	NH Bremerton, WA	-	3	-	-	1	-	-	-	-	-	1	-	-	-	1	6
Total		7	18	4	1	3	1	1	2	11	8	12	1	1	1	35	106

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

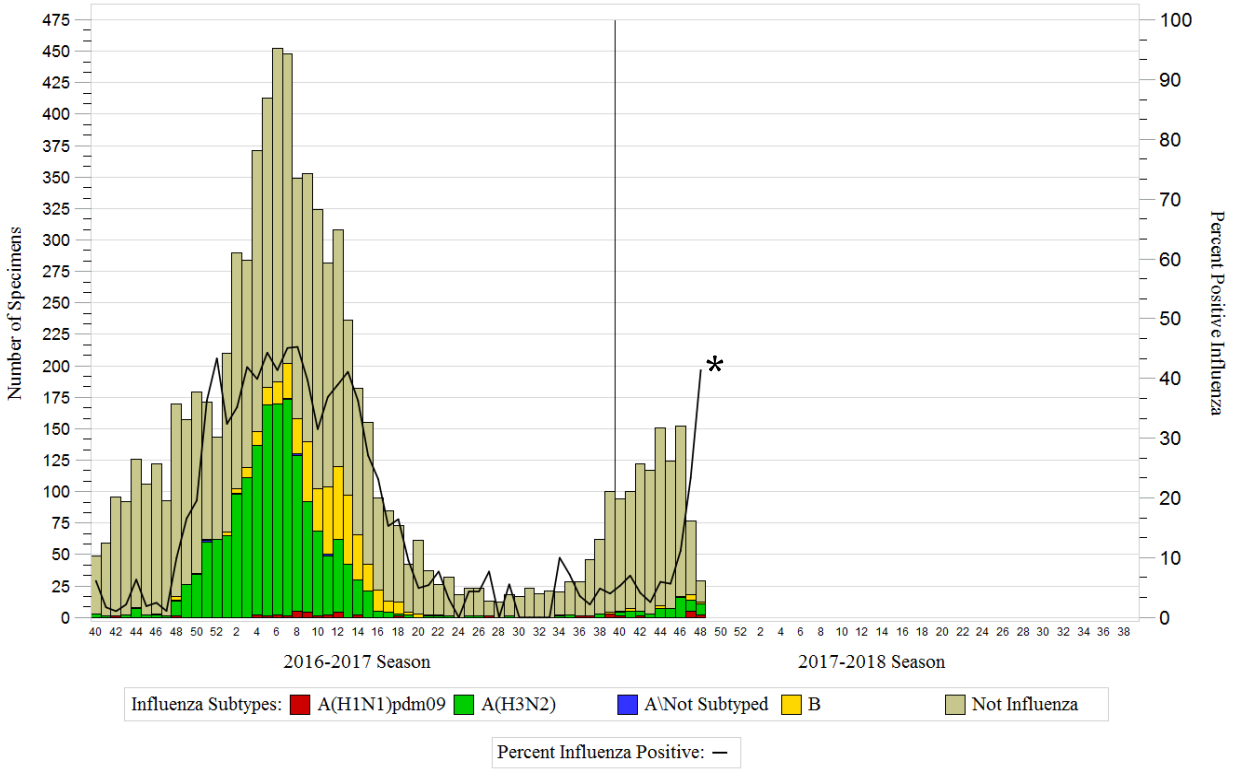
88ABW-2015-5508 and PA email guidance dated 10 November 2015.

DoD Global Respiratory Pathogen Surveillance Program

Cumulative Laboratory Results

Link to cumulative results by region and location: https://gumbo2.wpafb.af.mil/epi-consult/influenza/LabResultsChart.cfm

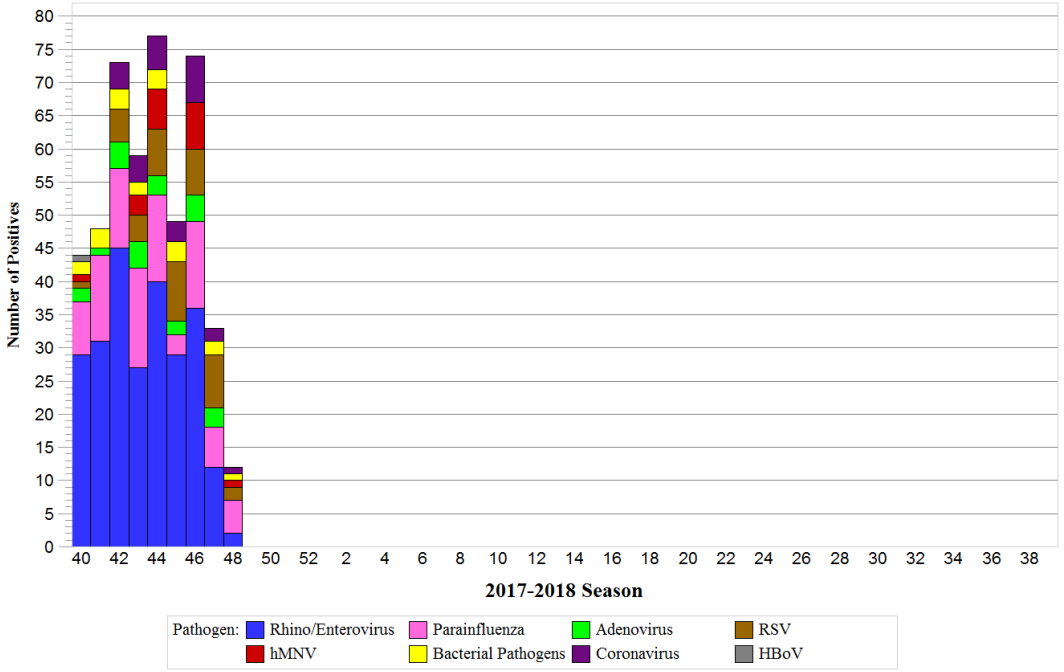
Graph 1. Percent influenza positive by week: 2016-2017 surveillance year and through Week 48 of the 2017-2018 surveil-



*Week 48 percent positive appears elevated due to numerous specimens pending results

Note: Dual influenza coinfections are excluded from this graph.

Graph 2. Other positive respiratory pathogens for the 2017-2018 surveillance year through Week 48



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

Graph 3. Vaccination status by beneficiary type for the 2017-2018 surveillance year through Week 48 (excluding 'Other' beneficiary type)

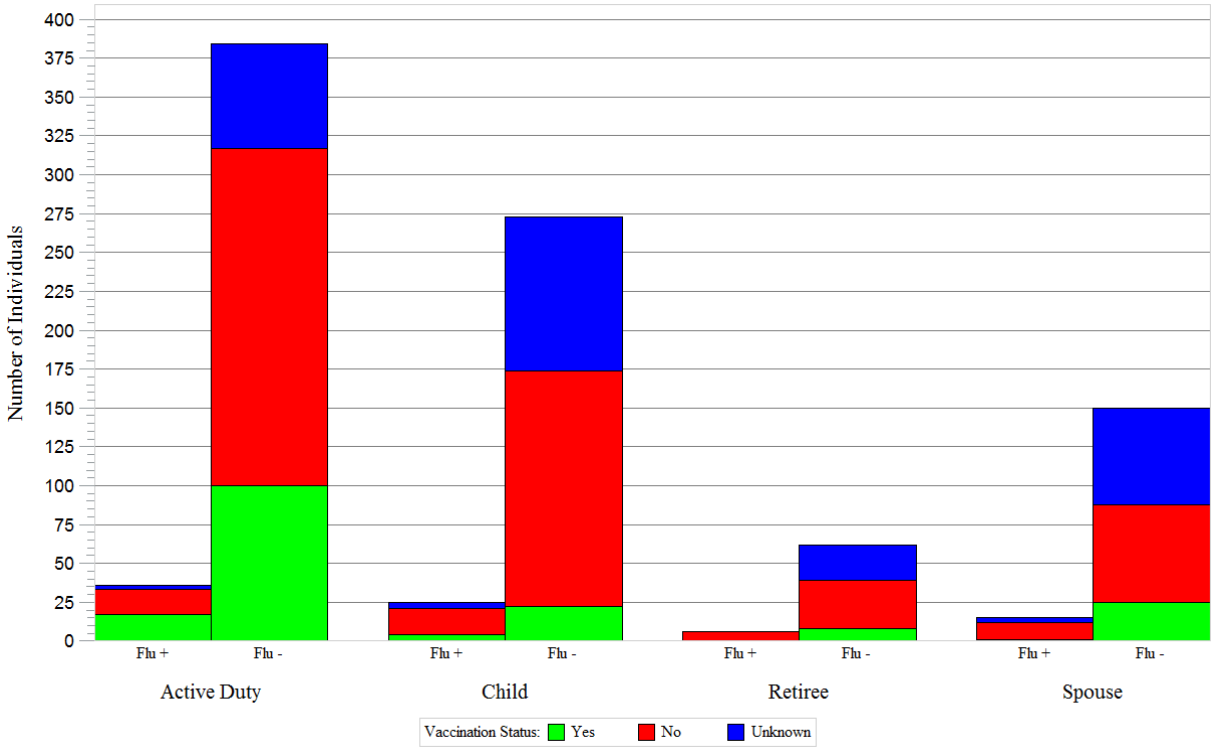
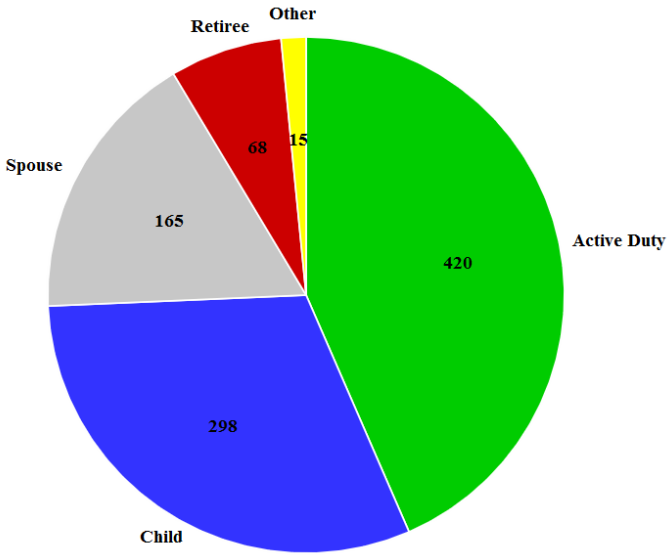


Table 2. ILI by age group for the 2017-2018 surveillance year through Week 48

Age Group	Frequency	Percent
0-5	200	20.70
6-9	45	4.66
10-17	67	6.94
18-24	179	18.53
25-44	328	33.95
45-64	94	9.73
65+	53	5.49

Graph 4. ILI by beneficiary status for the 2017-2018 surveillance year through Week 48

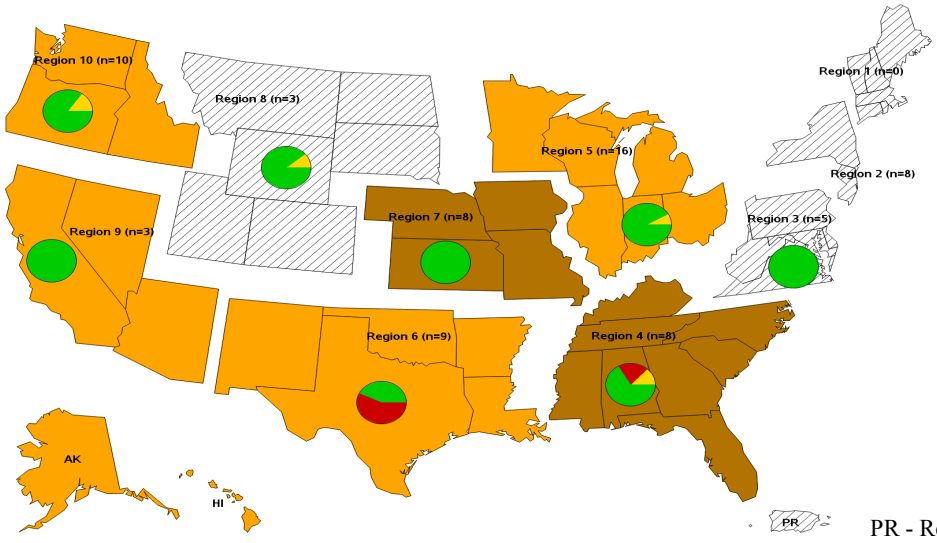


Demographic Summary

Of 966 ILI cases, 420 are service members (43.5%), 298 are children (30.8%), 165 are spouses (17.1%), and 83 are retirees and other beneficiaries (8.6%). The median age of ILI cases with known age (n=966) is 24 (range 0, 88).

DoD Global Respiratory Pathogen Surveillance Program

Map 1. Influenza subtypes and activity level by U.S. region for the 2017-2018 surveillance year through Week 48

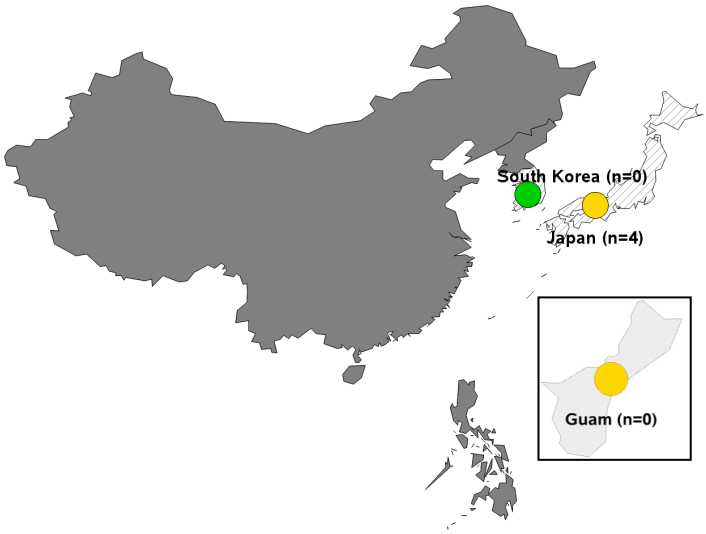


HI - Region 9

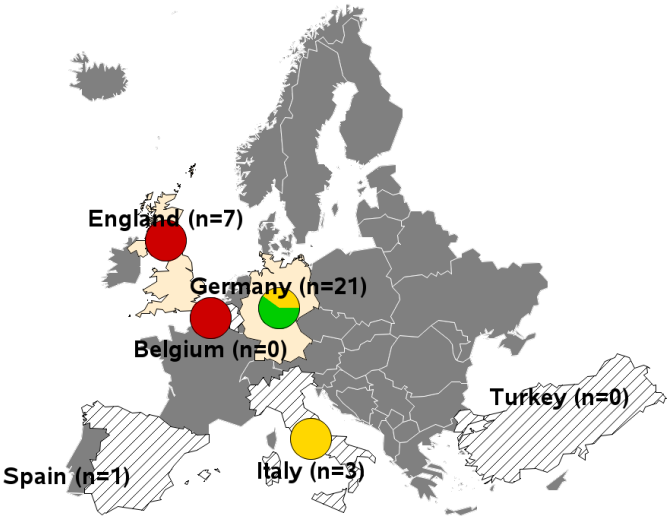
AK - Region 10

PR - Region 2

Map 2. Influenza subtypes and activity level by country for the 2017-2018 surveillance year through Week 48 (Pacific)



Map 3. Influenza subtypes and activity level by country for the 2017-2018 surveillance



Note - Countries shaded in gray do not contain submitting sites and are only displayed for geographical perspective.

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.

USAF School of Aerospace Medicine & Defense Health Agency

DoD Global Respiratory Pathogen 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 79 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, USAMRD-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. EUCOM respiratory data is obtained from LRMC and incorporated into our weekly report. This process seeks to provide more timely results and efficient transport of specimens.

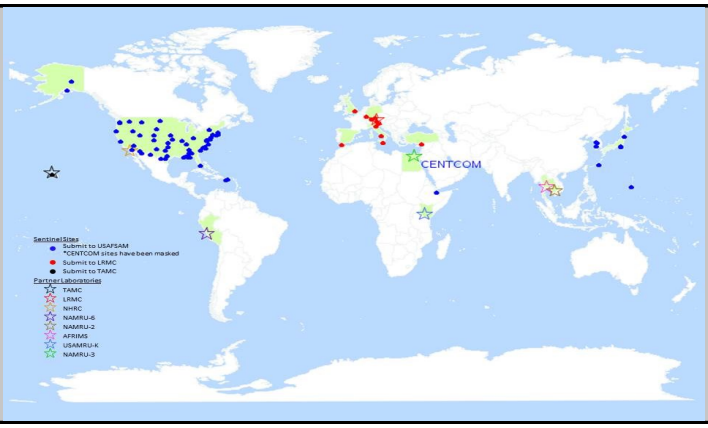
Available on our website (listed below) is a list of previous weekly surveillance reports, program information (including an educational briefing and instruction pamphlets for clinic staff), and a dashboard containing respiratory data for our sentinel sites.

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.