



Cumulative Results

Locations	75
Collected	678
Tested	669

Influenza A 30

A(H1N1)pdm09	2
A(H3N2)	26
A(H3N2) & Rhino/Enterovirus	2

Influenza B* 4

B	4
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Other Respiratory Pathogens 297

Adenovirus	8
Coronavirus	9
Human Metapneumovirus	7
<i>Mycoplasma pneumoniae</i>	13
Parainfluenza	49
RSV	17
Rhinovirus/Enterovirus	172
Non-influenza Viral Coinfections	20
Non-influenza Bacterial Coinfections	2
-C. pneumo coinfections (1)	
-M. pneumo coinfections (1)	

No Pathogen Detected 338

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

29 October - 11 November 2017 (Surveillance Weeks 44 & 45)

- During 29 October - 11 November 2017, a total of 236 specimens were collected and received from 61 locations. Results were finalized for 233 specimens from 60 locations. During Week 44, seven influenza A(H3N2), one influenza A(H3N2) & rhinovirus/enterovirus, and one influenza B were detected. During Week 45, five influenza A(H3N2) were detected. The influenza percent positive for Weeks 44 and 45 was approximately 6%.
- Through 15 November 2017, nine laboratory-confirmed, influenza-related hospitalization cases across the DoD have been reported for the 2017-2018 influenza season (Data provided by Navy and Marine Corps Public Health Center (NMCPHC)).
- A recent Canadian study examined the financial burden of laboratory-confirmed, influenza-related hospitalizations in Canadian adults spanning three flu seasons (2010-2013). They found an approximate average direct cost of \$14,612 CAD (2015 Canadian dollars) with an average hospital stay of 10.8 days per case. Unit costs included, “medical care prior to admission, initial hospital stay and post discharge within 30 days.” The mean age for the study was 69.5 years and included cases from all across Canada with most coming from Ontario and Quebec provinces. The cost and duration of hospitalized laboratory-confirmed influenza cases from this study were higher than previous estimates and are intended to better educate influenza vaccination programs throughout Canada. This article has been accepted for publication. ([Influenza and other respiratory viruses](#) “doi: 10.1111/irv.12521,” cited 16 November 2017).
- According to the CDC FluView, influenza activity remained low, but is increasing in the United States through Week 44. The proportion of outpatient visits for influenza-like illness (ILI) was below the national baseline. ILI was below region-specific baseline levels for all 10

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DoD Global Respiratory Pathogen Surveillance Program

Table 1. Finalized results by region and location for specimens collected during Weeks 44 & 45

Region*		A(H3N2)	A(H3N2) & Rhino/Enter	B	Adenovirus	Coronavirus	hMNV	<i>M. pneumoniae</i>	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & hMNV & RSV	Corona & <i>M. pneumo</i>	Corona & Rhino/Enter	hMNV & Para	No Pathogen	Total
EUCOM	Aviano AB, Italy	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	Landstuhl RM C, Germany	-	-	-	-	-	1	-	1	-	2	1	-	-	-	7	12
	NAS Sigonella, Italy	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
	RAF Lakenheath, England	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	4
	Ramstein AB, Germany	-	-	-	-	-	1	-	-	-	1	-	-	-	1	2	5
	SHAPE, Belgium	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2
	Spangdahlem AB, Germany	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	USAG Baumholder, Germany	-	-	-	-	-	1	-	-	-	2	-	-	-	-	5	8
	USAG Stuttgart, Germany	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3	6
	USAG Wiesbaden, Germany	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3	6
	Vilseck AHC, Germany	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
PACOM	Eielson AFB, AK	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
	JB Elmendorf-Richardson, AK	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Misawa AB, Japan	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	3
	NH Okinawa, Japan	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	Osan AB, South Korea	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
	Yokota AB, Japan	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Region 2	Ft Drum, NY	1	-	-	-	-	-	-	-	-	1	-	-	-	-	2	4
	USMA - West Point, NY	-	-	-	-	-	-	-	-	-	2	-	-	-	-	5	7
Region 3	Dover AFB, DE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	JB Anacostia-Bolling, DC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	JB Andrews, MD	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	3
	JB Langley-Eustis, VA	-	-	-	-	-	-	-	1	-	1	-	-	-	-	4	6
	NCRM - Walter Reed NM C, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	US Naval Academy, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 4	Eglin AFB, FL	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	3
	Ft Bragg, NC	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
	Ft Campbell, KY	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	Hurlburt Field, FL	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	3
	Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	Moody AFB, GA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Seymour Johnson AFB, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	Shaw AFB, SC	-	-	-	-	-	-	-	3	4	3	-	-	-	-	4	14

(Cont'd on page 3)

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

DoD Global Respiratory Pathogen Surveillance Program

Table 1. Finalized results by region and location for specimens collected

(Cont'd from page 2)

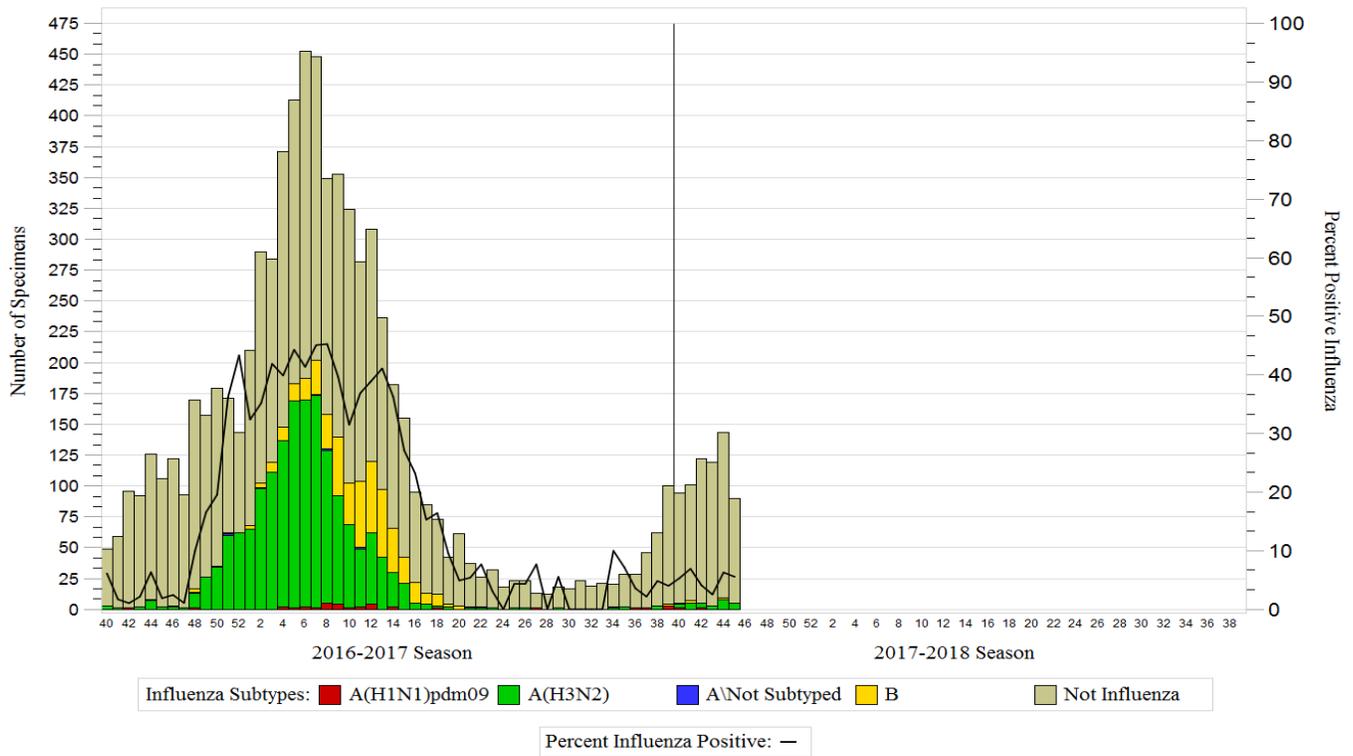
Region*		A(H3N2)	A(H3N2) & Rhino/Entero	B	Adenovirus	Coronavirus	hMPV	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & hMPV & RSV	Corona & M. pneumoniae	Corona & Rhino/Entero	hMPV & Para	No Pathogen	Total
Region 5	Scott AFB, IL	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3
	Wright-Patterson AFB, OH	-	-	-	-	-	1	2	-	-	8	-	1	-	-	17	29
Region 6	Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Barksdale AFB, LA	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
	Sheppard AFB, TX	2	-	-	-	1	-	1	3	2	3	-	-	-	-	8	20
	Tinker AFB, OK	-	-	-	-	-	-	-	-	-	1	-	-	-	-	4	5
	Vance AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Region 7	M cConnell AFB, KS	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	Offutt AFB, NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
Region 8	Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	FE Warren AFB, WY	-	-	-	-	-	-	-	2	-	4	-	-	-	-	3	9
	Hill AFB, UT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	3
	Minot AFB, ND	-	-	-	-	1	-	1	1	-	-	-	-	-	-	1	4
	Peterson AFB, CO	2	-	-	-	-	-	-	-	-	1	-	-	-	-	1	4
	USAF Academy, CO	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	4
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	1	-	-	-	-	4	5
	Los Angeles AFB, CA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Luke AFB, AZ	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Nellis AFB, NV	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Travis AFB, CA	1	-	-	-	-	-	-	1	-	1	-	-	-	-	4	7
Region 10	Fairchild AFB, WA	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2
	McChord AFB, WA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	NH Bremerton, WA	-	-	-	1	-	-	-	-	-	-	-	-	-	-	5	6
Total		12	1	1	3	4	4	4	14	9	57	1	1	1	1	120	233

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

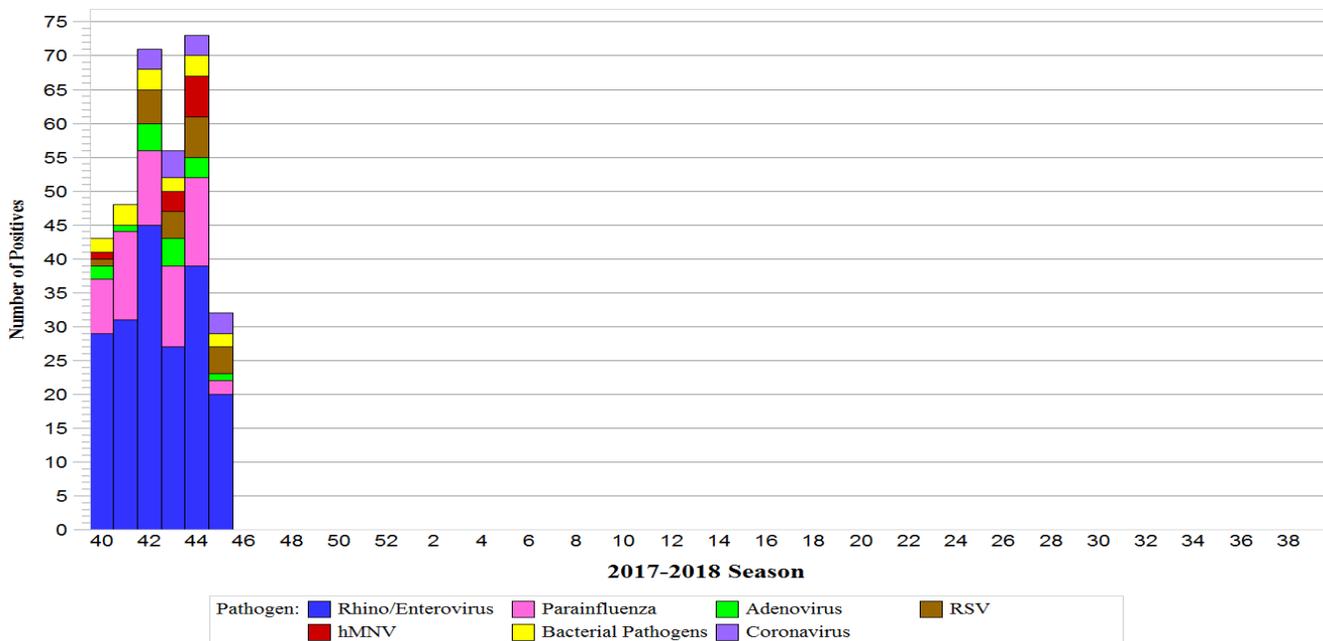
Cumulative Laboratory Results

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 45 of the 2017-2018



Graph 2. Other positive respiratory pathogens for the 2017-2018 surveillance year through Week 45



Graph 3. Vaccination status by beneficiary type for the 2017-2018 surveillance year through Week 45 (excluding 'Other' beneficiary type)

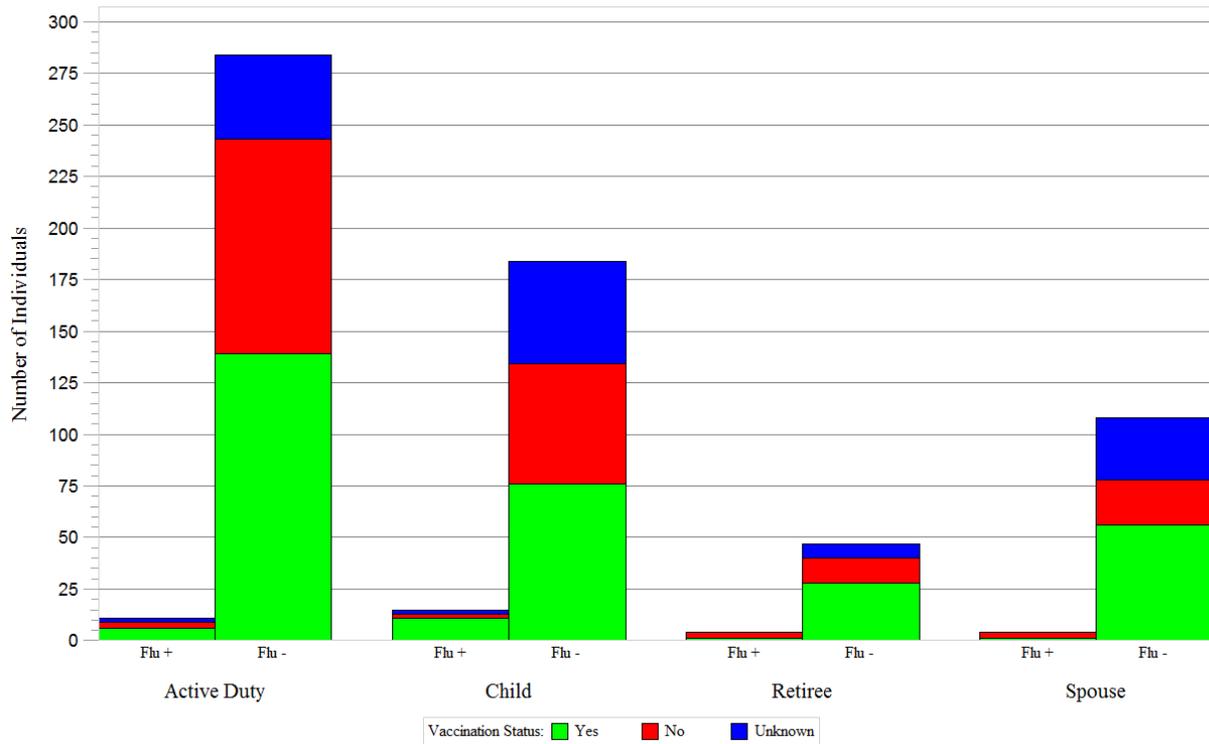
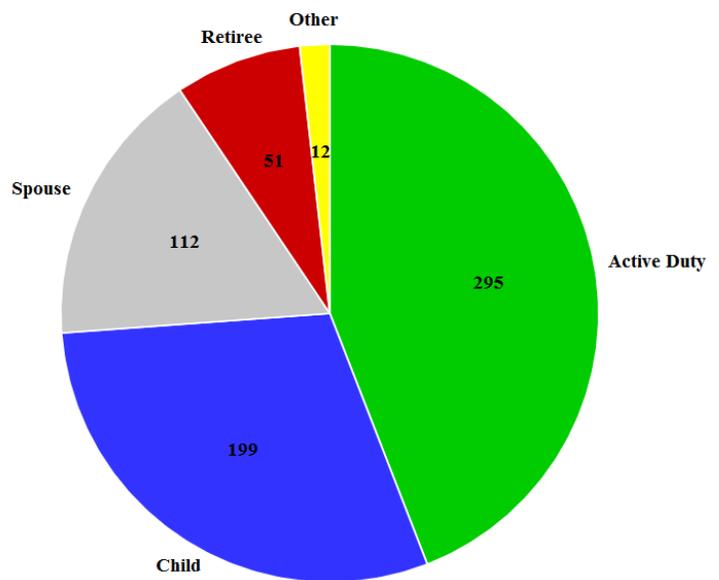


Table 2. ILI by age group for the 2017-2018 surveillance year through Week 45

Age Group	Frequency	Percent
0-5	138	20.63
6-9	28	4.19
10-17	42	6.28
18-24	135	20.18
25-44	224	33.48
45-64	65	9.72
65+	37	5.53

Graph 4. ILI by beneficiary status for the 2017-2018 surveillance year through Week 45

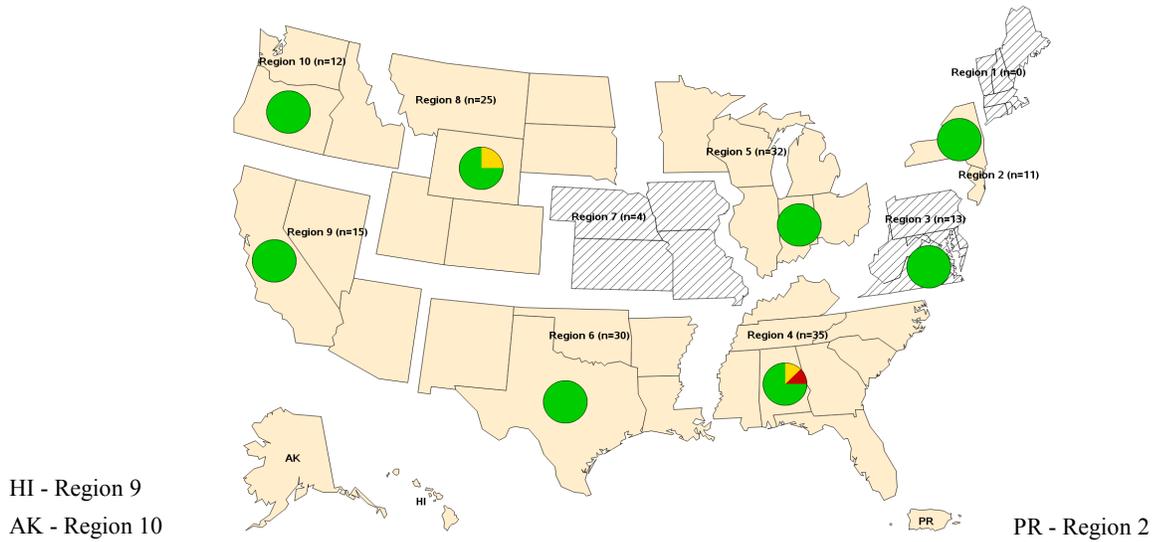


Demographic Summary

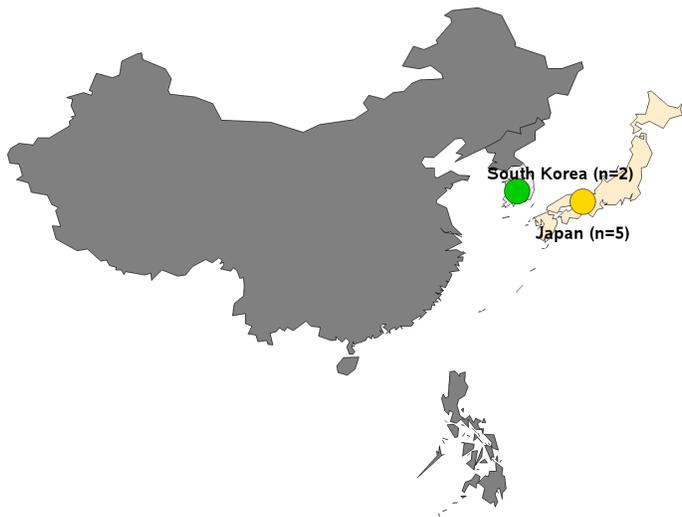
Of 669 ILI cases, 295 are service members (44.1%), 199 are children (29.8%), 112 are spouses (16.7%), and 63 are retirees and other beneficiaries (9.4%). The median age of ILI cases with known age (n=669) is 24 (range 0, 88).

DoD Global Respiratory Pathogen Surveillance Program

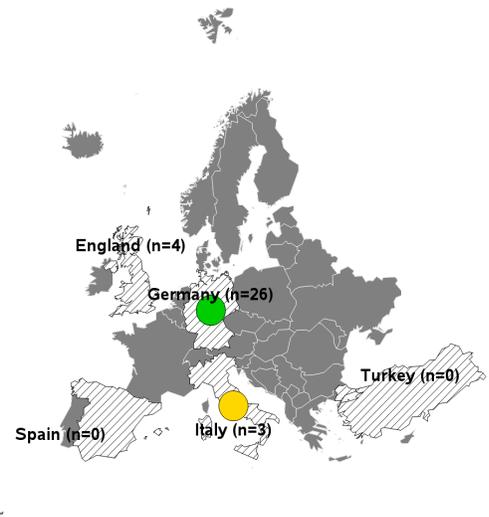
Map 1. Influenza subtypes and activity level by U.S. region for the 2017-2018 surveillance year through Week 45



Map 2. Influenza subtypes and activity level by country for the 2017-2018 surveillance year through Week 45 (Pacific)



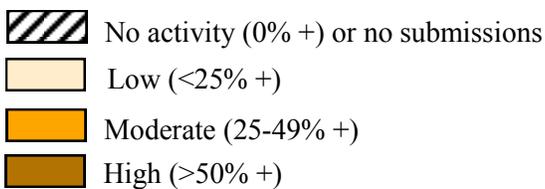
Map 3. Influenza subtypes and activity level by country for the 2017-2018 surveillance year through Week 45 (Europe)



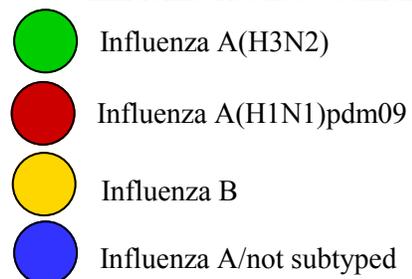
Note - Countries shaded in gray do not contain sentinel sites and are only displayed for geographical perspective.

Legend

Influenza Activity - Past 2 weeks (n = # of submissions)



Influenza Results - Cumulative



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, 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. 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.

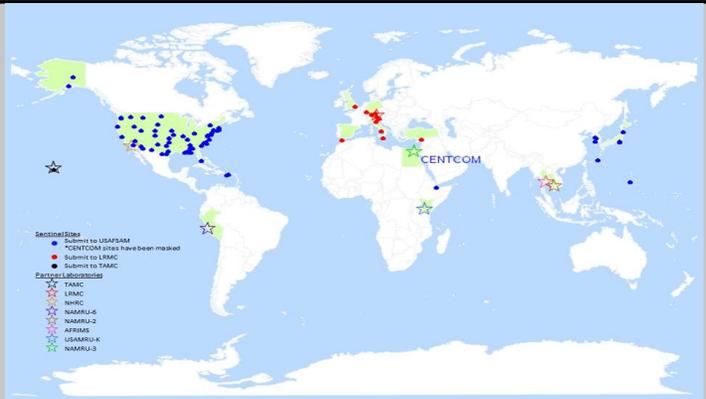
Errata:



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.

