



Cumulative Results

Locations	84
Collected	1,870
Tested	1,834

Influenza A 219

A(H1N1)pdm09	21
A(H1N1)pdm09 Coinfection	3
A(H3N2)	183
A(H3N2) Coinfection	11
A(H3N2) & B	1

Influenza B* 37

B	34
B & Coinfection	3

Other Respiratory Pathogens 775

Adenovirus	26
<i>Chlamydomphila pneumoniae</i>	5
Coronavirus	91
Human Bocavirus	3
Human Metapneumovirus	38
<i>Mycoplasma pneumoniae</i>	23
Parainfluenza	87
RSV	96
Rhinovirus/Enterovirus	309
Non-influenza Viral Coinfections	90
Non-influenza Bacterial Coinfections	7
-C. pneumo coinfections (2)	
-M. pneumo coinfections (5)	

No Pathogen Detected 803

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

10 - 23 December 2017 (Surveillance Weeks 50 & 51)

- During 10-23 December 2017, a total of 478 specimens were collected and received from 62 locations. Results were finalized for 458 specimens from 62 locations. During Week 50, 52 influenza A(H3N2) (including seven coinfections), four influenza A(H1N1)pdm09 (including two coinfections), and seven influenza B (including one coinfection) viruses were detected with an influenza percent positive of approximately 24%. During Week 51, 56 influenza A (H3N2) (including two coinfections), seven influenza A(H1N1)pdm09, and 11 influenza B viruses (including one coinfection) were detected with an influenza percent positive of approximately 37%. The influenza percent positive for the season is 14%.
- According to the CDC FluView, influenza activity sharply increased during Week 51 in the U.S. with influenza A(H3) remaining the predominant virus type. There were three influenza-associated pediatric deaths. The proportion of outpatient Influenza-Like Illness (ILI) visits was 5.0%, continuing to exceed the national baseline of 2.2%. All 10 of the Health and Human Services regions reported ILI at or above region-specific baseline levels. Twenty one states experienced high ILI activity. (CDC, [FluView Report Week 51](#), cited 29 December 2017).
- The CDC issued a Health Alert Network notice on 27 December 2017 due to the recent spike in influenza activity where influenza A(H3N2) has predominated so far this season. Influenza A(H3N2) dominant seasons typically have greater hospitalizations and deaths for those over 65 and young children versus other age groups. Vaccine effectiveness is commonly lower for influenza A(H3N2) than for other circulating strains. Therefore, the CDC is advising medical providers to prescribe neuraminidase inhibitor (NAI) antiviral medications for the treatment of influenza this season as evidence has shown that NAI's "have clinical and public health benefit in reducing illness and severe outcomes of influenza." Historical evidence also suggests that these treatments are not administered at sufficient levels for those who need it. The CDC's health advisory recommendation is specifically for all high-risk patients suspected

Table of Contents

Respiratory Highlights	Page 1
Results by Region and Location for Specimens Collected during Weeks 50 & 51	Pages 2 & 3
Laboratory Results (Influenza) - Cumulative for Season	Page 4
Laboratory Results (Other Respiratory Pathogens) - Cumulative for Season	Page 5
Vaccination Status by Beneficiary Type and Service Demographic Summary	Page 6
Geographic Distribution of Influenza Subtype and Activity Level Maps	Page 7
DoD Global Respiratory Pathogen Surveillance Program Background	Page 8

DoD Global Respiratory Pathogen Surveillance Program

Table 1. Finalized results by region and location for specimens collected during Weeks 50 & 51

Region*		A/H1N1)pdm09	A(H3N2)	A/H1N1)pdm09 & Corona	A(H3N2) & B	A(H3N2) & Corona	A(H3N2) & IMPV	A(H3N2) & RSV	A(H3N2) & Corona & Rhino/Entero	A(H3N2) & Rhino/Entero	B	B & Para	B & Rhino/Entero	Adenovirus	C. pneumoniae	Coronavirus	HBoV	IMPV	M. pneumoniae	Parainfluenza	RSV	Rhinovirus/Enterovirus	Adeno & C. pneumo	Adeno & Corona	Adeno & RSV	Adeno & RSV & Rhino/Entero	Adeno & Rhino/Entero	Corona & HBoV	Corona & HBoV & Rhino/Entero	Corona & Para	Corona & RSV	Corona & RSV & Rhino/Entero	Corona & Rhino/Entero	HBoV & Para	HBoV & RSV	IMPV & Rhino/Entero	Para & Rhino/Entero	RSV & Rhino/Entero	No Pathogen	Total				
EUCOM	Landstuhl RMC, Germany	-	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	6	11		
	NAVSTA Rota, Spain	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5		
	RAF Lakenheath, England	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2		
	Ramstein AB, Germany	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	7	
	SHAPE, Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Spangdahlem AB, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	
	USAG Grafenwoehr, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	
	USAG Stuttgart, Germany	-	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	8		
	USAG Wiesbaden, Germany	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6	
PACOM	Camp Zama, Japan	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
	JR Marianas - Andersen AFB, Guam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Kadena AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Misawa AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
	Tripler AMC, HI	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4		
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4	4
Region 2	Ft Drum, NY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	3	2	1	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	5	17
	JB McGuire-Dix-Lakehurst, NJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	2		
	USMA - West Point, NY	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-	4	1	1	2	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	22
Region 3	Dover AFB, DE	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	16
	JB Andrews, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	
	JB Langley-Eustis, VA	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	13	
Region 4	Eglin AFB, FL	1	14	-	-	-	-	1	-	-	1	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	4	25	
	Ft Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3
	Ft Campbell, KY	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
	Hurlburt Field, FL	-	7	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14	
	JB Charleston (AF), SC	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
	Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3		
	Maxwell AFB, AL	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3		
	Moody AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3		
	NH Beaufort, SC	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5		
	NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
	Robins AFB, GA	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
	Seymour Johnson AFB, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
	Shaw AFB, SC	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	4	9	
Tyndall AFB, FL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	

Cont'd on page 3

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

Cont'd from page 2

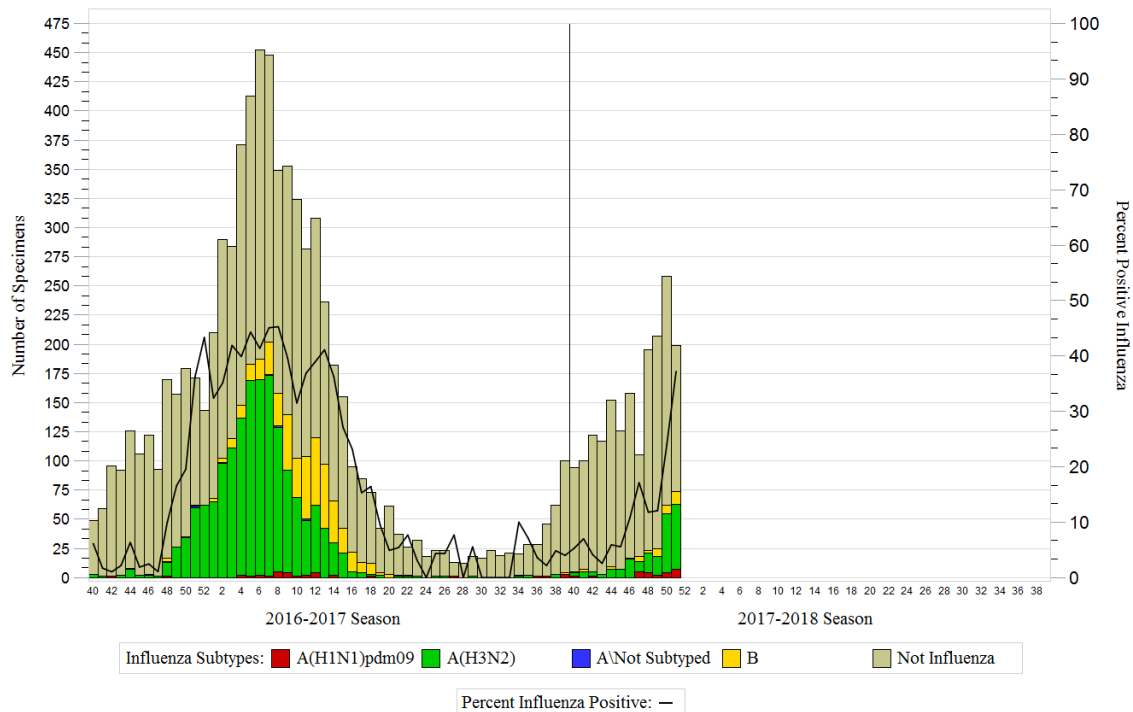
[illegible]

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

Cumulative Laboratory Results

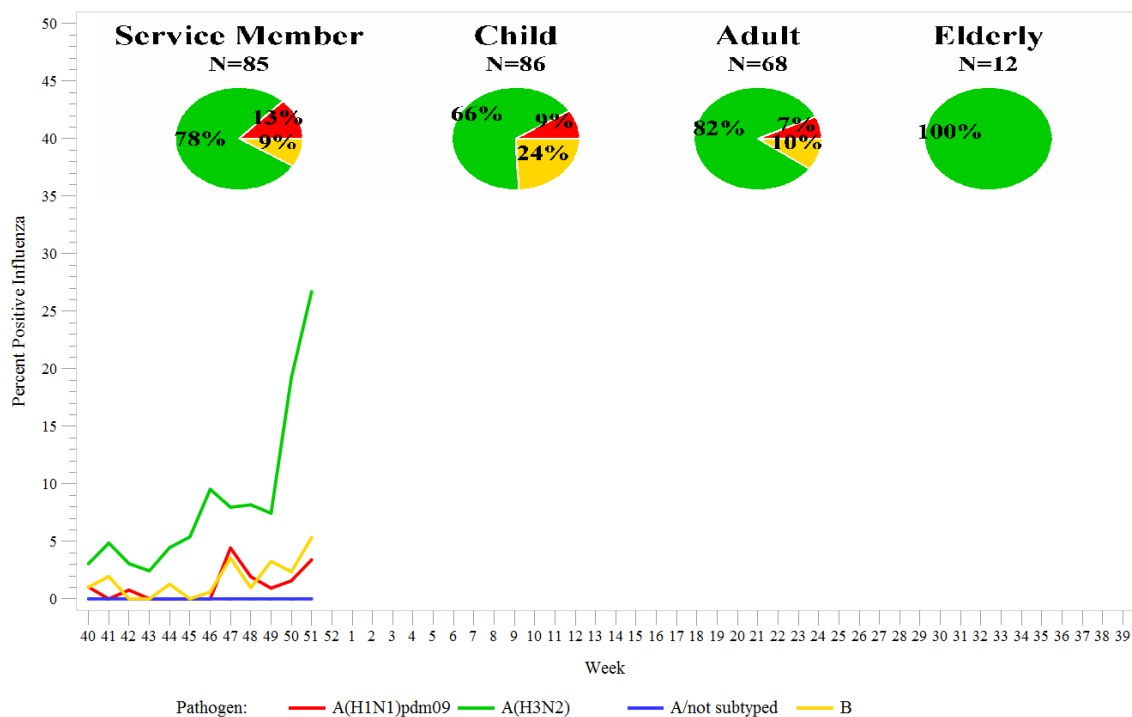
Link to cumulative results by region and location:

Graph 1. Percent influenza positive by week: 2016-2017 surveillance year and through Week 51 of the

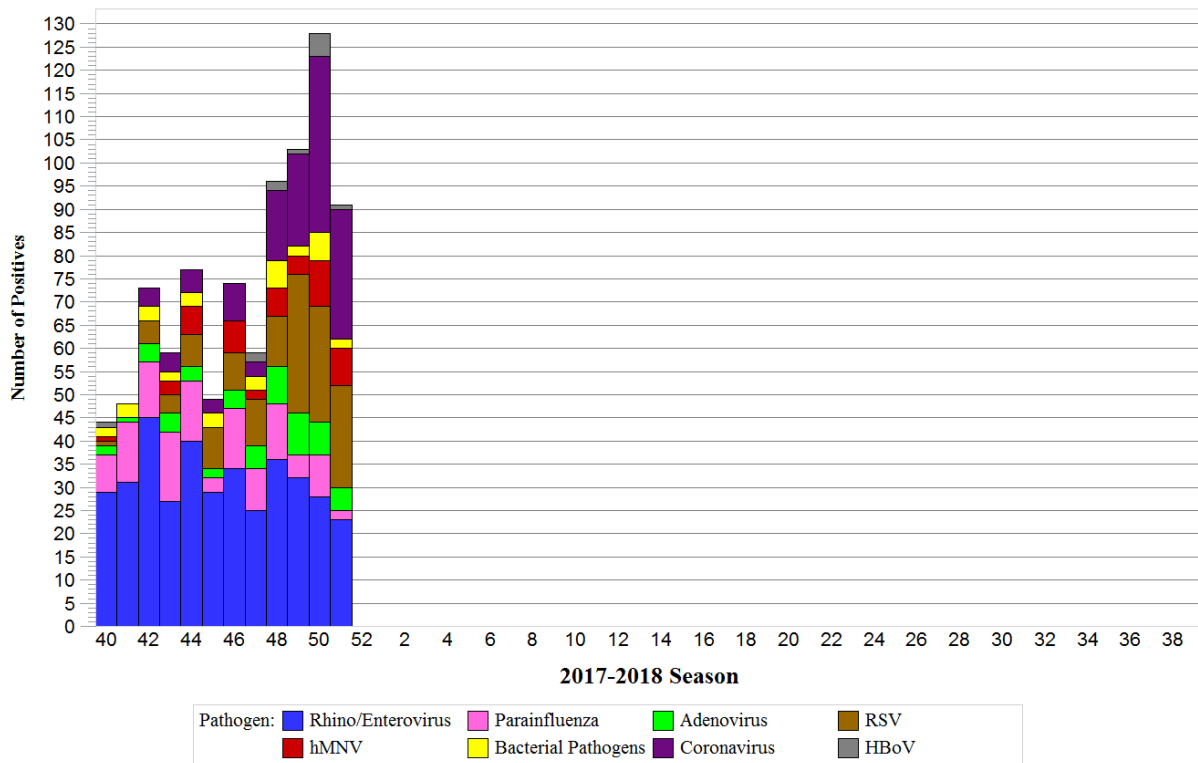


Note: Dual influenza coinfections are excluded from this graph.

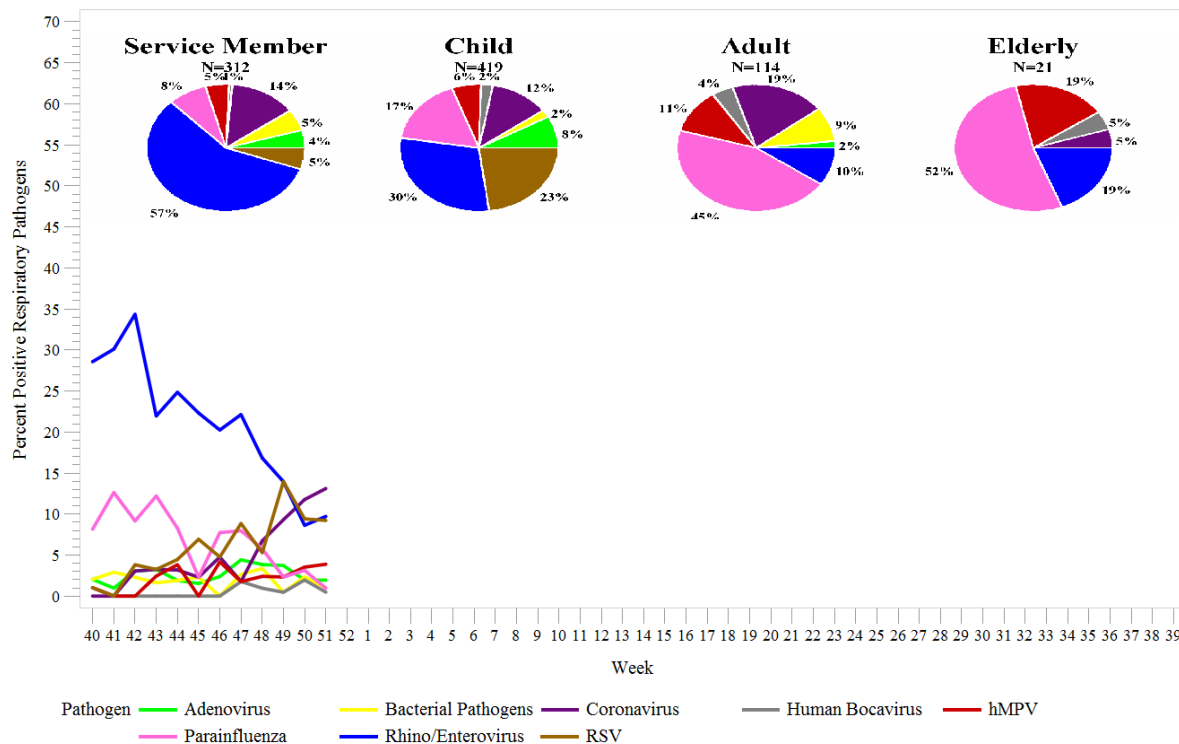
Graph 2. Percent positive for influenza through ILI trends by subtype and beneficiary status through



Graph 3. Other positive respiratory pathogens for the 2017-2018 surveillance year through Week 51



Graph 4. Percent positive for respiratory pathogens through ILI trends by week and beneficiary status



Graph 5. Vaccination status by beneficiary type for the 2017-2018 surveillance year through Week 51 (excluding 'Other'

ben-

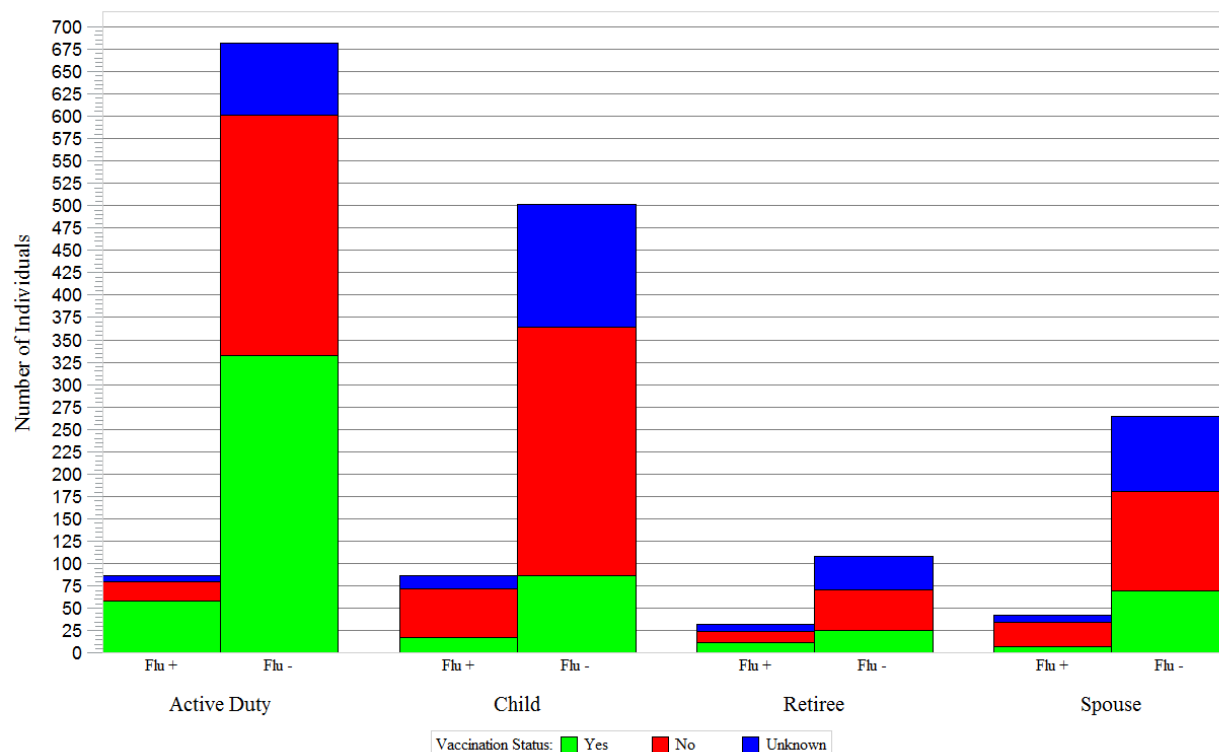
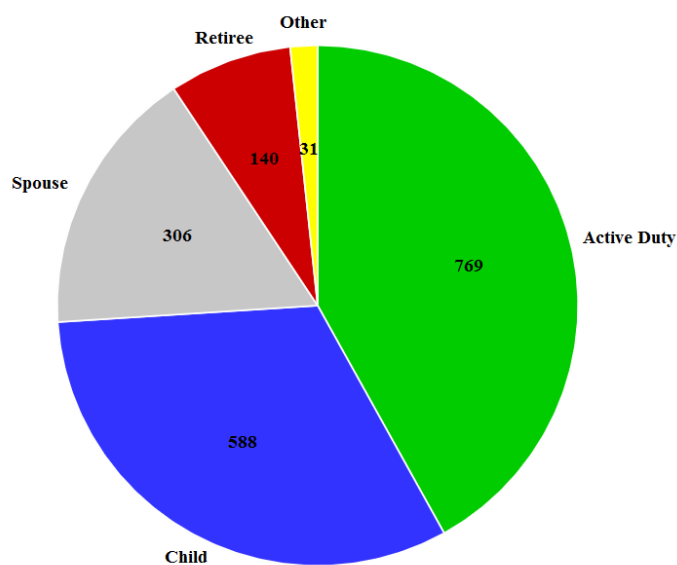


Table 2. ILI by age group for the 2017-2018 surveillance year through Week 51

Age Group	Frequency	Percent
0-5	375	20.45
6-9	96	5.23
10-17	138	7.52
18-24	303	16.52
25-44	623	33.97
45-64	201	10.96
65+	98	5.34

Graph 6. ILI by beneficiary status for the 2017-2018 surveillance year through Week 51

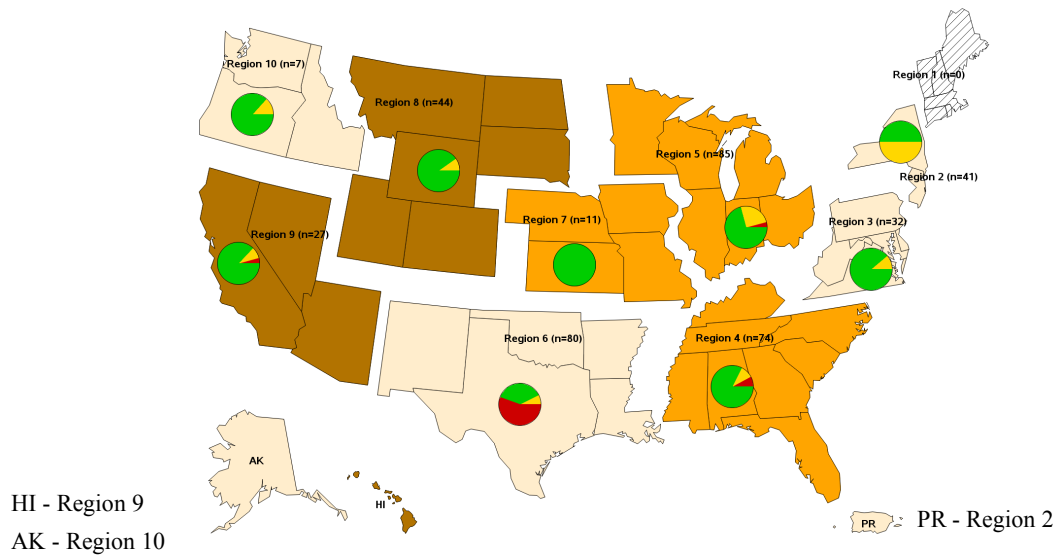


Demographic Summary

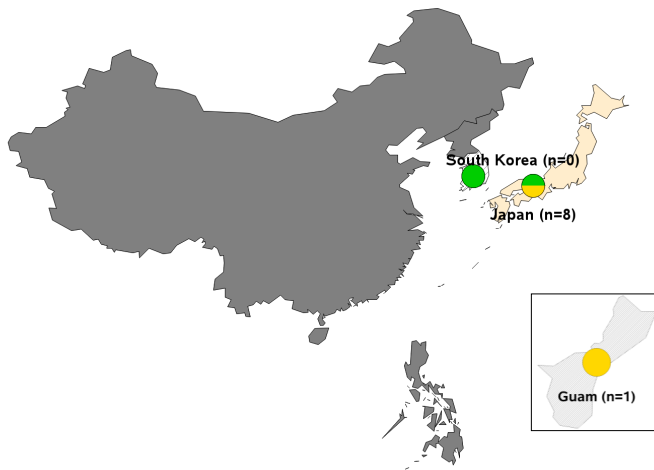
Of 1,834 ILI cases, 769 are service members (41.9%), 588 are children (32.1%), 306 are spouses (16.7%), and 171 are retirees and other beneficiaries (9.3%). The median age of ILI cases with known age (n=1,834) is 25 (range 0, 98).

DoD Global Respiratory Pathogen Surveillance Program

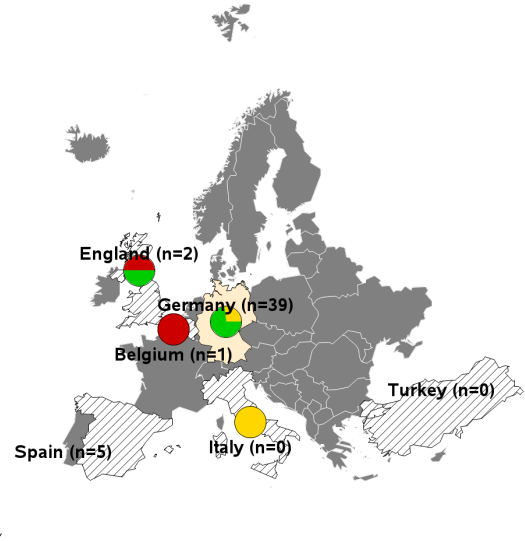
Map 1. Influenza subtypes and activity level by U.S. region for the 2017-2018 surveillance year through Week 51



Map 2. Influenza subtypes and activity level by country for the 2017-2018 surveillance year through Week 51 (Pacific)



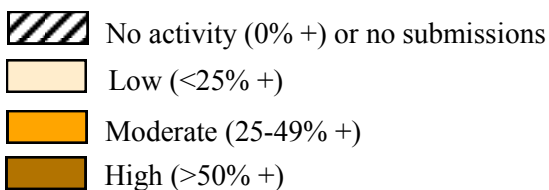
Map 3. Influenza subtypes and activity level by country for the 2017-2018 surveillance year through Week 51 (Europe)



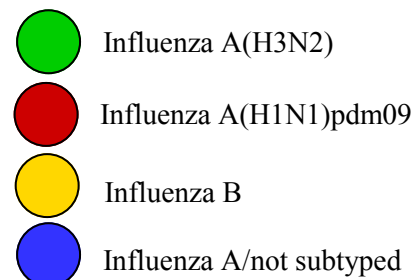
Note - Countries shaded in gray do not contain submitting sites and are only displayed for geographical perspective.

Legend

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



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).

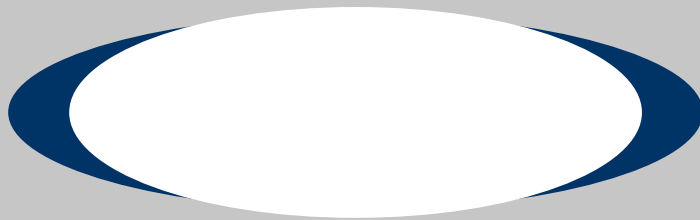
Sentinel Site Surveillance

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.

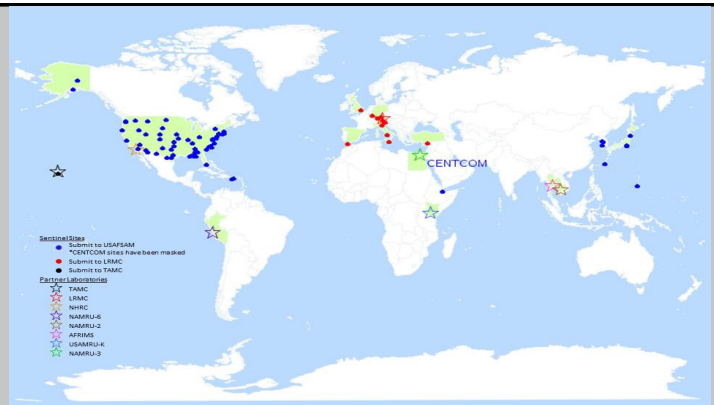
Errata:



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.

