



Cumulative Results

Locations	97
Collected	11,124
Tested	11,002

Influenza A 2,594

A(H1N1)pdm09	531
A(H1N1)pdm09 Coinfection	47
A(H1N1)pdm09 & A(H3N2)	3
A(H1N1)pdm09 & B	8
A(H3N2)	1,786
A(H3N2) Coinfection	188
A(H3N2) & B	9
A/not subtyped	19
A/not subtyped Coinfection	3

Influenza B* 1,389

B	1,285
B & Coinfection	104

Other Respiratory Pathogens 3,439

Adenovirus	120
<i>Chlamydomphila pneumoniae</i>	19
Coronavirus	633
Human Bocavirus	25
Human Metapneumovirus	403
<i>Mycoplasma pneumoniae</i>	41
Parainfluenza	182
RSV	539
Rhinovirus/Enterovirus	1,062
Non-influenza Viral Coinfections	405
Non-influenza Bacterial Coinfections	10
-C. pneumo coinfections (3)	
-M. pneumo coinfections (7)	

No Pathogen Detected 3,580

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

8 - 21 April 2018 (Surveillance Weeks 15 & 16)

- During 8 - 21 April 2018, a total of 267 specimens were collected and received from 49 locations. Results were finalized for 252 specimens from 49 locations. The percent influenza positive for Weeks 15 and 16 were 23% and 26%, respectively. The influenza percent positive for the season is approximately 36%.

Surveillance Week	A(H1N1)pdm09	A(H3N2)	B	A(H1N1)pdm09 & Rhino/Entero	A(H3N2) & hMPV	A(H3N2) & Rhino/Entero	B & Rhino/Entero	Total
Week 15	8	9	21	1	1	1	0	41
Week 16	6	4	8	0	0	0	1	19
Total	14	13	29	1	1	1	1	60

- According to a recent online CDC report, the influenza vaccine prevented an estimated 5.3 million influenza illnesses, 2.6 million influenza-associated medical visits and 85,000 influenza-associated hospitalizations during the 2016-2017 influenza season. These seasonal estimates represent a 12% decrease in the burden of flu-related hospitalizations due to vaccination. Vaccine effectiveness was approximately 40% in the 2016-2017 season and overall vaccine uptake is generally around 47% nationally. If overall vaccine uptake was increased to 70% then an additional 1.9 million illnesses, 822,000 medical visits and 17,300 hospitalizations could have been avoided during the 2016-2017 influenza season ([CDC Flu News & Spotlights](#), cited 20 April 2018).

Table of Contents

Respiratory Highlights	Page 1
Results by Region and Location for Specimens Collected during Weeks 15 & 16	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 Cumulative Specimen Sequencing	Pages 7 & 8
DoD Global Respiratory Pathogen Surveillance Program Background	Page 9

DoD Global Respiratory Pathogen Surveillance Program

Table 1. Finalized results by region and location for specimens collected during Weeks 15 & 16

Region*		A(H1N1)pdm09	A(H3N2)	B	A(H1N1)pdm09 & Rhino/Entero	A(H3N2) & hMPV	A(H3N2) & Rhino/Entero	B & Rhino/Entero	Adenovirus	Coronavirus	hMPV	<i>M. pneumoniae</i>	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Viral Coinfection	No Pathogen	Total
Deployed	Country 1, Location B	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2
EU COM	Landstuhl RMC, Germany	-	-	1	-	1	-	-	-	1	3	-	-	3	2	-	4	15
	NAS Sigonella, Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	NAVSTA Rota, Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
	NSA Naples, Italy	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	RAF Lakenheath, England	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	Ramstein AB, Germany	-	1	-	-	-	-	-	1	-	-	-	1	-	1	-	2	6
	USAG Grafenwoehr, Germany	-	2	-	-	-	-	-	-	-	1	-	-	-	1	-	-	4
	USAG Stuttgart, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	USAG Vicenza, Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
	USAG Wiesbaden, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4	5
	Vilseck AHC, Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	3
PACOM	Kunsan AB, South Korea	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
	Yokota AB, Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
Region 2	Ft Drum, NY	-	-	1	-	-	-	-	-	-	1	-	-	-	3	-	2	7
	JB McGuire-Dix-Lakehurst, NJ	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	4
	USMA - West Point, NY	-	1	1	-	-	1	-	-	-	-	-	-	-	5	-	7	15
Region 3	Dover AFB, DE	-	1	-	-	-	-	-	-	-	1	-	-	-	1	-	2	5
	JB Andrews, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2
	JB Langley-Eustis, VA	4	3	10	1	-	-	1	1	-	-	-	-	1	3	3	12	39
Region 4	Eglin AFB, FL	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Ft Campbell, KY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	JB Charleston (AF), SC	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
	Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	Maxwell AFB, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
	Moody AFB, GA	-	-	-	-	-	-	-	-	-	1	-	-	-	3	-	1	5
	Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Seymour Johnson AFB, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2
	Shaw AFB, SC	-	1	1	-	-	-	-	-	-	-	-	-	-	3	-	1	6
	Scott AFB, IL	-	-	1	-	-	-	-	-	-	1	-	-	-	1	-	2	5
Region 5	Wright-Patterson AFB, OH	3	-	6	-	-	-	-	-	-	-	-	4	-	10	1	12	36

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 during Weeks 15 & 16
Cont'd from page 2

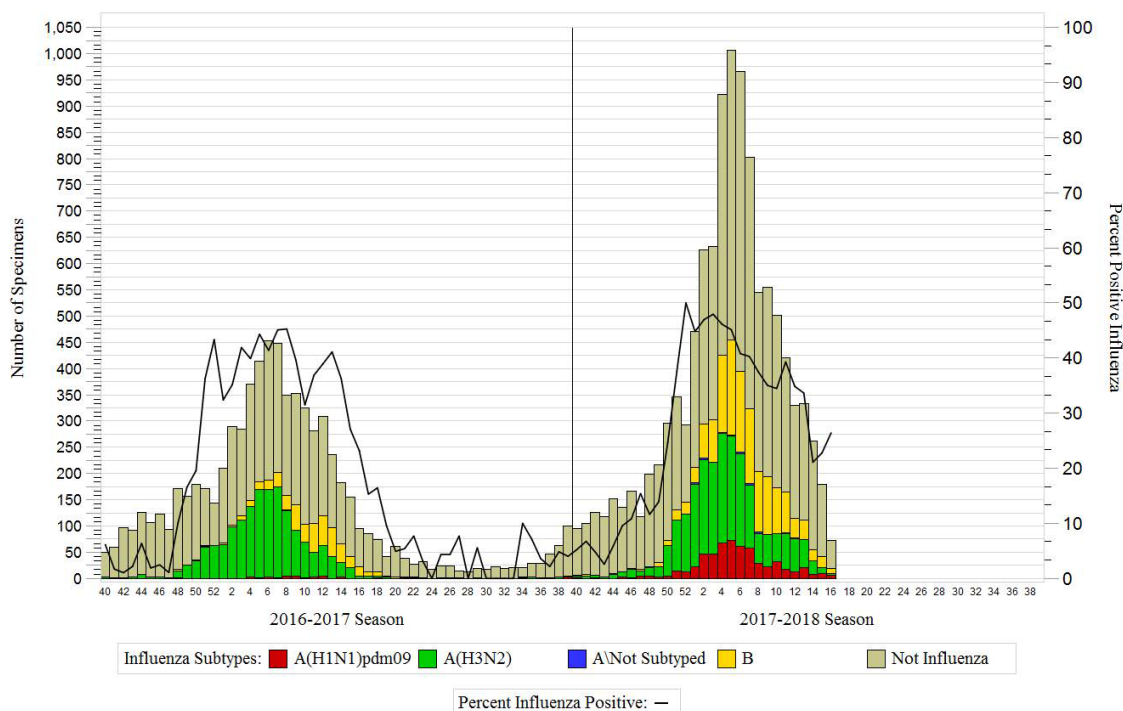
Region*		A(H1N1)pdm09	A(H3N2)	B	A(H1N1)pdm09 & Rhino/Entero	A(H3N2) & hMPV	A(H3N2) & Rhino/Entero	B & Rhino/Entero	Adenovirus	Coronavirus	hMPV	<i>M. pneumoniae</i>	Parainfluenza	RSV	Rhinovirus/Enterovirus	Non-Influenza Viral Coinfection	No Pathogen	Total
Region 6	Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	-	4
	Cannon AFB, NM	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
	Kirtland AFB, NM	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	1	4
	Laughlin AFB, TX	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
	Little Rock AFB, AR	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5
	Sheppard AFB, TX	-	-	-	-	-	-	-	-	-	1	1	-	-	3	1	3	9
	Tinker AFB, OK	-	-	2	-	-	-	-	-	-	-	-	-	-	4	-	1	7
	Vance AFB, OK	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Region 7	McConnell AFB, KS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Region 8	Ellsworth AFB, SD	6	3	-	-	-	-	-	-	-	-	-	-	-	2	-	4	15
	Hill AFB, UT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	Minot AFB, ND	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	4
	Peterson AFB, CO	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	1	3
	USAF Academy, CO	-	-	-	-	-	-	-	1	-	1	-	-	1	1	-	4	8
Region 9	Davis-Monthan AFB, AZ	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
	Travis AFB, CA	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Region 10	Mt Home AFB, ID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	NH Bremerton, WA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total		14	13	29	1	1	1	1	3	4	11	1	9	7	58	9	90	252

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

Cumulative Laboratory Results

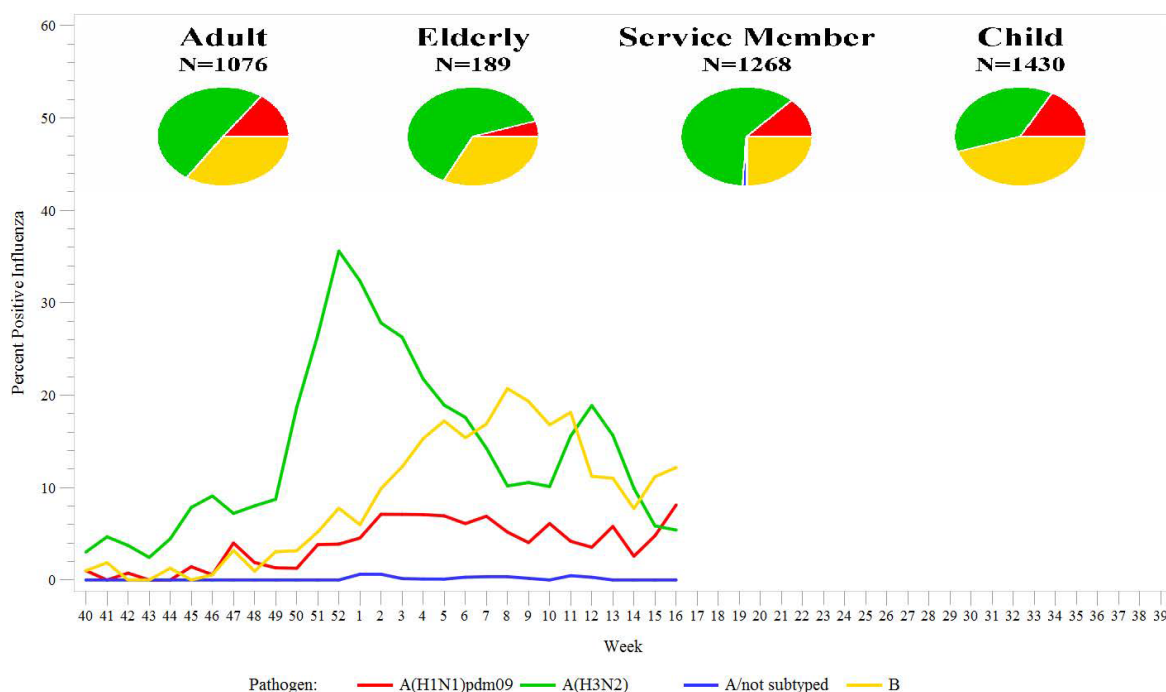
[Link to cumulative results by region and location:](#)

Graph 1. Percent influenza positive by week: 2016-2017 surveillance year and through Week 16 of the 2017-2018 surveillance year



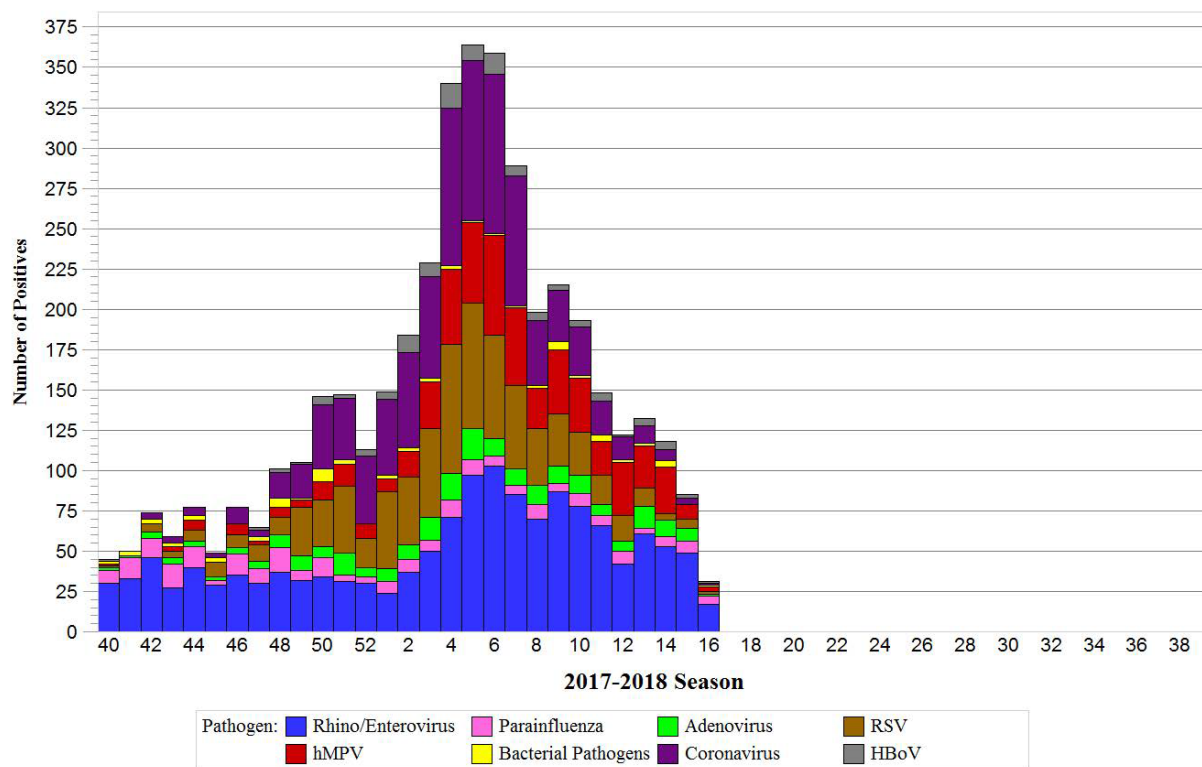
Note: Dual influenza coinfections are excluded from this graph.

Graph 2. Percent positive for influenza through ILI trends by subtype and beneficiary status through Week 16 of the 2017-2018 surveillance year

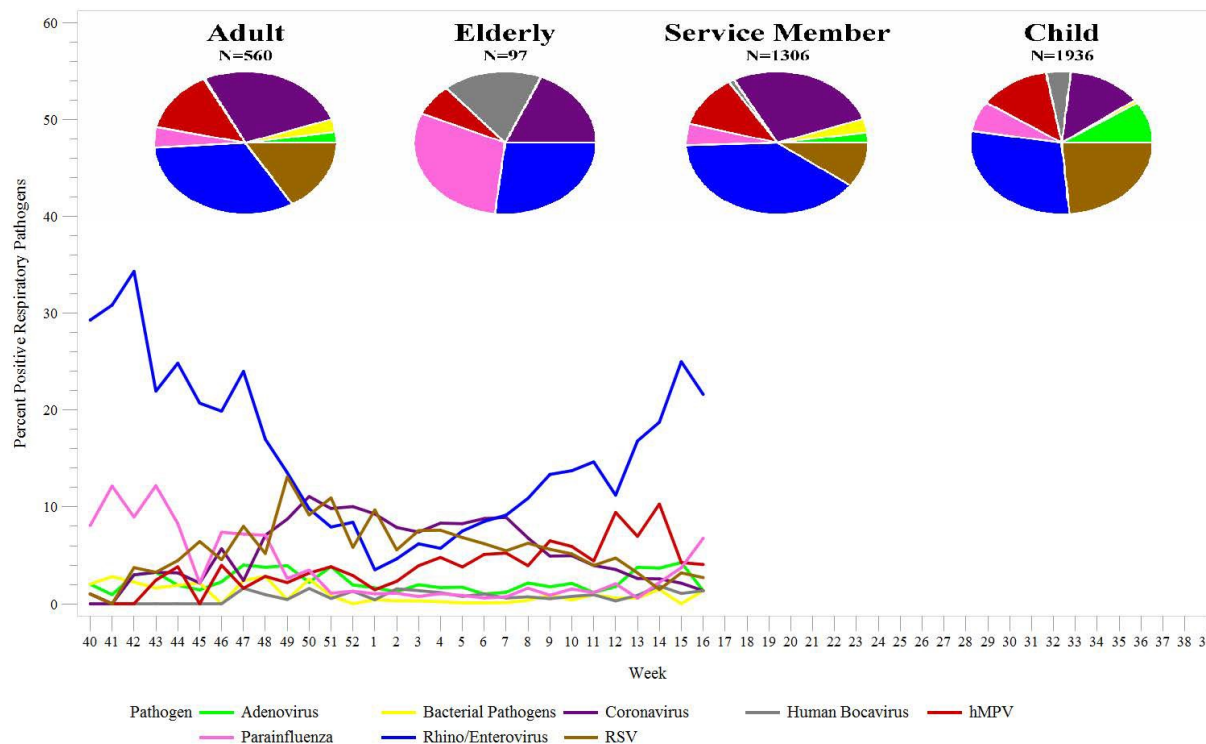


Note: Dual influenza coinfections are excluded from this graph.

Graph 3. Other positive respiratory pathogens through Week 16 of the 2017-2018 surveillance year



Graph 4. Percent positive for respiratory pathogens through ILI trends by week and beneficiary status through Week 16 of the 2017-2018 surveillance year



Graph 5. Vaccination status by beneficiary type through Week 16 of the 2017-2018 surveillance year (excluding 'Unknown' beneficiary type)

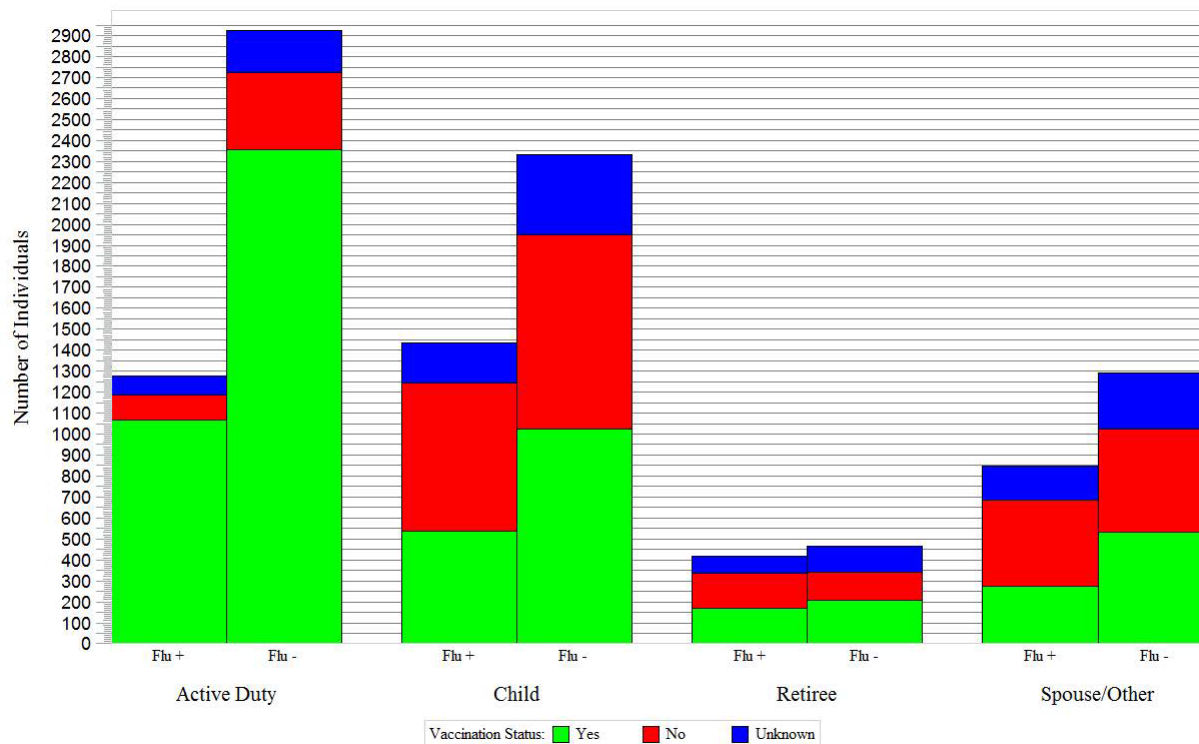


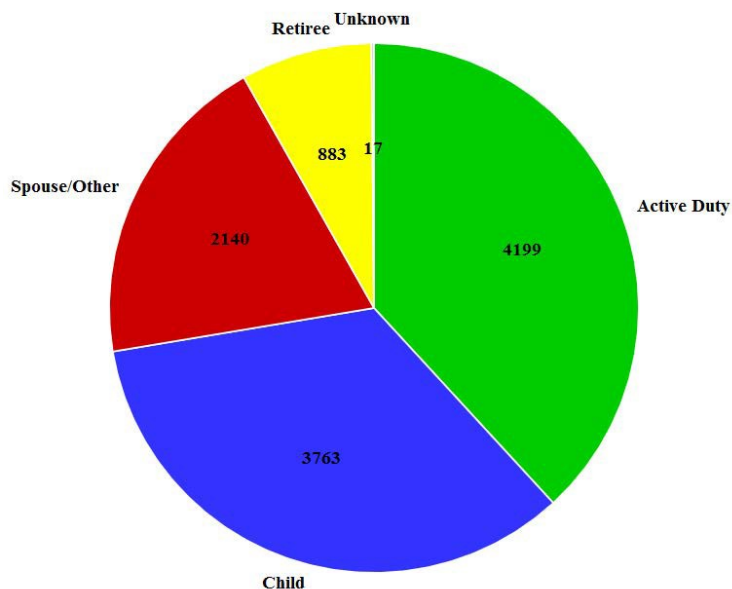
Table 2. ILI by age group through Week 16 of the 2017-2018 surveillance year

Age Group	Frequency	Percent
0-5	2171	19.73
6-9	742	6.74
10-17	934	8.49
18-24	1659	15.08
25-44	3549	32.26
45-64	1417	12.88
65+	530	4.82

Demographic Summary

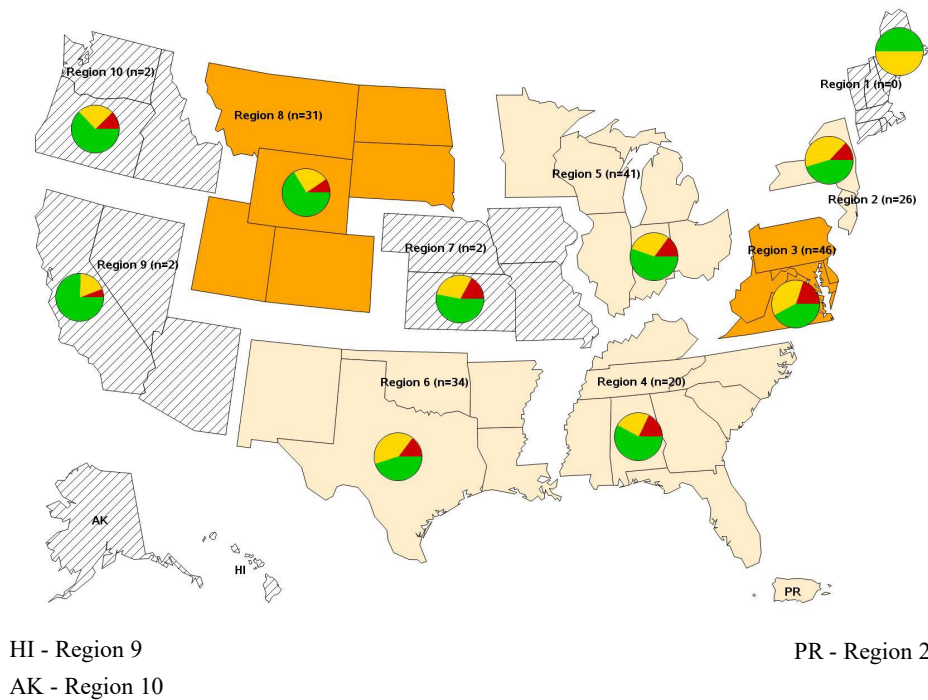
Of 11,002 ILI cases, 4,199 are service members (38.2%), 3,763 are children (34.2%), 2,140 are spouse/other beneficiaries (19.4%), 883 are retirees (8.0%), and 17 are unknown (0.2%). The median age of ILI cases with known age (n=11,002) is 24 (range 0, 98).

Graph 6. ILI by beneficiary status through Week 16 of the 2017-2018 surveillance year

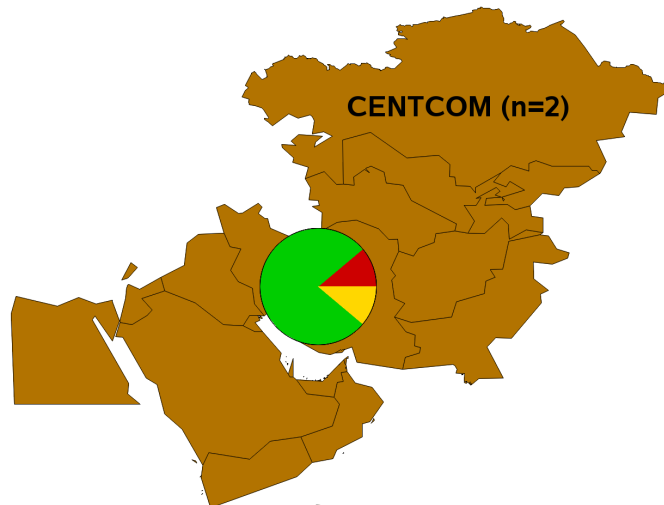


DoD Global Respiratory Pathogen Surveillance Program

Map 1. Influenza subtypes and activity level by U.S. region through Week 16 of the 2017-2018 surveillance year







Map 2. Influenza subtypes and activity level for CENTCOM through Week 16 of the 2017-2018 surveillance year







Legend

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

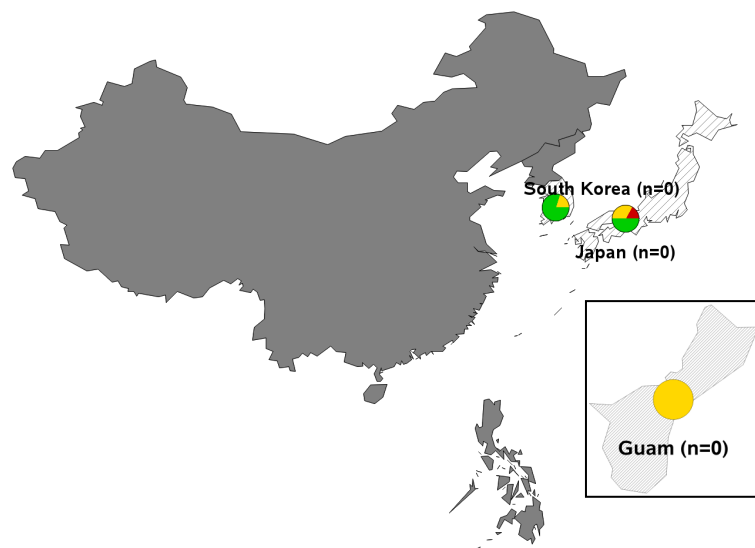
-  No activity (0%+) or no submissions
-  Low (<25%+)
-  Moderate (25-49%+)
-  High (>50%+)

Influenza Results - Cumulative

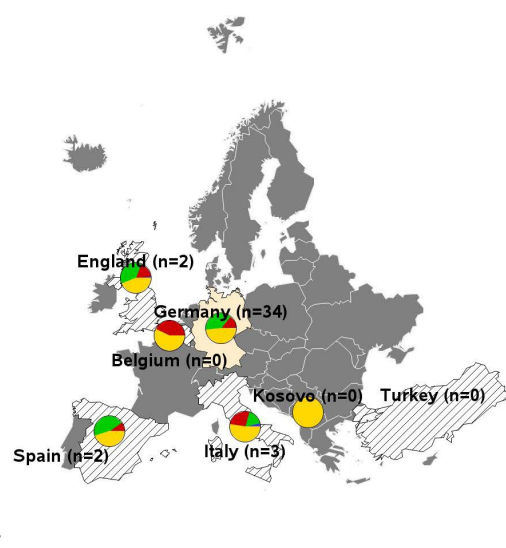
-  Influenza A(H3N2)
-  Influenza A(H1N1)pdm09
-  Influenza B
-  Influenza A/not subtyped

DoD Global Respiratory Pathogen Surveillance Program

Map 3. Influenza subtypes and activity level by country through Week 16 of the 2017-2018 surveillance year (Pacific)







Map 4. Influenza subtypes and activity level by country through Week 16 of the 2017-2018 surveillance year (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)

-  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

Table 3. Cumulative specimens submitted for sequencing only by location through Week 16 of the 2017-2018 surveillance year

Location	Number Received	Number Tested
Aviano AB, Italy	7	1
Brian Allgood ACH, South Korea	184	0
Camp Bondsteel, Kosovo	1	0
Ft Bliss, TX	6	0
Ft Bragg, NC	3	0
Ft Hood, TX	6	3
JB Elmendorf-Richardson, AK	2	0
Keesler AFB, MS	277	118
Landstuhl RMC, Germany	158	8
NAS Sigonella, Italy	16	0
NAVSTA Rota, Spain	13	1
NCRM - Walter Reed NMMC, MD	13	2
NMC Portsmouth, VA	11	0
NSA Naples, Italy	49	0
Nellis AFB, NV	1	1
RAF Lakenheath, England	35	5
Ramstein AB, Germany	31	3
SAMMC, TX	851	76
SHAPE, Belgium	3	1
Spangdahlem AB, Germany	1	0
Tripler AMC, HI	39	3
USAG Baumholder, Germany	4	1
USAG Grafenwoehr, Germany	16	0
USAG Hohenfels, Germany	1	0
USAG Kaiserslautern, Germany	13	0
USAG Stuttgart, Germany	32	4
USAG Vicenza, Italy	32	0
USAG Wiesbaden, Germany	33	1
Vilseck AHC, Germany	19	0
Total	1857	228

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).

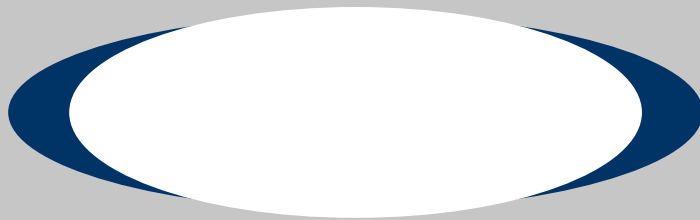
Sentinel Site Surveillance

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.

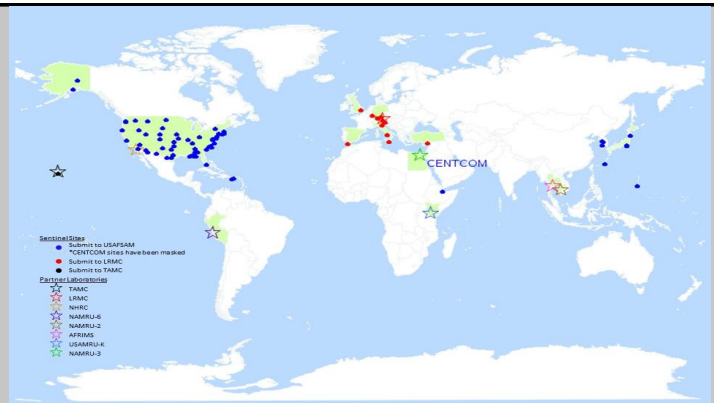
Landstuhl Regional Medical Center (LRMC) and Tripler Army Medical Center (TAMC) assist the program by processing DoD specimens for the EUCOM region and the State of Hawaii, respectively. EUCOM respiratory data is obtained from LRMC and incorporated into our weekly report. This process seeks to provide 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.

