

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   |                                                                                |                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------|
| <b>REPORT DOCUMENTATION PAGE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |                                            |                                   | <i>Form Approved</i><br><i>OMB No. 0704-0188</i>                               |                                                  |
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| <b>1. REPORT DATE (DD-MM-YYYY)</b><br>9 Dec 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         | <b>2. REPORT TYPE</b><br>Annual Flu Report |                                   | <b>3. DATES COVERED (From – To)</b><br>October 2015 – October 2016             |                                                  |
| <b>4. TITLE AND SUBTITLE</b><br><br>Respiratory Highlights, 2015-2016 Influenza Season (4 October 2015 - 1 October 2016)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                                            |                                   | <b>5a. CONTRACT NUMBER</b>                                                     |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   | <b>5b. GRANT NUMBER</b>                                                        |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   | <b>5c. PROGRAM ELEMENT NUMBER</b>                                              |                                                  |
| <b>6. AUTHOR(S)</b><br>Jeffrey Thervil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                                            |                                   | <b>5d. PROJECT NUMBER</b>                                                      |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   | <b>5e. TASK NUMBER</b>                                                         |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   | <b>5f. WORK UNIT NUMBER</b>                                                    |                                                  |
| <b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b><br>USAF School of Aerospace Medicine<br>Public Health and Preventive Medicine Dept/PHR<br>2510 Fifth St., Bldg. 840<br>Wright-Patterson AFB, OH 45433-7913                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                                            |                                   | <b>8. PERFORMING ORGANIZATION REPORT NUMBER</b><br><br>AFRL-SA-WP-OT-2016-0001 |                                                  |
| <b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |                                            |                                   | <b>10. SPONSORING/MONITOR'S ACRONYM(S)</b>                                     |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            |                                   | <b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>                                  |                                                  |
| <b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b><br><br>DISTRIBUTION STATEMENT A: Approved for public release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                                            |                                   |                                                                                |                                                  |
| <b>13. SUPPLEMENTARY NOTES</b><br>Cleared, 88PA, Case # 2016-6382, 9 Dec 2016.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                                            |                                   |                                                                                |                                                  |
| <b>14. ABSTRACT</b><br>During the 2015-2016 influenza season (4 October 2015 - 1 October 2016), results were finalized for 4,591 specimens from 80 locations. There were 1,132 specimens positive for influenza (637 A(H1N1)pdm09, 114 A(H3N2), 376 B, 2 dual influenza coinfections, and 3 influenza coinfections with other respiratory pathogens). See Table 2 on pages 4 & 5 for these results and other respiratory pathogens identified. Differences between specimens collected and tested are due to specimens sent for sequencing only and/or specimens not tested for various reasons. During the 2015-2016 influenza season, influenza A(H1N1)pdm09 was the predominant strain. This season had a late start, with influenza activity peaking at Week 10. The influenza percent positive for the season was 25%. This is the cumulative report for specimens tested at USAFSAM during the 2015-2016 influenza season.                          |                         |                                            |                                   |                                                                                |                                                  |
| <b>15. SUBJECT TERMS</b><br>Influenza, surveillance, annual report, sentinel sites                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                                            |                                   |                                                                                |                                                  |
| <b>16. SECURITY CLASSIFICATION OF:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                                            | <b>17. LIMITATION OF ABSTRACT</b> | <b>18. NUMBER OF PAGES</b>                                                     | <b>19a. NAME OF RESPONSIBLE PERSON</b>           |
| <b>a. REPORT</b><br>U                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>b. ABSTRACT</b><br>U | <b>c. THIS PAGE</b><br>U                   |                                   |                                                                                | Jeffrey Thervil                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                            | SAR                               | 9                                                                              | <b>19b. TELEPHONE NUMBER (include area code)</b> |



### Cumulative Results

|           |       |
|-----------|-------|
| Locations | 80    |
| Collected | 4,645 |
| Tested    | 4,591 |

### Influenza A 755

|                              |     |
|------------------------------|-----|
| A(H1N1)pdm09                 | 637 |
| A(H1N1)pdm09 & B             | 1   |
| A(H1N1)pdm09 & Coronavirus   | 1   |
| A(H1N1)pdm09 & Parainfluenza | 1   |
| A(H3N2)                      | 114 |
| A(H3N2) & B                  | 1   |

### Influenza B 377

|                |     |
|----------------|-----|
| B              | 376 |
| B & Adenovirus | 1   |

### Other Respiratory Pathogens 1,182

|                                      |     |
|--------------------------------------|-----|
| Adenovirus                           | 167 |
| <i>Bordetella pertussis</i>          | 1   |
| <i>Chlamydomyphila pneumoniae</i>    | 3   |
| Coronavirus                          | 89  |
| Human Metapneumovirus                | 88  |
| <i>Mycoplasma pneumoniae</i>         | 62  |
| Parainfluenza                        | 130 |
| RSV                                  | 130 |
| Rhinovirus/Enterovirus               | 363 |
| Non-influenza Viral Coinfections     | 131 |
| Non-influenza Bacterial Coinfections | 18  |
| -B. pertussis (3)                    |     |
| -B. pertussis & M. pneumo (1)        |     |
| -C. pneumo (2)                       |     |
| -C. pneumo & M. pneumo (1)           |     |
| -M. pneumo (11)                      |     |

### Respiratory Highlights

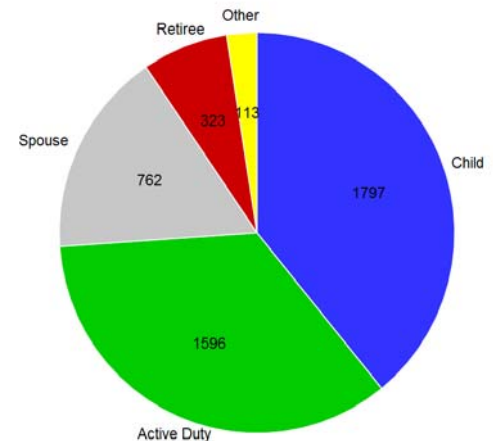
#### 2015-2016 Influenza Season (4 October 2015 – 1 October 2016)

- During the 2015-2016 influenza season (4 October 2015 - 1 October 2016), results were finalized for 4,591 specimens from 80 locations. There were 1,132 specimens positive for influenza (637 A(H1N1)pdm09, 114 A(H3N2), 376 B, 2 dual influenza coinfections, and 3 influenza coinfections with other respiratory pathogens). See Table 2 on pages 4 & 5 for these results and other respiratory pathogens identified. Differences between specimens collected and tested are due to specimens sent for sequencing only and/or specimens not tested for various reasons.
- During the 2015-2016 influenza season, influenza A(H1N1)pdm09 was the predominant strain. This season had a late start, with influenza activity peaking at Week 10. The influenza percent positive for the season was 25%.
- This is the cumulative report for specimens tested at USAFSAM during the 2015-2016 influenza season.

**Table 1.** ILI by age group for the 2015-2016 surveillance year

| Age Group | Frequency | Percent |
|-----------|-----------|---------|
| 0-5       | 1029      | 22.41   |
| 6-9       | 347       | 7.56    |
| 10-17     | 424       | 9.24    |
| 18-24     | 648       | 14.11   |
| 25-44     | 1477      | 32.17   |
| 45-64     | 539       | 11.74   |
| 65+       | 127       | 2.77    |

**Graph 1.** ILI by age group for the 2015-2016 surveillance year



### Demographic Summary

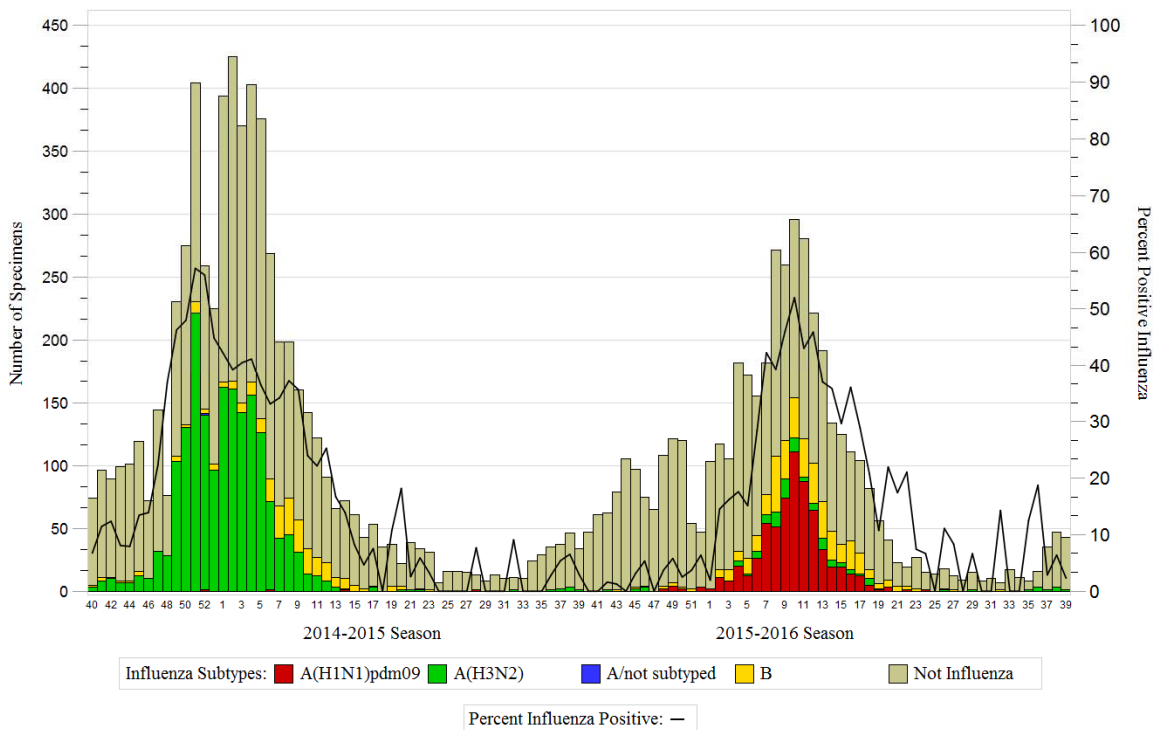
Of 4,591 ILI cases, 1,596 (34.8%) are service members, 1,797 (39.1%) are children, 762 (16.6%) are spouses, and 436 (9.5%) are retirees and other beneficiaries. The median age of ILI cases with known age (n=4,591) is 23 (range 0, 95).

### Table of Contents

|                                                                                       |             |
|---------------------------------------------------------------------------------------|-------------|
| Respiratory Highlights and Demographic Summary                                        | Page 1      |
| Laboratory Results - Cumulative for Season and Vaccination Status by Beneficiary Type | Page 2      |
| Geographic Distribution of Influenza Subtype Maps                                     | Page 3      |
| Cumulative Results by Region and Location                                             | Pages 4 & 5 |
| 2015-2016 Supplemental EUCOM Report                                                   | Pages 6 & 7 |
| DoD Global, Laboratory-Based, Influenza Surveillance Program Background               | Page 8      |

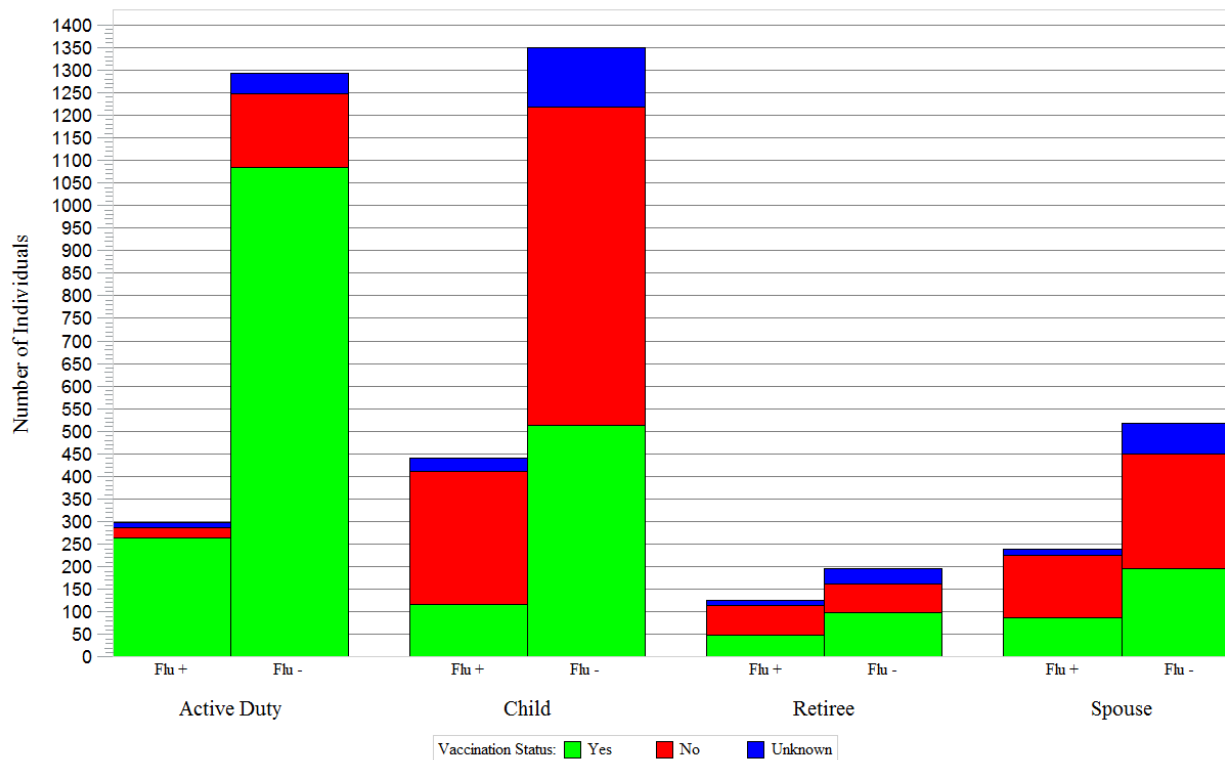
## Laboratory Results - Cumulative for Season

**Graph 2.** Percent influenza positive by week: 2014-2015 and 2015-2016 surveillance years



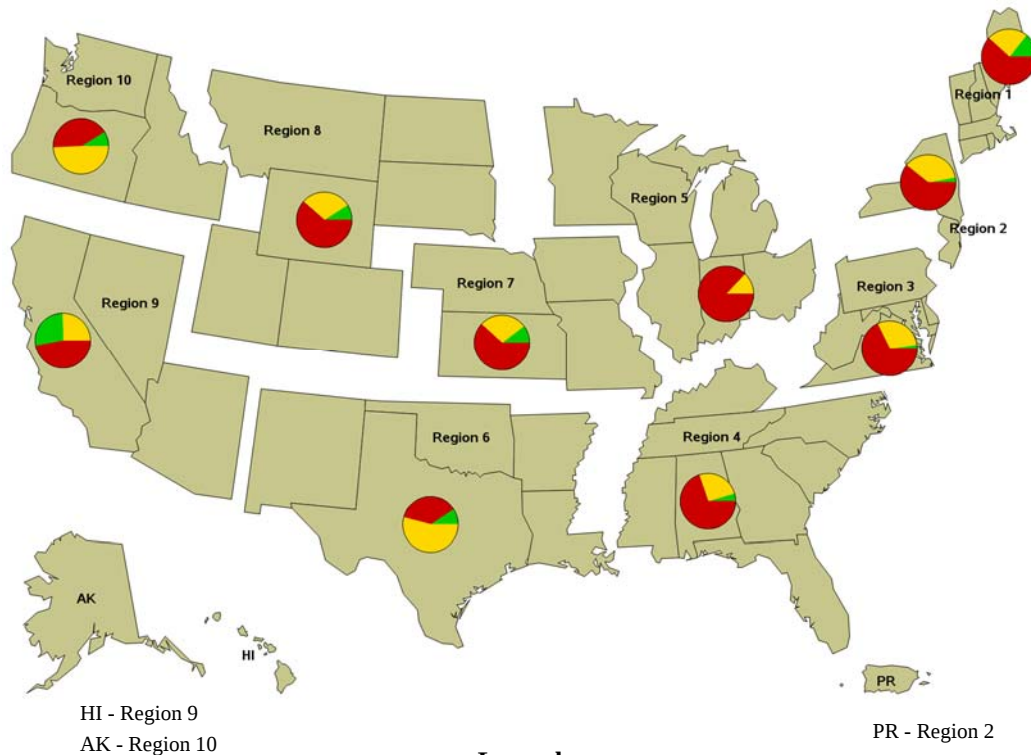
Note: Dual influenza coinfections are excluded from this graph.

**Graph 3.** Vaccination status by beneficiary type for the 2015-2016 surveillance year

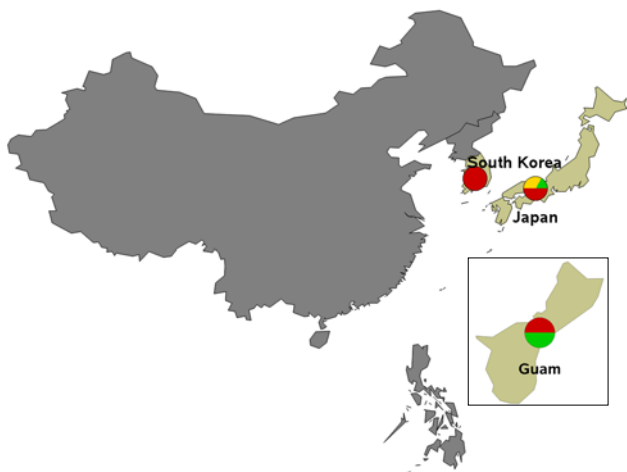


# DoD Global, Laboratory-Based, Influenza Surveillance Program

**Map 1.** Influenza subtypes and activity level by region for the 2015-2016 surveillance year

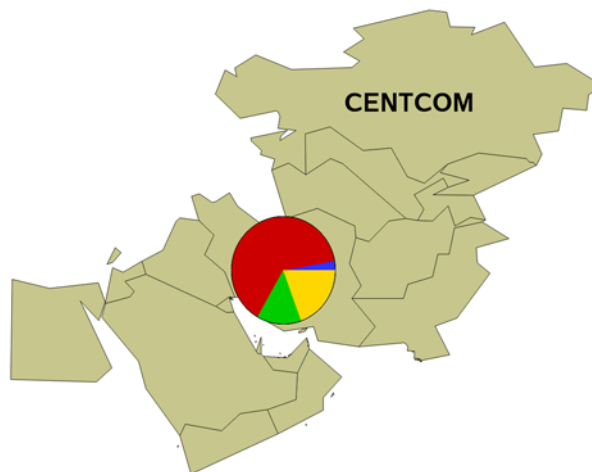


**Map 2.** Influenza subtypes by country for the 2015-2016 surveillance year (Pacific)



Note: Sentinel sites are not present in gray areas within the map.

**Map 3.** Influenza subtypes for CENTCOM for the 2015-2016 surveillance year



Note: Specimens for CENTCOM were tested at USAFSAM and Landstuhl Regional Medical Center .

# DoD Global, Laboratory-Based, Influenza Surveillance Program

## Laboratory Results

**Table 2.** Cumulative results by region and location for specimens collected during the 2015-2016 surveillance year

| Region*  |                                  | A(H1N1)pdm09 | A(H3N2) | A(H1N1)pdm09 & B | A(H1N1)pdm09 & Corona | A(H1N1)pdm09 & Para | A(H3N2) & B | B  | B & Adeno | Adenovirus | B. pertussis | C. pneumoniae | Coronavirus | H1N1V | M. pneumoniae | Parainfluenza | RSV | Rhinovirus/Enterovirus | Non-H Influenza Bacterial Co-infection | Non-H Influenza Viral Co-infection | No Pathogen | Total |
|----------|----------------------------------|--------------|---------|------------------|-----------------------|---------------------|-------------|----|-----------|------------|--------------|---------------|-------------|-------|---------------|---------------|-----|------------------------|----------------------------------------|------------------------------------|-------------|-------|
| Deployed | Country 1, Location B            | -            | 1       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | 1           | 1     | -             | -             | -   | 2                      | -                                      | -                                  | 7           | 12    |
|          | Country 2, Location A            | 8            | 2       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | 4           | 14    |
| PACOM    | CFA Okinawa, Japan               | -            | 1       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | 1                      | -                                      | -                                  | 10          | 12    |
|          | Eielson AFB, AK                  | 5            | 1       | -                | -                     | -                   | -           | 1  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | 1                                  | 7           | 15    |
|          | JB Elmendorf-Richardson, AK      | -            | -       | -                | -                     | -                   | -           | 1  | -         | -          | -            | -             | -           | -     | -             | -             | 1   | 1                      | -                                      | -                                  | 6           | 9     |
|          | JR Marianas - Andersen AFB, Guam | -            | 1       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | 1                      | 1                                      | -                                  | 2           | 5     |
|          | JR Marianas - NH Guam, Guam      | 1            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | -           | 1     |
|          | Kadena AB, Japan                 | 2            | 1       | -                | -                     | -                   | -           | 3  | -         | -          | -            | -             | 2           | -     | 3             | -             | -   | 5                      | -                                      | 1                                  | 23          | 40    |
|          | Kunsan AB, South Korea           | 1            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | -           | 1     |
|          | Misawa AB, Japan                 | 2            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | 1     | -             | -             | 1   | 3                      | -                                      | -                                  | 5           | 12    |
|          | Osan AB, South Korea             | 3            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | 1                      | -                                      | -                                  | 3           | 7     |
|          | Tripler AMC, HI                  | -            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | 1                      | -                                      | -                                  | -           | 1     |
|          | USCG Base Kodiak, AK             | 1            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | -           | 1     |
|          | Yokota AB, Japan                 | 20           | 8       | -                | -                     | -                   | -           | 13 | -         | 8          | -            | -             | 4           | -     | 3             | 5             | 2   | 6                      | -                                      | 2                                  | 42          | 111   |
| Region 1 | Hanscom AFB, MA                  | 9            | -       | -                | -                     | -                   | -           | 5  | -         | 4          | -            | -             | -           | -     | 1             | 2             | 2   | -                      | -                                      | 2                                  | 26          | 51    |
|          | NHCNE Newport, RI                | -            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | 1           | -     | -             | -             | 1   | 1                      | -                                      | -                                  | 11          | 14    |
|          | USCG Academy, CT                 | 4            | 3       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | 1           | -     | 1             | -             | -   | -                      | -                                      | -                                  | 9           | 18    |
| Region 2 | Ft Drum, NY                      | 12           | -       | -                | -                     | -                   | -           | 2  | -         | -          | -            | -             | 1           | -     | -             | -             | -   | 5                      | -                                      | -                                  | 7           | 27    |
|          | JB McGuire-Dix-Lakehurst, NJ     | 31           | 1       | -                | -                     | -                   | -           | 20 | 1         | 3          | -            | -             | 1           | 4     | 3             | 2             | -   | 16                     | 1                                      | 3                                  | 53          | 139   |
|          | USMA - West Point, NY            | 56           | 4       | -                | -                     | 1                   | -           | 38 | -         | 25         | -            | 1             | 10          | 10    | 6             | 15            | 11  | 29                     | 3                                      | 12                                 | 179         | 400   |
| Region 3 | Dover AFB, DE                    | 24           | -       | -                | -                     | -                   | -           | 8  | -         | 3          | -            | 1             | -           | 2     | 1             | 1             | 2   | 4                      | -                                      | 1                                  | 84          | 131   |
|          | JB Anacostia-Bolling, DC         | -            | 1       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | 1           | -     | -             | -             | -   | 1                      | -                                      | -                                  | 2           | 5     |
|          | JB Andrews, MD                   | 7            | -       | -                | -                     | -                   | -           | 3  | -         | 2          | -            | -             | -           | 2     | 1             | -             | 2   | -                      | -                                      | -                                  | 12          | 29    |
|          | JB Langley-Eustis, VA            | 20           | -       | -                | -                     | -                   | -           | 11 | -         | 11         | -            | -             | 4           | 7     | 3             | 7             | 9   | 13                     | 2                                      | 3                                  | 74          | 164   |
|          | NCRM - Walter Reed NMMC, MD      | 2            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | 3           | 5     |
|          | NMC Portsmouth, VA               | 6            | 1       | -                | -                     | -                   | -           | 4  | -         | 4          | -            | -             | 1           | 1     | 5             | 1             | 2   | 3                      | 1                                      | 1                                  | 24          | 54    |
| Region 4 | CGS Mobile, AL                   | 1            | 2       | -                | -                     | -                   | -           | -  | -         | 1          | -            | -             | -           | -     | -             | -             | -   | 2                      | -                                      | -                                  | 2           | 8     |
|          | Columbus AFB, MS                 | 6            | -       | -                | -                     | -                   | -           | -  | -         | 2          | -            | -             | 2           | 1     | -             | -             | 2   | 4                      | -                                      | -                                  | 26          | 43    |
|          | Eglin AFB, FL                    | 10           | 1       | -                | -                     | -                   | -           | 3  | -         | 6          | -            | -             | 1           | 1     | 2             | 5             | 7   | 8                      | -                                      | 1                                  | 79          | 124   |
|          | Ft Bragg, NC                     | 9            | -       | -                | -                     | -                   | -           | 12 | -         | 4          | -            | -             | 4           | 1     | 1             | -             | 3   | 3                      | 1                                      | 2                                  | 44          | 84    |
|          | Ft Campbell, KY                  | 24           | 1       | -                | -                     | -                   | -           | 9  | -         | 1          | -            | -             | 4           | 2     | -             | 2             | 1   | 4                      | -                                      | -                                  | 43          | 91    |
|          | Hurlburt Field, FL               | 7            | 1       | -                | -                     | -                   | -           | 2  | -         | 5          | -            | 1             | -           | 2     | 4             | 1             | 1   | 1                      | -                                      | 2                                  | 34          | 61    |
|          | JB Charleston (AF), SC           | 4            | -       | -                | -                     | -                   | -           | 1  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | -           | 5     |
|          | Keesler AFB, MS                  | -            | -       | -                | -                     | -                   | -           | -  | -         | 1          | -            | -             | -           | -     | 2             | 1             | -   | 3                      | 1                                      | 1                                  | 35          | 44    |
|          | MacDill AFB, FL                  | -            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | 2             | 1   | -                      | -                                      | 1                                  | 2           | 6     |
|          | Maxwell AFB, AL                  | 23           | 1       | -                | 1                     | -                   | -           | 2  | -         | 6          | -            | -             | 1           | -     | 1             | 1             | 2   | 9                      | -                                      | 1                                  | 68          | 116   |
|          | Moody AFB, GA                    | 13           | 1       | -                | -                     | -                   | -           | 11 | -         | 8          | -            | -             | 2           | 1     | 2             | 8             | 6   | 20                     | -                                      | 8                                  | 42          | 122   |
|          | NH Beaufort, SC                  | -            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | 1           | 1     |
|          | NH Camp Lejeune, NC              | 1            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | 1             | -             | 2   | 3                      | -                                      | 1                                  | 9           | 17    |
|          | NH Jacksonville, FL              | -            | -       | -                | -                     | -                   | -           | -  | -         | 3          | -            | -             | -           | -     | -             | -             | 1   | -                      | -                                      | -                                  | 8           | 12    |
|          | Patrick AFB, FL                  | -            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | -           | -     | -             | -             | -   | -                      | -                                      | -                                  | 2           | 2     |
|          | Robins AFB, GA                   | 6            | -       | -                | -                     | -                   | -           | 1  | -         | -          | -            | -             | -           | 2     | 1             | 1             | 2   | -                      | -                                      | -                                  | 18          | 31    |
|          | Seymour Johnson AFB, NC          | 12           | -       | -                | -                     | -                   | -           | 1  | -         | 2          | -            | -             | 2           | -     | -             | 1             | -   | 4                      | 1                                      | 1                                  | 14          | 38    |
|          | Shaw AFB, SC                     | 2            | 1       | -                | -                     | -                   | -           | 2  | -         | -          | -            | -             | 5           | -     | 4             | -             | -   | 6                      | 1                                      | 1                                  | 16          | 38    |
|          | Tyndall AFB, FL                  | 1            | -       | -                | -                     | -                   | -           | -  | -         | -          | -            | -             | 1           | -     | -             | -             | -   | 1                      | -                                      | -                                  | 3           | 6     |

\*CONUS locations are based on Health & Human Services regions. Other locations are defined by COCOM.. (Cont'd on page 5)

# DoD Global, Laboratory-Based, Influenza Surveillance Program

## Laboratory Results

**Table 2.** Cumulative results by region and location for specimens collected during the 2015-2016 surveillance year  
(Cont'd from page 4)

| Region*   |                          | A(H1N1)pdm09 | A(H3N2) | A(H1N1)pdm09 & B | A(H1N1)pdm09 & Corona | A(H1N1)pdm09 & Para | A(H3N2) & B | B   | B & A deno | Adenovirus | B. pertussis | C. pneumoniae | Coronavirus | hMPV | M. pneumoniae | Parainfluenza | RSV | Rhinovirus/Enterovirus | Non-I influenza Bacterial Coinfection | Non-I influenza Viral Coinfection | No Pathogen | Total |
|-----------|--------------------------|--------------|---------|------------------|-----------------------|---------------------|-------------|-----|------------|------------|--------------|---------------|-------------|------|---------------|---------------|-----|------------------------|---------------------------------------|-----------------------------------|-------------|-------|
| Region 5  | Scott AFB, IL            | 5            | -       | -                | -                     | -                   | -           | 1   | -          | 2          | -            | -             | -           | 2    | -             | 1             | -   | 2                      | -                                     | -                                 | 21          | 34    |
|           | Wright-Patterson AFB, OH | 15           | -       | -                | -                     | -                   | -           | 2   | -          | 3          | -            | -             | -           | 1    | 1             | 2             | 1   | 5                      | -                                     | -                                 | 42          | 72    |
| Region 6  | Altus AFB, OK            | 7            | -       | -                | -                     | -                   | -           | 4   | -          | 4          | -            | -             | 3           | 5    | -             | 6             | 10  | 15                     | 1                                     | 5                                 | 75          | 135   |
|           | Barksdale AFB, LA        | -            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | 1   | -                      | -                                     | -                                 | 5           | 6     |
|           | Cannon AFB, NM           | 13           | 4       | 1                | -                     | -                   | -           | 12  | -          | 3          | -            | -             | 2           | 4    | -             | 2             | 2   | 8                      | -                                     | 12                                | 45          | 108   |
|           | Laughlin AFB, TX         | 1            | 5       | -                | -                     | -                   | -           | 5   | -          | 2          | -            | -             | 1           | -    | -             | -             | 2   | 5                      | -                                     | -                                 | 11          | 32    |
|           | Little Rock AFB, AR      | 5            | 1       | -                | -                     | -                   | -           | 1   | -          | -          | -            | -             | 1           | 1    | -             | -             | -   | 4                      | -                                     | 1                                 | 29          | 43    |
|           | Sheppard AFB, TX         | 8            | -       | -                | -                     | -                   | -           | 32  | -          | 10         | -            | -             | 3           | 3    | 3             | 2             | 5   | 24                     | -                                     | 6                                 | 113         | 209   |
|           | Tinker AFB, OK           | 4            | -       | -                | -                     | -                   | -           | 3   | -          | 6          | -            | -             | 1           | -    | 1             | 7             | 7   | 9                      | 1                                     | 7                                 | 53          | 99    |
|           | USCG New Orleans, LA     | -            | -       | -                | -                     | -                   | -           | -   | -          | 1          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | -           | 1     |
|           | Vance AFB, OK            | 1            | -       | -                | -                     | -                   | -           | 1   | -          | 2          | -            | -             | -           | 2    | -             | 2             | -   | 3                      | -                                     | -                                 | 47          | 58    |
|           |                          |              |         |                  |                       |                     |             |     |            |            |              |               |             |      |               |               |     |                        |                                       |                                   |             |       |
| Region 7  | Ft Leavenworth, KS       | -            | -       | -                | -                     | -                   | -           | 1   | -          | -          | -            | -             | -           | -    | -             | -             | -   | 1                      | -                                     | -                                 | 9           | 11    |
|           | M cConnell AFB, KS       | 5            | -       | -                | -                     | -                   | -           | 4   | -          | 1          | -            | -             | 1           | -    | 2             | 2             | -   | 8                      | 1                                     | -                                 | 41          | 65    |
|           | Offutt AFB, NE           | 19           | 4       | -                | -                     | -                   | -           | 6   | -          | 2          | -            | -             | 2           | 2    | -             | 4             | 1   | 11                     | -                                     | -                                 | 87          | 138   |
| Region 8  | Ellsworth AFB, SD        | 18           | 2       | -                | -                     | -                   | -           | 2   | -          | 4          | -            | -             | 1           | 4    | 2             | 7             | 2   | 4                      | -                                     | 5                                 | 46          | 95    |
|           | FE Warren AFB, WY        | 19           | 3       | -                | -                     | -                   | -           | 7   | -          | 3          | 1            | -             | 3           | 2    | 1             | 3             | 7   | 6                      | -                                     | 3                                 | 55          | 113   |
|           | Hill AFB, UT             | 38           | 6       | -                | -                     | -                   | -           | 33  | -          | 3          | -            | -             | 2           | 3    | 1             | -             | 2   | 14                     | 1                                     | 1                                 | 123         | 227   |
|           | Malmstrom AFB, M T       | -            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | 1                      | -                                     | 1                                 | 1           | 3     |
|           | Minot AFB, ND            | 7            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | 2           | 1    | -             | 1             | 2   | 5                      | -                                     | 1                                 | 13          | 32    |
|           | Peterson AFB, CO         | 14           | 3       | -                | -                     | -                   | 1           | 2   | -          | 2          | -            | -             | 5           | 1    | -             | -             | 1   | 6                      | -                                     | 5                                 | 40          | 80    |
|           | USAF Academy, CO         | -            | -       | -                | -                     | -                   | -           | 1   | -          | -          | -            | -             | -           | -    | -             | 4             | -   | 1                      | -                                     | -                                 | 12          | 18    |
| Region 9  | Beale AFB, CA            | 1            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | 4           | 5     |
|           | CGSHumboldt Bay, CA      | -            | 1       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | -           | 1     |
|           | Davis-Monthan AFB, AZ    | 4            | 8       | -                | -                     | -                   | -           | 1   | -          | -          | -            | -             | 5           | -    | -             | 1             | -   | 5                      | -                                     | 1                                 | 19          | 44    |
|           | Edwards AFB, CA          | 1            | -       | -                | -                     | -                   | -           | 1   | -          | -          | -            | -             | 1           | -    | -             | -             | 1   | 1                      | -                                     | -                                 | 9           | 14    |
|           | Luke AFB, AZ             | 30           | 24      | -                | -                     | -                   | -           | 21  | -          | 3          | -            | -             | -           | 9    | 1             | 1             | 9   | 6                      | -                                     | 10                                | 54          | 168   |
|           | NH Twentynine Palms, CA  | 1            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | -           | 1     |
|           | Nellis AFB, NV           | 19           | 2       | -                | -                     | -                   | -           | 5   | -          | 7          | -            | -             | 3           | -    | -             | 11            | 4   | 10                     | -                                     | 8                                 | 91          | 160   |
|           | Travis AFB, CA           | 19           | 8       | -                | -                     | -                   | -           | 13  | -          | 3          | -            | -             | 2           | 9    | 2             | 6             | 7   | 24                     | -                                     | 7                                 | 61          | 161   |
|           | USCG Island Alameda, CA  | -            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | 3           | 3     |
|           | Vandenberg AFB, CA       | 1            | 1       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | 2                      | -                                     | -                                 | 11          | 15    |
|           |                          |              |         |                  |                       |                     |             |     |            |            |              |               |             |      |               |               |     |                        |                                       |                                   |             |       |
| Region 10 | Fairchild AFB, WA        | 6            | 1       | -                | -                     | -                   | -           | 6   | -          | 1          | -            | -             | -           | 1    | -             | -             | -   | 4                      | -                                     | 1                                 | 21          | 41    |
|           | JB Lewis-McChord, WA     | -            | -       | -                | -                     | -                   | -           | -   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | 2           | 2     |
|           | McChord AFB, ID          | 1            | 1       | -                | -                     | -                   | -           | 2   | -          | -          | -            | -             | -           | -    | -             | -             | -   | -                      | -                                     | -                                 | 10          | 14    |
|           | NH Bremerton, WA         | 44           | 9       | -                | -                     | -                   | -           | 57  | -          | 6          | -            | -             | 2           | 2    | 2             | 13            | 6   | 17                     | 1                                     | 12                                | 85          | 258   |
| Total     |                          | 637          | 114     | 1                | 1                     | 1                   | 1           | 378 | 1          | 167        | 1            | 3             | 89          | 88   | 62            | 130           | 130 | 383                    | 18                                    | 131                               | 2277        | 4591  |

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

# DoD Global, Laboratory-Based, Influenza Surveillance Program

## EUCOM Respiratory Surveillance Supplemental Report 2015-2016 Season

In cooperation and agreement with U.S. Army Public Health Command Region-Europe (PHCR-E), the DoD Global, Laboratory-Based, Influenza Surveillance Program has analyzed data from surveillance sites that submit specimens to Landstuhl Regional Medical Center (LRMC), Germany. LRMC's laboratory is the forward laboratory for military sites in Europe.

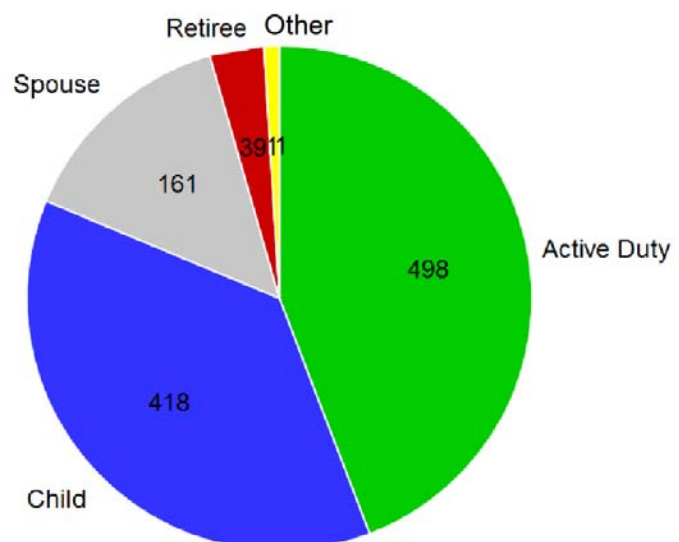
**Table 3.** Cumulative results by region and location for specimens collected during the 2015-2016 surveillance year

| Region   |                          | A(H1N1)pdm 09 | A(H3N2) | A/not subtyped | A/not subtyped & Adeno | A/not subtyped & hMNv | A/not subtyped & Para | A/not subtyped & RSV | A/not subtyped & Rhino/Entero | A(H1N1)pdm 09 & B | A(H1N1)pdm 09 & hMNv | A(H1N1)pdm 09 & Para & Rhino/Entero | A(H1N1)pdm 09 & RSV | A(H1N1)pdm 09 & Rhino/Entero | A(H3N2) & Rhino/Entero | A/not subtyped & B | B  | B & hMNv | B & Rhino/Entero | Adenovirus | hMNv | Parainfluenza | RSV | Rhinovirus/Enterovirus | Adeno & RSV | Adeno & RSV & Rhino/Entero | Adeno & Rhino/Entero | hMNv & Para | hMNv & Rhino/Entero | Para & Rhino/Entero | RSV & Rhino/Entero | No Pathogen | Total |     |
|----------|--------------------------|---------------|---------|----------------|------------------------|-----------------------|-----------------------|----------------------|-------------------------------|-------------------|----------------------|-------------------------------------|---------------------|------------------------------|------------------------|--------------------|----|----------|------------------|------------|------|---------------|-----|------------------------|-------------|----------------------------|----------------------|-------------|---------------------|---------------------|--------------------|-------------|-------|-----|
| AFRICOM  | Camp Lemonnier, Djibouti | -             | -       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | -  | -        | -                | -          | -    | -             | -   | 2                      | -           | -                          | -                    | -           | -                   | -                   | -                  | -           | -     | 2   |
| Deployed | Country 2, Location A    | 1             | -       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | 4  | -        | -                | -          | -    | -             | -   | -                      | -           | -                          | -                    | -           | -                   | -                   | -                  | 3           | 8     |     |
|          | Country 6, Location A    | 14            | 2       | 1              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | 3  | -        | -                | -          | -    | 2             | 2   | 1                      | 33          | -                          | -                    | -           | -                   | -                   | -                  | -           | 68    | 126 |
| EUCOM    | Aviano AB, Italy         | 2             | 1       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | -  | -        | -                | -          | -    | 5             | 1   | 7                      | 7           | -                          | -                    | -           | -                   | -                   | -                  | -           | 5     | 8   |
|          | Incirlik AB, Turkey      | -             | 1       | 1              | -                      | -                     | -                     | 1                    | -                             | -                 | -                    | -                                   | -                   | 1                            | 1                      | -                  | -  | -        | -                | -          | 5    | 1             | 7   | 7                      | -           | -                          | -                    | -           | -                   | -                   | -                  | 9           | 34    |     |
|          | Landstuhl RMC, Germany   | 17            | -       | 1              | -                      | 2                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | 2                            | 1                      | 1                  | 7  | -        | -                | 3          | 6    | 7             | 19  | 42                     | -           | -                          | 1                    | -           | 1                   | 3                   | 3                  | 139         | 255   |     |
|          | NAVSTA Rota, Spain       | 1             | -       | 1              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | 1  | 1        | -                | 1          | 1    | 3             | 1   | 5                      | -           | -                          | -                    | -           | -                   | -                   | -                  | 14          | 29    |     |
|          | NSA Naples, Italy        | 1             | -       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | -  | -        | -                | 1          | 2    | 1             | 1   | 4                      | -           | -                          | -                    | -           | -                   | -                   | -                  | 14          | 24    |     |
|          | RAF Lakenheath, England  | 26            | 2       | 1              | 1                      | -                     | 1                     | -                    | 1                             | -                 | 3                    | -                                   | 1                   | 1                            | -                      | -                  | 6  | 1        | -                | 8          | 16   | 10            | 24  | 65                     | 1           | -                          | -                    | -           | 2                   | 3                   | 19                 | 118         | 310   |     |
|          | Ramstein AB, Germany     | 3             | -       | 2              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | 4  | -        | -                | 2          | 2    | 2             | 3   | 13                     | -           | -                          | -                    | -           | -                   | -                   | 1                  | 27          | 59    |     |
|          | Spangdahlem AB, Germany  | -             | 1       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | -  | -        | 1                | -          | 1    | -             | -   | 1                      | -           | -                          | -                    | -           | 1                   | -                   | -                  | 6           | 11    |     |
|          | USAG Stuttgart, Germany  | 13            | -       | 1              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | 1                                   | -                   | -                            | -                      | 1                  | 2  | -        | -                | 2          | 6    | 3             | 5   | 18                     | -           | -                          | -                    | -           | -                   | 1                   | -                  | 43          | 96    |     |
|          | USAG Vicenza, Italy      | 1             | -       | -              | -                      | -                     | -                     | -                    | -                             | -                 | -                    | -                                   | -                   | -                            | -                      | -                  | -  | 1        | -                | -          | 1    | -             | 1   | 5                      | -           | -                          | -                    | -           | -                   | -                   | -                  | -           | 10    | 19  |
|          | Vilseck AHC, Germany     | 12            | -       | 1              | -                      | -                     | -                     | 1                    | -                             | 1                 | -                    | -                                   | -                   | 2                            | -                      | 1                  | 8  | -        | -                | 1          | 5    | 7             | 13  | 28                     | 1           | 1                          | 2                    | 1           | 3                   | 4                   | 2                  | 52          | 146   |     |
| Total    |                          | 91            | -       | 9              | 1                      | 2                     | 1                     | 2                    | 1                             | 1                 | 3                    | 1                                   | 1                   | 6                            | 2                      | 3                  | 36 | 2        | 1                | 18         | 47   | 36            | 75  | 223                    | 2           | 1                          | 3                    | 1           | 8                   | 10                  | 25                 | 508         | 1127  |     |

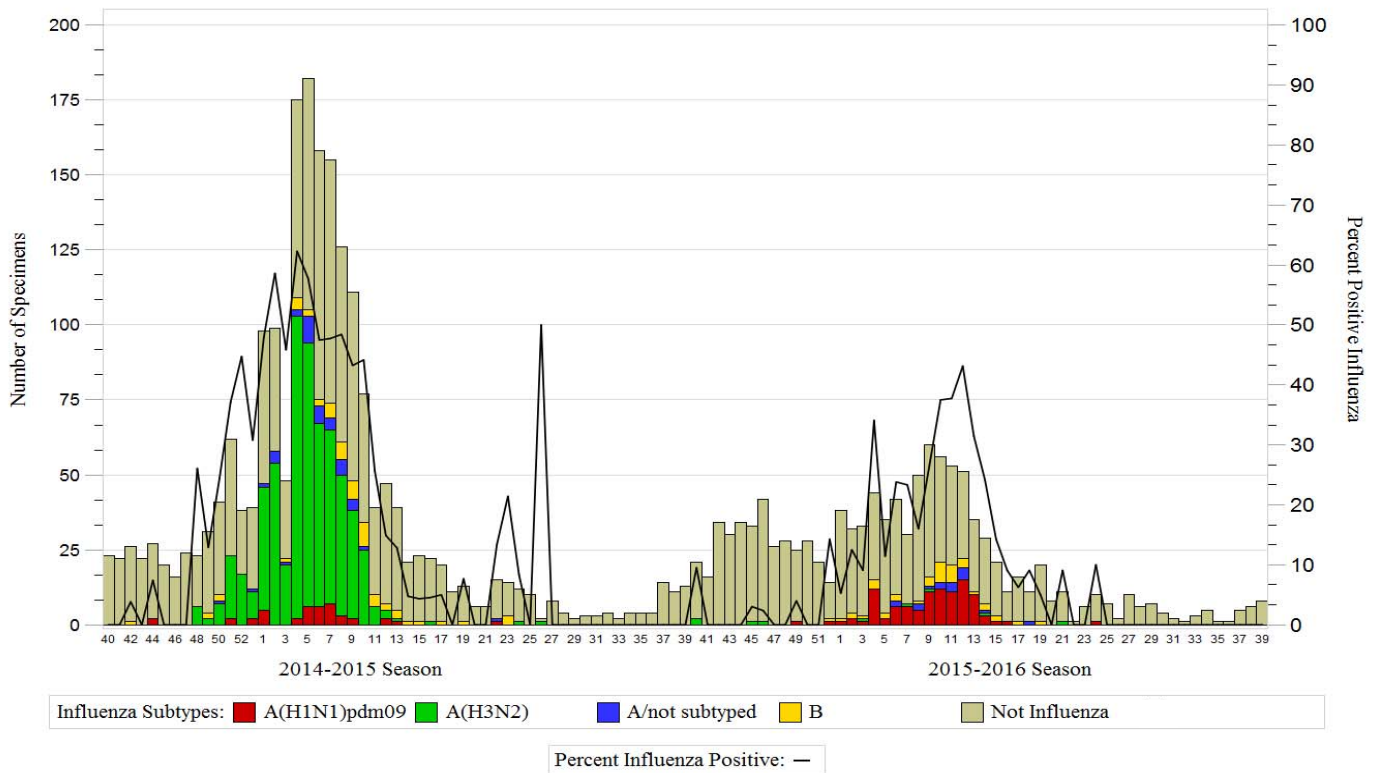
**Table 4.** ILI by age group for the 2015-2016 surveillance year

| Age Group | Frequency | Percent |
|-----------|-----------|---------|
| 0-5       | 335       | 29.72   |
| 6-9       | 50        | 4.44    |
| 10-17     | 33        | 2.93    |
| 18-24     | 145       | 12.87   |
| 25-44     | 462       | 40.99   |
| 45-64     | 84        | 7.45    |
| 65+       | 18        | 1.60    |

**Graph 4.** ILI by beneficiary status for the 2015-2016 surveillance year

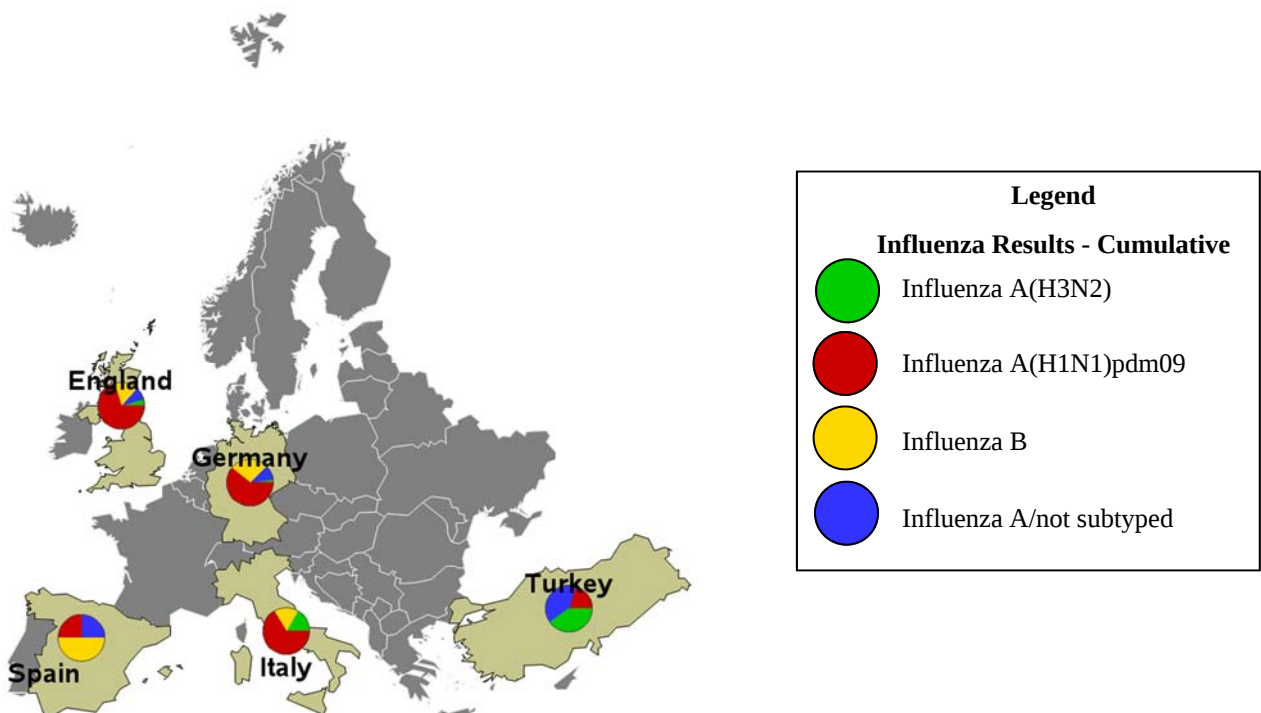


**Graph 5.** Percent influenza positive by week: 2014-2015 and 2015-2016 surveillance years (EUCOM)



Note: Dual influenza co-infections have been excluded from the graph.

**Map 4.** Influenza subtypes and activity level by country for the 2015-2016 surveillance year (EUCOM)



Note: Sentinel sites are not present in gray areas within the map.

## Background

The DoD-wide program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. The surveillance network includes the U.S. Air Force School of Aerospace Medicine (USAFSAM) (sentinel site respiratory surveillance), the Naval Health Research Center (NHRC) (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 at USAFSAM

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. USAFSAM manages the surveillance program, which 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), which collect specimens from local residents in surrounding countries that may not otherwise be covered in existing surveillance efforts. Additionally, 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 USAFSAM 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 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:*

## DoD Global, Laboratory-Based, Influenza Surveillance Program

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.

