

Department of Defense Seasonal Influenza Activities

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Force Health Protection and Readiness



- Policy
 - Universal immunization
 - HCW immunization
 - Thimerosal
- Surveillance
 - Syndromic
 - Laboratory
- 2007-8 Flu Season
 - Print, web based, blogs and telecasts
 - Stressed maximum immunization
 - Coordinated with National Campaigns

- Seasonal Influenza Policy
 - Mandatory vaccination for all active duty personnel
 - Reinforces need to vaccinate entire DOD population
 - Coordinate with National message/efforts
 - Typical rates >85% for all uniformed > 90% if uniformed HCW
- Mandatory vaccination for all health care workers engaged in direct patient care

- Attempt to comply with State statutes
 - Recognized that our providers may be at punitive risk from State licensing boards
- Policy states that there is no scientific merit for limiting vaccines preserved with thimerosal
- If State statute limits vaccines to only thimerosal free vaccines and a thimerosal vaccine is unavailable then DoD policy is to provide vaccine with preservative and include in vaccine informed consent.

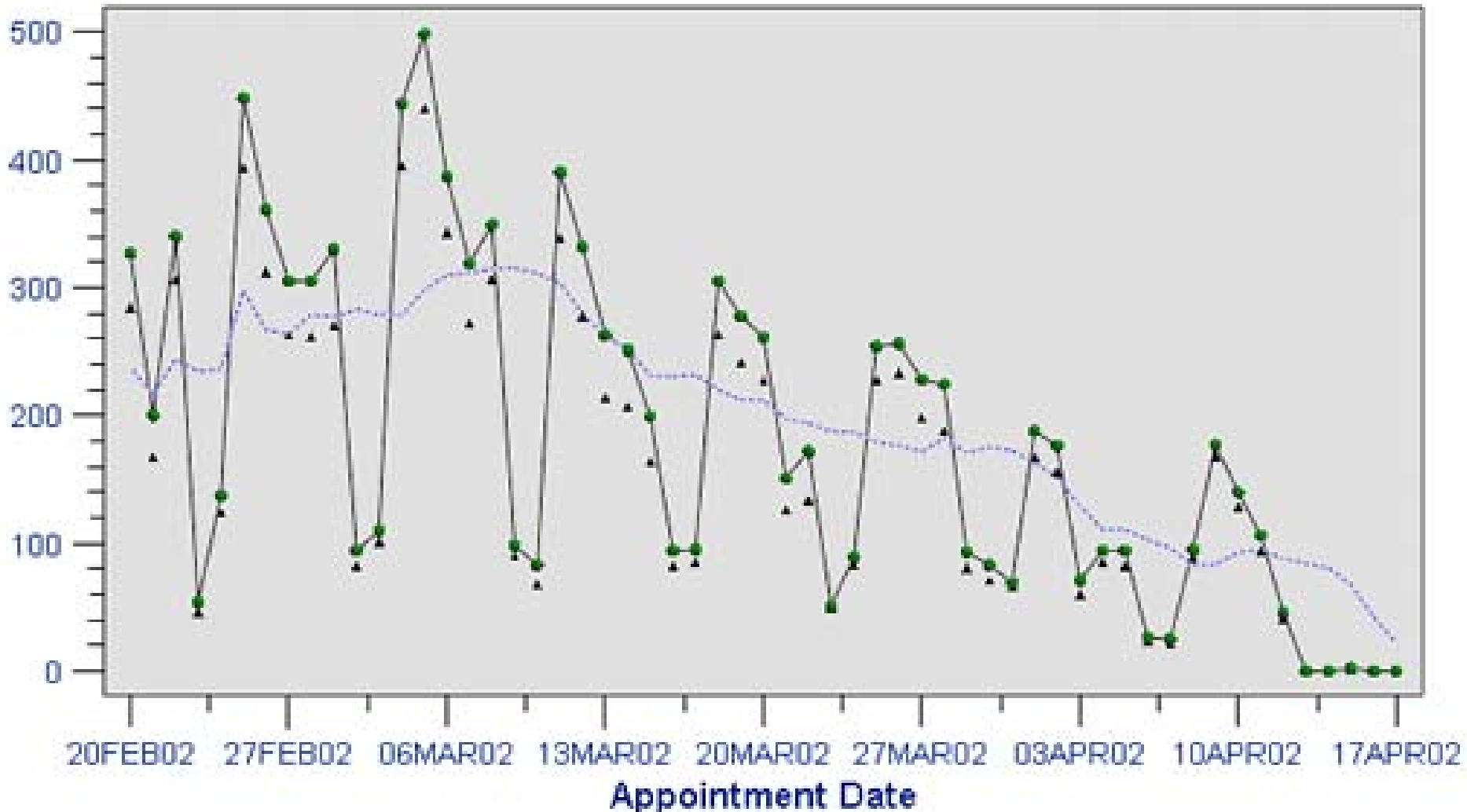
- Syndromic
- Laboratory based

- Identify circulating influenza viruses
- Detect novel influenza strains for possible vaccine modification
- Identify influenza outbreaks
- Determine incidence of influenza-like illness (ILI)
- Analyze effectiveness of influenza vaccine in military members

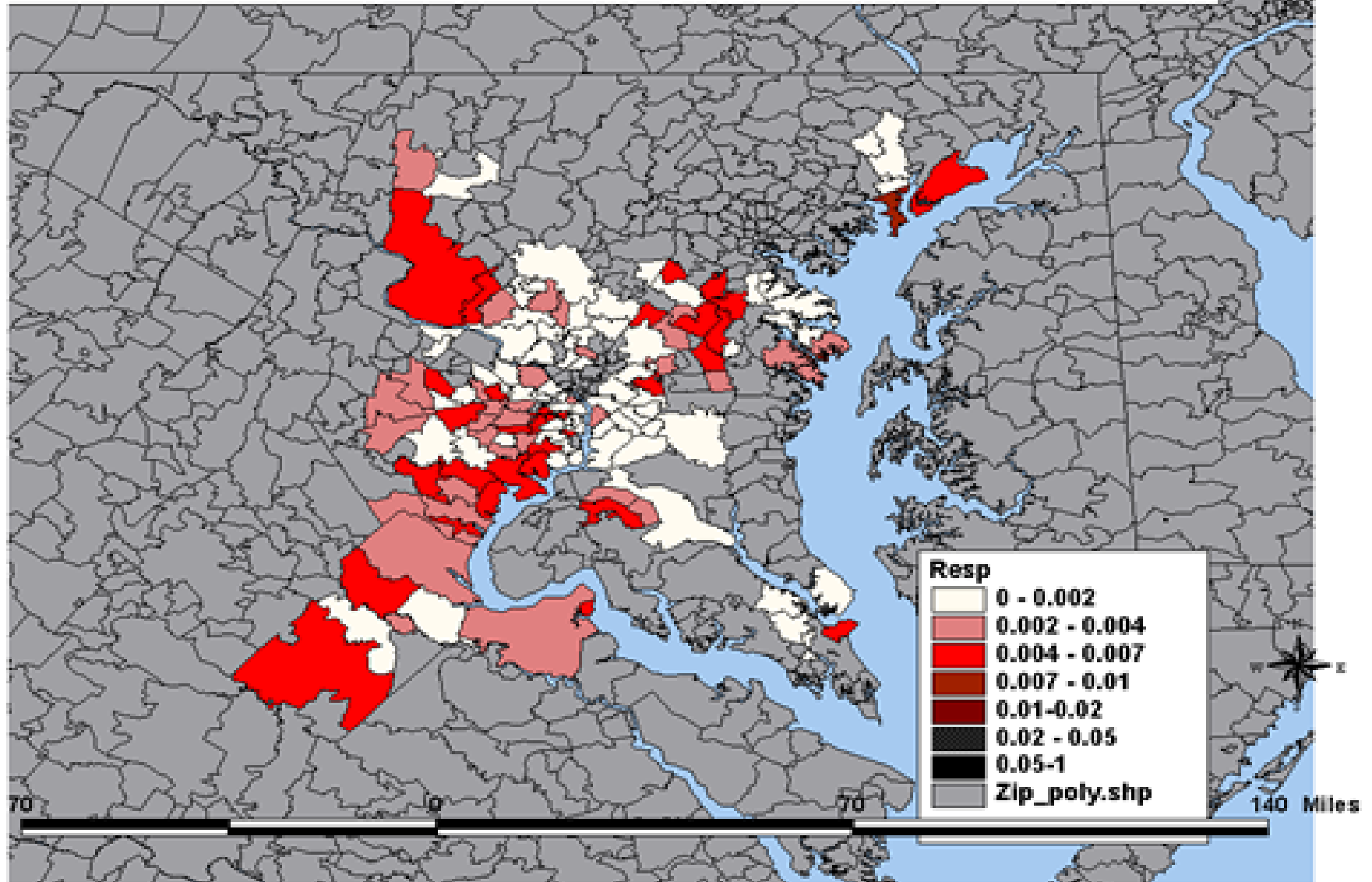
- ESSENCE: Electronic Surveillance System for the Early Notification of Community-based Epidemics
- Uses Ambulatory Data System and captures a number of key ICD9 codes to include ILI
 - Captures every patient encounter in DOD
 - Daily capture
 - 121 Army, 110 Navy, 80 Air Force, 41 Coast Guard Installations - over 4 million beneficiaries
 - Data lag time ranges from hours to 3 days

- Every 8 hours data is downloaded and graphs of counts of syndromic groups are automatically created
- Uses both temporal and geospatial analysis tools
- Cases can be plotted by home and work zip codes
- Data can also be presented by age, gender, clinic, provider and specific ICD9 code
- Enhanced version will include pharmacy data, school absenteeism and animal health data

Count



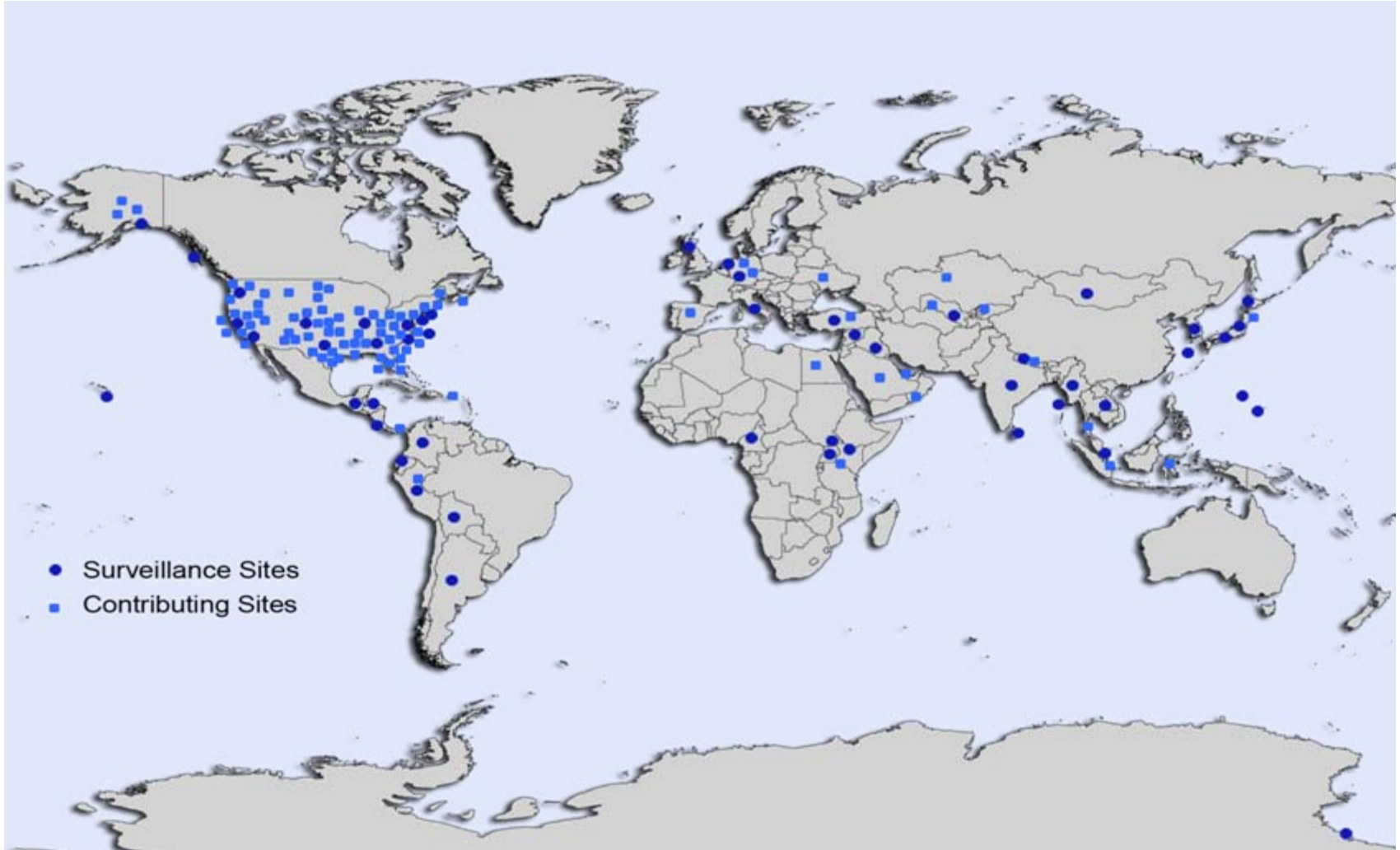
**Respiratory count over the total number of
military beneficiaries
09/07/2001 - 09/13/2001**



- 30 years of global influenza surveillance
- Over 260 sites in 56 countries
- Frequently submits strains used for seasonal influenza vaccine
 - 2008 Brisbane strain originated from Ellsworth AFB
- Laboratory-based influenza surveillance program
 - **Sentinel site** influenza surveillance
 - MTF's worldwide
 - **Population-based** febrile respiratory illness surveillance
 - DoD recruit training sites and ships

- Sentinel sites
 - 72 Global Sites
 - 51 US military sites
 - 4 DoD overseas research sites (Thailand, Indonesia, Egypt, Peru)
 - > 200 other contributing sites with global footprint
- Population-based febrile respiratory illness surveillance
 - 8 DoD recruit training sites and 11 ships
 - This season over 6,000 specimens submitted (29% or 1,566 + for influenza)

Participation



- Viral identification: Panel of respiratory viruses
 - Influenza A & Influenza B
 - Parainfluenza 1-3
 - Adenovirus
 - Respiratory Syncytial Virus (RSV)
 - **100% of influenza isolates are sub-typed and sequenced by molecular characterization**
- Surveillance questionnaire
 - This must be completed for each patient and can be entered electronically or submitted with the specimen

Page 5 DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH
DoD Global Influenza Surveillance Program Background
This system was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. The Navy (recruit adenovirus Medical Research Unit Armed Forces Research and Development) (AFMRC-ARDD) and the Air Force (Naval Air Station, Pensacola, Florida) (NAAS-P) are the lead sites for the program.

Page 4 DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH
Influenza Surveillance Questionnaire Overview
The purpose of this report is to provide a summary of the data collected from the questionnaire. The questionnaire is used to collect information on influenza-like illness (ILI) and influenza surveillance activities at the site.

Page 3 DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH
Influenza-like Illness (ILI) Overview*
Influenza-like illness (ILI) is defined as a respiratory illness with a fever and cough or sore throat. It is the most common type of influenza.

Page 2 DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH
DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH
AFIOH is the lead site for the program. It is responsible for the collection, analysis, and reporting of influenza surveillance data.

AIR FORCE INSTITUTE FOR OPERATIONAL HEALTH (AFIOH)

Influenza Threat Level: WHO Phase 3

Phase 3 Goal: Ensure rapid characterization of the new virus subtype, & early detection, notification & response to additional cases.

Reference:

HP-H5N1 Geographic Location:

- No current evidence of HP/H5N1 within North, Central, or South America.
- The current regional position includes much of Asia, the Middle East, Europe, and portions of Africa.

Overall Lab Surveillance:

Total Specimens Collected:

- Collected in Week 07: 53
- 06-07 Seasonal Year: 1,232

Influenza patients by AGE:

% of influenza isolates

Percent of Total Plus:

- 6-4: 12% (n=38)
- 6-9: 22% (n=68)
- 10-18: 02% (n=06)
- 19-24: 06% (n=17)
- 25-44: 14% (n=42)
- 45-64: 04% (n=12)
- 65+: 03% (n=21)
- Unk*: 40% (n=119)

*Unknown gathered from non-DoD beneficiaries

Influenza patients by FBP:

% of influenza isolates

Percent of Total Plus:

- AD: 18% (n=50)
- Spouse: 07% (n=22)
- Child: 39% (n=122)
- Non-DoD: 39% (n=122)

Sentinel Site Surveillance:

Specimens Collected:

- 867 specimens
- 70% of total specimens
- 231 influenza-positive
- 73% of total flu positives

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DoD Global Influenza Surveillance Program: Influenza Surveillance at AFIOH

Week 07 11-17 February 2007

Influenza (01 Oct - Present)

316 influenza isolates
 208 Influenza A; 58 Influenza B

Influenza A	Influenza B
A (H1): 217	B (Yamagata): 2
A (H3): 37	B (Victoria): 27
A/Not subtyped: 12	B/Not subtyped: 21

26% of total specimens were positive for influenza: 84.2% influenza A; 15.8% influenza B

Locations of Lab-confirmed Influenza

Human Avian Influenza (H5N1) Update

CY 2007 - 11 cases, 9 of 11 fatal, confirmed in Egypt, Indonesia, and Nigeria. Since CY 2003, 274 highly pathogenic (HP) H5N1 human cases (61% fatality rate) have been confirmed in Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Nigeria, Thailand, Turkey, and Viet Nam (19 Feb 2007, WHO).

Click on the following links for updates regarding human HP-H5N1:

- World Health Organization (WHO)
- Centers for Disease Control and Prevention (CDC)
- Global Emerging Infections System (GEIS)

Influenza Outbreaks / News

- News:**
 - AFIOH and PACOM partners discussing increased surveillance capabilities during regional military exercises. AFIOH continues to support such activities with surveillance instruments, specimen collection/shipping supplies, and epidemiology support.
 - Storage of specimens prior to shipping: Remind staff to store specimens in a -70°C freezer or a regular refrigerator prior to shipping (-20°C is not acceptable). Ship at least twice weekly!

AFIOH Report Overview

This report summarizes the status of all respiratory viral cultures processed at the AFIOH laboratory. For more background information, please see last page of this report.

AFIOH

35% (420/1,193) were positive for a pathogen identified include: 3% (n=37) % (n=14) were enterovirus, and 1%

IAVY: Overall ILI Activity

ST GUARD: Overall ILI Activity

is been analyzed as drift variants. Both specimens were subm-



Week 06
03-09 Feb 2008

Points of Interest

Influenza Threat Level:

- WHO Phase 3
- Ensure rapid characterization of the new virus subtype, & early detection, notification & response to additional cases.

WHO Pandemic Phase

Laboratory Surveillance

Total Specimens Collected
Week 06: 244
07-08 Seasonal Year: 2,618

Influenza Patients By Age Group

Age Group	Influenza		Total
	A	B	
0 - 5	30	3	33
6 - 9	26	2	28
10 - 18	68	4	72
19 - 24	113	4	117
25 - 44	116	16	132
45 - 64	20	6	26
65 and over	4	2	6
Unknown	58	43	101
Total	435	80	515

By Family Member Prefix

FMP	Influenza		Total
	A	B	
Child	110	7	117
Active Duty	225	21	246
Spouse	41	9	50
Non-DoD	59	43	102
Total	435	80	515

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DoD Global Influenza Surveillance Program

Influenza Overview

19.7% (516 of 2,618) of specimens received were positive for influenza.

- 84.2% (n=435) Flu A*
- 15.8% (n=81) Flu B*

*1 Flu A / Flu B co-infection

Influenza A

- A (H1): 160
- A (H3): 117
- Dual A (H3/H1): 3
- A/not subtyped: 154

Influenza B

- B (Malaysia): 1
- B (Shanghai): 3
- B/not subtyped: 76

Locations of lab-confirmed influenza:

Since 30 Sep 07, influenza was identified in CENTCOM (Iraq, Kuwait, Qatar), PACOM (Alaska, Antarctica, Hawaii, Japan, Guam, Nepal, Philippines, Saipan, S. Korea, Thailand), SOUTHCOM (Honduras) & NORTHCOM (US).

Click map to the right for locations of the 71 sentinel sites, although any DoD MTF may submit specimens.



2007-2008 Sentinel Sites

Respiratory Outbreaks, News

- **Increase in ILI:** An increase in influenza-like activity has been noted among clinic staff at Columbus AFB; resulting manning shortages have been reported. The first shipment of specimens have been received at AFIOH and all 6 are positive for Influenza A by PCR. More information will be provided as it becomes available.

Highly Pathogenic Human H5N1

as of 05 February 2008, WHO

CY 2008: 10 cases (90.0% case fatality rate) confirmed in Indonesia and Vietnam

CY 2003 to Present: 359 cases (63.0% fatality rate) confirmed in Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Lao, Myanmar, Nigeria, Pakistan, Thailand, Turkey, and VietNam

Click on the following links for updates regarding human Highly Pathogenic Human H5N1.

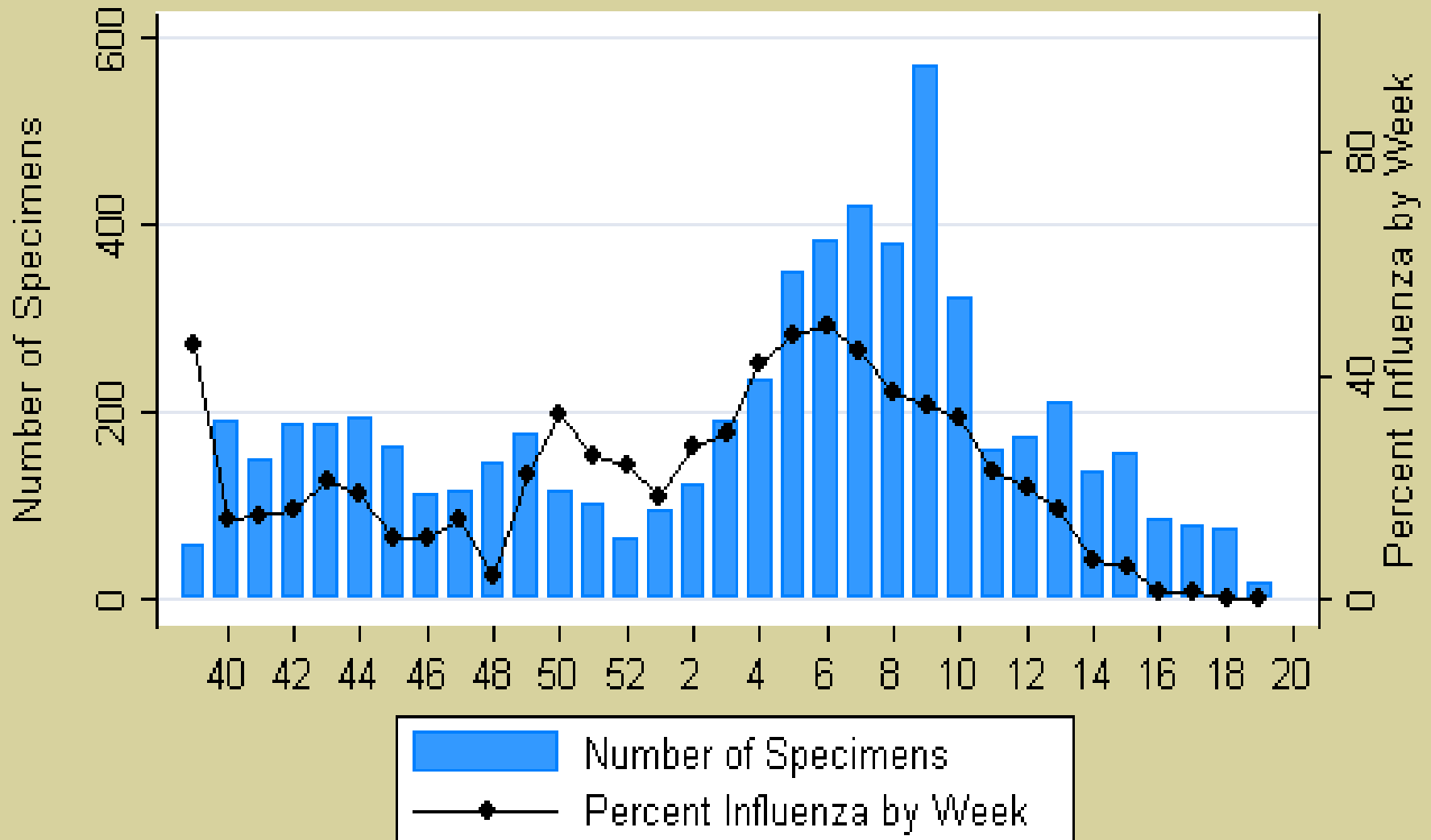
- [World Health Organization \(WHO\)](#)
- [Centers for Disease Control and Prevention \(CDC\)](#)
- [Global Emerging Infections System \(GEIS\)](#)

Avian Influenza H5N1 (non-Human) Updates:

- [WHO Avian Influenza Useful Links](#)
- [Armed Forces Medical Intelligence Center](#)



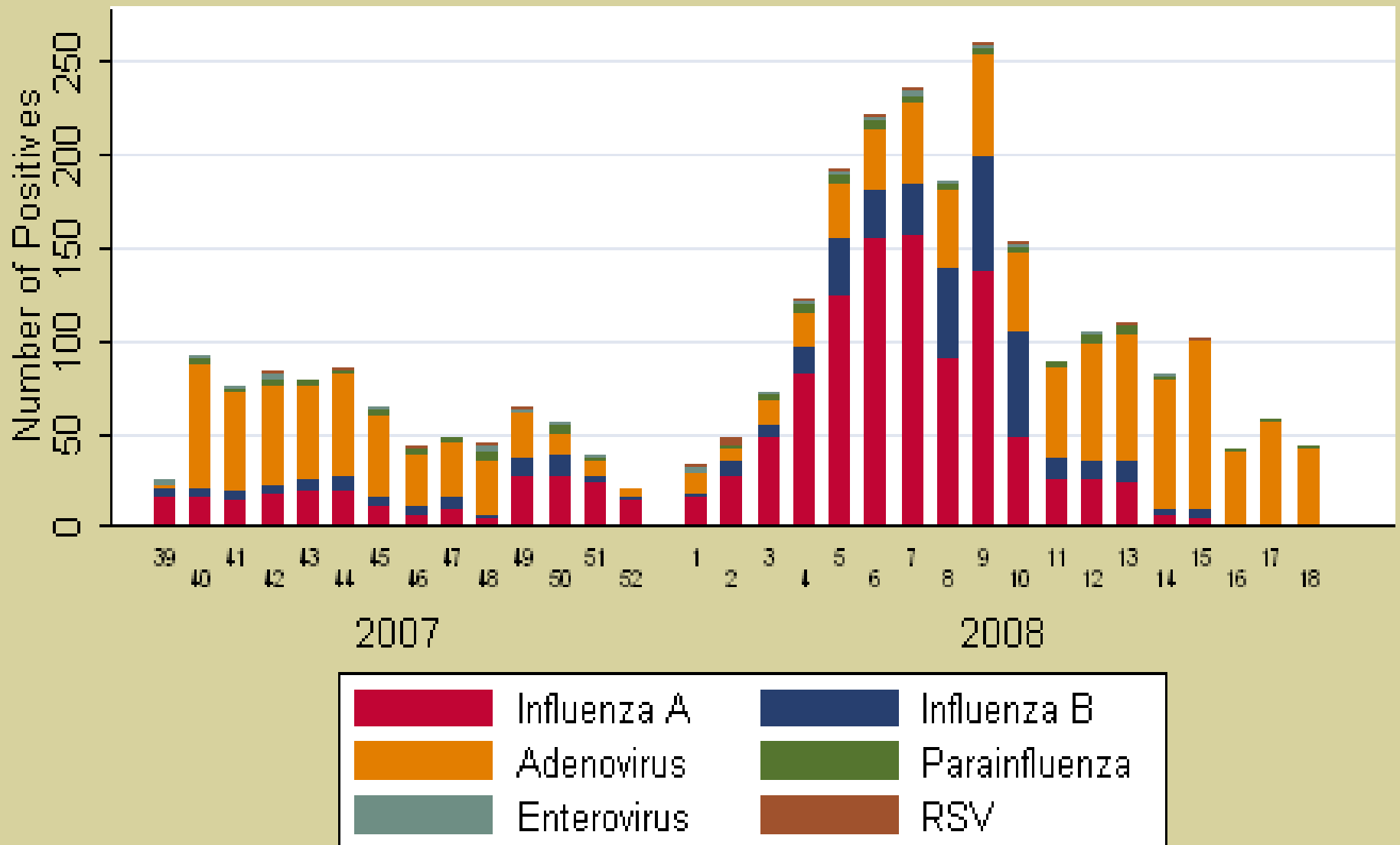
Summary of Submitted Specimens All Sites by Week Influenza Seasonal Year 2007-2008



As Of 8 May 2008

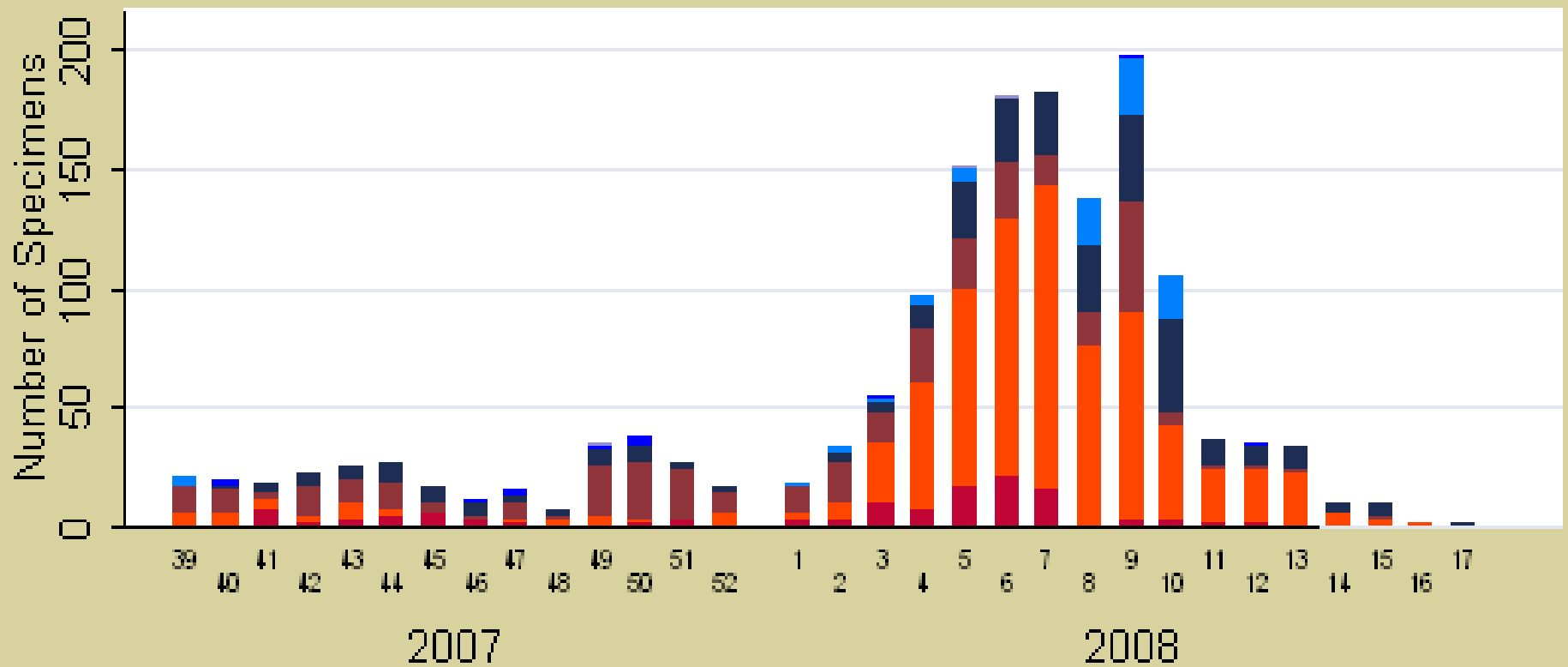
Positive Viral Results by Week and Year

Influenza Seasonal Year 2007-2008



As Of 8 May 2008

Subtyping Results by Week and Year Influenza Seasonal Year 2007-2008



As Of 8 May 2008

- Immunization rate
 - By December 2007 79-88% vaccinated
 - By mid Feb 2008 86-94% vaccinated
 - By December 2007 >90% of Uniformed HCW
- Vaccine effectiveness
 - H1 71%
 - H3 84%
 - Nonspecific 48%

- Continue to reinforce need to immunize the entire DOD population
- Improve tracking for dependent population
 - New versions of our electronic medical record to include immunization module
- Continue to use seasonal influenza vaccination programs as pandemic influenza mass vaccination exercise
 - Some Installations have included mass vaccination programs (immunize installation within 48 hrs) as a component of pandemic flu exercise

**She's coming to
your next meeting...**



**PRACTICE
SOCIAL
DISTANCING!**