



# MI FluFocus

## Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology  
Bureau of Laboratories

Michigan Department  
of Community Health



Jennifer M. Granholm, Governor  
Janet Olszewski, Director

Editor: Susan Vagasky, DVM  
Surveillance and Infectious Disease Epidemiology  
VagaskyS@Michigan.gov

October 30, 2008  
Vol. 5; No. 44

### New updates in this issue:

- **Michigan Surveillance:** OTC product sales increase slightly but other influenza indicators remain low.
- **National Surveillance:** 11 states report sporadic activity; overall influenza activity remains low.

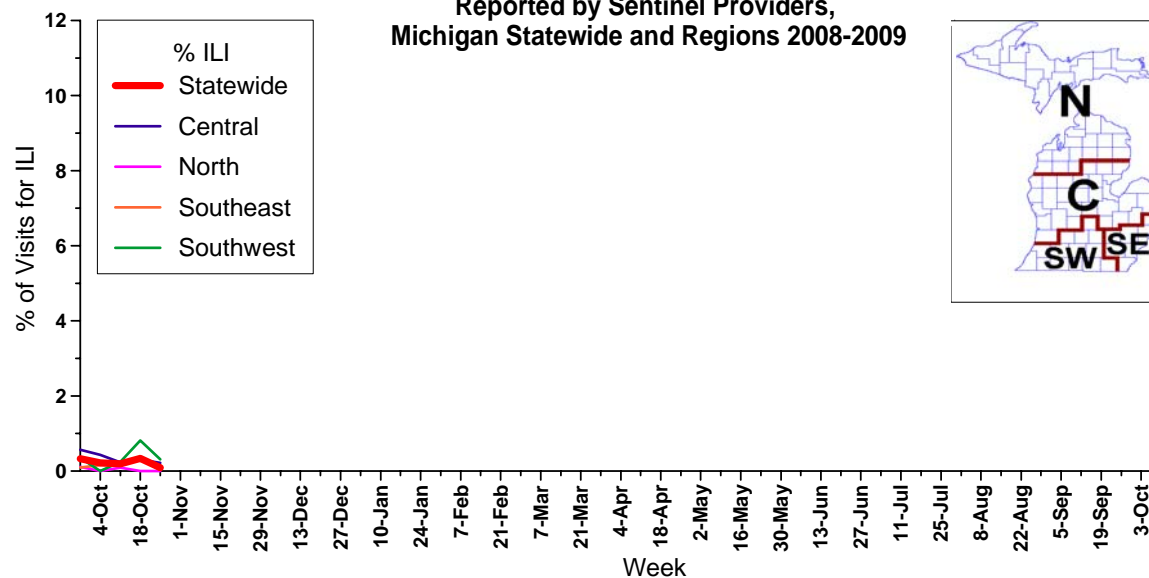
**Michigan Disease Surveillance System:** The week ending October 25 saw both individual influenza and aggregate flu-like disease reports remain steady near last week's levels. Individual reports are consistent with levels seen at this time last year, where aggregate numbers are slightly lower.

**Emergency Department Surveillance:** Emergency department visits from both respiratory and constitutional complaints remained steady near last week's levels, with respiratory complaints showing a very slight downward trend over time. Respiratory complaints are consistent with numbers seen this time last year, while constitutional complaints are slightly lower. Six constitutional alerts in the C(5) and SW(1) Influenza Surveillance Regions and five respiratory alerts in the C(2), N(1), SE(1) and SW(1) Influenza Surveillance Regions were generated last week.

**Over-the-Counter Product Surveillance:** Overall, OTC product sales saw a slight increase overall last week. Only cough/cold medicines remained steady near last week's numbers. The remaining indicators saw a slight increase in sales with chest rubs showing a more defined increase over the last week and a half. Indicator levels are comparable to those seen at this time last year.

**Sentinel Provider Surveillance (as of October 30, 2008):** During the week ending October 25, 2008, the proportion of visits due to influenza-like illness (ILI) remained at a low level, 0.1%; 9 patient visits due to ILI were reported out of 9,969 office visits. This level of ILI activity is consistent with that reported in early fall during prior years' surveillance. Thirty sentinels provided data for this report. Note that these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)  
Reported by Sentinel Providers,  
Michigan Statewide and Regions 2008-2009



As part of pandemic influenza preparedness, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or [potterr1@michigan.gov](mailto:potterr1@michigan.gov) for more information.

**Laboratory Surveillance (as of October 30):** No new influenza isolates were identified at the MDCH Bureau of Laboratories (BOL) during the past week. For the 2008-2009 influenza season, no influenza isolates have been identified at MDCH BOL.

\*\*\*As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

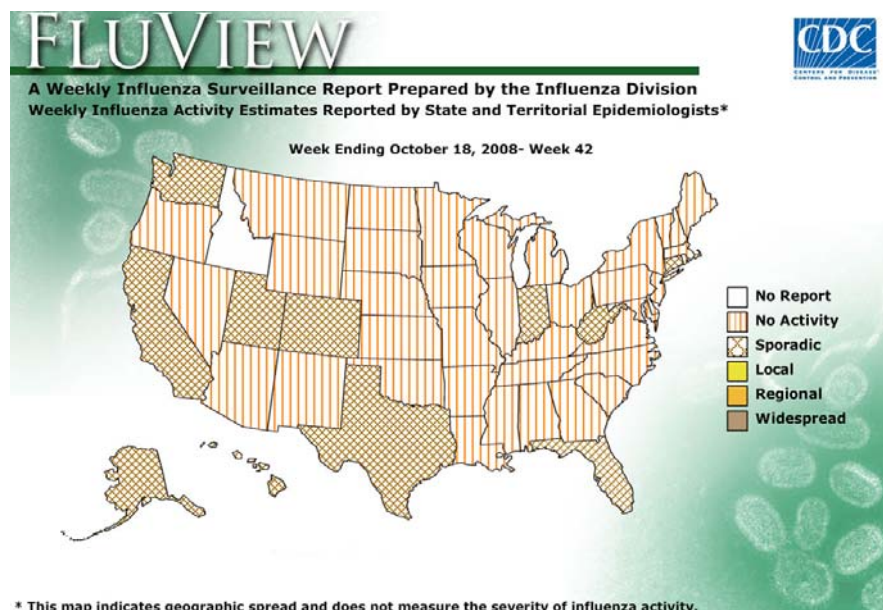
**Influenza-Associated Pediatric Mortality (as of October 30):** No influenza-associated pediatric mortalities have been reported to MDCH for the 2008-2009 influenza season.

\*\*\*The CDC has asked all states to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child (<18 years) resulting from a compatible illness confirmed to be influenza by an appropriate diagnostic test, but also any unexplained death with evidence of an infectious process in a child. Please immediately call MDCH to ensure that proper clinical specimens are obtained. View the complete MDCH protocol online at [http://www.michigan.gov/documents/mdch/ME\\_pediatric\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf).

**Congregate Settings Outbreaks (as of October 30):** No congregate setting outbreaks due to influenza have been reported to MDCH for the 2008-2009 influenza season.

**National (CDC [edited], October 24):** During week 42 (October 12-18, 2008), a low level of influenza activity was reported in the United States. Ten (1.0%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. The proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels. Eleven states, the District of Columbia, and Puerto Rico reported sporadic influenza activity; 38 states reported no influenza activity; and one state did not report.

To access the entire CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>



**National, (Associated Press, October 28):** State health officials say a 50-year-old woman from northern Idaho has died from influenza complications.

The case was reported Tuesday and is the first flu-related death of the season in Idaho.

The Idaho Department of Health and Welfare has not identified the woman.

Health officials say a death caused by influenza this early in the season is unusual. Panhandle Health District spokeswoman Cynthia Taggart says the first flu-related death last year was reported in March.

Last year, Idaho had nine deaths from the flu.

Dr. Leslie Tengelsen, deputy state epidemiologist, says the case underscores the need for people to begin taking precautions to avoid influenza infection and consider scheduling an appointment to get a vaccination.

Each year, influenza contributes to the deaths of 36,000 people nationwide.

Information from: The Spokesman-Review, <http://www.spokesmanreview.com>

**National (Reuters, October 26):** Giving four times the usual dose of flu vaccine helps protect elderly people better than the usual dose, researchers reported on Sunday, offering a potential solution to the problem of vaccinating seniors.

Recent research has shown the standard flu vaccine does not reduce deaths noticeably among the elderly, who make up most of the 36,000 people a year in the United States who die of influenza each year.

This is likely because their immune systems are not as active as those of younger people.

Dr. Ann Falsey of the University of Rochester School of Medicine and Dentistry and colleagues tried giving a much bigger dose of flu vaccine to see if that might help.

They tested the idea on 3,800 volunteers aged 65 and older and found their bodies produced up to twice as many antibodies -- the immune system proteins that help attack invaders such as viruses -- compared to seniors given the usual vaccine dose.

The patients had many different chronic conditions and many were considered at high risk of complications from flu but the high-dose vaccine appeared to work well in them all, the researchers told a joint meeting of the American Society for Microbiology and Infectious Diseases Society of America.

The study was paid for by flu vaccine maker Sanofi Pasteur, which makes one of the flu vaccines licensed for use in the United States. It hopes to license the higher-dose vaccine for older patients

"The goal is to increase immune response in older adults, since this is one of the populations most at risk for becoming seriously ill or dying from influenza," Falsey said in a statement.

Annual flu vaccines are recommended for most of the U.S. population, including people over the age of 50, people with chronic conditions such as diabetes, children and pregnant women. Globally, seasonal influenza kills between 250,000 and 500,000 people every year.

**International (HPA Health Protection Report, vol.2, no. 43 [edited], October 24):** *Identification in the UK of the 1st oseltamivir-resistant influenza A(H1N1) virus of the 2008/09 season:* Since week 34/08, several sporadic, laboratory-confirmed influenza infections have been detected in the United Kingdom (UK): isolates have included influenza A(H3N2), A(H1N1) and influenza B.

The 1st oseltamivir resistant influenza A(H1N1) for the 2008/09 season has also been identified in the UK through the HPA sentinel GP virological surveillance scheme. The virus contains the H274Y mutation but remains sensitive to zanamivir and amantadine, and is antigenically similar to the H1N1 reference strain A/Brisbane/59/2007, which is included in this season's influenza vaccine. Antiviral susceptibility tests on A(H3) isolates showed that they are sensitive to oseltamivir and zanamivir.

With laboratory-confirmed sporadic influenza infections of various strains in circulation at the start of this autumn season, it is important to emphasize that people in the defined influenza risk groups should take up the recommendation of influenza vaccination. It is too early in the season to predict the course of the

2008/09 influenza season, and whether it will be dominated by the circulation of H1N1, H3N2, or influenza B. The Agency will be closely monitoring the characteristics of circulating isolates in order to determine the overall prevalence of drug resistant influenza A and B isolates.

Influenza virus detections across Europe have been low so far in the 2008/09 influenza season (13 to date) and the above-mentioned H1N1 oseltamivir-resistant influenza isolate is, to the Agency's knowledge, the 1st detected in Europe. Influenza A oseltamivir resistance 1<sup>st</sup> emerged last season with a number of circulating influenza A(H1N1) isolates with the H274Y mutation, which confers resistance to oseltamivir, but not to zanamivir. By the end of the 2007/08 season, 26 out of 33 reporting European countries reported H1N1 oseltamivir resistance ranging from 4 percent in Spain to 67 percent in Norway, with 11 percent (38/347) in the UK.

The epidemiological evidence from the 2007/08 season suggested no reported increase in morbidity associated with these confirmed oseltamivir-resistant cases.

Reports between the 2nd quarter 2008 and September 2008 from WHO showed high prevalence of resistance in the southern hemisphere with 100 percent (129/129) of H1N1 strains oseltamivir resistant in South Africa, and 96 percent (25/26) strains in Australia.

**International (WHO, October 23):** During the weeks 41-42, overall influenza activity in the southern hemisphere continued to decline. Activity was low in the rest of the world.

*China, Hong Kong Special Administrative Region.* A decline in the activity of influenza A(H3) and A(H1) viruses was observed, with influenza A(H3) predominating. Also, a B/Victoria lineage virus was detected.

Between weeks 41 to 42, sporadic influenza activity was detected in Chile (B), the Russian Federation (H1,H3,B) , the United Kingdom of Great Britain and Northern Ireland (H1, H3), and the United States of America (A,B).

Belgium, Brazil, Bulgaria, Canada, Denmark, France, Germany, Honduras, the Islamic Republic of Iran, Latvia, Mongolia, Norway, Poland, Portugal, Slovenia, South Africa, Spain, Sweden and Switzerland reported no influenza activity.

---

MDCH reported **NO INFLUENZA ACTIVITY** to the CDC for the week ending October 25, 2008.

For stakeholders interested in additional information regarding influenza vaccination and education, the MDCH publication *Michigan FluBytes* is available online at [http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_22779\\_40563-125027--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html). *FluBytes* is published weekly during the influenza season.

## **End of Seasonal Report**

---

### **Avian Influenza Activity**

**WHO Pandemic Phase:** Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

**National, Research (US Geological Survey, October 27):** Wild migratory birds may be more important carriers of avian influenza viruses from continent to continent than previously thought, according to new scientific research that has important implications for highly pathogenic avian influenza virus surveillance in North America.

As part of a multi-pronged research effort to understand the role of migratory birds in the transfer of avian influenza viruses between Asia and North America, scientists with the U.S. Geological Survey (USGS), in collaboration with the U.S. Fish and Wildlife Service in Alaska and the University of Tokyo, have found genetic evidence for the movement of Asian forms of avian influenza to Alaska by northern pintail ducks.

In an article published this week in *Molecular Ecology*, USGS scientists observed that nearly half of the low pathogenic avian influenza viruses found in wild northern pintail ducks in Alaska contained at least one (of eight) gene segments that were more closely related to Asian than to North American strains of

avian influenza.

It was a highly pathogenic form of the H5N1 avian influenza virus that spread across Asia to Europe and Africa over the past decade, causing the deaths of 245 people and raising concerns of a possible human pandemic. The role of migratory birds in moving the highly pathogenic virus to other geographic areas has been a subject of debate among scientists. Disagreement has focused on how likely it is for H5N1 to disperse among continents via wild birds.

"Although some previous research has led to speculation that intercontinental transfer of avian influenza viruses from Asia to North America via wild birds is rare, this study challenges that," said Chris Franson, a research wildlife biologist with the USGS National Wildlife Health Center and co-author of the study. Franson added that most of the previous studies examined bird species that are not transcontinental migrants or were from mid-latitude locales in North America, regions far removed from sources of Asian strains of avian influenza.

Scientists with the USGS, in collaboration with the U.S. Fish and Wildlife Service, state agencies, and Alaska native communities, obtained samples from more than 1,400 northern pintails from locations throughout Alaska. Samples containing viruses were then analyzed and compared to virus samples taken from other birds in North America and Eastern Asia where northern pintails are known to winter. Researchers chose northern pintails as the focus of the study because they are fairly common in North America and Asia, they are frequently infected by low pathogenic avian influenza, and they are known to migrate between North America and Asia. None of the samples were found to contain completely Asian-origin viruses and none were highly pathogenic.

"This kind of genetic analysis - using the low pathogenic strains of avian influenza virus commonly found in wild birds - can answer questions not only about the migratory movements of wild birds, but the degree of virus exchange that takes place between continents, provided the right species and geographic locations are sampled," said John Pearce, a research wildlife biologist with the USGS Alaska Science Center and co-author of the study. "Furthermore, this research validates our current surveillance sampling process for highly pathogenic avian influenza in Alaska and demonstrates that genetic analysis can be used as an effective tool to further refine surveillance plans across North America, Pearce added.

**Michigan Wild Bird Surveillance (USDA, as of October 30):** For the 2008 testing season, 859 Michigan samples have been taken so far, comprised of 320 live birds, 339 hunter-killed birds, 25 morbidity or mortality samples and 175 environmental samples.

HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 44,503 birds or environmental samples tested nationwide for the 2008 testing season, which will run from April 1, 2008 - March 31, 2009. For more information, visit the National HPAI Early Detection Data System website at <http://wildlifedisease.nhii.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

**Please contact Susan Vagasky at [VagaskyS@Michigan.gov](mailto:VagaskyS@Michigan.gov) with any questions regarding this newsletter or to be added to the weekly electronic mailing list.**

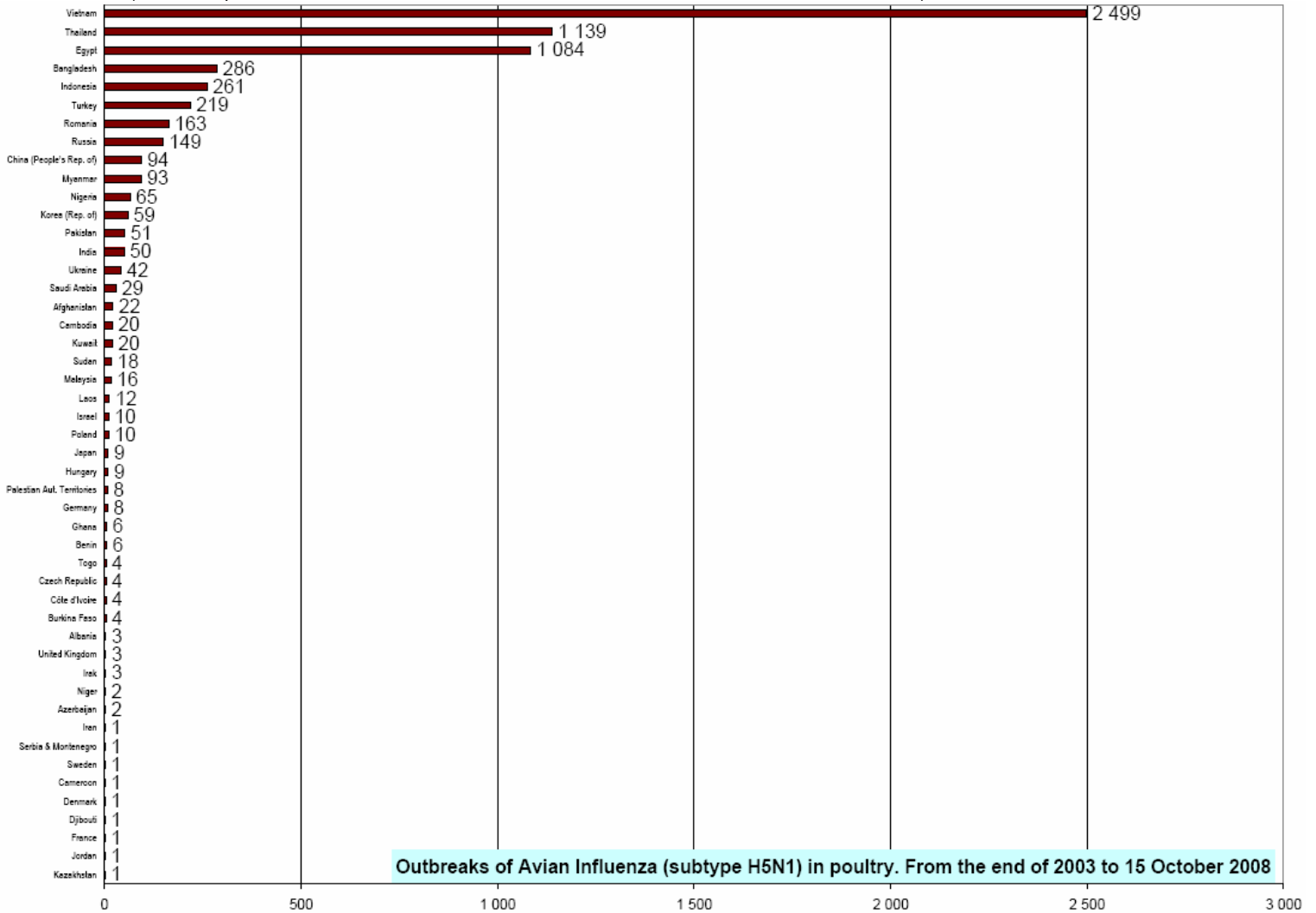
**Contributors**

**MDCH Bureau of Epidemiology - Sally Bidol, MPH; Edward Hartwick, MS; Rachel Potter, DVM, MS**

**MDCH Bureau of Laboratories – Patricia Clark, MPH**

**Table 1. H5N1 Influenza in Poultry (Outbreaks up to October 15, 2008)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 10/16/08)



**Table 2. H5N1 Influenza in Humans (Cases up to September 10, 2008)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2008\\_09\\_10/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_09_10/en/index.html) Downloaded 9/10/2008)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	0	0	7	7
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	7	3	50	22
Indonesia	0	0	0	0	20	13	55	45	42	37	20	17	137	112
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	5	5	106	52
<b>Total</b>	<b>4</b>	<b>4</b>	<b>46</b>	<b>32</b>	<b>98</b>	<b>43</b>	<b>115</b>	<b>79</b>	<b>88</b>	<b>59</b>	<b>36</b>	<b>28</b>	<b>387</b>	<b>245</b>