



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories



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## Current Influenza Activity Levels:

- **Michigan:** Local activity
- **National:** During April 22-28, influenza activity declined nationally and in most regions, but remained elevated in some areas of the U.S.

## Updates of Interest

- **International:** Indonesia reports a new human case of avian influenza H5N1

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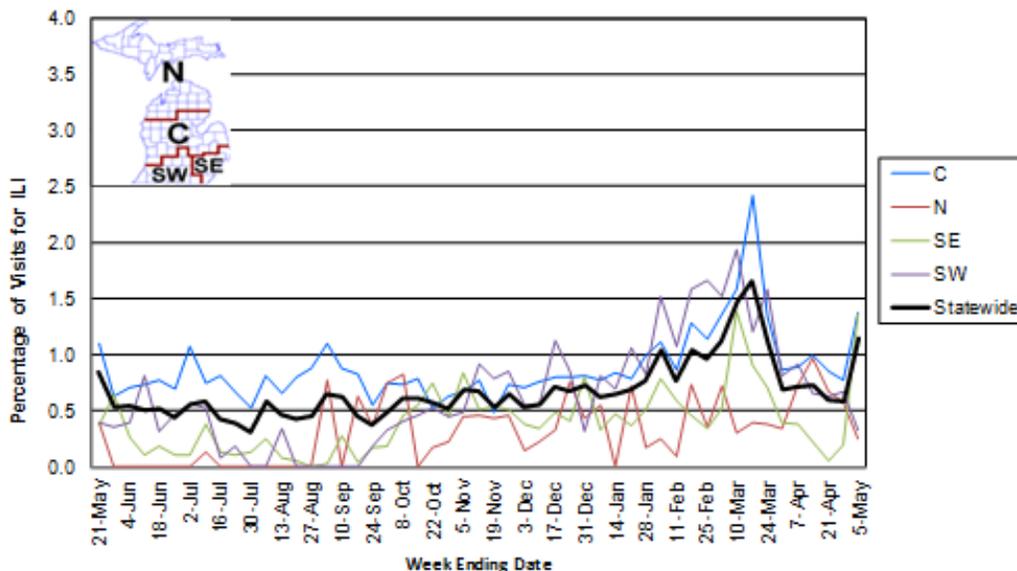
## Influenza Surveillance Reports

**Michigan Disease Surveillance System:** MDSS data for the week ending May 5<sup>th</sup> indicated that compared to levels from the previous week, individual reports decreased, while aggregate reports remained steady. Individual reports are slightly higher, while aggregate reports are similar, than levels seen during the same time last year.

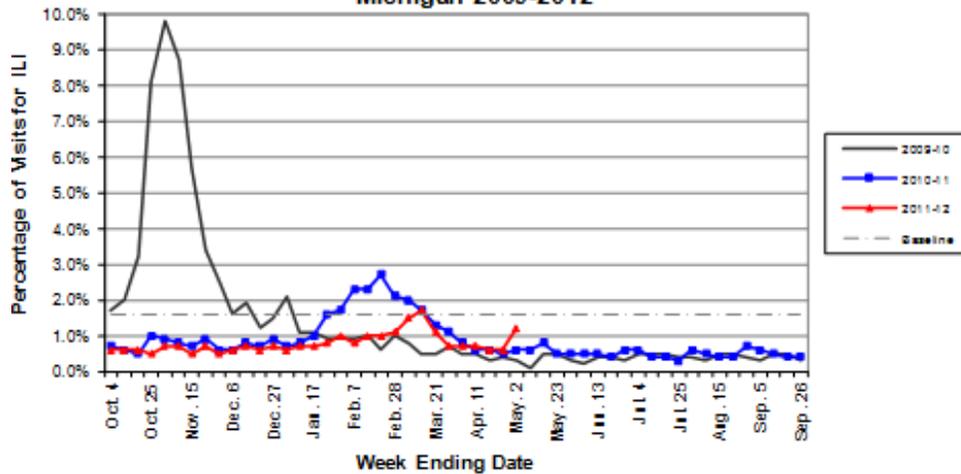
**Emergency Department Surveillance:** Compared to levels from the week prior, emergency department visits from constitutional complaints slightly increased, while respiratory complaints decreased. Both constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were three constitutional alerts in the SW(1) and C(2) Influenza Surveillance Regions and four respiratory alerts in the SW(1) and C(3) Regions.

**Sentinel Provider Surveillance (as of May 10):** During the week ending May 5, 2012, the proportion of visits due to influenza-like illness (ILI) increased to 1.2% overall; this is below the regional baseline of (1.6%). A total of 87 patient visits due to ILI were reported out of 7,565 office visits. Twenty-six sentinel sites provided data for this report. ILI activity increased in two surveillance regions: Central (1.4%) and Southeast (1.4%); and decreased in the remaining two surveillance regions: North (0.3%) and Southwest (0.3%). Please note these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)  
Reported by Sentinel Providers, Statewide and Regions  
2010-2011 and 2011-12 Flu Seasons



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the  
US Outpatient Influenza-like Illness Surveillance Network (ILINet):  
Michigan 2009-2012**



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

**Hospital Surveillance (as of May 5):** The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. No lab-confirmed influenza hospitalizations were reported during the week ending May 5, 2012. For the 2011-12 season, 27 influenza hospitalizations (9 adult, 18 pediatric) have been reported in the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 3 hospitals (SE, SW) reported for the week ending May 5, 2012. Results are listed in the table below. Total hospitalizations were adjusted to reflect amended reports from past weeks.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2011-12 Season
0-4 years	0	19
5-17 years	0	20
18-49 years	1	29
50-64 years	0	26
≥65 years	0	39
<b>Total</b>	<b>1</b>	<b>133</b>

**Laboratory Surveillance (as of May 5):** During April 29-May 5, 9 influenza A/H3 (6SE, 3SW), 1 influenza A/H1N1 2009pdm (SE) and 5 influenza B (1SE, 2SW, 2C) results were reported by MDCH BOL. In addition, CDC confirmatory testing on a specimen from the week ending March 17<sup>th</sup> was positive for an influenza A/H3 and B co-infection (SE). For the 2011-12 season (starting October 2, 2011), MDCH has identified 1108 influenza results:

- Influenza A(H3): 1026 (597SE, 86SW, 296C, 47N)
- Influenza A(H1N1)pdm09: 30 (20SE, 3SW, 5C, 2N)
- Influenza B: 51 (25SE, 15SW, 9C, 2N)
- Influenza A(H3) and B co-infection: 1 (SE)
- Parainfluenza: 2 (1SE, 1C)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

12 sentinel labs (SE, SW, C, N) reported for the week ending May 5, 2012. 4 labs (SE, SW, C) reported influenza A activity, all of which had decreasing or low numbers. 4 labs (SE, SW) had low influenza B positives. 4 labs (SE, C) reported low or sporadic RSV activity. No labs reported parainfluenza or hMPV activity. Testing volumes are decreasing but remain moderately elevated at a few labs.

**Michigan Influenza Antigenic Characterization (as of May 10):** For the 2011-12 season, 37 Michigan influenza B viruses have been characterized at MDCH. 7 viruses are B/Brisbane/60/2008-like (included in the 2011-12 influenza vaccine). 30 are B/Wisconsin/01/2010-like (not included in the 2011-12 vaccine).

**Michigan Influenza Antiviral Resistance Data (as of May 10):** For the 2011-12 season, 23 Michigan influenza A(H1N1)pdm09 specimens and 92 influenza A(H3) specimens have been tested for antiviral resistance at MDCH Bureau of Laboratories; all have tested negative for oseltamivir resistance. 11

Michigan influenza A(H3N2), 2 influenza A(H1N1)pdm09, and 4 influenza B specimens have been tested for antiviral resistance at the CDC; all have tested negative for oseltamivir and zanamivir resistance.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

**Influenza-associated Pediatric Mortality (as of May 10):** No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2011-12 season.

CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at [www.michigan.gov/documents/mdch/ME\\_pediatic\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatic_influenza_guidance_v2_214270_7.pdf).

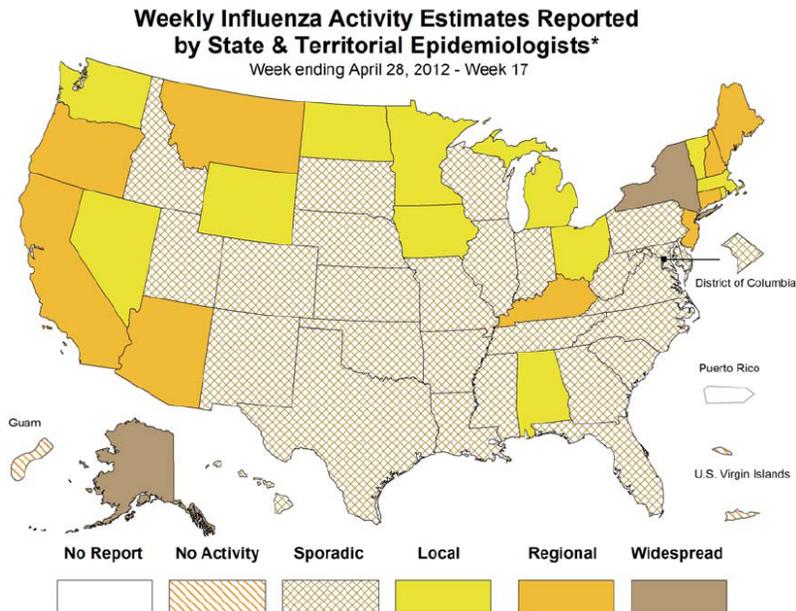
**Influenza Congregate Settings Outbreaks (as of May 10):** 27 respiratory outbreaks (6SE, 2SW, 18C, 1N) have been reported to MDCH during the 2011-12 season; testing results are listed below.

- Influenza A/H3: 13 (4SE, 9C)
- Influenza A: 2 (2C)
- Human metapneumovirus: 1 (SW)
- Negative or not tested: 11 (1SE, 1SW, 8C, 1N)

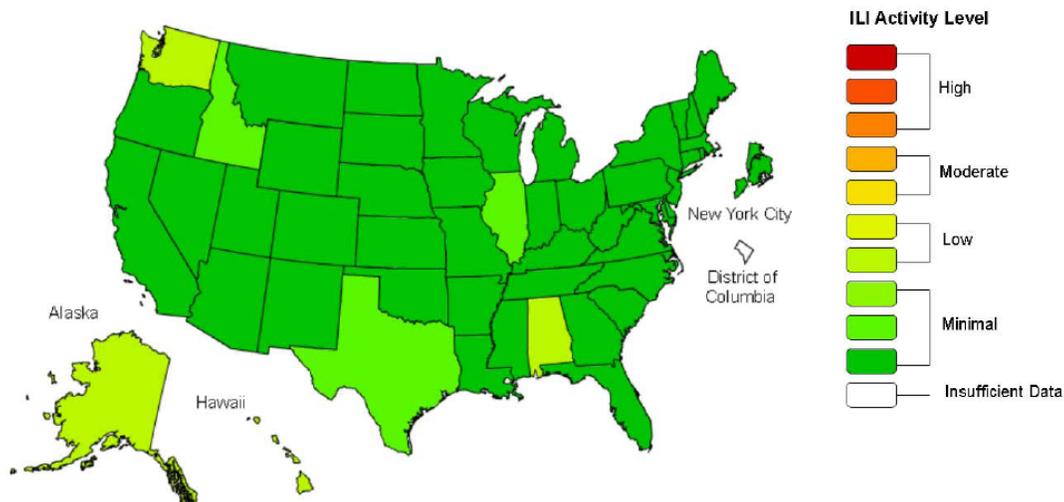
**National (CDC [edited], May 4):** During week 17 (April 22-28, 2012), influenza activity declined nationally and in most regions, but remained elevated in some areas of the United States. Of the 2,886 specimens tested by U.S. WHO and NREVS collaborating laboratories and reported to CDC/Influenza Division, 442 (15.3%) were positive for influenza. The proportion of deaths attributed to P&I was below the epidemic threshold. Two influenza-associated pediatric deaths were reported. One was associated with a 2009 H1N1 virus and one was associated with a seasonal influenza A (H3) virus. The proportion of outpatient visits for influenza-like illness (ILI) was 1.1%, which is below the national baseline of 2.4%. All regions reported ILI below region-specific baseline levels. Four states experienced low ILI activity; New York City and 46 states experienced minimal ILI activity, and the District of Columbia had insufficient data to calculate ILI activity. Two states reported widespread geographic activity; 9 states reported regional activity; 12 states reported local activity; the District of Columbia and 27 states reported sporadic activity; Guam and the U.S. Virgin Islands reported no activity, and Puerto Rico did not report.

U.S. Virologic Surveillance: WHO and NREVS collaborating laboratories located in all 50 states report to CDC the number of respiratory specimens tested for influenza and the number positive by influenza type and subtype. The results of tests performed during the current week are summarized in the table below.

	Week 17
No. of specimens tested	2,886
No. of positive specimens (%)	442 (15.3%)
<i>Positive specimens by type/subtype</i>	
Influenza A	300 (67.9%)
2009 H1N1	34 (11.3%)
Subtyping not performed	89 (29.7%)
(H3)	177 (59.0%)
Influenza B	142 (32.1%)



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2011-12 Influenza Season Week 17 ending Apr 28, 2012**



This map uses the proportion of outpatient visits to healthcare providers for influenza-like illness to measure the ILI activity level within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state. Data displayed on this map are based on data collected in ILINet, whereas the State and Territorial flu activity map are based on reports from state and territorial epidemiologists.

The entire weekly report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

**International (WHO [edited], April 27):** Seasonal influenza activity has peaked in most countries in the temperate regions of the northern hemisphere. In North America, in general influenza transmission is low and decreasing for four consecutive weeks in the United States of America (USA) and for three weeks in Canada. Influenza A(H3N2) viruses have predominated during the current season nationally and in most regions of USA, whereas influenza B viruses continue to be the predominant in Canada. A(H1N1)pdm09 continued to co-circulate in Canada, USA and Mexico. In almost all European countries, their influenza seasons have peaked for several weeks now showing a continuously decreasing incidence of ILI /ARI, and a reduction in the number of SARI cases. Influenza A(H3N2) viruses have been predominant this season with increasing proportion of influenza B virus detection. Influenza activity in the temperate countries of Asia has shown an overall decrease. The proportion of influenza A(H3N2) virus detection has increased over influenza B in both northern China and Mongolia, but for Japan, influenza A(H3N2) viruses have been the predominant subtype throughout the season. In the Republic of Korea, influenza B viruses are still predominant over influenza A viruses. Influenza A(H1N1)pdm09 viruses were screened for susceptibility to neuraminidase inhibitors in nine countries in western Europe, and all tested were susceptible. However, in the USA, a slight increase to 2% in levels of resistance to oseltamivir has been noticed for influenza A(H1N1)pdm09 isolates.

The entire WHO report is available online at [www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/index.html](http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html).

MDCH reported **LOCAL ACTIVITY** to the CDC for the week ending May 5, 2012.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available 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).

***Novel Influenza Activity and Other News***

**WHO Pandemic Phase:** Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

**National, Research (CIDRAP, May 9):** Survey data from the Centers for Disease Control and Prevention (CDC) suggest that at the peak of the H1N1 influenza pandemic in the fall of 2009, Americans were more

worried about seasonal flu than the pandemic virus, according to a study published in *Influenza and Other Respiratory Viruses*.

The study is an analysis of findings from the CDC's 2009 H1N1 Flu Survey, a telephone poll that targeted about 6,000 people per month from October 2009 through June 2010. Respondents were asked whether they had received pandemic H1N1 (pH1N1) and seasonal flu shots, their level of concern about getting sick if not vaccinated, their views on the vaccines' effectiveness, and their level of concern about getting sick from the pH1N1 vaccine.

"Surprisingly, our data found that the perception of risk from pH1N1 was lower than for seasonal influenza, even in October and November, and this perception of risk decreased after November," says the team of CDC investigators, with Tammy A. Santibanez, PhD, as first author.

Overall, 26.1% (95% confidence interval, plus or minus 0.9%) of respondents thought the chance of getting sick with pH1N1 if not vaccinated was "very high" or "somewhat high," compared with 38.5% (plus or minus 0.9%) for seasonal flu.

The report notes that pH1N1 was by far the dominant flu strain in the United States in October and November 2009. It says there was a big increase in demand for seasonal flu vaccine at that time, "which could indicate some confusion about what strains were included in the seasonal influenza vaccine and a mistaken belief the seasonal vaccine would provide protection from pH1N1."

In other findings, 74.0% (plus or minus 0.8%) thought the pH1N1 vaccine was very or somewhat effective, versus 80.6% (plus or minus 0.8%) for the seasonal vaccine. Also, respondents said they were more worried about getting sick from the pandemic vaccine than the seasonal shot, by 31.3% to 27.4% (each plus or minus 0.9%).

Many of the findings varied significantly with ethnicity, education, and income level. For example, more Hispanics (39.3%) than blacks (25.0%), whites (23.4%), and others (28.0%) thought they had a good chance of getting sick with pH1N1 if not vaccinated. At the same time, Hispanics were more likely than other groups to report being worried that the pH1N1 vaccine would make them sick.

For another example, college graduates were significantly less likely than high school graduates to think they stood a good chance of getting sick with either pandemic flu (23.4% versus 28.8%) or seasonal flu (38.0% versus 40.6%) if they weren't vaccinated.

The survey also showed that opinions about vaccine effectiveness and personal risk strongly influenced the likelihood of being vaccinated. Vaccine coverage ranged from 7% to 11% for those who believed both vaccine effectiveness and their risk of getting sick if unvaccinated to be low. For those who thought the opposite, vaccine coverage ranged from 50% to 53%.

Citing some study limitations, the authors caution that their findings are based on self-reporting and that vaccination status was not verified by checking medical records.

The abstract is available online at <http://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2012.00374.x/abstract;jsessionid=A0B02B145FD1BE4F5420696234058025.d04t02>.

**International, Human (WHO, May 2):** The Indonesian IHR National Focal Point of the Ministry of Health has notified WHO of a new case of human infection with avian influenza A(H5N1) virus.

The case is a 2 year-old male from Riau Province. He developed fever on 17 April 2012 and was hospitalized on 21 April 2012 but he died on 27 April 2012.

Epidemiological investigation is ongoing. Preliminary findings indicate that the case's parents are quail egg vendors.

The case was confirmed by the National Institute of Health Research and Development (NIHRD), Ministry of Health.

To date, of the 189 cases reported in Indonesia since 2005, 157 have been fatal.

**International, Poultry (OIE [edited], May 7):** Highly pathogenic avian influenza H5N1; India

Outbreak: Udaipur, Matarbari, Gomati, TRIPURA

Date of start of the outbreak: 18/04/2012; Outbreak status: Continuing; Epidemiological unit: Farm

Species: Birds; Susceptible: 4668; Cases: 3168; Deaths: 3168

Affected population: A district poultry farm

**International, Poultry (OIE [edited], May 9):** Highly pathogenic avian influenza H5N2; South Africa

Outbreak: AI\_WCP2011\_48, Hessequa, WESTERN CAPE PROVINCE

Date of start of the outbreak: 12/01/2012; Outbreak status: Continuing; Epidemiological unit: Farm

Species: Birds; Susceptible: 310; Cases: 98; Deaths: 0

Epidemiological comments: Commercial ostrich farm. Initially no clinical signs or mortalities were seen. Stamping out of ostriches on positive farm is taking place.

**International, Wild Birds (OIE [edited], May 4):** Highly pathogenic avian influenza H5N1; Hong Kong

Outbreak: Royal Palms, Yuen Long, HONG KONG

Date of start of the outbreak: 27/04/2012; Outbreak status: Resolved

Species: Wild species; Cases: 1; Deaths: 1

Affected population: A Crested Myna (*Acridotheres cristatellus*) was collected on 27 April 2012 at Yuen Long. The Crested Myna is a common local resident in Hong Kong.

**Michigan Wild Bird Surveillance (USDA, as of May 10):** For the 2011 season (April 1, 2011-March 31, 2012), highly pathogenic avian influenza H5N1 has not been recovered from 7 Michigan samples or 448 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.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>.

**International Poultry and Wild Bird Surveillance (OIE):** Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website:

[http://www.oie.int/download/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm).

For questions or to be added to the distribution list, please contact Susan Peters at [peterss1@michigan.gov](mailto:peterss1@michigan.gov)

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**Table. H5N1 Influenza in Humans – As of May 2, 2012.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20120502\\_CumulativeNumberH5N1cases.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20120502_CumulativeNumberH5N1cases.pdf). Downloaded 5/7/2012. Cumulative lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003-2005		2006		2007		2008		2009		2010		2011		2012		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0	6	0
Cambodia	4	4	2	2	1	1	1	0	1	0	1	1	8	8	2	2	20	18
China	9	6	13	8	5	3	4	4	7	4	2	1	1	1	1	1	42	28
Djibouti	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	18	10	25	9	8	4	39	4	29	13	39	15	9	5	167	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	6	6	189	157
Iraq	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	22	14	3	3	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	93	42	0	0	8	5	6	5	5	5	7	2	0	0	4	2	123	61
<b>Total</b>	<b>148</b>	<b>79</b>	<b>115</b>	<b>79</b>	<b>88</b>	<b>59</b>	<b>44</b>	<b>33</b>	<b>73</b>	<b>32</b>	<b>48</b>	<b>24</b>	<b>62</b>	<b>34</b>	<b>25</b>	<b>16</b>	<b>603</b>	<b>356</b>