



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories



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## Current Influenza Activity Levels:

- **Michigan:** No activity
- **National:** During November 13-19, influenza activity remained low in the United States

## Updates of Interest

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

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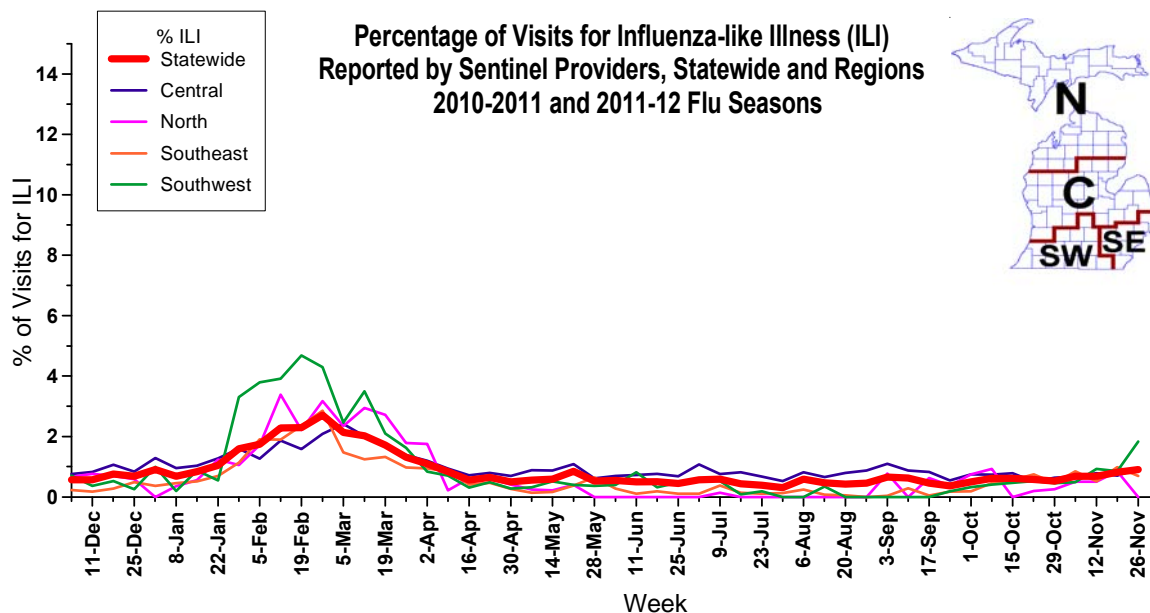
## Influenza Surveillance Reports

**Michigan Disease Surveillance System:** MDSS data for the week ending November 26<sup>th</sup> indicated that individual influenza cases remained at levels similar to the previous week, while aggregate reports decreased slightly, most likely due to decreased reporting from the holiday week. Individual and aggregate reports are similar to levels seen during the same time last year.

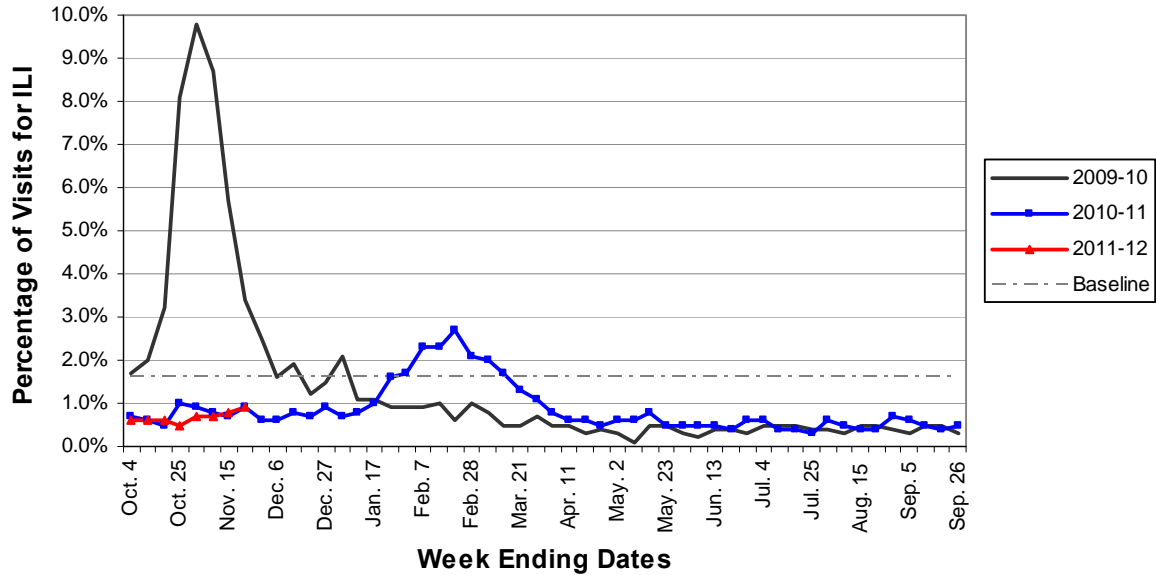
**Emergency Department Surveillance:** Compared to levels from the prior week, emergency department visits from constitutional and respiratory complaints remained steady. Constitutional complaints are similar, while respiratory complaints are slightly higher, than levels reported during the same time period last year. In the past week, there were nine constitutional alerts in the SE(1), SW(1), C(5) and N(2) Influenza Surveillance Regions and eight respiratory alerts in the SE(1), SW(4) and C(3) Regions.

**Sentinel Provider Surveillance (as of December 1):** During the week ending November 26, 2011, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.9% overall; this is below the regional baseline of 1.6%. A total of 41 patient visits due to ILI were reported out of 4,516 office visits. Twenty-seven sentinel sites provided data for this report. Activity increased in two surveillance regions: Central (0.9%) and Southwest (1.8%); and decreased in the remaining two surveillance regions: North (0.0%) and Southeast (0.7%). Please note these rates may change as additional reports are received.

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.



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the  
US Outpatient Influenza-like Illness Surveillance Network (ILINet):  
Michigan 2009-2011**



**Hospital Surveillance (as of November 26):** The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. No influenza hospitalizations were reported during the week ending November 26, 2011. For the 2011-12 season, there has been one adult lab-confirmed influenza hospitalization in the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza-associated hospitalizations reported voluntarily by hospitals statewide. Seven hospitals (SE, SW, C, N) reported for the week ending November 26, 2011. Results are listed in the table below.

Age Group	Hospitalizations Current Week	Total Hospitalizations 2011-12 Season
0-4 years	0	1
5-17 years	0	0
18-49 years	0	2
50-64 years	0	0
≥65 years	0	0
<b>Total</b>	<b>0</b>	<b>3</b>

**Laboratory Surveillance (as of November 26):** During November 20-26, no influenza positive results were reported by the MDCH Bureau of Laboratories. For the 2011-12 influenza season (starting October 2, 2011), MDCH has identified 2 influenza results:

- Influenza A/H3: 1
- Parainfluenza: 2
- Influenza B: 1
- Adenovirus: 1

12 sentinel labs (SE, SW, C, N) reported for the week ending November 26, 2011. No influenza positive results were reported. One lab (SW) reported sporadic parainfluenza activity. Three labs (SW, C) reported sporadic RSV positives. Testing volumes remained low to moderate.

**Michigan Influenza Antigenic Characterization (as of December 1):** No Michigan influenza specimens have been characterized at this time for the 2011-12 season.

**Michigan Influenza Antiviral Resistance Data (as of December 1):** No Michigan influenza specimens have been tested for antiviral resistance at this time for the 2011-12 season.

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 December 1):** No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2011-12 season.

\*\*CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper 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).

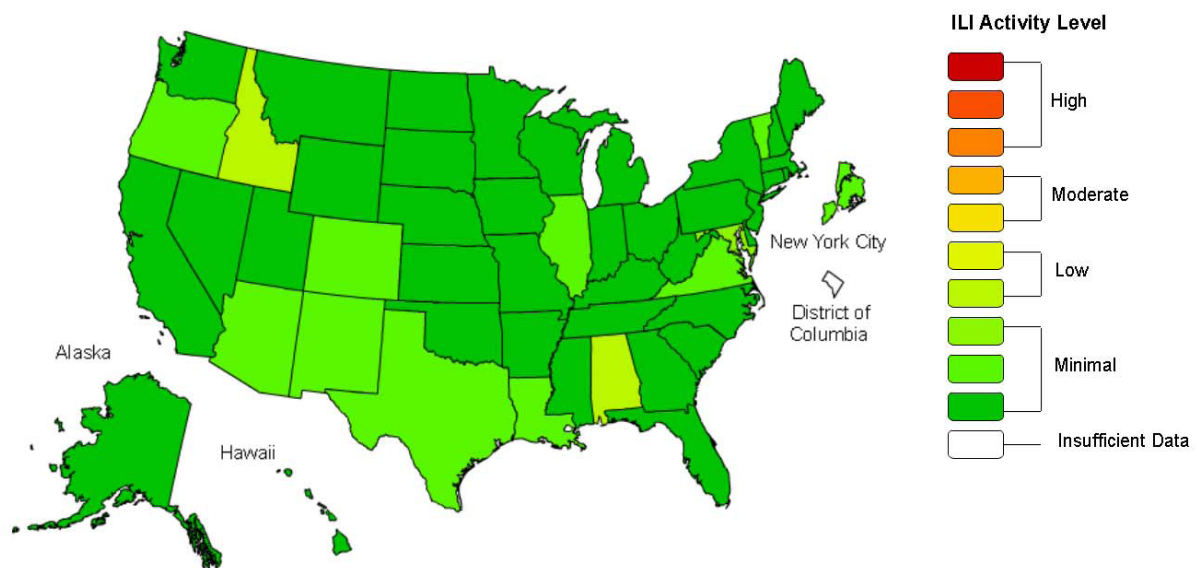
**Influenza Congregate Settings Outbreaks (as of December 1):** No outbreaks were reported during the previous week. No respiratory outbreaks have been reported to MDCH during the 2011-12 season.

**National (CDC [edited], as of November 28):** During week 46 (November 13-19, 2011), influenza activity remained low in the United States. Of the 2,276 specimens tested by U.S. World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories and reported to CDC/Influenza Division, 22 (1.0%) were positive for influenza. Three human infections with novel influenza A virus were reported. The proportion of deaths attributed to P&I was below the epidemic threshold. Two influenza-associated pediatric deaths were reported. These deaths occurred during the 2010-11 influenza season. The proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, which is below the national baseline of 2.4%. All 10 regions reported ILI below region-specific baseline levels. Forty-eight states and New York City experienced minimal ILI activity, two states experienced low ILI activity, and the District of Columbia had insufficient data. The geographic spread of influenza in the District of Columbia, Guam, Puerto Rico, and 26 states was reported as sporadic and the U.S. Virgin Islands and 24 states reported no influenza activity.

Three cases of human infection with novel influenza A virus in children were reported by the Iowa Department of Public Health. These children were infected with swine-origin influenza A (H3N2) virus. No contact with swine has been identified, but the children were all in contact with each other indicating likely human-to-human spread. The investigation is ongoing but no further cases have been identified in the households or contacts of these children. Additional information on these cases is available at [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm60d1123a1.htm?s\\_cid=mm60d1123a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm60d1123a1.htm?s_cid=mm60d1123a1_w).

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

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2011-12 Influenza Season Week 46 ending Nov 19, 2011**



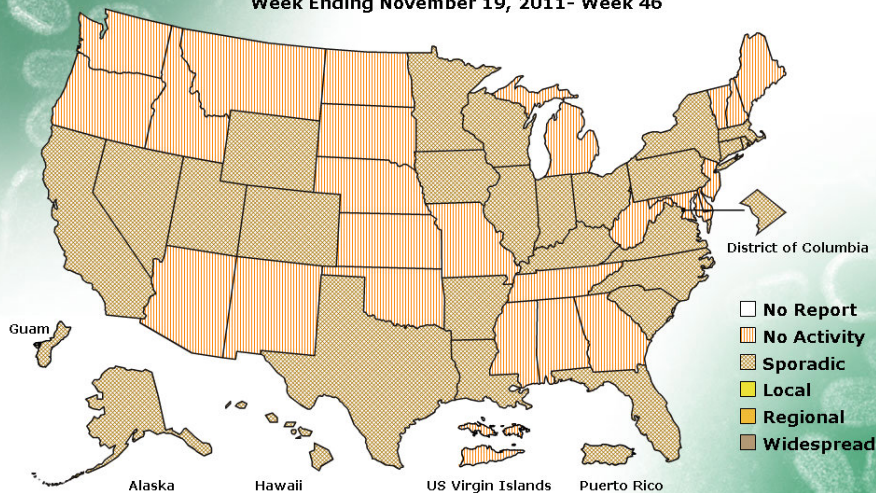
This map uses the proportion of outpatient visits to healthcare providers for influenza-like illness to measure the ILI activity level within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately 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 epidemiologist.

# FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division  
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\*

Week Ending November 19, 2011- Week 46



\*This map indicates geographic spread and does not measure the severity of influenza activity.

**International (WHO [edited], November 18):** Influenza activity in the temperate regions of the northern hemisphere remains low or undetectable, though a recent outbreak of influenza A(H3N2) in a seniors lodge has been reported in Alberta, Canada. Significant influenza activity was reported in only a few countries of the tropical zone including Nicaragua in the Americas, Cameroon in central Africa, and Cambodia in South East Asia. Transmission in the temperate countries of the southern hemisphere has returned to intra-seasonal levels, with some persistence of influenza A(H3N2) in Australia.

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 **NO INFLUENZA ACTIVITY** to CDC for the week ending November 26, 2011.

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 (Influenza and Other Respiratory Viruses abstract, November 24):** Gao *et al.* (2011) Detection of 2009 pandemic influenza A(H1N1) virus Infection in different age groups by using rapid influenza diagnostic tests. *Influenza and Other Respiratory Viruses* DOI: 10.1111/j.1750-2659.2011.00313.x.

**Background:** The performance of rapid influenza diagnostic tests (RIDTs) in detecting influenza A(H1N1) 2009 has varied widely. Evaluations of RIDTs among infected individuals across all age groups have not been described in depth.

**Objectives:** Determine RIDT clinical sensitivity in comparison with influenza detection using real-time RT-PCR among patients infected with influenza A(H1N1) 2009 across all age groups.

**Study design:** This study analyzed respiratory specimens received by the New Hampshire Public Health Laboratories (NPHL) from September 1, 2009, through December 31, 2009. RIDT performance was

evaluated among different age groups of patients determined to be infected with influenza A (H1N1) 2009, and the association between age and RIDT sensitivity was determined.

Results Of 1373 specimens examined, 269 tested positive for influenza A(H1N1) 2009 by real-time RT-PCR (rRT-PCR) and had RIDT results available. Overall clinical sensitivity and specificity of RIDTs were 53.9 and 98.5%, respectively. By age group, clinical sensitivity was 85.7% in patients <2 years old, 60.3% in patients between 2- and 39 years old, and 33.3% in patients aged 40 and older. Logistic regression analysis indicated that increasing age was negatively associated with RIDT performance.

Conclusion: Rapid influenza diagnostic test sensitivity decreased significantly with increasing age. Findings from this study may impact a clinician's interpretation of RIDT test results and ultimately have implications in clinical decision-making.

**International, Human (WHO, November 29):** The Ministry of Health and Population of Egypt has notified WHO of one case of human infection with avian influenza A (H5N1) virus.

The case is a 31 year-old female from Meet Salseel district, Dakahlia governorate. She developed symptoms on 10 November 2011 and was hospitalized on 16 November 2011. She is in critical condition and is provided with ventilation support.

Investigations into the source of infection revealed that the case had exposure to sick and dead poultry in her backyard.

The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network on 21 November 2011.

Of the 153 cases confirmed to date in Egypt, 52 have been fatal.

**International, Poultry (Nepal News, November 29):** A few months after the government declared Nepal as the bird flu free country, cases of bird flu have been confirmed in the valley.

More than 5 hundred chickens have been culled near Jadibuti area of Bhaktapur after the bird flu cases were confirmed, chief of the District Livestock Service Office Bhaktapur Shiva Bahadur KC informed Nepalnews.

Local people had informed livestock office after the numbers of chickens and the ducks died continuously.

Bird flu detection is declared only after the Central Veterinary Disease Control Laboratory gets confirmation from international lab due to the lack of lab facility in the country. The laboratory sends sample to the UK for the final confirmation after conducting preliminary lab test here.

On July 13, the government had declared Nepal as the bird flu country though the cases were confirmed earlier too.

The poultry industry of the country was hit hard due to the outbreak of the bird flu last year.

**International, Research (PLoS ONE abstract, November 22):** Survival of Influenza A(H1N1) on Materials Found in Households: Implications for Infection Control. JS Greatorex, P Digard, MD Curran, R Moynihan, H Wensley, T Wreghitt, H Varsani, F Garcia, J Enstone, JS Nguyen-Van-Tam

Background: The majority of influenza transmission occurs in homes, schools and workplaces, where many frequently touched communal items are situated. However the importance of transmission via fomites is unclear since few data exist on the survival of virus on commonly touched surfaces. We therefore measured the viability over time of two H1N1 influenza strains applied to a variety of materials commonly found in households and workplaces.

Methodology and Principal Findings: Influenza A/PuertoRico/8/34 (PR8) or A/Cambridge/AHO4/2009 (pandemic H1N1) viruses were inoculated onto a wide range of surfaces used in home and work environments, then sampled at set times following incubation at stabilized temperature and humidity. Virus genome was measured by RT-PCR; plaque assay (for PR8) or fluorescent focus formation (for pandemic H1N1) was used to assess the survival of viable virus.

Conclusions/Significance: The genome of either virus could be detected on most surfaces 24 h after application with relatively little drop in copy number, with the exception of unsealed wood surfaces. In contrast, virus viability dropped much more rapidly. Live virus was recovered from most surfaces tested four hours after application and from some non-porous materials after nine hours, but had fallen below the level of detection from all surfaces at 24 h. We conclude that influenza A transmission via fomites is possible but unlikely to occur for long periods after surface contamination (unless re-inoculation occurs). In situations involving a high probability of influenza transmission, our data suggest a hierarchy of priorities for surface decontamination in the multi-surface environments of home and hospitals.

**Michigan Wild Bird Surveillance (USDA, as of December 1):** For the 2011 season (April 1, 2011-March 31, 2012), highly pathogenic avian influenza H5N1 has not been recovered from 7 Michigan samples or 407 samples tested nationwide. For more information, visit <http://wildlifedisease.nh.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 November 29, 2011.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20111129\\_CumulativeNumberH5N1casesN.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20111129_CumulativeNumberH5N1casesN.pdf). Downloaded 11/29/2011. Cumulative lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003-2004		2005		2006		2007		2008		2009		2010		2011		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	0	0	8	5	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0
Cambodia	0	0	4	4	2	2	1	1	1	0	1	0	1	1	8	8	18	16
China	1	1	8	5	13	8	5	3	4	4	7	4	2	1	0	0	40	26
Djibouti	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	18	10	25	9	8	4	39	4	29	13	34	12	153	52
Indonesia	0	0	20	13	55	45	42	37	24	20	21	19	9	7	11	9	182	150
Iraq	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	3	2
Laos PDR	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	17	12	5	2	3	3	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	32	23	61	19	0	0	8	5	6	5	5	5	7	2	0	0	119	59
Total	50	36	98	43	115	79	88	59	44	33	73	32	48	24	55	29	571	335