



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Current Influenza Activity Levels:

- **Michigan:** Widespread activity
- **National:** During week 52 (December 23-29), influenza activity increased in the U.S.

Updates of Interest

- **Michigan:** Numerous respiratory outbreaks reported in long-term care facilities

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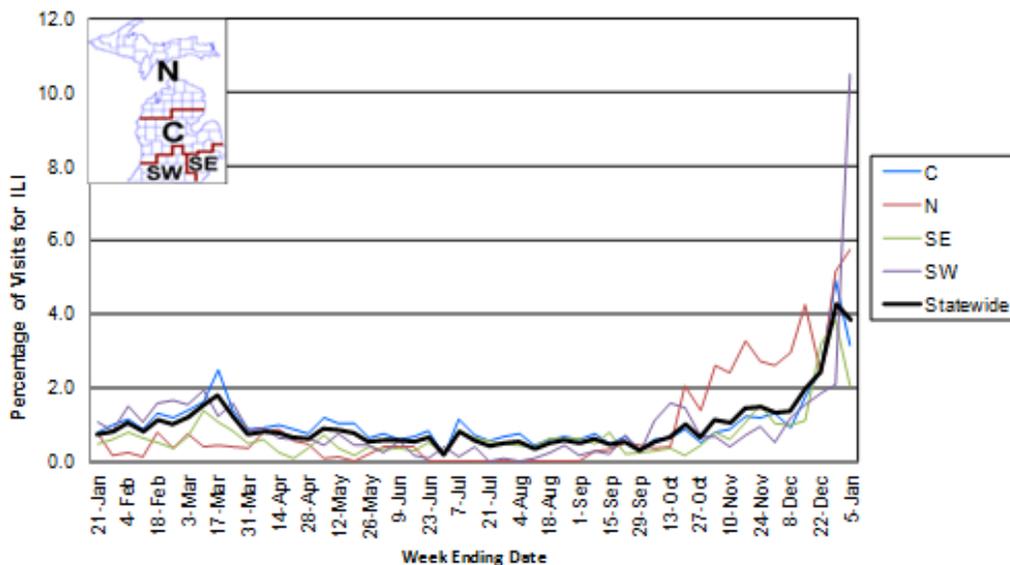
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of January 10): MDSS data for the week ending January 5th indicated that compared to levels from the previous week, individual reports decreased and aggregate reports moderately increased. The low level of aggregate reports is most likely due to the school holiday breaks. Aggregate reports are decreased when compared to levels seen during the same time period last year, while individual reports are significantly increased.

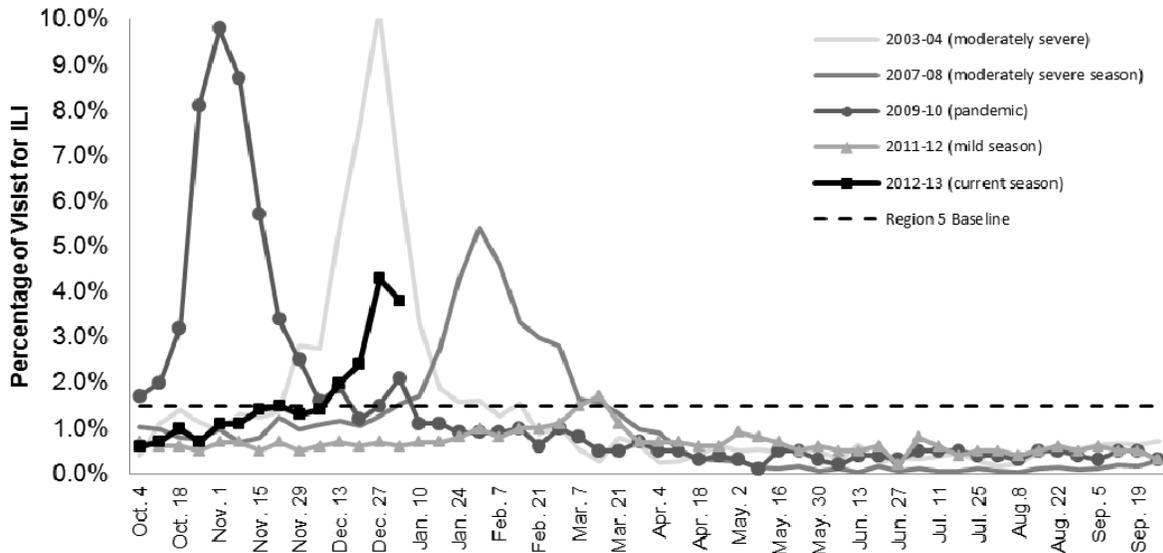
Emergency Department Surveillance (as of January 10): Compared to levels from the week prior, emergency department visits from constitutional complaints decreased, while respiratory complaints remained steady. Both constitutional and respiratory complaints are higher than levels reported during the same time period last year. In the past week, there was 1 constitutional alert in the N Influenza Surveillance Region and 2 respiratory alerts in the C(2) Region.

Sentinel Provider Surveillance (as of January 10): During the week ending January 5, 2013, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 3.8% overall; this is above the regional baseline (1.5%). A total of 266 patient visits due to ILI were reported out of 6,964 office visits. Data were provided by twenty-seven sentinel sites from the following regions: C (10), N (4), SE (9) and SW (4). ILI activity increased in two surveillance regions: North (5.7%) and Southwest (10.5%); and decreased in two regions: Central (3.2%) and Southeast (2.0%). 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
2011-2012 and 2012-13 Flu Seasons



Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet): Michigan, Select Seasons



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 January 5): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. 28 new cases were identified during the past week. As of January 5th, there have been 62 influenza hospitalizations (53 adult, 29 pediatric) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 12 hospitals (SE, SW, C, N) reported for the week ending January 5, 2013. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	3 (3C)	10 (2SE, 7C, 1N)
5-17 years	1 (1C)	5 (2SE, 2C, 1N)
18-49 years	6 (2SE, 4C)	11 (6SE, 4C, 1N)
50-64 years	10 (3SE, 6C, 1N)	15 (7SE, 6C, 2N)
≥65 years	46 (24SE, 2SW, 13C, 7N)	74 (36SE, 7SW, 13C, 18N)
Total	66 (29SE, 2SW, 27C, 8N)	115 (53SE, 7SW, 32C, 23N)

Laboratory Surveillance (as of January 5): During December 30-January 5, 45 positive influenza A/H3 results (14SE, 15SW, 14C, 2N) and 8 influenza B (5SW, 3C) results were reported by MDCH BOL. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 338 influenza results:

- Influenza A(H3): 275 (74SE, 97SW, 73C, 27N)
- Influenza A(H1N1)pdm09: 6 (4SE, 2N)
- Influenza B: 61 (15SE, 16SW, 21C, 9N)
- Parainfluenza: 7 (3SW, 4N)
- RSV: 1 (1N)

15 sentinel labs (SE, SW, C, N) reported for the week ending January 5, 2013. 14 labs (SE, SW, C, N) reported flu A activity; activity was at moderate to high levels. 11 labs (SE, SW, C, N) had low or increasing flu B activity. 3 labs (SE, SW) had low parainfluenza activity. 12 labs (SE, SW, C, N) had RSV activity; several were at moderate activity. 3 labs (SE, SW) reported sporadic HMPV activity. Testing volumes continue to increase, with most sites at high levels.

Michigan Influenza Antigenic Characterization (as of January 10): For the 2012-13 season, 34 Michigan influenza B specimens have been characterized at MDCH BOL. 22 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 12 influenza B specimens were characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of January 10): For the 2012-13 season, no influenza isolates have been tested for antiviral 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>.

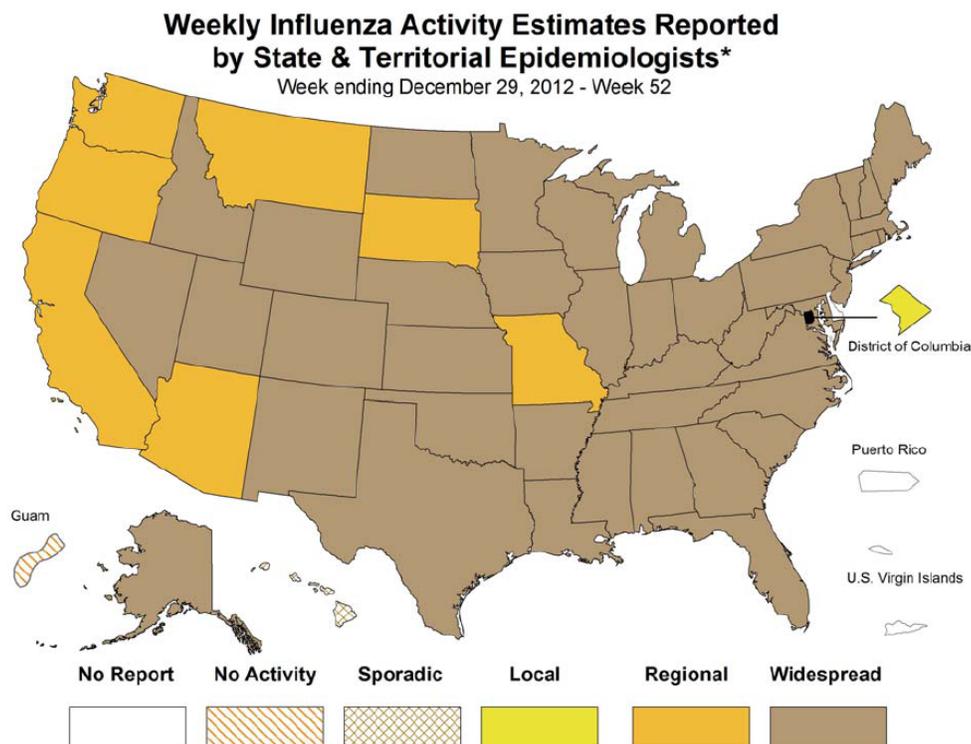
Influenza-associated Pediatric Mortality (as of January 10): One pediatric influenza-associated death in a 15 year old from the Central Region due to influenza A/H3 was confirmed during the past week. 4 pediatric influenza-associated influenza mortalities (2 A/H3, 2B) have been reported for the 2012-13 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_pediatric_influenza_guidance_v2_214270_7.pdf.

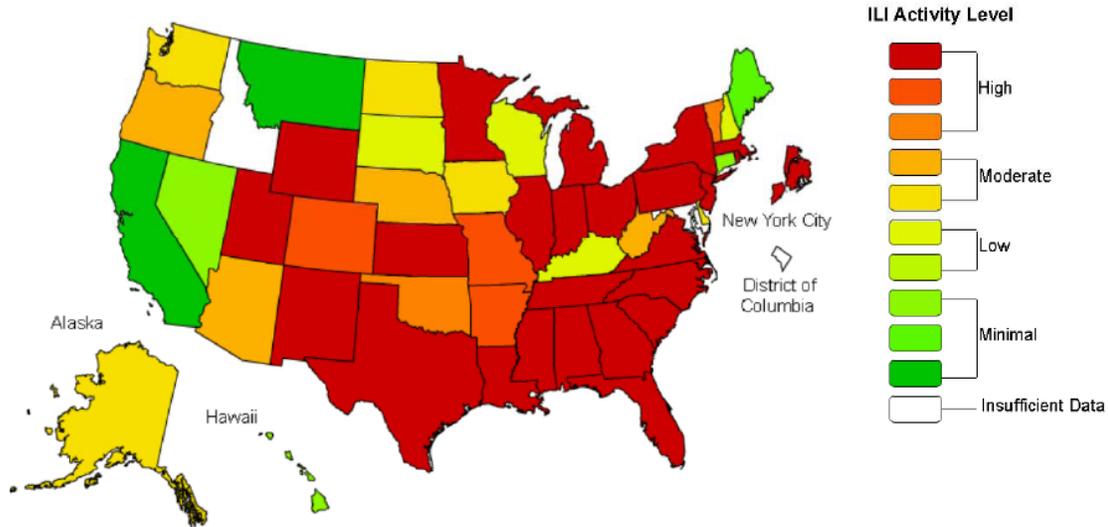
Influenza Congregate Settings Outbreaks (as of January 10): 23 new respiratory outbreaks (4SE, 6SW, 9C, 4N) were reported during the previous week. 20 of these outbreaks were from long-term care facilities, 1 was from a jail, and 2 were from assisted or independent living facilities. 17 were associated with influenza A, 1 with influenza B, and 2 were influenza positive with no subtyping. 1 previously reported long-term care outbreak (SW) was confirmed as influenza A/H3. 50 respiratory outbreaks (5SE, 16SW, 20C, 9N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza A/H3: 4 (2SW, 2C)
- Influenza A: 29 (2SE, 8SW, 12C, 5N)
- Influenza B: 4 (2SE, 1SW, 1C)
- Influenza A and B: 1 (1SW)
- Influenza positive: 4 (2SW, 2C)
- Negative/no testing: 10 (1SE, 2SW, 3C, 4N)

National (CDC [edited], January 4): During week 52 (December 23-29), influenza activity increased in the U.S. Of 9,363 specimens tested and reported by U.S. World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories, 2,961 (31.6%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. Two influenza-associated pediatric deaths were reported and were associated with influenza B viruses. The proportion of outpatient visits for influenza-like illness (ILI) was 5.6%; above the national baseline of 2.2%. Nine of 10 regions reported ILI above region-specific baseline levels. New York City and 29 states experienced high ILI activity; 9 states experienced moderate ILI activity; 4 states experienced low ILI activity; 6 states experienced minimal ILI activity, and the District of Columbia and 2 states had insufficient data. Forty-one states reported widespread geographic influenza activity; 7 states reported regional activity; the District of Columbia reported local activity; 1 state reported sporadic activity; Guam reported no influenza activity, and Puerto Rico, the U.S. Virgin Islands, and 1 state did not report.



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2012-13 Influenza Season Week 52 ending Dec 29, 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 complete FluView report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

International (WHO [edited], January 7): Reporting of influenza activity has been irregular in the past two weeks due to the holiday season in many countries. As a result, overall virus detections reported have dropped off although in most countries in the northern temperate regions, influenza activity appears to have continued rising. Many countries of North America, Europe, north Africa, eastern Mediterranean and temperate Asia have reported increasing influenza activity over the past weeks. North China has started its influenza season. In tropical Asia, influenza activity was similar to previous weeks, with persistent low-level circulation. Influenza activity in sub-Saharan Africa has declined in most countries, with the exception of the Democratic Republic of Congo and Ghana. In the Caribbean, central America and tropical south America, influenza activity decreased to low levels, except for Bolivia, where there is increasing circulation of influenza A(H3N2). Influenza activity in countries of the southern hemisphere is currently at inter-seasonal levels. Several unconfirmed media stories have reported a number of deaths related to infection with influenza A(H1N1)pdm09 in different parts of the world. As with other seasonal influenza viruses, it is expected that some deaths would occur with infection, in particular now when influenza season starts in Northern Hemisphere. These reports at times refer to this A(H1N1)pdm09 virus as “swine flu”, causing some confusion with other viruses that recently reported in the United States. A(H1N1)pdm09 virus has been circulating in humans for more than 3 years and now is a seasonal human influenza virus.

The entire WHO report is available online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html.

MDCH reported WIDESPREAD FLU ACTIVITY to CDC for the week ending January 5, 2013.
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.

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.

International, Poultry (OIE [edited], January 4): Low pathogenic avian influenza H5N2; Chinese Taipei
Outbreak 1: Ma-Gong, P'ENG-HU
Date of start of the outbreak: 20/12/2012; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 69; Cases: 25; Deaths: 25; Destroyed: 31; Slaughtered: 13
Affected population: Native chicken

International, Poultry (OIE [edited], January 6): Highly pathogenic avian influenza H5N1; Nepal
Outbreak 1: Ramkot 6, Ramkot, Kathmandu, BAGMATI
Date of start of the outbreak: 11/12/2012; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 1968; Cases: 1968; Deaths: 1968
Affected population: Broiler parent farm

Outbreak 2: Sitapaila 1, Sitapaila, Kathmandu, BAGMATI
Date of start of the outbreak: 25/12/2012; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 3000; Cases: 760; Deaths: 760; Destroyed: 2240
Affected population: Commercial layer farm

Outbreak 3: Raigaon, Chaughada 1, Nuwakot, BAGMATI
Date of start of the outbreak: 30/12/2012; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 499; Cases: 101; Deaths: 101; Destroyed: 398
Affected population: Local birds raised in a village in a free-range system

Outbreak 4: Sitapaila 1, Sitapaila 1, Kathmandu, BAGMATI
Date of start of the outbreak: 31/12/2012; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 3000; Cases: 360; Deaths: 360; Destroyed: 2640
Affected population: Commercial layer farm

International, Poultry (OIE [edited], January 9): Highly pathogenic avian influenza H7N3; Mexico
Outbreak 1: San Francisco de los Romo, San Francisco de los Romo, AGUASCALIENTES
Date of start of the outbreak: 03/01/2013; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 146755; Cases: 2990; Deaths: 740; Destroyed: 0; Slaughtered: 146015

Outbreak 2: Aguascalientes, Aguascalientes, AGUASCALIENTES
Date of start of the outbreak: 05/01/2013; Outbreak status: Resolved; Epidemiological unit: Farm
Species: Birds; Susceptible: 138000; Deaths: 0; Destroyed: 0; Slaughtered: 138000

International, Wild Birds (CIDRAP, January 3): In the first known identification of an H15 influenza A subtype outside of Australia, Russian and US researchers have confirmed H15N4 in a teal in Siberia, according to their report in the *Journal of Virology* yesterday. During routine surveillance from May through September 2008, investigators collected 1,445 cloacal swab samples from healthy wild birds, from which 25 avian flu viruses were isolated. One of these, from a common teal (*Anas crecca*), was subtyped as H15N4, the first time an H15 strain has been confirmed outside of Australia. Phylogenetic analysis showed that the virus's internal genes belong to the Eurasian clade, and that the H15 and N4 genes were introduced into circulating avian flu viruses through reassortment.

The abstract is available online at <http://jvi.asm.org/content/early/2013/01/02/JVI.02521-12.short>.

Michigan Wild Bird Surveillance (USDA, as of January 10): For the 2012 season (April 1, 2012-March 31, 2013), highly pathogenic avian influenza H5N1 has not been recovered from the 68 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.gov/ai/>. To learn about avian influenza surveillance in wild birds or to report dead waterfowl, go to the 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.

For questions or to be added to the distribution list, please contact Susan Peters at peterss1@michigan.gov

Contributors

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Table. H5N1 Influenza in Humans – As of December 17, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20121217_CumulativeNumberH5N1cases.pdf. Downloaded 12/17/2012. Cumulative lab-confirmed cases reported to WHO. Total cases include 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	3	3	21	19
China	9	6	13	8	5	3	4	4	7	4	2	1	1	1	2	1	43	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	11	5	169	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	9	9	192	160
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
Total	148	79	115	79	88	59	44	33	73	32	48	24	62	34	32	20	610	360