



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:** Sporadic activity
- **National:** During October 7-13, influenza activity remained low in the United States

Updates of Interest

- **Research:** Prophylactic use of oseltamivir, along with treatment, may reduce the size and duration of nursing home influenza outbreaks

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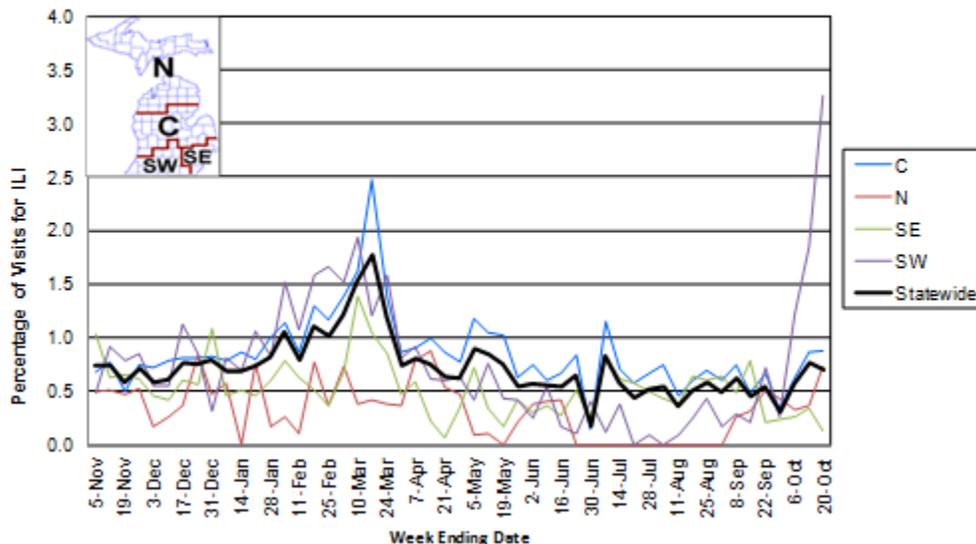
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of October 25): MDSS data for the week ending October 20th indicated that compared to levels from the previous week, aggregate reports remained steady, while individual reports remained steady at sporadic levels. Individual and aggregate reports are similar to levels seen during the same time period last year.

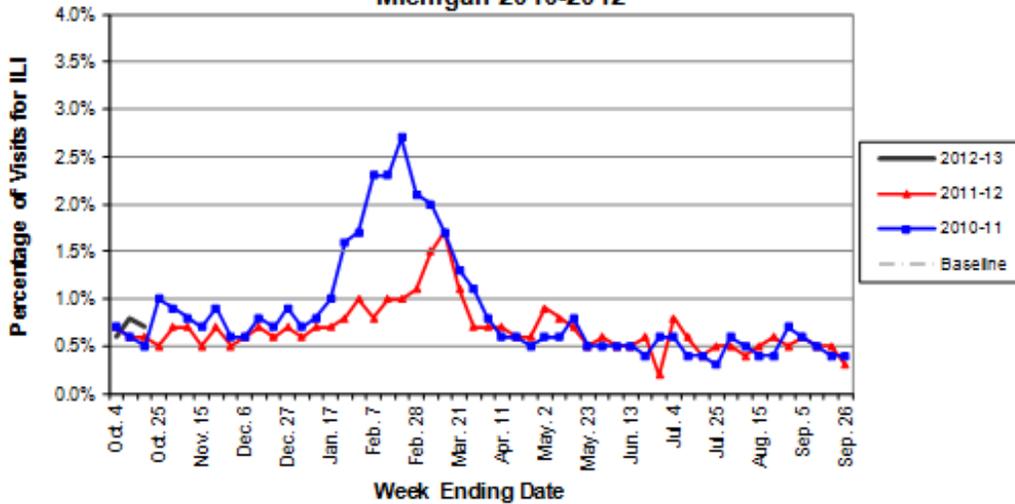
Emergency Department Surveillance (as of October 25): Compared to levels from the week prior, emergency department visits from constitutional complaints slightly increased, while respiratory complaints remained steady. Constitutional complaints are slightly lower than levels reported during the same time period last year, while respiratory complaints are similar. In the past week, there were six constitutional alerts in the SW(2) and C(4) Influenza Surveillance Regions and one statewide alert and seven respiratory alerts in the SW(2) and C(5) Regions.

Sentinel Provider Surveillance (as of October 25): During the week ending October 20, 2012, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 0.7% overall; this is below the regional baseline of (1.5%). A total of 67 patient visits due to ILI were reported out of 9,627 office visits. Data were provided by thirty-five sentinel sites from the following regions: C (16), N (6), SE (9) and SW (4). ILI activity increased in two surveillance regions: North (0.7%) and Southwest (0.3%); remained the same in one region: Central (0.9%) and decreased in the remaining region: Southeast (0.1%). Please note: the increase in the Southwest region is due to one site reporting increased activity; 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 2010-2012



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 October 20): The 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. As of October 20th there have been no lab-confirmed influenza hospitalizations within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 6 hospitals (SE, SW, C, N) reported for the week ending October 20, 2012. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	0	0
5-17 years	0	0
18-49 years	0	0
50-64 years	0	0
≥65 years	0	0
Total	0	0

Laboratory Surveillance (as of October 20): During October 14-20, 1 influenza A(H3) (SE) result was reported by MDCH BOL. For the 2012-13 season (starting September 30, 2012), MDCH has identified 13 influenza results:

- Influenza A(H3): 3 (3SE)
- Influenza B: 9 (3SE, 1SW, 5C)
- Influenza A(H1N1)pdm09: 1 (1SE)
- Parainfluenza: 1 (1N)

12 sentinel labs (SE, SW, C, N) reported for the week ending October 20, 2012. 4 labs (SE, SW, C) reported sporadic or slightly increasing parainfluenza activity. 2 labs (SE, C) reported sporadic RSV activity. No labs reported influenza A, influenza B, or HMPV activity. Testing volumes remain at low levels for most sites, with two sites reporting moderate testing volumes.

Michigan Influenza Antigenic Characterization (as of October 25): For the 2012-13 season, 8 Michigan influenza B specimens have been characterized at MDCH BOL. 7 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 1 influenza B specimen was characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of October 25): 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>.

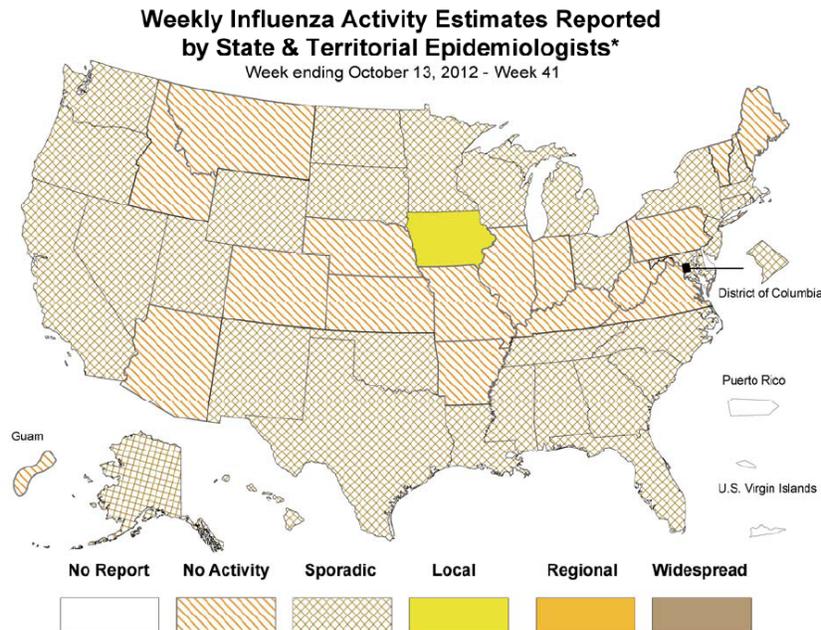
Influenza-associated Pediatric Mortality (as of October 25): No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2012-13 season.

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.

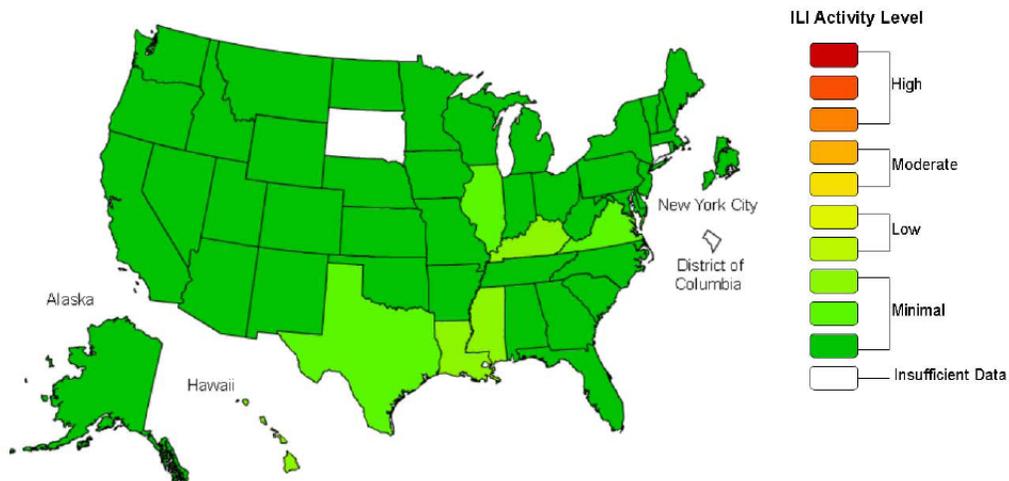
Influenza Congregate Settings Outbreaks (as of October 25): No new respiratory outbreaks were reported to MDCH during the past week. 1 respiratory outbreak (1C) has been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza B: 1 (1C)

National (CDC [edited], October 19): During week 41 (October 7-13, 2012), influenza activity remained low in the United States. Of 3,285 specimens tested and reported by U.S. WHO and NREVSS collaborating laboratories during week 41, 129 (3.9%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was at the epidemic threshold. One influenza-associated pediatric death was reported and was associated with an influenza A virus for which the subtype was not determined. The proportion of outpatient visits for influenza-like illness (ILI) was 1.1%, which is below the national baseline of 2.2%. All 10 regions reported ILI below region-specific baseline levels. Forty-eight states and New York City experienced minimal ILI activity and the District of Columbia and two states had insufficient data. The geographic spread of influenza in one state (Iowa) was reported as local; the District of Columbia and 32 states reported sporadic activity; Guam and 16 states reported no influenza activity, and Puerto Rico, the U.S. Virgin Islands, and one state did not report.

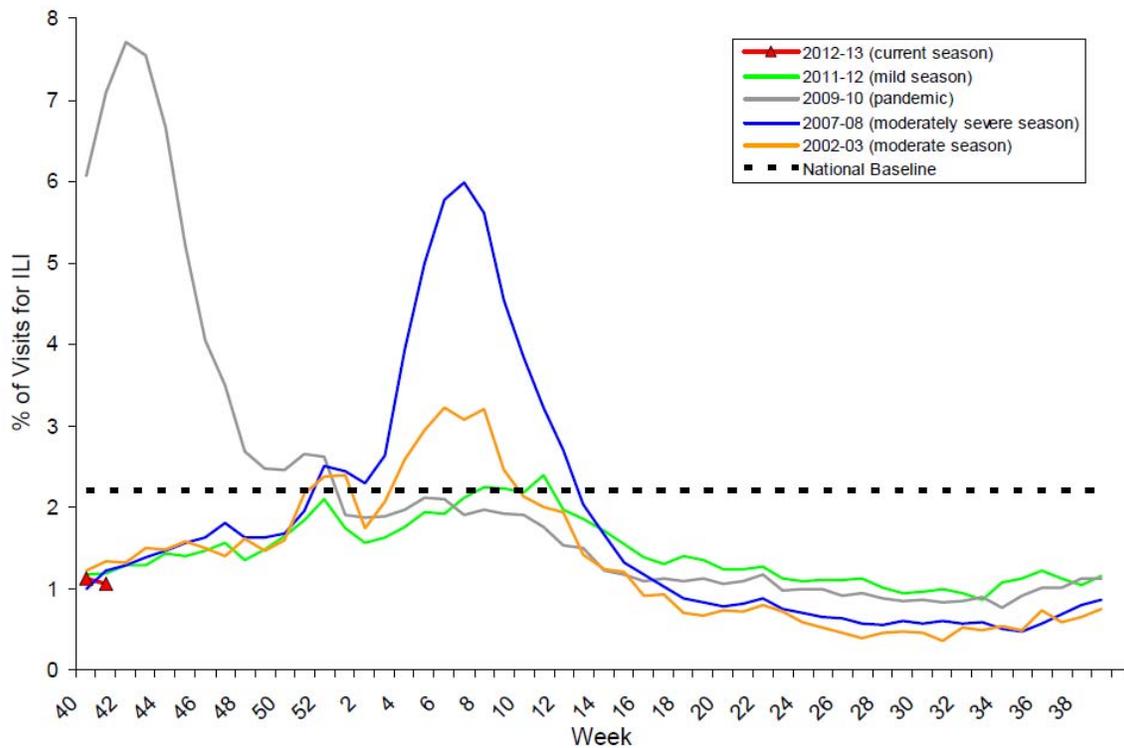


**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2012-13 Influenza Season Week 41 ending Oct 13, 2012**



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.

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2012-13 and Selected Previous Seasons



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

International (WHO [edited], October 12): Seasonal influenza transmission has not been picked up yet in the northern temperate zone. In the tropical areas most countries are reporting low or decreasing trends of influenza detections. The exceptions are Costa Rica in the Americas and India; Nepal, Lao PDR and Thailand in Asia. In Sub-Saharan Africa, Cameroon has reported an increase in influenza detections. The influenza season seem to come to an end in the temperate countries of the southern hemisphere.

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

MDCH reported SPORADIC INFLUENZA ACTIVITY to CDC for the week ending October 20, 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.

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.

H3N2v Influenza Update: Since August 15, MDCH has reported 6 confirmed human cases of variant influenza A (H3N2) (H3N2v). Michigan cases have come from Clinton(1), Ingham(1), Shiawassee(2) and Washtenaw(2) counties. Cases have had mild illness and have had either direct or indirect swine exposure at county fairs in Michigan or Ohio. Updated Michigan case counts of confirmed H3N2v infections will be posted every Friday on the MDCH Influenza Website: www.michigan.gov/flu. In addition,

306 human cases of H3N2v have been reported in association with swine exposure since July 2012 in 9 other states. The Michigan Department of Community Health issued updated guidance for healthcare providers, laboratories and local health departments on August 14 on the MDCH Influenza Website. Current information on this situation and updated case counts can be found on the CDC H3N2v website at www.cdc.gov/flu/swineflu/influenza-variant-viruses-h3n2v.htm. Please call the MDCH Division of Communicable Disease at (517) 335-8165 with any questions.

National, Research (Medical Surveillance Monthly Report, March 2012): Initial Assessment of Impact of Adenovirus Type 4 and Type 7 Vaccine on Febrile Respiratory Illness and Virus Transmission in Military Basic Trainees, March 2012. Charles H. Hoke, Jr, Anthony Hawksworth, Clifford E. Snyder, Jr.

After a 12-year hiatus, military recruit training centers resumed administration of adenovirus type 4 and type 7 vaccine, live, oral (adenovirus vaccine) to trainees beginning in October of 2011. Subsequently, rates of febrile respiratory illnesses (FRI) and adenovirus isolations markedly declined. These findings are consistent with those of a placebo-controlled efficacy trial conducted prior to the vaccine's licensure by the U.S. Food and Drug Administration. Continued surveillance will clarify the longer term impact of vaccine use.

The full article is available online at http://www.afhsc.mil/viewMSMR?file=2012/v19_n03.pdf#Page=02.

International, Research (CIDRAP, October 19): A study from Australia suggests that the prophylactic use of oseltamivir (Tamiflu), along with treatment, may reduce the size and duration of influenza outbreaks in nursing homes. Researchers conducted a cluster-randomized trial in which 16 aged-care facilities (ACFs) were assigned to use treatment only (T) or treatment and prophylaxis (T&P) in response to confirmed flu cases and epidemiologically linked influenza-like illnesses, according to their Oct 17 report in *PLoS One*. In the T facilities, only ill patients received oseltamivir (75 mg twice daily for 5 days); in T&P facilities, oseltamivir was used in sick patients and in those living or working in the same wing or floor of the facility as a confirmed flu case; prophylaxis was 75 mg once a day for 10 days. The study covered the 2006 through 2008 Australian flu seasons. The flu attack rate was found to be significantly lower in residents of T&P facilities (91 of 397, 23%) than in T facility residents (93 of 255, 36%) ($P=0.002$). In addition, flu outbreaks were significantly shorter in the T&P facilities: 11 days versus 24 days ($P=0.04$). The flu attack rate also was lower in staff members in T&P facilities, but not significantly so. "Our trial lacked power but these results provide some support for a policy of 'treatment and prophylaxis' with oseltamivir in controlling influenza outbreaks in ACFs," the report says.

The full article is available online at <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0046509>.

International, Research (Emerging Infectious Diseases, October 22): Altmann M, Fiebig L, Buda S, von Kries R, Dehnert M, Haas W. Unchanged severity of influenza A(H1N1)pdm09 infection in children during first postpandemic season. *Emerg Infect Dis* [Internet]. 2012 Nov.

We conducted a nationwide hospital-based prospective study in Germany of influenza A(H1N1)pdm09 cases among children <15 years of age admitted to pediatric intensive care units and related deaths during the 2009–10 pandemic and the 2010–11 postpandemic influenza seasons. We identified 156 eligible patients: 112 in 2009–10 and 44 in 2010–11. Although a shift to younger patients occurred in 2010–11 (median age 3.2 vs. 5.3 years), infants <1 year of age remained the most affected. Underlying immunosuppression was a risk factor for hospital-acquired infections ($p = 0.013$), which accounted for 14% of cases. Myocarditis was predictive of death ($p = 0.006$). Of the 156 case-patients, 17% died; the difference between seasons was not significant ($p = 0.473$). Our findings stress the challenge of preventing severe postpandemic influenza infection in children and the need to prevent nosocomial transmission of influenza virus, especially in immunosuppressed children.

The full article is available online at http://wwwnc.cdc.gov/eid/article/18/11/12-0719_article.htm.

Michigan Wild Bird Surveillance (USDA, as of October 18): 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:

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 August 10, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20120810CumulativeNumberH5N1cases.pdf. Downloaded 8/13/2012. 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	10	5	168	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	8	8	191	159
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	30	19	608	359