MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department of Community Health
MDCH
Rick Snyder, Governor
James K. Haveman, Director

Editor ProTem: Bethany Reimink, MPH ReiminkB@michigan.gov
Surveillance and Infectious Disease Epidemiology

May 30, 2013
Vol. 10; No. 21

Current Influenza Activity Levels:

- **Michigan:** Sporadic activity
- **National:** During May 12-18, influenza activity remained low in the United States

Updates of Interest

- **International:** WHO is reporting 49 human cases of MERS-CoV including 27 deaths.

Table of Contents

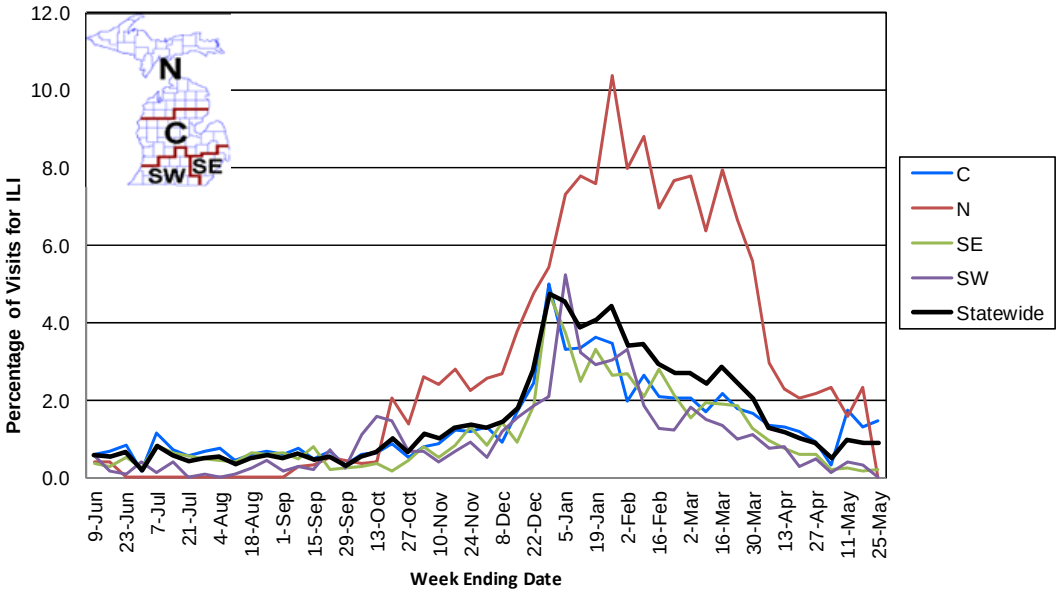
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of May 30): MDSS influenza data for the week ending May 25th indicated that compared to levels from the previous week, individual reports slightly increased, while aggregate influenza reports decreased. Aggregate reports are lower than levels seen during the same time period last year, while individual reports are slightly higher.

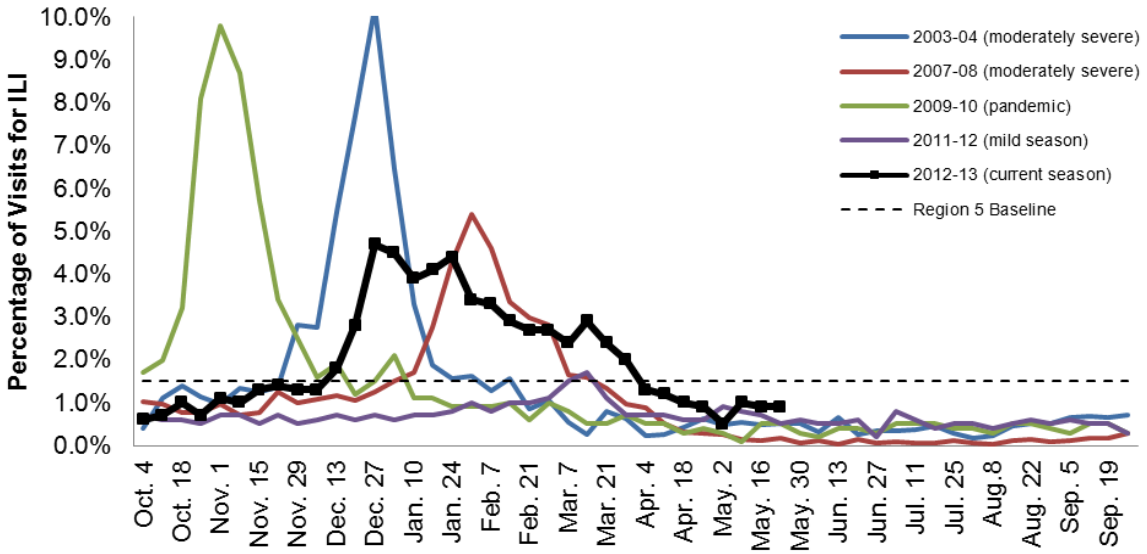
Emergency Department Surveillance (as of May 30): Compared to levels from the week prior, emergency department visits from both constitutional and respiratory complaints remained steady. Constitutional complaints are lower when compared to levels reported during the same time period last year while respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were 5 constitutional alerts in the SE(1) and C(4) Influenza Surveillance Regions and 2 respiratory alerts in the C(2) Region.

Sentinel Provider Surveillance (as of May 30): During the week ending May 25, 2013, the proportion of visits due to influenza-like illness (ILI) decreased to 0.9% overall; this is below the regional baseline (1.5%). A total of 53 patient visits due to ILI were reported out of 6,060 office visits. Data were provided by 19 sentinel sites from the following regions: Central (8), North (2), Southeast (8) and Southwest (1). ILI activity increased in one region: C (1.4%). ILI activity remained the same in one region: SE (0.2%). ILI activity decreased in two regions: N (0.0%) and SW (0.0%). 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 Stefanie DeVita at 517-335-3385 or DeVitaS1@michigan.gov for more information.

Hospital Surveillance (as of May 18): 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. Reporting for the season has concluded. There were 258 influenza hospitalizations (168 adult, 90 pediatric) within the catchment area. The incidence rate for adults was 24.7 hospitalizations per 100,000 population and for children was 43.0 hospitalizations per 100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Reporting for the 2012-13 influenza season has concluded. 437 hospitalizations (278SE, 21SW, 64C, 74N) were reported by 12 hospitals during the 2012-13 season.

Laboratory Surveillance (as of May 25): During May 19-25, one positive influenza result was reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 680 influenza results:

- Influenza A(H3): 500 (124SE, 169SW, 169C, 38N)
- Influenza A(H1N1)pdm09: 36 (20SE, 4SW, 9C, 3N)
- Influenza B: 152 (30SE, 31SW, 74C, 18N)
- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)
- hMPV: 2 (2SW)

9 sentinel labs (2SE, 2SW, 4C, 1N) reported for the week ending May 25, 2013. No labs reported influenza A activity. One lab (C) reported sporadic influenza B activity. No labs reported Parainfluenza activity. One lab (SW) reported sporadic RSV activity. One lab (SW) reported hMPV activity. All sites were at low or very low testing volumes with the exception of the SE region.

Michigan Influenza Antigenic Characterization (as of May 30): For the 2012-13 season, 113 Michigan influenza B specimens have been characterized at MDCH BOL. 94 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 19 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 May 30): For the 2012-13 season, 32 influenza A/H3 specimens and 25 influenza A(H1N1)pdm09 specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza isolates tested have been resistant.

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 30): 7 pediatric influenza-associated influenza mortalities (3A/H3, 4B) have been reported for the 2012-13 season.

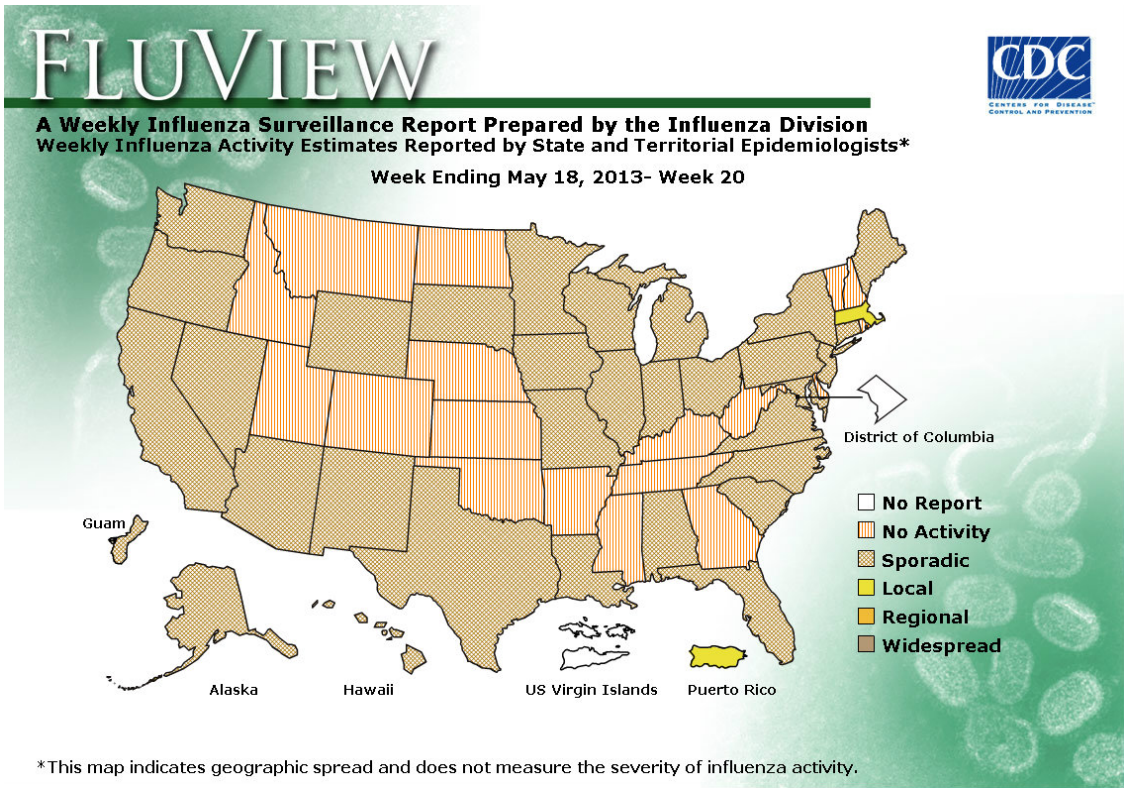
CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of May 30): One new respiratory outbreak due to hMPV in a congregate setting from the SW Region was reported during the previous week. 112 respiratory outbreaks (22SE, 30SW, 41C, 19N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

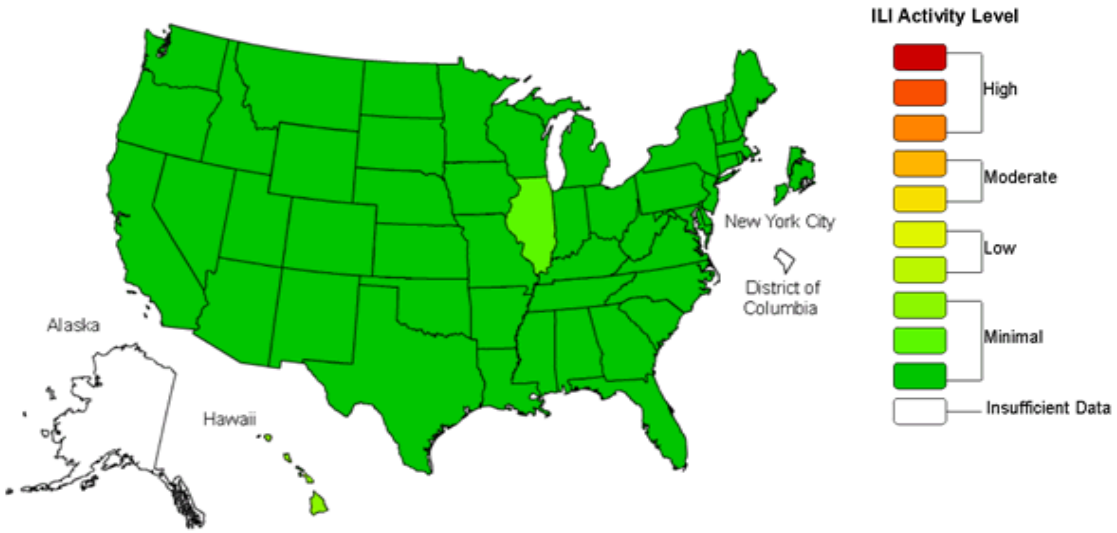
- Influenza A/H3: 16 (7SW, 9C)
- Influenza A: 55 (10SE, 13SW, 20C, 12N)
- Influenza B: 8 (1SE, 3SW, 2C, 2N)
- Influenza A and B: 2 (1SE, 1SW)
- Influenza A/H3 and B: 1 (1C)
- Influenza positive: 4 (1SE, 1SW, 2C)
- Influenza and RSV positive: 1 (1C)
- Influenza B and RSV positive: 1 (1SE)
- hMPV: 1 (1SW)
- Negative/no testing: 23 (8SE, 4SW, 6C, 5N)

National (CDC [edited], May 24): During week 20 (May 12-18, 2013), influenza activity remained low in the United States. Of 2,104 specimens tested and reported by collaborating laboratories, 68 (3.2%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. Seven pediatric deaths were reported. A cumulative rate for the season of 44.3 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. Of reported hospitalizations, about 50% were among adults 65 years and older. The proportion of outpatient visits for influenza-like illness (ILI) was 0.9%. This is below the national baseline of 2.2%. All 10 regions reported ILI below region-specific baseline levels. Forty-nine states and New York City experienced minimal activity, and one state and the District of Columbia had insufficient data. Puerto Rico and one state reported local influenza activity; Guam and 31 states reported sporadic activity; 18 states reported no influenza activity, and the District of Columbia and the U.S. Virgin Islands did not report.

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



Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2012-13 Influenza Season Week 20 ending May 18, 2013



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.

International (WHO [edited], May 25): Influenza activity in the northern hemisphere temperate zones decreased to low levels with some continued transmission in some areas including Canada and Egypt. In the tropical areas, influenza activity varied but was similar to previous weeks. Madagascar reported to be in an epidemic since the beginning of April. Influenza activity in the southern hemisphere was low with a slight increase reported in South Africa. For information on H7N9 please see link below. A summary review of influenza activity in the northern hemisphere influenza season will be published in the World Epidemiological Report on 31 May 2013.

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 May 25, 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, Human (WHO, May 29): The National Health and Family Planning Commission, China notified WHO of an additional laboratory confirmed case of human infection with Avian Influenza A(H7N9) virus.

The patient is a six-year-old boy reported from Beijing who became ill on 21 May 2013 and is in stable condition.

To date, WHO has been informed of a total of 132 laboratory-confirmed cases, including 37 deaths. Authorities in affected locations continue to maintain surveillance, epidemiological investigations, close contact tracing, clinical management, laboratory testing and sharing of samples as well as prevention and

control measures. City and provincial governments have started to normalize their emergency operations into their routine surveillance and response activities.

So far, there is no evidence of sustained human-to-human transmission.

Until the source of infection has been identified and controlled, it is expected that there will be further cases of human infection with the virus.

WHO does not advise special screening at points of entry with regard to this event, nor does it currently recommend any travel or trade restrictions.

WHO continues to work with Member States and international partners to monitor the situation. WHO will provide updates as the situation evolves.

The update is available online at http://www.who.int/csr/don/2013_05_29/en/index.html

International, Human (WHO, May 28): Naming of the Novel Coronavirus
As of 23 May 2013, the novel coronavirus, which was first detected in March 2012, has caused 44 cases, including 22 deaths. In the majority of cases identified to date, this novel virus has produced severe diseases.

Several countries in the Middle East have been affected, including Jordan, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). Most recently, Tunisia has reported 1 probable and 2 confirmed cases of human infection with the novel coronavirus, with history of travel to the Arabian Peninsula for two of them. Cases with direct or indirect connection to the Middle East have also been reported by France, Germany, and the United Kingdom.

This disease represents a significant public health risk under the International Health Regulations (IHR2005). WHO has issued recommendations for enhanced surveillance and precautions for the testing and management of suspected cases, and is working closely with countries and international partners. The Coronavirus Study Group of the International Committee on Taxonomy of Viruses has published a proposed new designation for the novel coronavirus, the Middle East Respiratory Syndrome Coronavirus (MERS-CoV).[1]

Given the experience in previous international public health events, WHO generally prefers that virus names do not refer to the region or place of the initial detection of the virus. This approach aims at minimizing unnecessary geographical discrimination that could be based on coincidental detection rather than on the true area of emergence of a virus.

WHO did not convene a group to discuss the naming of this virus. The proposed name -MERS-CoV- represents a consensus that is acceptable to WHO. It was built on consultations with a large group of scientists.

[1]Reference: De Groot RJ, et al. Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Announcement of the Coronavirus Study Group. J Virol. Published ahead of print 15 May 2013. doi:10.1128/JVI.01244-13. http://jvi.asm.org/content/early/2013/05/08/JVI.01244-13.full.pdf+html

International, Human (WHO, May 29): The Ministry of Health in Saudi Arabia has notified WHO of an additional five laboratory-confirmed cases with Middle East respiratory syndrome coronavirus (MERS-CoV).

All five patients are from the Eastern region of the country, but not from Al-Ahsa, where an outbreak began in a health care facility in April 2013. The patients had underlying medical conditions which required multiple hospital visits. The government is conducting investigations into the likely source of infection in both the health care and the community settings.

The first patient is a 56-year-old man with underlying medical conditions, who became ill on 12 May 2013 and died on 20 May 2013. The second patient is an 85-year-old woman with underling medical conditions who became ill on 17 May and is currently in critical condition. The third patient is a 76-year-old woman with underlying medical conditions who became ill on 24 May 2013 and was discharged from the hospital on 27 May 2013. The fourth patient is a 77-year-old man with underlying medical conditions who became

ill on 19 May and died on 26 May 2013. The fifth patient is a 73-year-old man with underlying medical conditions who became ill on 18 May and died on 26 May 2013.

Additionally, a patient earlier reported from Al-Ahsa, an 81-year-old woman has died. The government is continuing to investigate the outbreaks in the country.

In France, the first laboratory-confirmed case in the country, with recent travel from the United Arab Emirates has died.

Globally, from September 2012 to date, WHO has been informed of a total of 49 laboratory-confirmed cases of infection with MERS-CoV, including 27 deaths.

WHO has received reports of laboratory-confirmed cases originating in the following countries in the Middle East to date: Jordan, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). France, Germany, Tunisia and the United Kingdom also reported laboratory-confirmed cases; they were either transferred for care of the disease or returned from the Middle East and subsequently became ill. In France, Tunisia and the United Kingdom, there has been limited local transmission among patients who had not been to the Middle East but had been in close contact with the laboratory-confirmed or probable cases.

Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

Health care providers are advised to maintain vigilance. Recent travellers returning from the Middle East who develop SARI should be tested for MERS-CoV as advised in the current surveillance recommendations. Specimens from patients' lower respiratory tracts should be obtained for diagnosis where possible. Clinicians are reminded that MERS-CoV infection should be considered even with atypical signs and symptoms, such as diarrhoea, in patients who are immunocompromised.

Health care facilities are reminded of the importance of systematic implementation of infection prevention and control (IPC). Health care facilities that provide care for patients suspected or confirmed with MERS-CoV infection should take appropriate measures to decrease the risk of transmission of the virus to other patients, health care workers and visitors.

All Member States are reminded to promptly assess and notify WHO of any new case of infection with MERS-CoV, along with information about potential exposures that may have resulted in infection and a description of the clinical course. Investigation into the source of exposure should promptly be initiated to identify the mode of exposure, so that further transmission of the virus can be prevented.

WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

WHO continues to closely monitor the situation.

The update is available online at http://www.who.int/csr/don/2013_05_29_ncov/en/index.html

May 23 WHO update: http://www.who.int/csr/don/2013_05_23_ncov/en/index.html

For questions or to be added to the distribution list, please contact Bethany Reimink at ReiminkB@michigan.gov

Contributors

MDCH Bureau of Epidemiology – S. Bidol, MPH; S. DeVita, RN, MPH; R. Sharangpani, MD, MPH; F. Mamou, MPH

MDCH Bureau of Laboratories – B. Robeson, MT; V. Vavricka, MS

Table. H5N1 Influenza in Humans – As of April 26, 2013. http://www.who.int/influenza/human_animal_interface/EN_ GIP_20130426 CumulativeNumberH5N1cases.pdf. Downloaded 4/29/2013. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2006		2007		2008		2009		2010		2011		2012		2013		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	1	0	0	0	0	0	2	0	3	0	1	1	7	1
Cambodia	6	6	1	1	1	0	1	0	1	1	8	8	3	3	10	8	31	27
China	22	14	5	3	4	4	7	4	2	1	1	1	2	1	2	2	45	30
Djibouti	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	18	10	25	9	8	4	39	4	29	13	39	15	11	5	3	2	172	62
Indonesia	75	58	42	37	24	20	21	19	9	7	12	10	9	9	0	0	192	160
Iraq	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	93	42	8	5	6	5	5	5	7	2	0	0	4	2	2	1	125	62
Total	263	158	88	59	44	33	73	32	48	24	62	34	32	20	18	14	628	374