



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



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New updates in this issue:

- **Michigan Surveillance:** Laboratory-confirmed influenza cases continue to rise statewide.
- **National Surveillance:** Influenza activity rises; East North Central region above ILI baseline.
- **Avian Influenza:** Two new human H5N1 cases in Indonesia; poultry outbreaks in multiple countries.

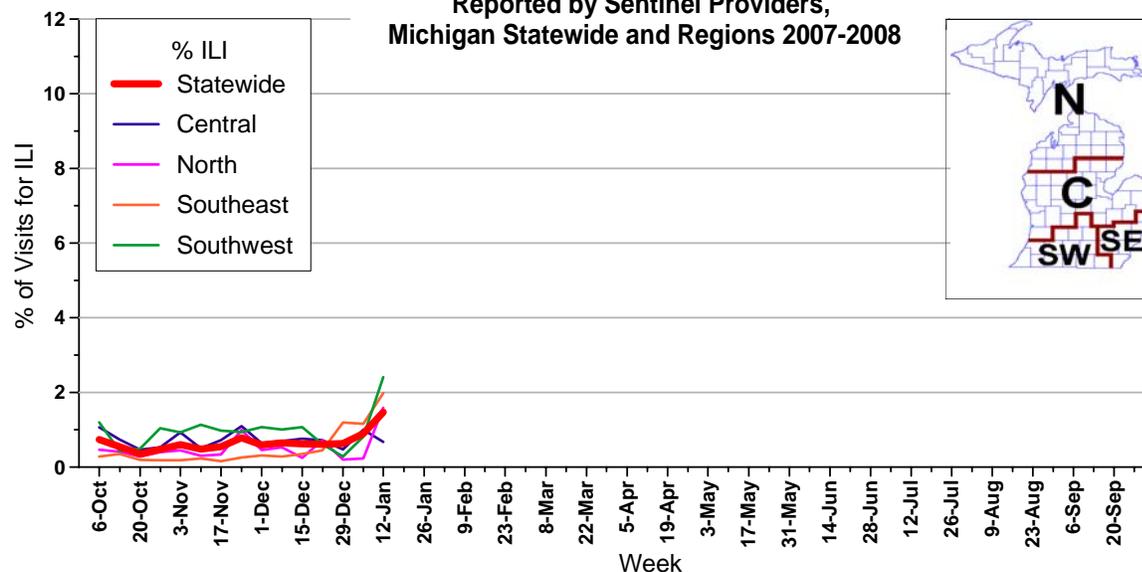
Michigan Disease Surveillance System: The week ending January 12 saw aggregate flu-like illness reports rise from last week's lowered levels, which was expected as schools reopened after the holidays. Individual influenza reports increased slightly from the previous week's levels. Aggregate flu-like illness reports are consistent with numbers seen this time last year, while individual influenza reports are higher.

Emergency Department Surveillance: Emergency department visits due to constitutional complaints remained steady this past week, while respiratory complaints dropped slightly. Both respiratory and constitutional complaints, however, are consistent with numbers seen this time last year. Five constitutional alerts in the C(3), N(1) and SW(1) Influenza Surveillance Regions and two respiratory alerts in the N(1) and SW(1) Influenza Surveillance Regions were generated last week.

Over-the-Counter Product Surveillance: Overall, OTC product sales activity remained fairly steady this week with only cough/cold medication showing a slight decrease. The indicators levels are comparable to those seen at this time last year.

Sentinel Surveillance (as of January 17): The proportion of visits due to influenza-like illness (ILI) in Michigan increased over the last two weeks, and is at 1.5% for the week ending Jan. 12. This represents 122 cases of ILI out of 8280 total patient visits; 37 sentinels provided data for this report. The proportion of visits due to ILI increased in all regions except Central (0.7%); North was at 1.6%, Southeast was at 2.0%, and Southwest was at 2.4%. Note that these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers,
Michigan Statewide and Regions 2007-2008



As part of pandemic influenza preparedness, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or potterr1@michigan.gov for more information.

Laboratory Surveillance (as of January 17): For the 2007-2008 influenza season, the MDCH Bureau of Laboratories has identified 39 influenza isolates:

- 21 A/H3N2: Southeast (12); Central (5); Southwest (2); North (2)
- 1 A/H1N1: North (1)
- 11 A subtype pending: Southwest (6); SE (4); Central (1)
- 6 B: Southeast (4); North (1); Central (1)

Sentinel laboratories are reporting low numbers of positive influenza A tests and rare influenza B positives, with some individual labs in the Southwest region seeing an increase in influenza A positives over the past week. Low but increasing levels of RSV were reported statewide.

***As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

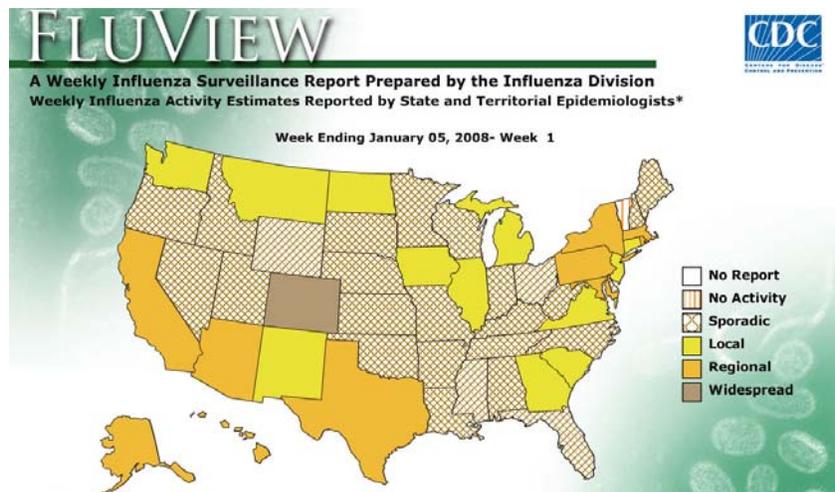
Influenza-Associated Pediatric Mortality (as of January 17): For the 2007-2008 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan.

***The CDC has asked all states to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child (< 18 years) resulting from a compatible illness confirmed to be influenza by an appropriate diagnostic test, but also unexplained death with evidence of an infectious process in a child. See www.michigan.gov/documents/fluletter_107562_7.pdf for the complete protocol. Please immediately call MDCH to ensure that proper clinical specimens are obtained.

Congregate Settings Outbreaks (as of January 17): One outbreak has been reported for the 2007-2008 influenza season. This is a long-term care facility in the Southeast region with ill residents; an epidemiologic investigation, infection control measures and respiratory specimen collection are underway.

National (CDC [edited], January 11): During week 1 (Dec. 30, 2007-Jan. 5, 2008), influenza activity continued to increase in the United States. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. WHO and NREVSS laboratories reported 3,066 specimens tested for influenza viruses, 221 (7.2%) of which were positive, including 29 influenza A (H1) viruses, 12 influenza A (H3) viruses, 133 influenza A viruses not subtyped, and 47 influenza B viruses. The proportion of outpatient visits for influenza-like illness (ILI) was below national baseline levels, and the proportion of outpatient visits for acute respiratory illness (ARI) was above baseline levels. The East North Central, New England, and West South Central regions reported ILI equal to or above their region-specific baselines, and the East North Central, Mid-Atlantic, Pacific, and West South Central regions reported ARI equal to or above their region-specific baselines. One state reported widespread influenza activity; 10 states reported regional activity; 12 states and the District of Columbia reported local activity; 26 states and Puerto Rico reported sporadic activity; and one state reported no activity.

To access the entire CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>



International (WHO, January 10): During week 52 of 2007 and week 1 of 2008, the level of overall influenza activity in the world remained low. An increase in the number of influenza viruses detected was observed in some countries in the northern hemisphere, where mostly influenza A (H1N1) circulated.

Canada. The level of influenza (A, B) activity remained unchanged. Two regions under influenza surveillance (Ontario and Saskatchewan) reported localized influenza activity and 17 other regions reported sporadic activity. Influenza A (H1) viruses predominated.

Croatia. A regional outbreak of influenza was reported during week 1. Predominantly influenza A (H1) was detected.

Luxembourg. A localized outbreak was reported in Luxembourg, with influenza A (H1) and B viruses detected.

Slovenia. A localized outbreak was reported in Slovenia, with influenza A (H1) and B viruses detected.

Switzerland. The level of influenza activity became regional, with influenza A (H1) and B viruses detected.

United States of America. Widespread influenza activity was reported in the United States. Regional influenza activity was reported by 5 states and local influenza activity by 33 states. Sporadic influenza activity was reported by the District of Columbia and Puerto Rico, where influenza A (H3 and H1) viruses predominated and influenza B also occurred.

Between week 52 of 2007 and week 1 of 2008, sporadic influenza activity was detected in Austria (A, H1, B), Belgium (H1), China (B predominant, H3), Denmark (H1), France (A, B, H1), Germany (B, H1), Hong Kong Special Administrative Region of China (B predominant, H3, H1), Islamic Republic of Iran (H1, B), Israel (B, A), Italy (H1, B), Latvia (A, H1, B), Lithuania (A), Madagascar (H1), the Netherlands (A, B), Norway (H1, A, B), Poland (A), Portugal (H1), Serbia and Montenegro (H1), Russian Federation (H3, H1, B), Slovakia (A), Spain (A, B), Sri Lanka (B), Sweden (H1, B) and United Kingdom (H1 predominant). Greece, Morocco, Romania, Senegal and Ukraine reported no influenza activity.

MDCH reported **LOCAL ACTIVITY** to the CDC for the week ending January 12, 2008.

For stakeholders interested in additional information regarding influenza vaccination and education, the MDCH publication *Michigan FluBytes* is available online at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html. *FluBytes* is published weekly during the influenza season.

End of Seasonal Report

Avian Influenza Activity

WHO Pandemic Phase: Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

International, Human (WHO, January 11): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 16-year-old female from West Java Province developed symptoms on 30 December 2007, was hospitalized on 4 January 2008 and is currently in hospital. Investigations found a history of deaths in chickens in the case's neighborhood in the two weeks preceding her onset of symptoms.

Of the 117 cases confirmed to date in Indonesia, 94 have been fatal.

International, Human (WHO, January 15): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 32-year-old female from Tangerang District, Banten Province developed symptoms on 3 January 2008, was hospitalized on 9 January 2008 and died on 10 January. Investigations indicate the case had a history of close contact with birds and poultry in the week prior to her onset of symptoms.

Of the 118 cases confirmed to date in Indonesia, 95 have been fatal.

International, Poultry (Reuters [edited], January 13): Bird flu has killed nearly 500 chickens at a poultry farm in northeastern Bangladesh in what officials said on Sunday was the first outbreak of the disease in that area.

The farm is in Moulavibazar district, about 250 km (155 miles) from the capital, said Salehuddin Khan, director of the government's livestock department.

"After the confirmation of bird flu, authorities culled nearly 800 chickens, ducks and birds in a one-kilometer area around the affected farm," he said.

The H5N1 avian flu virus was first reported near the capital in March last year and has since spread mainly to northern districts, forcing authorities to kill more than 300,000 chickens.

With the latest outbreak, 71 farms in 22 of Bangladesh's 64 districts have been infected with the deadly virus.

International, Poultry (Xinhua News Agency, January 15): More than 10,000 chickens were culled on Monday and Tuesday in Bangladesh's southern city Barisal following avian influenza was detected in two indigenous variety of hens.

Dr. Sunil Chandra Gayen of the Regional Livestock office said two dead indigenous hens in Ward-22 and Ward-27 in the city had been sent to Central Laboratory in capital Dhaka. The report said the hens died of avian influenza.

Livestock and law enforcing agencies collected all domestic and poultry farm chickens from within two square kilometers of the area in the city and culled them.

The chickens were culled to check spread of the disease, added Dr Sunil.

The avian influenza virus was first detected in a poultry farm in Savar, about 30 km northwest of Dhaka early in 2006.

International, Poultry (Associated Press, January 16): Health workers slaughtered tens of thousands of chickens Wednesday after an outbreak of bird flu killed more than 35,000 birds in eastern India, officials said.

The federal government confirmed Tuesday the birds were infected with the H5 strain of bird flu, and tests were under way to determine whether it was the virulent H5N1 subtype.

No human deaths or unusual illnesses have been reported in the region, and there were no signs that the disease has spread to other districts, Anisur Rahman, state minister of animal husbandry, told The Associated Press.

About 350,000 chickens were being slaughtered in affected areas of Birbhum district, 160 miles from the West Bengal state capital of Calcutta, and another 50,000 in south Dinajpur, 220 miles from Calcutta.

Health workers were also going door-to-door in the areas looking for people with high fevers or breathing trouble.

In New Delhi, senior Agriculture Ministry official Pradeep Kumar said it would take four or five more days to determine whether it was the H5N1 strain of bird flu.

The government confirmed an outbreak of the H5N1 virus in western India in 2006, but declared the country bird flu-free after slaughtering hundreds of thousands of chickens. No human cases were reported. A smaller outbreak in northeastern India was contained last year.

The H5N1 virus has afflicted more than 60 countries, forcing the slaughter of hundreds of millions of birds since it began ravaging Asian poultry stocks in late 2003.

It has killed at least 206 people worldwide, according to the World Health Organization.

The virus remains hard for people to catch, but experts fear it may mutate into a form that spreads easily among humans, potentially sparking a pandemic. So far, most human cases have been linked to contact with infected birds.

International, Poultry (OIE, January 16): According to a report submitted by Iran to the OIE on January 16, on December 10, 2006 14 free-range backyard chickens died (out of 489) in the village of Darzi Naghib. Subsequent testing at the national veterinary laboratory in Iran and at the OIE reference lab in Italy confirmed the presence of H5N1 highly pathogenic avian influenza. The flock has been depopulated and additional active surveillance is underway.

International, Wild Birds (DEFRA News Release [edited], January 10): Defra has today [10 Jan 2008] confirmed avian influenza in 3 dead wild mute swans in the Chesil Beach area in Dorset, following positive test results from the Veterinary Laboratories Agency for the highly pathogenic strain of H5N1. These birds were found and tested following our routine surveillance programme.

A Wild Bird Control Area and a Monitoring Area are being established around the premises, encompassing Chesil Beach and Portland Bill, and the shape of these is based on expert ornithological advice.

Inside these areas bird keepers are required to house their birds or otherwise isolate them from contact with wild birds, bird movements will be restricted, and bird gatherings are banned. Defra is also working closely with ornithological and other experts to consider what wider measures may be needed. Further details can be found on the Defra website at <http://www.defra.gov.uk/avianflu>.

No disease has been found in domestic birds, and a programme of surveillance is being carried out in the local wild bird population. There will be no culling of wild birds because such action may disperse birds further and would not aid control.

Acting Chief Veterinary Officer, Fred Landeg said: "While this is obviously unwelcome news, we have always said that Britain is at a constant low level of risk of introduction of Avian influenza. Our message to all bird keepers, particularly those in the area, is that they must be vigilant, report any signs of disease immediately, and practice the highest levels of biosecurity."

A full epidemiological investigation is underway. All poultry keepers on the GB Poultry Register are being notified, and the EU Commission has been informed.

International, Wild Birds (DEFRA website, January 16): Defra has today confirmed that another mute swan collected on 11 January as part of wild bird surveillance from the same area has tested positive for highly pathogenic H5N1 Avian Influenza.

There is currently no evidence to suggest widespread disease in the wild bird population, but enhanced surveillance is taking place and poultry keepers in the area are reminded to remain vigilant and report any signs of disease immediately. There is no evidence of disease in domestic birds.

Michigan Wild Bird Surveillance (USDA, as of January 17): For the 2007 testing season, 1756 Michigan samples have been taken so far, comprised of 100 live bird samples, 1209 hunter-killed birds, 172 morbidity/mortality samples, and 275 environmental samples.

H5N1 subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 74,061 birds or environmental samples tested nationwide. The 2007 testing season will run from April 1, 2007-March 31, 2008. For more information, visit the National H5N1 Early Detection Data System website at <http://wildlifedisease.nbio.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>.

Please contact Susan Vagasky at VagaskyS@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

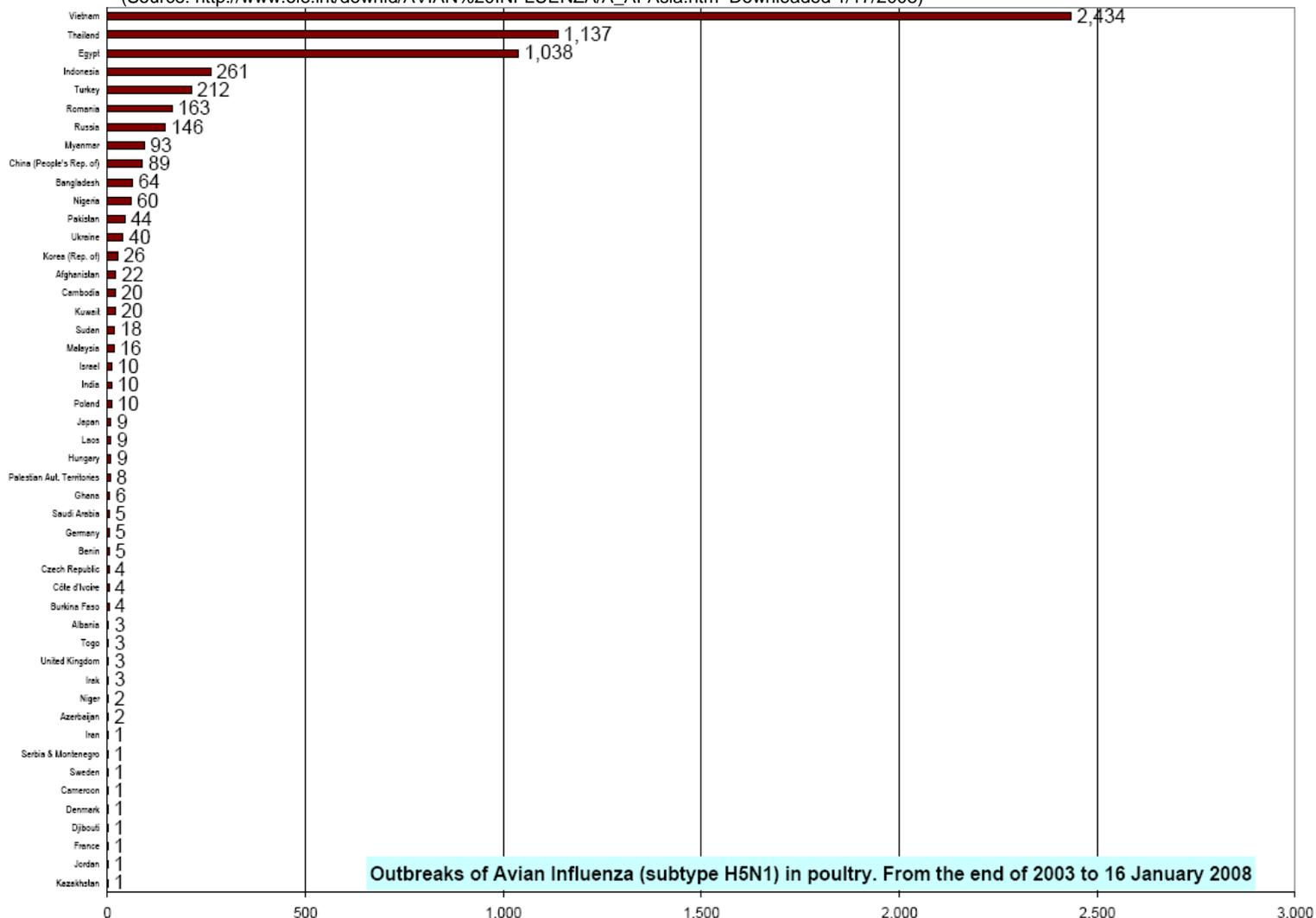
Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to January 16, 2008)

(Source: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 1/17/2008)



Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 16 January 2008

Table 2. H5N1 Influenza in Humans (Cases up to January 15, 2008)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2008_01_15/en/index.html Downloaded 1/17/2008)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

| Country | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | Total | |
|------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | cases | deaths |
| Azerbaijan | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 0 | 0 | 0 | 0 | 8 | 5 |
| Cambodia | 0 | 0 | 0 | 0 | 4 | 4 | 2 | 2 | 1 | 1 | 0 | 0 | 7 | 7 |
| China | 1 | 1 | 0 | 0 | 8 | 5 | 13 | 8 | 5 | 3 | 0 | 0 | 27 | 17 |
| Djibouti | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Egypt | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 10 | 25 | 9 | 0 | 0 | 43 | 19 |
| Indonesia | 0 | 0 | 0 | 0 | 20 | 13 | 55 | 45 | 42 | 36 | 1 | 1 | 118 | 95 |
| Iraq | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| Lao People's Dem. Rep. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 2 |
| Myanmar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Nigeria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Pakistan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Thailand | 0 | 0 | 17 | 12 | 5 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 25 | 17 |
| Turkey | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 4 | 0 | 0 | 0 | 0 | 12 | 4 |
| Viet Nam | 3 | 3 | 29 | 20 | 61 | 19 | 0 | 0 | 8 | 5 | 0 | 0 | 101 | 47 |
| Total | 4 | 4 | 46 | 32 | 98 | 43 | 115 | 79 | 86 | 58 | 1 | 1 | 350 | 217 |