

The probe on Chiang Mai tourist and Thai guide deaths and illnesses

Frequently Asked Questions

Why was there an investigation into deaths in Chiang Mai?

An investigation by public health and other authorities was launched regarding a number of unexplained illnesses and deaths identified by Chiang Mai health authorities. These include the deaths of five foreign tourists, one Thai tour guide and illnesses of three people between 11 January 2011 and 19 February 2011. Six of these people were staying at one hotel. Thai hospital authorities signaled initial similarities between these deaths, and therefore Chiang Mai health authorities began an investigation with assistance from the Thai Ministry of Public Health and international experts. Chiang Mai police also carried out an investigation in line with normal procedures.

Which cases were investigated?

The people who died and fell ill were grouped under four events based on suspected causes as follow:

Event 1:

One American woman, age 33, died on 11 January. Her friend, a Canadian woman, age 29, fell ill but recovered. Both stayed at Hotel “A”

Event 2:

One French woman, age 25, died on 19 January. She stayed at Hotel “B”.

Event 3:

- a) One Thai woman, age 47, a tour guide, died on 3 February.
- b) One New Zealand woman, age 23, died on 6 February and her two female traveling companions, both age 23 and also from New Zealand, also fell ill but recovered. All stayed at Hotel “C”.

Event 4:

An older couple from the United Kingdom – one man (78) and woman (74) – both died on 19 February. They also stayed in Hotel “C” but on a different floor to those in Event 3 and their deaths were almost two weeks after Event 3.

What was being investigated?

Public health authorities examined several issues:

- 1) The cause(s) of death and illness
- 2) The source of exposure and any risk factors related to the cause of death or illness
- 3) Linkages, if any, between these deaths and illnesses
- 4) Depending on the cause, measures required to reduce future risks

The investigation included clinical, epidemiological, and laboratory information gathering and analyses by national and international experts – including those from the World Health Organization (WHO), and the United States Centers for Disease Control (US CDC) – and relevant interviews with friends and family of the affected people.

What were the main findings of the investigation?

- In summary, the investigation found that one person likely died of a virus. Three people likely died of exposure to pesticides. And the investigation could not fully determine the cause of death for two people. (see specific case findings in Update 5).
- However, the exact agents that caused the illnesses and deaths can not be identified. The investigation could also not determine exactly how those who fell ill and/or died were exposed to the agents.
- It is not unusual in such epidemiological investigations that the specific agents causing illnesses are never identified. But laboratory data when considered with clinical symptoms can validate a hypothesis of the likely cause of illness.

Doesn't this make Thailand an unsafe place to visit?

These incidents were very unfortunate and we are sincerely sorry they occurred. However they were sporadic events. The overwhelming number of people who visit Thailand enjoy pleasant and safe holidays here. But as in home countries, and with all destinations, inevitably unfortunate incidents occur. With regards to pesticide usage, we are taking urgent measures to improve safeguards for everyone in an attempt to reduce the risk of such future incidents.

If the cause of these deaths was a pesticide, what is being done now to stop hotels from using them?

The Chiang Mai authorities and the Department of Disease Control are taking the measures below to ensure the safety of both tourists and Thai citizens in residential and agricultural settings. We are confident that such events are sporadic and can largely be averted in the future.

- 1) A panel will be set up to investigate and recommend stricter measures for the use of chemicals including pesticides in hotel and market areas.
- 2) A channel to receive notification of illness of tourists and expatriates has been set up. Visitors can post their notification at www.chiangmaihealth.com or call 053-216592. Events will be verified and investigated.
- 3) Surveillance of hospitalised tourists, already in effect, will be continued and a new protocol for investigation of fatal cases is being adopted.
- 4) Retailers of household and agricultural chemicals (pesticides) must declare a watch list of products whose procurement and sales are to be closely monitored. The provincial health office will carry out periodic checks on them.
- 5) Hotel operators must use only licenced pest control companies and their contracts must specify which chemicals are to be used and samples collected and sent for testing by the authorities twice a year.
- 6) Municipal authorities are to give safety advice and monitor public celebrations where the burning of ritual papers and other materials are performed in communities, temples and shrines as part of traditional festivals.
- 7) Develop the food safety standard at eateries and among street vendors, especially around the Night Bazaar area, frequented by tourists in Chiang Mai.

- 8) Health Education Cards to advise tourists about food safety and other health concerns will be made available to foreign visitors to the province.
- 9) The Ministry of Public Health will use these measures to strengthen its work throughout the country.

When will those new measures be implemented?

Some of the measures have already been adopted such as the surveillance of hospitalised tourist and the website for them to notified the authorities about any illnesses. This is to make sure that early actions are taken to address any health problems that may arise. The province has also held several rounds of talks with hotel operators and among the health service sector to effect changes and ensure visitors enjoy their stay here in safety. Of course we can not prevent all incidents but we are taking measures to address potential problem areas.

Who drew the final conclusions for the inquiry?

The Thai authorities appointed an eight-member multidisciplinary expert panel, which worked closely with the investigation team to review all of the information from the investigation. This includes interviews, clinical, laboratory and environmental data. The investigation team drew the conclusions in consultation with the panel of experts.

Who is on the expert panel and who appointed them?

The eight-member expert panel was appointed by Chiang Mai province. It is composed of an infectious disease expert from the Faculty of Medicine, Chiang Mai University; a clinical toxicologist from Ramathibodi Hospital, Bangkok; a pathology and forensic medicine expert from Siriraj Hospital, Bangkok; a senior epidemiologist from the Department of Disease Control, Ministry of Public Health; an expert on pesticide use from the Faculty of Agriculture, Chiang Mai University; an environmental specialist from Faculty of Medicine, Chiang Mai University; a psychiatrist from the Faculty of Medicine, Chiang Mai University; and a cardiologist from the Chest Disease Institute, Department of Medical Services, Bangkok.

Why wasn't the case of the Canadian man who died in January 2011 part of the investigation?

There were reports of a seventh death, a Canadian man who was not staying at the hotel where the Thai woman, the New Zealand woman and the United Kingdom couple also stayed but reportedly used its swimming pool. However the findings from the investigation did not confirm use of common hotel facilities and the available evidence from medical records and autopsy by forensic expert did not support linkage with other deaths. Therefore the death of this Canadian man was not included in the cluster.

Why did the investigation take so long?

Investigating several cases of unexplained deaths whose cause may or may not be the same is a complex undertaking. It involves many parallel investigations, several experts and the coordination of information from local, national and international sources. For example, biological samples from these cases were also sent to laboratories both in Thailand and overseas to examine the tissues and test for microbes and toxins. It takes time to package these safely, send them, process them, get the results and analyse them. In addition, different types of hypotheses require different tests. The testing for exposure to pest control products for example took

some time as they include tests in foreign laboratories. Once those results came in, the expert panel and the investigation team had to review all of the information together. Only then can they draw conclusions and make recommendations.

Was the insecticide chlorpyrifos linked to at least one of the deaths?

Thai authorities have consulted national and international expert toxicologists. The available evidence suggests that chlorpyrifos was not the cause. There are four factors that led to this conclusion: One is that chlorpyrifos normally has a strong odour, and survivors reported that they did not smell any strong smell. The second is that a healthy adult would not fall ill or die of chlorpyrifos exposure unless they had ingested or inhaled large volumes of it. The third is that the symptoms of chlorpyrifos poisoning are not consistent with the symptoms of the people who were affected. The fourth is that a certain enzyme in the blood (called cholinesterase) of victims would have been below normal if chlorpyrifos were a cause and yet the blood of several of the cases (including the New Zealand women) showed normal levels.

Toxicologists in NZ also questioned the claim (see: <http://www.tv3.co.nz/May-8---To-Die-For/tabid/1343/articleID/70763/Default.aspx>).

What responsibility does Thailand have to the international community to report and resolve these cases?

The main responsibility is to communicate with the families of the cases. However because the majority of the cases involved people visiting Thailand, it also was necessary to share some information with embassies and the public health authorities of the concerned countries. Information on this kind of event is also normally shared with other countries on a precautionary basis to alert them to the possibility of similar cases being identified in tourists returning from a holiday in Thailand. The normal mechanism for reporting of this kind is through the network established for the International Health Regulations.

Were the Koh Phi Phi deaths related?

The two cases from Phi Phi Island occurred in 2009 in Krabi province. In this case, one American and one Norwegian woman died, and their traveling companions fell ill. The cause of death was never determined. Because the cases were now two years ago, there is no possibility to conduct any further laboratory or other tests.