

Description of the First Pandemic Influenza A (H1N1) Cases in Vietnam, June-July 2009

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Introduction

The first people contracted the pandemic influenza A (H1N1) virus infection were reported by the United States and Mexico in spring 2009^{1,2}. Subsequently, this new virus spread rapidly to all countries and regions in the world³⁻⁶. On 11 Jun 2009, the World Health Organization (WHO) declared the first global influenza pandemic of the century⁷.

On 30 May 2009, the Ministry of Health Vietnam confirmed the first pandemic A (H1N1) 2009 infection in a 23-year-old student returning from the United States. This report described key epidemiologic characteristics of and public health responses to the first pandemic A (H1N1) 2009 cases in Vietnam from 30 May to 15 Jul 2009, the period before widespread transmission within Vietnam.

Methods

In response to the pandemic, the Ministry of Health alerted public health authorities at national and regional levels to enhance surveillance and to implement strict containment measures. These included screening of all incoming passengers by using of a health declaration card and thermal detector at ports of entry, tracing and following up co-passengers and other close contacts of cases who acquired the infection after arrival, and isolating and treating suspected and confirmed cases in hospitals.

A suspected case was defined as any person with acute respiratory symptoms and history of recent travel to an affected area or contact with a confirmed case; and a confirmed case was an individual that tested positive for the pandemic A (H1N1) 2009 virus by a real-time reverse-transcription-polymerase-chain-reaction (RT-PCR) assay in accordance with the protocol from the U.S. Centers for Disease Control and Prevention. According to the treatment guideline issued by the Ministry of Health, the patients could be discharged from hospital when there is no fever, stable condition and RT-PCR test negative for the pandemic A (H1N1) 2009 virus.

Demographic, epidemiologic and clinical data of persons meeting these criteria for surveillance were

reported daily by facsimile to Department of Communicable Disease Control, Ministry of Health by Institutes of Hygiene and Epidemiology, Pasteur Institutes and provincial health departments.

Results

From 30 May to 15 Jul 2009, there were 309 confirmed cases of pandemic A (H1N1) 2009 reported from 29 of 63 provinces and cities across the country. Fifty-one percent were male. Cases ranged in age from one to 75 years; the median age was 23 years, and 55% of the cases were aged 10–29 years (Figure 1).

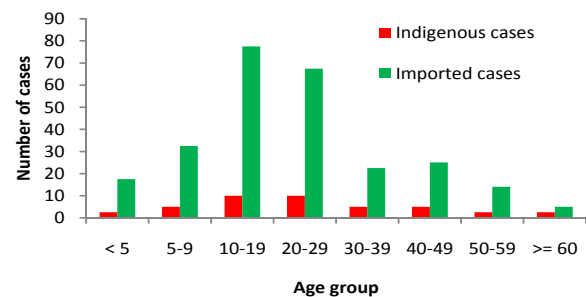


Figure 1. Age distribution of pandemic A (H1N1) cases in Vietnam, 30 May – 15 Jul 2009 (n=309)

Most confirmed cases (86%) were reported from the South as most of incoming air passengers arrived in Ho Chi Minh City (n=266). This southern hub became a pioneer of strict airport screening and subsequent intensive tracing, and laboratory testing of co-passengers and other close contacts in the community. The Central Highland did not report any cases (Figure 2).

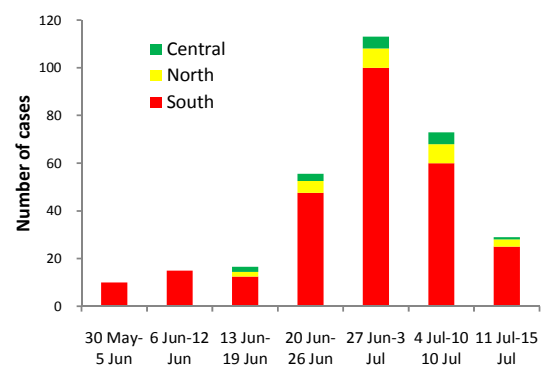


Figure 2. Distribution of pandemic A (H1N1) cases by region in Vietnam, 30 May – 15 Jul 2009 (n=309)

Two hundred and sixty nine (87%) confirmed cases acquired the infection abroad (Table 1). Their travel history showed that most traveled in countries reporting high activity of pandemic A (H1N1) 2009, such as Australia, United States of America, Thailand and Singapore.

Table 1. Country of origin of pandemic A (H1N1) cases imported to Vietnam, 30 May – 15 Jul 2009 (n=269)

| Countries | Percent |
|--|---------|
| Australia | 49.8 |
| USA | 22.3 |
| Thailand | 7.1 |
| Singapore | 4.5 |
| Germany | 1.9 |
| Hong Kong | 1.5 |
| New Zealand | 1.1 |
| South Korea, Japan, UK, Cambodia, Canada, Taiwan, France, Philippines, China | <1.0 |

Among 159 cases having data on onset of symptoms, 89 (56%) reported symptoms on the day of arrival in Vietnam, 39 (25%) had onset one to two days after entering the country, and eight of them (5%) had onset of symptoms one to two days before arrival (Figure 3).

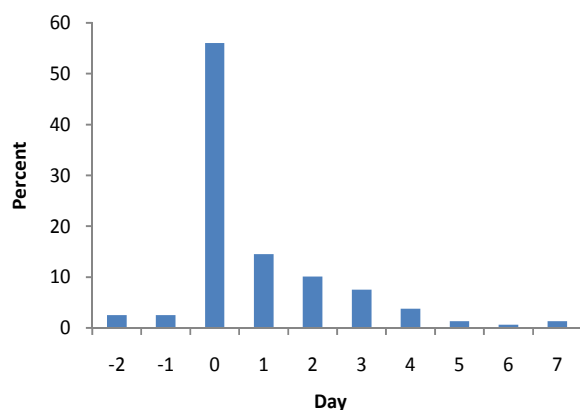


Figure 3. Day of onset of symptoms related to day of arrival (30 May-15 Jul 2009) in Vietnam of pandemic A (H1N1) cases (n=159)

In addition, a few cases did not have any symptoms. They were identified as health staff requested them to be tested when they took their relatives to hospitals for medical attention due to influenza-like illness.

Cases generally presented with the most common typical symptoms of influenza. Virtually, all had fever (98%). A few had cough (27%), fatigue and weakness (9%), and headache, runny nose and sore throat (8%) as their first symptom(s). Two cases

reported shortness of breath and one case reported diarrhea.

Among 159 cases having data on hospitalization, 53% (84 cases) were hospitalized immediately on the day of arrival in Vietnam (Figure 4).

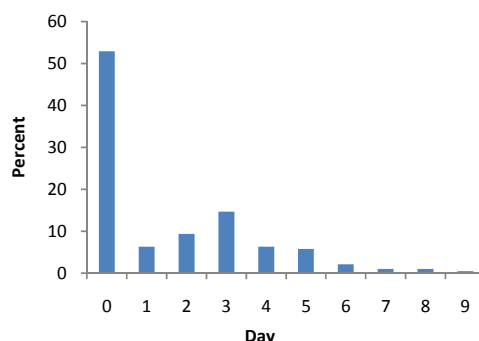


Figure 4. Day between arrival in Vietnam and hospitalization of pandemic A (H1N1) cases, from 30 May-15 Jul 2009 (N=159)

This was because persons screened on arrival as suspected cases were isolated in hospitals while awaiting RT-PCR test results. Seventeen cases (9%) were hospitalized five to nine days after arrival in Vietnam, indicating they were incubating the virus or had mild symptoms and did not seek medical attention immediately after arrival.

All cases received oseltamivir once diagnosed. The mean duration of hospitalization was 6.6 days and 75% were discharged five to eight days after hospitalization (Table 2). This long duration of hospitalization was not due to disease severity but to the strict hospital isolation policy.

Table 2. Duration of hospitalization of pandemic A (H1N1) cases, Vietnam, 30 May-15 Jul 2009 (n=85)

| Duration of Hospitalization (Day) | Number of Cases | Percent |
|-----------------------------------|-----------------|---------|
| 3 | 5 | 5.9 |
| 4 | 8 | 9.4 |
| 5 | 13 | 15.3 |
| 6 | 11 | 12.9 |
| 7 | 22 | 25.9 |
| 8 | 18 | 21.2 |
| 9 | 4 | 4.7 |
| 11 | 2 | 2.4 |
| 13 | 2 | 2.4 |

Discussion

This report describes the introduction of pandemic influenza A (H1N1) 2009 in Vietnam from 30 May to 15 Jul 2009 while most of the laboratory confirmed cases were travelers (87%) from affected areas and their close contacts. An intensive enhanced surveillance and prompt containment measures made it possible to detect and manage the cases at

an early stage of the pandemic and probably delayed the widespread transmission in general community.

Analysis of the first 309 confirmed cases of pandemic A (H1N1) 2009 in Vietnam indicated that symptoms of these cases appeared to be similar to those of seasonal influenza; their clinical presentations were generally mild and all recovered without complications. This is in accordance with early descriptions of cases in other countries³⁻⁵, with an exception that gastrointestinal symptoms including diarrhea and vomiting were rarely reported. The age and sex distributions of cases were similar to those observed in other countries as well³⁻⁶.

Intensive containment measures such as mandatory isolation of cases in a hospital until the case had a negative test for the pandemic virus resulted in 100% treatment of cases at hospital and increased the length of hospitalization. As the pandemic rapidly evolved, it was recognized that these containment measures were too resource intensive and did not stop transmission in the community.

Prior to 15 Jul 2009, the number of laboratory confirmed cases of pandemic (H1N1) 2009 reported daily to Department of Communicable Disease Control of Vietnam was less than 10. From 16 Jul to 15 Sep 2009, a total of 8,738 new cases were reported, resulting in an average of 150 cases per day. Clusters of H1N1 cases were detected increasingly in schools, office buildings and factories, i.e., community clusters without any epidemiological links or sources of transmission.

Since after 1 Oct 2009, the number of reported cases did not reflect the real situation of the pandemic because not all the cases were being reported. Thus, the Ministry of Health decided to revise the surveillance guidelines. In provinces and cities where no H1N1 cases had yet been reported, diagnostic test and case investigation were performed on all suspected cases. In provinces and cities where less than five community clusters of H1N1 had been detected (i.e., restricted community transmission), surveillance activities focused on the first three to five cases of each cluster and selected individual cases. In provinces and cities where at least five community clusters of H1N1 had been detected (i.e. widespread community transmission), surveillance activities had to be further prioritized for early detection of patients with high risk for severe complications (pregnant women, persons with chronic diseases and young children) and patients with severe illness.

The influenza A (H1N1) 2009 appeared to arrive in Vietnam as expected in its pandemic timeline. H1N1 was imported to Vietnam from countries with ongoing transmission and occurred in areas of Vietnam with the most travelers. Vietnam demonstrated the capacity to institute intensive airport screening measures, mandatory hospitalization and case finding among co-passengers and close contacts of cases in the community. These lessons learned will be useful for future preparedness planning.

Suggested Citation

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<<http://www.osirjournal.net/issue.php?id=18>>.

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