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Influenza A (H1N1) surveillance overview – Palau

May–September 2009

On 30 April an emergency Epi-Net meeting was held at Belau National Hospital (BNH), where it was decided that flu-related activities would be organised within the incident command structure (ICS) that had been recently activated. Many of the Epi-Net team members were assigned roles within the ICS. The members of Epi-Net and their roles include:

- Ministry of Health Epidemiology – Epi-Net Team Member/Lead
- Infectious Disease Section Physician – Team Member
- Infection Prevention and Control Committee Lead Physician – Team Member
- Hospital Emergency Health Section Leader – Team Member
- Public Health Emergency Health Section Leader – Team Member
- Division of Environmental Health Staff – Team Member
- Behavioral Health Department Staff – Team Member
- Communicable Disease Control Head Nurse – Team Member
- BNH Laboratory Supervisor/Staff – Team Member (2)
- Community Health and Vaccination Program Coordinator – Team Member
- Pharmacy Supervisor – Team Member
- Community Advocacy Program – Supporting Team Member
- Director, Hospital and Clinical Services – Supporting Team Member
- Director, Bureau of Public Health – Supporting Team Member

The pandemic response plan was initiated as well as a number of surveillance activities:

- A screening form for all incoming travelers was developed and starting 1 May, any person arriving by plane in Palau with fever >100.0 F (37.8 C) and a cough, sore throat or runny nose was transported to the emergency room (ER) at BNH for treatment and testing.

- Screening at the outpatient and emergency departments (OPD/ED) was initiated on 7 May, with all symptomatic and febrile patients seen in the designated ILI (influenza-like illness) area outside the ER. The purpose of this screening was to ensure no person with the novel influenza virus would spread the disease to the other hospital patients.

- An enhanced surveillance questionnaire was developed to be filled in by the treating physician for all ILI cases to help determine the patient's risk of having acquired H1N1.
- The staff of all community health centres (CHCs) were informed of the situation and asked to notify

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the epidemiological staff any time they saw ILI patients in their practice.

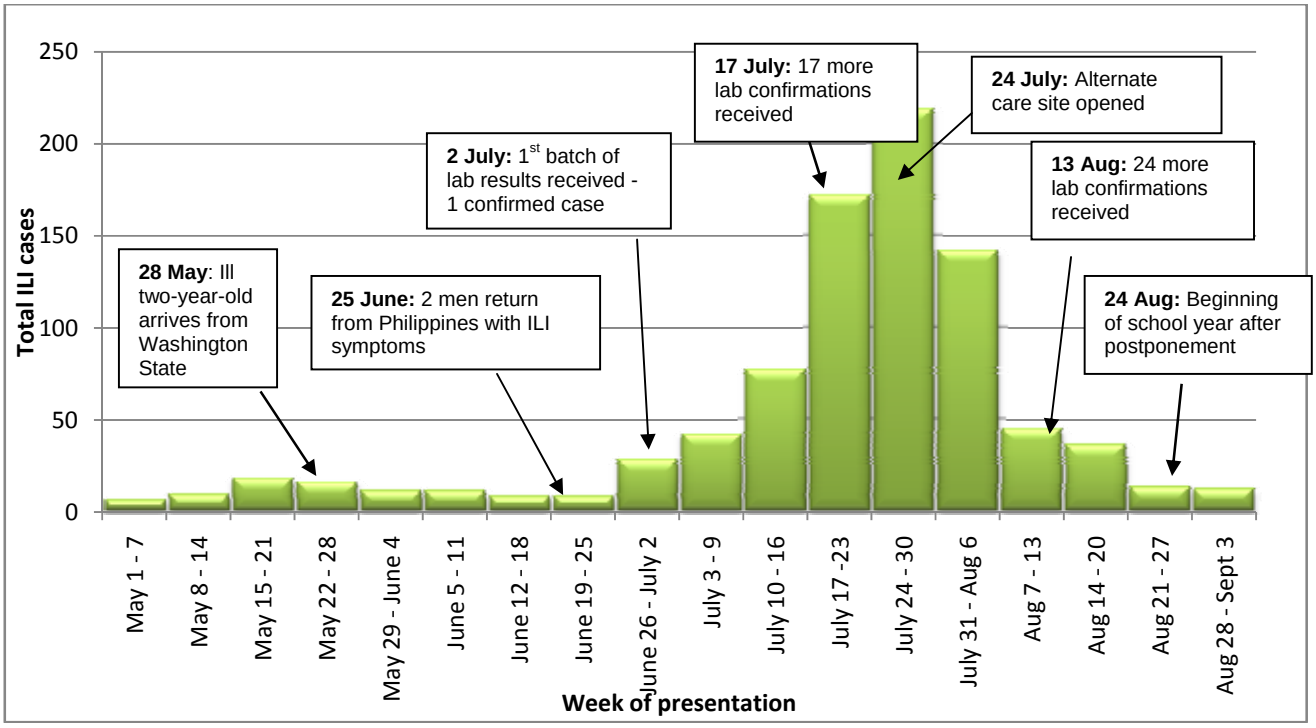
- The Department of Environmental Health began reporting the number of people arriving on sea vessels; they were also screened to make sure there had been no influenza on board.

- Active surveillance for influenza was initiated within the hospital. All encounter forms, screening forms, and laboratory requisitions were examined each day to look for patients with respiratory symptoms. When screening forms indicated symptomatic patients, their charts were pulled to see if they met the case definition.

- The H1N1 surveillance tool was designed to keep track of all ILI cases and pertinent related epidemiological information prior to case information being entered into the reportable disease surveillance system (RDSS).

Active surveillance continued throughout the month of May. Immunofluorescence Assay (IFA) microscopy was conducted on any nasopharyngeal samples suspicious for H1N1. This test distinguishes between influenza A and B samples. Any sample that tested positive for influenza A was held for H1N1 testing at the WHO Collaborating Centre in Melbourne, Australia.

Figure 1. Epidemic curve of ILI cases in Palau 1 May–3 Sept. 2009: N=873, as of 6 Oct.



Inform'ACTION n°31
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First case information

At the end of May, a family who had travelled from the US to visit relatives arrived in Palau. The two-year-old daughter was symptomatic and febrile upon arrival so, as per the predetermined protocol, she was transported to BNH. She was swabbed for influenza and sent home with instructions to be isolated. The sample was in the next batch of swabs sent to Melbourne for testing about a week later.

As many of the staff working in the Emergency Operations Centre (EOC) were also working in airport screening and in the ER when the child was seen, EOC was aware of this probable case prior to it being recorded in the epidemic line list. The case was discussed at the regular EOC meeting the following day. As it was considered a probable case of H1N1, the Bureau of Public Health followed up with the family. None of the girl's contacts became ill and she recovered without complications.

On 25 June, an adult Palauan male presented to the ER with flu-like symptoms. He reported arriving from a work trip to the Philippines the night before. At that time the Philippines was experiencing community spread of H1N1, so this case was strongly suspected to be H1N1. A colleague of the first man who arrived on the same flight was also exhibiting symptoms; however, he never sought medical care and was rumoured to have been in contact with multiple people in the community during the period he was symptomatic. Airport screening forms were used to track the passengers sitting two rows ahead and behind the infected individuals. No one else from the flight became ill in the seven days following exposure.

At this time, there were still sporadic cases of ILI in Palau; however, over the next week the number of ILI cases seen at BNH increased substantially and included a number of individuals who had been in contact with the men who had been in the Philippines. All patients presenting suspect cases were swabbed and samples were sent off-island for testing. Suspect cases were followed up by the Bureau of Public Health to make sure isolation procedures were being met and that the cases did not need further medical intervention.

Lab confirmations and community spread

On 2 July results were received from the first batch of samples sent off-island for testing, including the two-year-old from the US. The results showed that she was positive for H1N1. The results for the men from the Philippines and others around that time period were still pending at that time.

At the beginning of July the number of ILI cases increased dramatically, nearly doubling each week from the week before (Figures 1 and 2). Results for the next group of samples sent to Melbourne were received on 17 July and confirmed 12 more cases of H1N1, including the travelers from the Philippines (Figure 3). Several of the additional cases were epi-linked to the men who arrived from the Philippines; however, some could not be tracked back and thus it was determined that there was community spread of the disease. At this time the burden of disease was reaching a critical level and it was not possible to continue using the ER alone to see patients.

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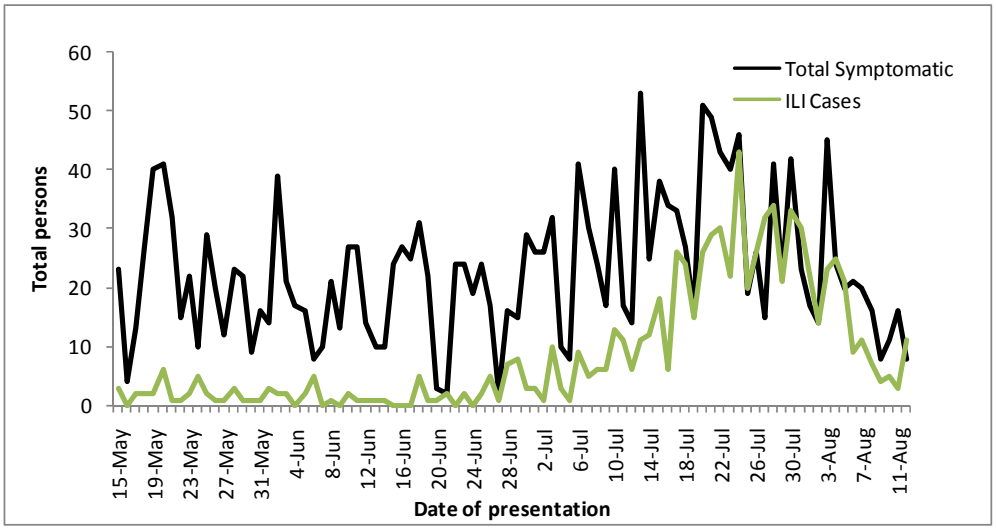
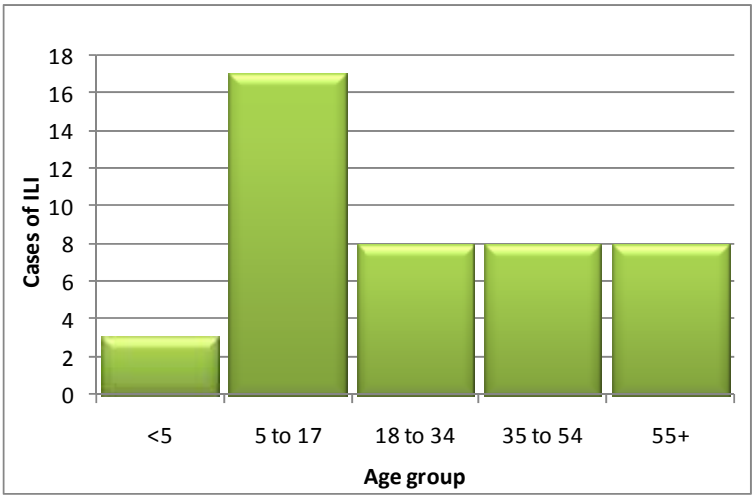
Figure 2. Number of persons with cough, sore throat and/or runny nose screened at BNH and total number of ILI cases seen in Palau by day



Most ILI cases were seen at BNH, until an alternate care site opened (see below). The screening was only at the hospital – so for a while the ILI cases were essentially a subgroup of the symptomatic (with an occasional case presenting at a CHC without being screened). Once the ACS opened this was no longer true.

Figure 3. Age distribution of confirmed H1N1 cases in Palau: N=44 (as of 8 September)



Inform'ACTION no 31
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Alternate care site

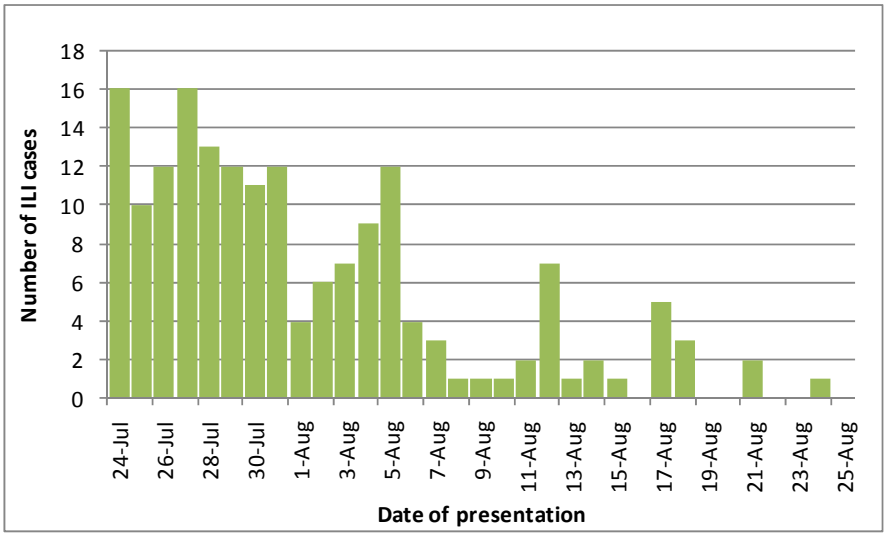
By the middle of July it was decided that there was little use in continuing airport screening, especially as all areas were stretched for human resources. This activity was halted on 23 July. An alternate care site (ACS) would be opened that would take the burden off of the ER staff by treating the majority of ILI cases on a daily basis. The screening at the hospital would also be staffed by non-clinicians (administrative staff etc.) rather than nurses to allow the nurses to do more clinical work.

The ACS opened on 24 July with the hours of 8:00 am to 4:00 pm, Monday through Friday. Patients self-referred to the ACS. At this time, an aggressive media campaign was underway that included print, radio and television spots providing information to the public regarding influenza and requesting that patients with mild disease go to the ACS instead of BNH. The site was located in the middle of downtown Koror in an old government building that was outfitted specifically for this purpose. On site were one doctor, two nurses and a medical records person. The capabilities of this site included the clinical diagnosis, treatment and observation of ILI patients. If laboratory tests were needed for diagnosis, patients were sent to the ER and BNH. All encounters and nursing notes were collected daily by the epidemiology staff for case counting purposes (Figure 4).

Since OPD at BNH is closed on weekends, the ACS was located there on Saturdays and Sundays to best utilise the available staff.

The ACS was closed on 4 September.

Figure 4. Number of ILI patients seen at ACS by day: N=177 (as of 8 September)



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Hospital admissions

Around the last week of July the number of patients requiring admission increased drastically and it seemed like the epidemiology of the disease was shifting. A greater proportion of the ILI cases were being seen in older individuals (Figures 5 and 6). The medical wards were quickly filled and all non-ILI cases were moved into other wards. All non-essential clinics were cancelled as of 11 August to free up medical personnel for serious cases. This cancellation lasted for two weeks, until the number of ILI cases began to decline.

Figure 5. Age breakdown of ILI cases by month: N=889 (as of 6 October)

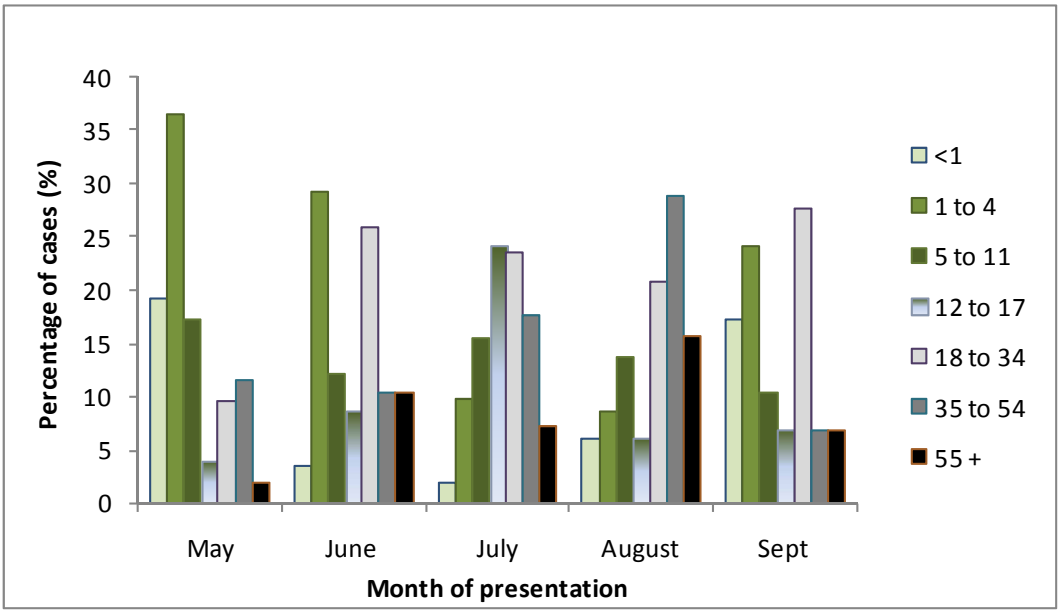

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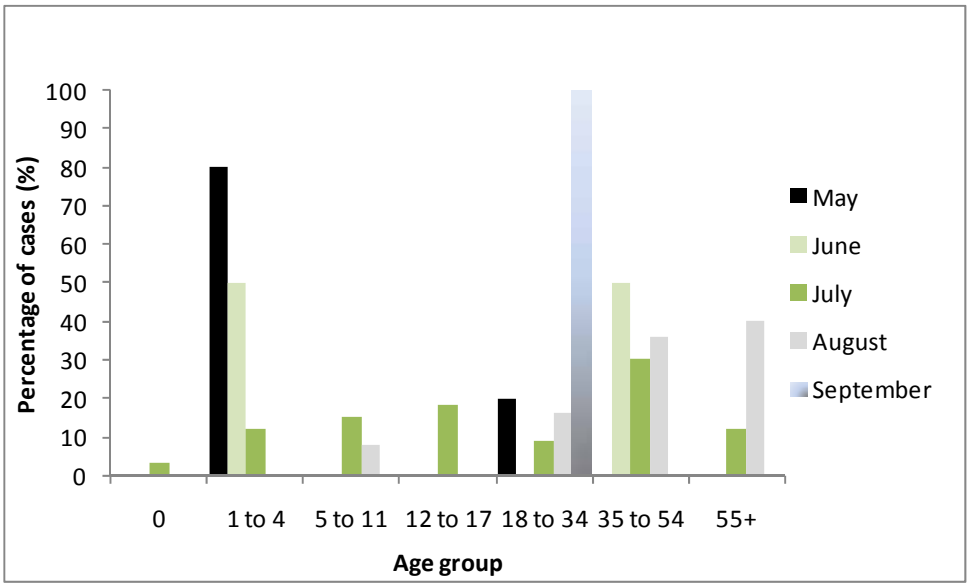
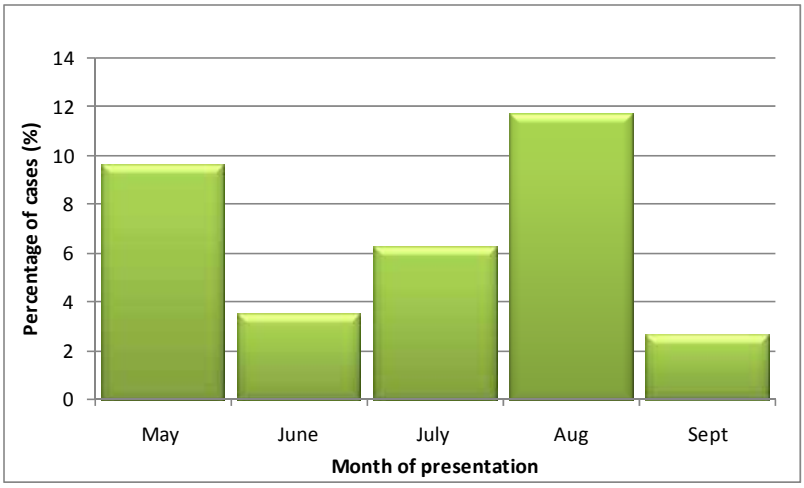
Figure 6. Age distribution of admitted ILI cases by month: N=67 (as of 6 October)



On 5 August, President Toribiong announced that due to the high level of disease in the community, the beginning of the school year would be postponed for two weeks. School was scheduled to begin on 10 August, but instead would start on 24 August. It was hoped that this would provide enough time for the outbreak to settle down and limit the number of potentially serious illnesses in school-aged children.

Figure 7. Percentage of total ILI cases admitted to hospital, by month: N=67 (as of 6 October)



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By September the overall number of ILI cases was decreasing (Figure 1); however, since most of the August admissions were in the last two weeks of the month, a large number of persons admitted for ILI at the end of August were still in the hospital during the early weeks of September (Figure 7.) As of 22 August, screening was moved from outside the OPD/ED to outside the medical wards. At the time of this report, there is no longer any screening taking place inside the hospital. The EOC and frontline staff remain at the ready for another surge in cases.

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