



# RDSS MONTHLY REPORT– Special Report

August 24<sup>th</sup>, 2009

## SURVEILLANCE SUMMARY

This is a special edition of the RDSS newsletter devoted to the recent Influenza A(H1N1) outbreak in Palau and worldwide.

### Influenza A(H1N1)

On April 24<sup>th</sup> 2009, the World Health Organization (WHO) issued a press release stating that cases of a novel influenza A virus (H1N1) which seemed to have originated from Swine had been found in the USA. At that time there had also been previous reports that Influenza like illness (ILI) activity was on the rise due to a novel strain of influenza in Mexico. The initial case counts in that country were alarming with 854 cases of pneumonia and 59 deaths in the capital alone. This was nearly a 7% case fatality rate. Laboratory confirmation revealed that 12 of the 18 cases sent for testing from Mexico matched the strain of disease seen in California.

By April 26<sup>th</sup> further cases of 'swine flu' had been confirmed across the US – New York, California, Texas, Kansas and Ohio all reporting cases. Nineteen of the 20 confirmed cases were mild illness and only one had to be hospitalized for a brief period.

By the end of April the situation was rapidly evolving. Cases had been reported in Mexico, the US, Canada, Germany, New Zealand, the United Kingdom, Netherlands, Switzerland, Israel and Spain. While the disease seemed to spread rapidly the case fatality rate remained low – except in Mexico where there had been 97 confirmed cases and seven deaths (7%).

On April 30<sup>th</sup>, 2009 an emergency Epi-net meeting was held at Belau National Hospital and it was decided that flu related activities would be organized within the Incident Command Structure (ICS) that had been recently activated. 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 May 1<sup>st</sup>, any person arriving by plane in Palau with a cough, sore throat or runny nose and fever >100.0F was transported to the ER for treatment and testing.
- Screening at the Outpatient and Emergency Departments (OPD/ED) was initiated on May 7<sup>th</sup> where all symptomatic and febrile patients were seen in the designated ILI area outside the ER.

The purpose of this screening was to ensure no person with the novel influenza virus would spread disease to the other hospital patients.

- An enhanced surveillance questionnaire was developed to be filled out by the treating physician for all ILI cases to help determine the patient's risk of having acquired H1N1.
- All Community Health Centers (CHCs) were informed of the situation and asked to notify 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. All screening forms indicating a symptomatic patient had their chart pulled to see if they met the case definition.
- The H1N1 surveillance tool was designed in order to keep track of all ILI cases and pertinent related epidemiological information prior to case information being entered into RDSS.

Active surveillance continued throughout the month of May. Immunofluorescence Assay (IFA) was conducted on any sample that was suspicious for H1N1. This test will distinguish between Influenza A and B samples. Any positive test for Influenza A was held to be sent for H1N1 testing at the Influenza collaboration centre in Melbourne, Australia.

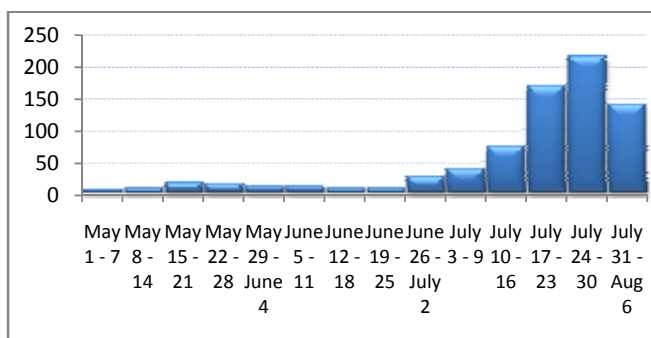
At the end of May, a family who had travelled from the US to visit relatives arrived in Palau. The two year old daughter was symptomatic and febrile upon arrival so was transported to BNH. She was swabbed for Influenza and sent home with instructions to be isolated. The sample was in the next batch of swabs sent to Melbourne for testing about a week later. The Emergency Operations Centre was aware of this case and as it was considered a probable case of H1N1 the family was followed up by Public Health. None of the girl's contacts became ill and she recovered without complications.

On June 25<sup>th</sup>, an adult Palauan male presented to the ER with flu-like symptoms. He reported arriving from a work trip in the Philippines the night before. At this time the Philippines was experiencing community spread H1N1, so this case was highly suspect to also 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 rumored 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 7 days from exposure.

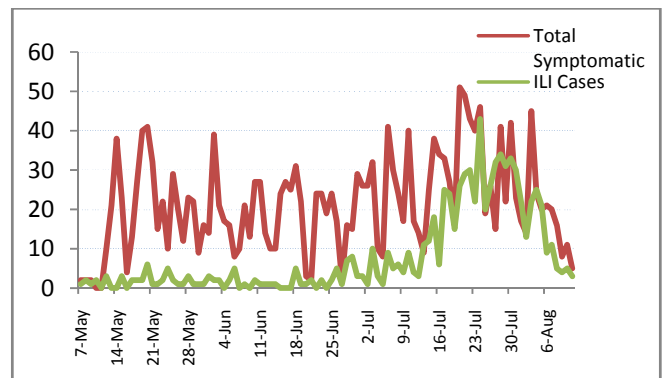
At this time, there were still sporadic cases of ILI in Palau however over the next week the number of ILI cases seen at BNH increased substantially and included a number of individuals who had been in contact with the men who had been in the Philippines. All suspect cases were swabbed and samples were sent off island for testing. Suspect cases were followed up by public health to make sure isolation procedures were being met and that the cases did not need further medical intervention. On July, 2<sup>nd</sup> results were received from the first batch of samples sent off island for testing, including the two year old from the US - she was positive for H1N1. The results for the men from PI and others around that time period were still pending at that point.

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

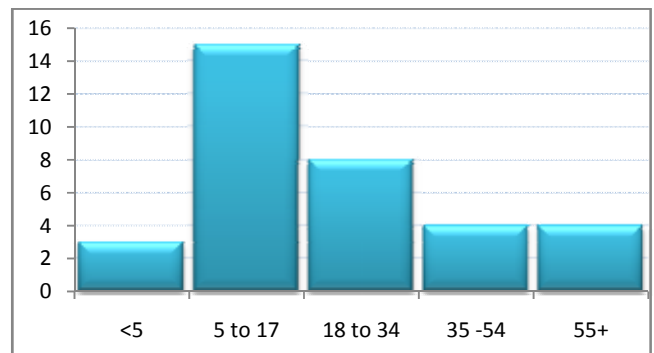
**Figure 1. Epi Curve of ILI Cases in Palau (May 1<sup>st</sup> – Aug 6<sup>th</sup> 2009)**



**Figure 2. Number of Persons Screened at BNH and Total Number of ILI Cases by Day**



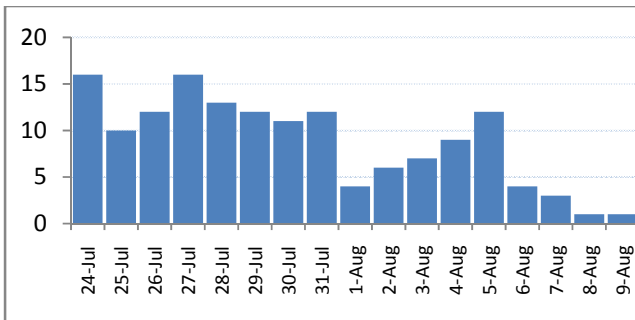
**Figure 3. Age Distribution of Confirmed H1N1 cases in Palau – N=37**



It was decided at this point there was little use to continue airport screening, and the manpower could be better utilized elsewhere. Also, an alternate care site (ACS) would be opened that would take the burden off the ER staff by treating the majority of ILI cases on a daily basis. The screening at the hospital would also go from being staffed by nurses to non-clinicians (administrative staff etc.) to allow the nurses to do more clinical work.

The alternate care site (ACS) opened on July 24<sup>th</sup> with the hours of 8:00 to 4:00, Monday through Friday. On-site would be one doctor, two nurses and a medical records person. All encounters and nursing notes would be collected daily by the epidemiology staff for case counting purposes (Figure 4). To date there has been no need for laboratory personnel to man the ACS; most cases presenting to the ACS are mild and on the sporadic occasion a person needed lab tests, they would be sent to the ER.

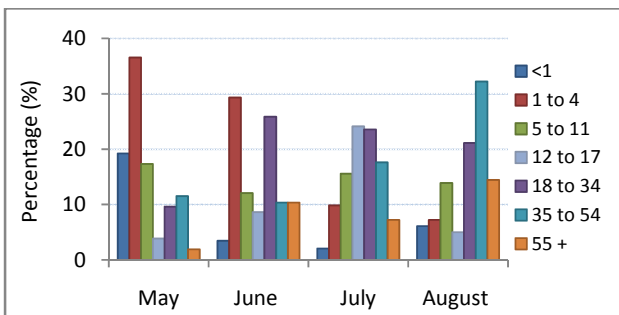
**Figure 4. Number of ILI Patients Seen at ACS by Day**



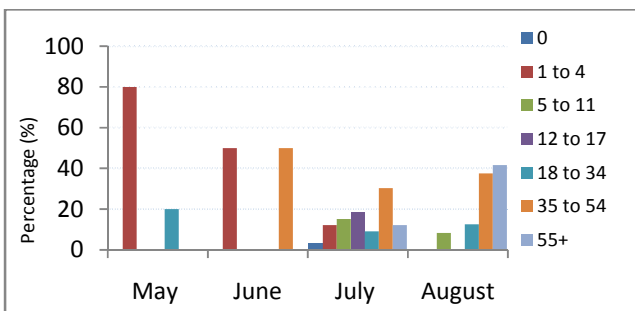
Since OPD at BNH is closed on the weekend, the ACS would be there on Saturdays and Sundays to best utilize the available staff.

Around the last week of July the number of patients requiring admission increased drastically and the epidemiology of the disease was shifting. A greater number of the ILI cases were being seen in older individuals (Figure 5/6). The medical wards were quickly filled and all non ILI cases were moved into other wards. All non-essential clinics were cancelled as of Aug 11<sup>th</sup> to free up medical personnel for serious cases.

**Figure 5. Age breakdown of ILI Cases by Month**



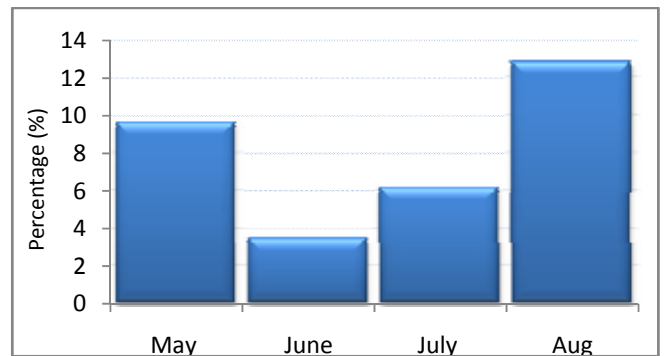
**Figure 6. Age Distribution of Admitted ILI Cases by Month**



On August 5, President Toribiong announced that due to the high level of disease in the community, the initiation of the school year would be postponed for 2 weeks. School was scheduled to begin on August 10<sup>th</sup>, but instead would start on August 24<sup>th</sup>. This would hopefully provide enough time for the outbreak to settle down and limit the number of potentially serious illnesses in school age children.

At present the overall number of ILI cases is decreasing (Figure 1), however the rate of admissions remains relatively high (Figure 7.) No changes to the ACS at this time, however as of August 22 screening was reduced to only outside the medical wards. The EOC and frontline staff remain at the ready for another surge in cases.

**Figure 7. Percentage of Total ILI Cases by Month Admitted to Hospital**



**Current international Situation**

As of Aug 21<sup>st</sup>, there have been over 180,000 cases of novel H1N1 worldwide including approximately 1800 deaths. Since the disease has become widespread, countries are no longer required to test every case so that number is likely much lower than the reality.

The Pandemic alert level still stands at level six and the WHO is bracing for the likely re-emergence of H1N1 when the typical influenza season hits the Northern Hemisphere in the fall. At this time the overall mortality rate is low (below 0.5%), however there seems to be a disproportionate number of severe cases in risk groups not normally affected by Influenza such as pregnant women and those with ailments often associated with obesity (i.e. diabetics). Vaccine manufactures have promised the release of an H1N1 vaccine in the near future and Palau will undertake an immunization program once the vaccine is available. For more information about Influenza A(H1N1) please go to: <http://www.who.int/csr/disease/swineflu/updates/en/index.html>

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