

Niue influenza pandemic exercise

On 13 November 2007 a functional testing exercise aimed at practising, evaluating and refining the Niue health sector's ability to respond to a pandemic influenza occurrence – which is one of the components of Niue's pandemic preparedness plan – was carried out.

The organisers of the exercise were the chairman and members of the Niue Pandemic Taskforce, Niue Ministry of Health (MOH), with technical assistance provided by SPC's Dr Seini Kupu, Human Health Specialist with the Pacific Regional Influenza Pandemic Preparedness Project (PRIPPP), and the New Zealand Ministry of Health (NZMOH) and the WHO office, Samoa. The exercise was funded through direct assistance from PRIPPP/SPC, with some logistics provided through NZMOH and working partners.

The specific objectives of the exercise were to:

- establish and operationalise a community-based assessment centre (CBAC) and provide assessment, treatment with Tamiflu and other medications, and/or reference to Niue Fo'ou Hospital, of patients with influenza-like illnesses during a one-day scenario;
- establish and assess the functional separation of Niue Fo'ou Hospital, including allocating separate staff to the flu ward and the non-flu ward, with no crossing over during their shifts, for the management of influenza cases (flu ward) and urgent non-influenza cases (emergency room, non-flu ward, other services); and
- assess the functioning of the Niue International Health Regulations (IHR) national focal point.

The exercise involved putting in place an operational environment and required the players to perform the range of tasks related to their emergency roles. They had to take action within tight time constraints.

Preparatory measures

A number of preparatory measures and tasks had to be carried out well before the exercise (days to months in advance). For instance, the hospital had to be physically divided into a flu ward and non-flu areas for continuation of emergency and selective non-emergency services. Tarpaulins were used to divide the areas as they are non-penetrable by viruses and easy to wash.



Infection control training and demonstration

Two days before the exercise, members of the CBAC team were trained in infection procedures: alcohol-based hand rub, hand washing, and donning and removing personal protective equipment (PPE).



Ms Bobbie Hutton (NZ infection control specialist) conducts infection control training.



Health-care staff demonstrate the application of alcohol-based hand rub.



Health-care workers practise donning and removing PPE.



Dr Seini Kupu (SPC) briefs actors on the CBAC/hospital scenario.

Tasks for the day – 13 November 2007

Implementation of the exercise was preceded by certain 'fictional' events that provided a background or lead-in scenario (see box below). The scenario required personnel from Niue Fo'ou Hospital to set up and run a CBAC to manage influenza cases and ensure they were kept separate from non-flu patients. Tasks included:

- staffing the assessment centre;
- assessing and treating symptomatic and non-symptomatic members of the community who visited CBAC;
- managing the distribution of medicine and other medical supplies sourced from the hospital but stored at and distributed from CBAC;
- transferring very ill flu patients to the flu ward at the hospital;
- providing normal medical care for urgent non-flu cases;
- keeping the public informed about the pandemic and the arrangements in place to control it;
- risk communication;
- the IHR focal point communicating with other IHR focal points in the Pacific and other organisations (including WHO and SPC); and
- coordinating the flow of information between CBAC and Niue Fo'ou Hospital.

The scenario

Lead-in events:

- The New Zealand IHR national focal point advised WHO and Niue three weeks ago (on 25 October 2007) that confirmed cases of pandemic influenza had been found in a number of locations in NZ and that some of these cases had not had any recent travel to affected areas, and confirmed that local transmission was occurring.
- The Niue Government decided to stop all incoming air passengers immediately after receiving the notification from NZ (25 October). However, a full plane had arrived the day before. Though the pilot and crew of that flight did not report any sick passengers, and no one has been in isolation or placed in quarantine, there are now increasing concerns leading to some degree of panic among Niue Cabinet members as well as staff from the health sector and other relevant authorities.
- During the last three days there have been reports from five villages of people with influenza-like illnesses of a mild nature. Cases have so far been cared for by their families at home.
- The 'long night' ends on 13 November when the Niue pandemic exercise starts.

Health sector response exercise

- 7:05 a.m. The nurse on the night shift at the hospital receives a call from a family to say that they are bringing in a 30-year-old man who has been sick with the flu for a day but has deteriorated fast and is now experiencing difficulty breathing. He was one of the passengers on the last flight from Auckland before the border was closed.
- The nurse provides instruction and directions on what to do and where to bring the patient (contact tracing was simulated only and had been ongoing).



- 7:10 a.m. The Director of Health is informed. She calls her core response team members to a meeting by 7:30 a.m.



- 8:00 a.m. All staff are briefed in the hospital lobby, with instructions given and individual responsibilities mapped out.



- 9:00 a.m. The CBAC team prepare to leave the hospital.



- The team make sure they have all the necessary equipment to set up and operationalise the CBAC site.



- At the same time, the police team that has been tasked to ensure the security of the area is briefed and given a PPE demonstration.



- Directions to the CBAC facility are clearly marked with route signs, in both English and the local language. There are also clear directions around and inside the facility.



- The clerk/administrator at CBAC (behind a transparent plastic screen) has the role of documenting patients' details and giving out surgical masks and instructions on how to put the masks on. If she needs to communicate with the doctors or nurses, it is by phone or physically through a connecting door.



- Dr Seini Kupu, lead evaluator of the exercise, in the CBAC waiting room.



- Drug supplies and PPE are in the triage room at CBAC.



- The activity tray and oxygen cylinders are in the CBAC triage room.



- The CBAC team put on PPE. The hospital has to staff CBAC with one nurse (or a doctor, if possible), one clerk or administrative assistant, and one driver.



- The staff check the materials carefully (forms, telephone, walkie-talkie, etc.) before looking after patients.



- The first patients are registered and wait for their consultations.



- On arrival at CBAC the patients are provided with surgical masks and directed how to put them on. They also receive information leaflets.



- The CBAC nurse screens a patient in the triage room. In all, the team assesses around 12 symptomatic and non-symptomatic members of the community.



- The CBAC nurse prescribes Tamiflu to a symptomatic patient (in line with standing orders issued by a doctor and the criteria for offering Tamiflu).



- The CBAC team identifies a number of patients seriously ill with influenza. These patients are transferred to Niue Fo'ou Hospital.



- Observers from the taskforce (from the Niue Ministry of Community Affairs, church, community and Broadcasting Corporation Niue) were invited to observe the exercise to support the pandemic education campaign to increase public awareness of pandemic influenza and the use of CBAC as an alternative health-care facility.



- A CBAC member calls the ambulance to request a transfer to Falegagao Fulu (the influenza ward) at Niue Fo'ou Hospital.



- The patient is given oxygen from a cylinder. Two cylinders were provided for CBAC use only.



- The transport of serious cases from CBAC to the hospital was a key performance of the exercise.



- The ambulance goes through the police control point.



- Direction signs to the hospital's flu ward are clearly marked.



- The hospital's flu ward. Hospital staff had to manage the admittance of serious influenza cases while separate health-care workers in the non-flu ward continued to provide urgent non-flu patient care.



- A patient is installed in the flu ward.



- 'Hot' debriefing at CBAC.



- Final debriefing in the hospital's main lobby with the whole exercise team.

[NOTE: There were other activities that were only simulated in this exercise but will be properly tested in later planned exercises. They include communication with the National Disaster Council (NDC), media communication and information management, contact tracing of other passengers who were on the flight from New Zealand, and school and workplace closures.]

General evaluation and future directions

Based on the results from the evaluators' assessment forms, it was concluded that the Niue health sector is about 90 per cent prepared to respond to a pandemic influenza event affecting Niue. Also, risk communication was excellent even though there were specific areas that needed improvement, for example:

- communication between CBAC and the hospital through proper set-up of an 'Incident Room';
- how to communicate with the media during the period; and
- IHR national focal point communication needed more clarity in its operation.

The exercise did not take into account the fact that up to 40 per cent of the hospital staff may be affected by the pandemic and absent from work; this factor may need to be considered and assessed at some stage in future exercises.

All in all, the exercise was very successful. A tabletop exercise is to be organised with the NDC and other relevant stakeholders and implemented around February/March 2008, to test the coordination of national response to a pandemic influenza event. Other components of the Niue pandemic influenza preparedness plan, including border surveillance and control, school closures and animal health (avian flu exercise scenario), are planned to be assessed either through a drill or a functional exercise towards the middle of 2008.

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