

This article is an early release of information from Inform'ACTION No. 31, which will be published very soon.

## Influenza treatment centres in New Caledonia

### Background

New Caledonia has just experienced its first pandemic wave of the new A/H1N1 virus. In late April 2009, New Caledonia health authorities set up a 'health crisis' operations unit, which met weekly. In May 2009, PCR viral testing became operational at the Pasteur Institute in New Caledonia, enabling confirmation of the first case of pandemic flu on 25 June 2009. Until mid-July, nasopharyngeal samples were taken from all suspected cases. Up to that date, all confirmed cases were imported, mainly from Australia and New Zealand. Local transmission of the virus was then identified. As at 15 September 2009, of the 1093 samples taken, 502 cases were confirmed using PCR in New Caledonia. However, other data, from medical consultations, antiviral prescriptions and school absenteeism, indicate that the number of cases of influenza-like illness (ILI) was between 40,000 and 45,000 cases, i.e. 16 to 18% of the population.

### Influenza treatment centres (ITC)

The pandemic influenza preparedness plan was designed to slow down transmission of the virus so as to avoid overloading health facilities and disrupting the national economy.

Plan measures included DASS NC (New Caledonia Department of Health and Social Affairs) opening special influenza treatment centres (ITC) in the townships of the greater Noumea area so as to:

- avoid transmission of the virus in private doctors' waiting rooms from flu sufferers to non-sufferers (who could have chronic illnesses that are flu risk factors),
- protect hospitals and prevent emergency wards from becoming overwhelmed,
- provide standardised care to patients,
- play a part in the influenza sentinel network (consultations and samples),
- provide epidemiological data.

When patients arrived at the ITC, they had to go through four successive stages (box 1). If they did not meet the case definition, they were redirected to their family doctors. Materials such as surgical masks and antiviral treatment were provided on site.

In principle, the ITC fact sheet (attached) sets out the rules for identifying patients who have the flu and those who do not (box 2) and includes collection of epidemiological data.

#### Box 1: ITC

- **Post 1:** reception, put on masks, triage (case definition), symptoms
- **Post 2:** administrative information, social assessment (ability to remain at home)
- **Post 3:** medical check-up (diagnosis, risk factors, serious symptoms or complications, antiviral treatment, sick leave for work or school to allow patient to remain in isolation at home)
- **Post 4:** education (hygiene, taking the treatment), masks, samples, if necessary

#### Box 2: Case definition of influenza-like illness in New Caledonia

##### Sudden onset

and

at least **3 of the following symptoms**

- temperature  $\geq 37.8^{\circ}\text{C}$
- muscle aches
- rhinitis
- cough
- dyspnoea



# Inform'ACTION<sup>no 31</sup>

ISSN 1120-3896

Information for action / Information pour action

This article is an early release of information from Inform'ACTION No. 31, which will be published very soon.



(Photos: SPC)

Posts 1, 2 and 4 were operated by nursing students (seconded) or registered nurses (RNs), sometimes assisted by a secretary seconded from the Mayor's Office. Physicians operated Post 3, e.g. private locums, SOS doctors, emergency ward doctors. A manager from the Social and Health Professions Training Institute (seconded) supervised the ITC. A social worker could be contacted by phone if necessary. A total of 100 people (10 RN managers, 14 RNs, 59 student nurses, 2 secretaries and 15 doctors) worked at the ITCs.

The municipal police were responsible for the security of the site during the day and guards took over after hours. The site was cleaned by a municipal agent and a private company. A DASS NC agent managed stocks of materials and antivirals. Doctors from the DASS NC Health Monitoring Unit could be contacted for advice on organisational matters.

The Health Action Unit provided the teams with equipment and materials for:

- protection (gowns, gloves, FFP2 masks, goggles),
- hygiene (alcohol-based hand rub, surface disinfectant),
- diagnosis (blood pressure cuffs, thermometers, stethoscopes, pulse timers, otoscopes, consumables, etc.),
- antivirals,
- files, prescription sheets, forms (work and school sick-leave certificates, etc.),
- materials for samples, storage (fridge) and transport (bio-bottle),
- cell phone,
- electricity (equipment provided by PIROPS - French Red Cross),
- water and toilets (located nearby),
- a canopy in front of the ITC for protection against bad weather.



Inform'ACTION is the bulletin of the Pacific Public Health Surveillance Network (PPHSN) produced by the Secretariat of the Pacific Community (SPC) – © Copyright SPC, 2009



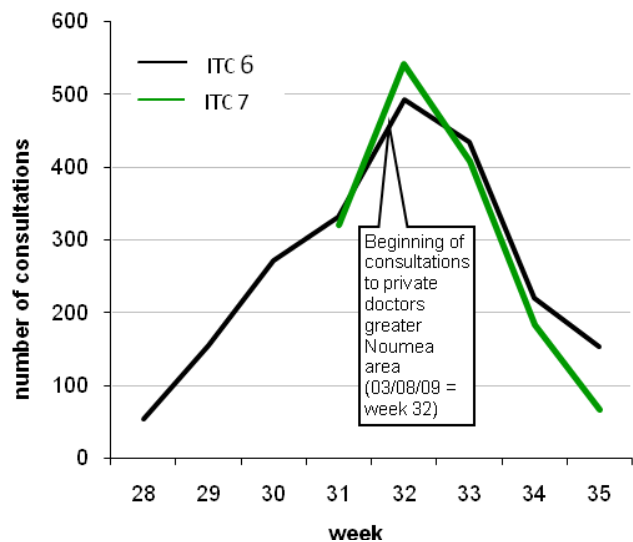
This article is an early release of information from Inform'ACTION No. 31, which will be published very soon.

## Results

Initially, the first ITCs were supposed to be set up in tents in front of Noumea's two hospital emergency wards so as to protect the hospitals and identify community transmission of the virus. The first ITC opened in the parking lot in front of Gaston Bourret Hospital (ITC 6) on 10 July 2009 and the second in the parking lot in front of Magenta Hospital (ITC 7) on 28 July to handle the overload of activity at ITC 6.

The plan was to open nine more ITCs in zones with 10 to 20,000 inhabitants in the townships of the greater Noumea area (4 townships, 64 % of New Caledonia's population), in enclosed sites (sports halls, schools). However, as a result of the pandemic's moderate level of severity at this stage, the authorities did not open any other centres. Given this situation, consultations to private doctors by patients with flu symptoms began on 3 August (week 32) when the capacity of the two ITCs became overstretched (70 to 80 consultations per day), even though their operating hours were extended from 8 to 10 hours

Number of consultations for ILI by week and ITC in Noumea



Consultations (CS) and Influenza-like illness (ILI) at ITCs (preliminary data)

Week	ITC 6		ITC 7		Total ITC	
	CS	ILI	CS	ILI	CS	ILI
28	81	53	-	-	81	53
29	285	154	-	-	285	154
30	348	270	-	-	348	270
31	439	331	390	321	829	652
32	535	492	569	541	1 104	1 033
33	461	434	441	407	902	841
34	232	219	202	184	434	403
35	159	153	77	67	236	220
Total	2 540	2 106	1 679	1 520	4 219	3 626

per day.

The rapid decrease in the number of consultations to the ITCs in Week 35 led to their closing on 31 August. In all, 4219 consultations were made to the two ITCs over 8 weeks, some 3626 (86 %) of which corresponded to the case definition for influenza-like illness.

This article is an early release of information from Inform'ACTION No. 31, which will be published very soon.

## Assessment

A debriefing with partners on 15 August 2009 allowed us to identify the ITCs' strong points and problem areas, as summarised in the table below.

Strong points	Problem areas
<ul style="list-style-type: none"> <li>• Standardised and complete care for patients (diagnosis, identification of severe forms, treatment, education, social assessment, instructions about isolation at home)</li> <li>• Materials available on site (masks, antivirals, information pamphlets)</li> <li>• A single entrance at the beginning, easy for patients to find</li> <li>• Free</li> <li>• Efficient triage</li> <li>• Relative protection of the hospital</li> <li>• Emergency wards were not overwhelmed</li> <li>• Only one staff member contaminated with the flu virus out of the 100 staff who worked there</li> <li>• The principle of pre-emergency ward triage was adopted by the hospitals in the North and most clinics of the territory (tents)</li> </ul>	<ul style="list-style-type: none"> <li>• Fairly brief and rapid training of staff (one meeting but not everyone took part)</li> <li>• Rapid saturation</li> <li>• No other ITCs were opened</li> <li>• Long waits at the peak of visits</li> <li>• Directing the flow at the entrance</li> <li>• Uneven numbers of patients going through, depending how quickly care was given (differed depending on the practitioner)</li> <li>• No social workers on site</li> <li>• Complicated logistics</li> <li>• Other treatments not available on site, e.g. antipyretics, antibiotics</li> <li>• Very hot inside the tents</li> <li>• Too much media pressure (when the national press arrived)</li> <li>• Costs, e.g. for equipment and salaries of those who were not volunteers</li> </ul>

## Conclusion

The two ITCs in Noumea were not big enough to meet the need for consultations in the greater Noumea area, which led, in Week 32, to opening care for flu patients to private doctors in this zone, in spite of the risks of transmission of the virus in their waiting rooms.

However, over a period of 8 weeks, the ITCs in Noumea demonstrated their usefulness. They made it possible to avoid overloading the hospital's emergency wards, while at the same time ensuring efficient triage of flu sufferers and non-flu sufferers and providing standardised care for patients. Their location near hospital emergency wards facilitated transfer of patients with serious symptoms. The ITCs also made it possible to rapidly detect the beginning of community transmission of the pandemic flu virus and to collect data on patients with flu.

### Dr Martine Noel

Health Action Unit

New Caledonia Health and Social Affairs Department

Contact: [martine.noel@gouv.nc](mailto:martine.noel@gouv.nc)





### ITC fact sheet

**Post 1: Triage and 1st part**

Name of person performing triage \_\_\_\_\_

Patient's surname \_\_\_\_\_

Patient's first name(s) \_\_\_\_\_

Date of birth \_\_\_\_\_ Sex \_\_\_\_\_

Date \_\_\_\_\_ 2 | 0 | 0 | 9 Time: \_\_\_\_\_

**CRITERIA FOR ADMISSION TO ITC**

Date 1st symptom \_\_\_\_\_

Time since 1st symptom < 7 days	Yes <input type="checkbox"/> No <input type="checkbox"/>	if > 7 days ► redirect
and Sudden onset	Yes <input type="checkbox"/> No <input type="checkbox"/>	if not ► redirect
and At least 3 of the following symptoms	Yes <input type="checkbox"/> No <input type="checkbox"/>	if not ► redirect
• Temperature ≥ 37.8° (or) Fever felt but not measured	Yes <input type="checkbox"/> No <input type="checkbox"/>	(redirect = to family doctor)
• Runny nose	Yes <input type="checkbox"/> No <input type="checkbox"/>	
• Muscle aches	Yes <input type="checkbox"/> No <input type="checkbox"/>	
• Cough	Yes <input type="checkbox"/> No <input type="checkbox"/>	
• Shortness of breath	Yes <input type="checkbox"/> No <input type="checkbox"/>	

(\*~ if short of breath ► always have patient see the doctor)

If the criteria are NOT met ► STOP (redirect)

If the criteria are met ► continue below

**Other symptoms :**

Chills	Yes <input type="checkbox"/> No <input type="checkbox"/>
Sore throat	Yes <input type="checkbox"/> No <input type="checkbox"/>
Headache	Yes <input type="checkbox"/> No <input type="checkbox"/>
Sneezing	Yes <input type="checkbox"/> No <input type="checkbox"/>
Conjunctivitis	Yes <input type="checkbox"/> No <input type="checkbox"/>
Diarrhoea	Yes <input type="checkbox"/> No <input type="checkbox"/>
Vomiting	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other	_____

**Vital signs**

T° taken at the centre: \_\_\_\_\_  
has taken an antipyretic within the last 4 hours  
Yes  No

Blood pressure: / \_\_\_\_\_

Pulse rate: \_\_\_\_\_

Respiratory rate: \_\_\_\_\_

SpO2 : \_\_\_\_\_

Weight: \_\_\_\_\_ Height: \_\_\_\_\_

Prior consultation for this problem No  Yes  date: \_\_\_\_\_ place \_\_\_\_\_

**Identify exposure to risk**

**1 / Travel** No  Yes  If yes: Date returned to NC \_\_\_\_\_

List of countries visited 1 \_\_\_\_\_  
2 \_\_\_\_\_  
3 \_\_\_\_\_

Other countries \_\_\_\_\_

**2 / Contact with one or more suspected cases of influenza** (conversation at less than 2 meters, physical contact, shared dwelling, etc.) No  Yes

Is the suspected case a traveller with the flu coming back from a country at risk No  Yes

Single exposure No  Yes

If so: Name of suspected case \_\_\_\_\_

Repeated exposure No  Yes  If so:

Health professional No  Yes  where?: \_\_\_\_\_

Teacher No  Yes  where?: \_\_\_\_\_

Other: \_\_\_\_\_

**3 / Other exposure** No  Yes  If so: details \_\_\_\_\_

Comments: \_\_\_\_\_

**Post 2: Administrative information and social questionnaire**

Name of person recording this information: \_\_\_\_\_

**PATIENT NUM** \_\_\_\_\_ 0 9  
centre D D M M Y Y Patient Num for the day

Exact address \_\_\_\_\_

Township of residence \_\_\_\_\_ Township code \_\_\_\_\_

Phone contact(s) \_\_\_\_\_

Home \_\_\_\_\_ Cell phone \_\_\_\_\_ Work \_\_\_\_\_

Family \_\_\_\_\_ Friends \_\_\_\_\_ Other \_\_\_\_\_

Profession: \_\_\_\_\_

Work address: \_\_\_\_\_

Family doctor (name, address, phone): \_\_\_\_\_

Social questionnaire: ability to remain at home No  Yes

**Post 3: Doctor:**

Name of doctor: \_\_\_\_\_

ITC DOCTOR Yes  No  If not, where: \_\_\_\_\_

**Influenza tests** only if T° > 38° C (without antipyretics over the last 4h)

No  Yes  Date: \_\_\_\_\_

Type of test PCR  Culture  Serology  Other \_\_\_\_\_

Samples Naso-pharyngeal  Blood  Other

RESULTS Positive  Negative

**Medical history**

Cancer No  Yes

Diabetes No  Yes

Immunodeficiency No  Yes

Chronic heart disease No  Yes

Chronic respiratory disease No  Yes

Pregant No  Yes  T1  T2  T3

Morbid Obesity (BMI>30: Cf gauge) No  Yes

Other No  Yes

Group at risk for complications (Cf list)? No  Yes  Follow-up arranged

Vaccinated for seasonal flu in the past twelve months? No  Yes

**Conclusions** (Cf. case definition) Influenza: Possible case  Case excluded

If not, other diagnosis: \_\_\_\_\_

If so: Time since 1st symptom < 48 h  > 48 h

antiviral treatment prescribed No  Yes  Doses: \_\_\_\_\_

Number of days of sick leave from work or school prescribed \_\_\_\_\_ Length: \_\_\_\_\_

Adverse side effects of antivirals observed (cf. sheet) No  Yes

**Serious symptoms observed** No  Yes

Symptoms 1 \_\_\_\_\_ Date: \_\_\_\_\_

2 \_\_\_\_\_ Date: \_\_\_\_\_

3 \_\_\_\_\_ Date: \_\_\_\_\_

List of serious symptoms that should lead to hospitalisation (arrange with emergency medical care centre)

**Adult:**  
Altered consciousness  
SBP < 90 mmHg, RR > 30/mn, Pulse > 120/mn  
T° < 35°C or ≥ 40°C (in spite of antipyretics)  
SpO2 < 95 %

**Child:**  
Difficulties eating in Infant < 6 months (< 50 % bottles over 12 h)  
Poor tolerance fever in spite treatment  
Acute dehydration, altered consciousness  
respiratory distress, apnoea, age < 3 months  
Premature baby

**Other treatments prescribed:**

**Medical supervision:**

Hospitalisation Yes  No  If so date of admission \_\_\_\_\_

Date of release \_\_\_\_\_

Comments: \_\_\_\_\_

**Outcome**

Completely recovered Yes  No  If so, date \_\_\_\_\_

Death Yes  No  Initial cause: \_\_\_\_\_

If so, date: \_\_\_\_\_

Comments: \_\_\_\_\_