

**Hepatitis A in New Caledonia – Summary report
(06 December 2005)**

Alert

In late April 2005, the New Caledonia Pasteur Institute alerted the DASS-NC (New Caledonia Health and Social Affairs Office) Health Activities Department of an unusually high number of Hepatitis A positive serum tests since the beginning of the year as compared to previous years.

First epidemiological study(May 2005)

A first investigation was conducted following this alert. All the clinical laboratories were contacted in order to establish the exact number of positive serum tests and relevant patient characteristics.

This initial assessment in May identified some 36 cases with positive IgM (since 1 January 2005), mainly recorded over the municipalities of Dumbéa, Mont-Dore, Noumea, Lifou and Païta.

A first survey of patients and attending physicians revealed some other secondary cases, attached to the index cases, thereby bringing the total number of cases to 42. These cases mainly involved young people (under the age of 10 in almost half of the cases and under 15 in 80 % of the cases).

The results of the investigation showed that while no common source existed for all the cases, some were clustered geographically or by family.

- In Païta (N'De tribe): The medical centre doctor was informed, so as to continue the investigation if necessary and arrange information sessions on hygiene.
- In Mont-Dore (la Coulée): The families affected had neither running water nor sanitation in their homes at the time of the outbreak and said they washed in the river and ate shellfish collected along the seashore. The medical centre doctor was contacted and information was provided to the families. The mayor of the municipality was advised of the situation by the sanitation officer, who offered to assist by taking water samples. No response has so far been received to this offer.
- In Dumbéa: Most of the cases lived at the Koutio squatter settlement. Apart from the lack of sanitation (drinking water comes from a common standpipe), some people here also consumed cooked shellfish they had gathered themselves.
- In Nouméa: the cases investigated were isolated ones. The index cases were not found and no specific factor was identified. These cases were older than those in the other municipalities.
- On Lifou: the first cases were reported in the area of Wé (Hapétra and Hmeleck). The dispensary doctor contacted sent a nurse to carry out the investigation and reported poor hygiene in these families and possible infection at school during the class tooth-brushing session (use of the same cups or toothbrushes). This report was sent to the coordinating medical officer.

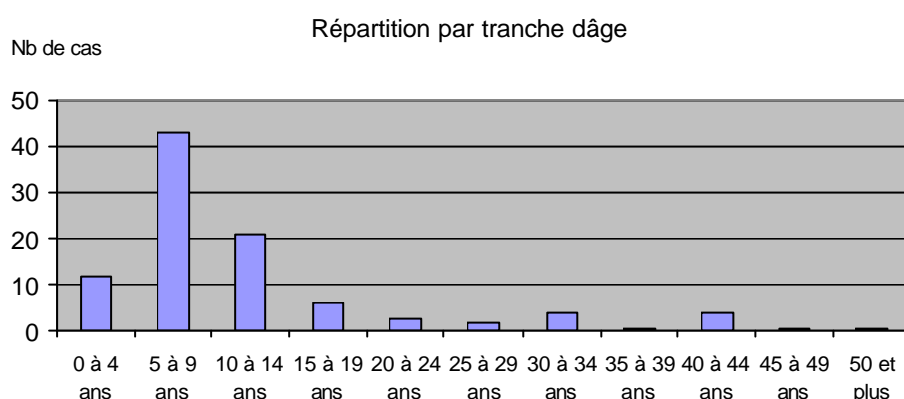
Second epidemiological report as at 17/08/05

103 cases of Hepatitis A had been reported by 17 August 2005, i.e. 61 cases more than in the first report in May. These new cases were reported in July and came from Lifou and Noumea, raising the

incidence rate to 4.7 cases per 10,000 inhabitants. This figure was certainly lower than the actual rate given that with Hepatitis A the percentage of unreported cases is significant – due to a high percentage of anicteric forms (estimated at 90% according to the authors).

Age group distribution revealed that the outbreak was affecting young children with 78 % of children under the age of 15 (56.1 % were in the 5 to 9 age group), thereby giving an incidence rate in the under 15 age group of 12.4 per 10 000, i.e. nearly nine (9) times the incidence rate for people over the age of 15. It should be noted that the adults involved most often resided in the township of Numea.

Hepatitis A: distribution by age group as at 17/08/05

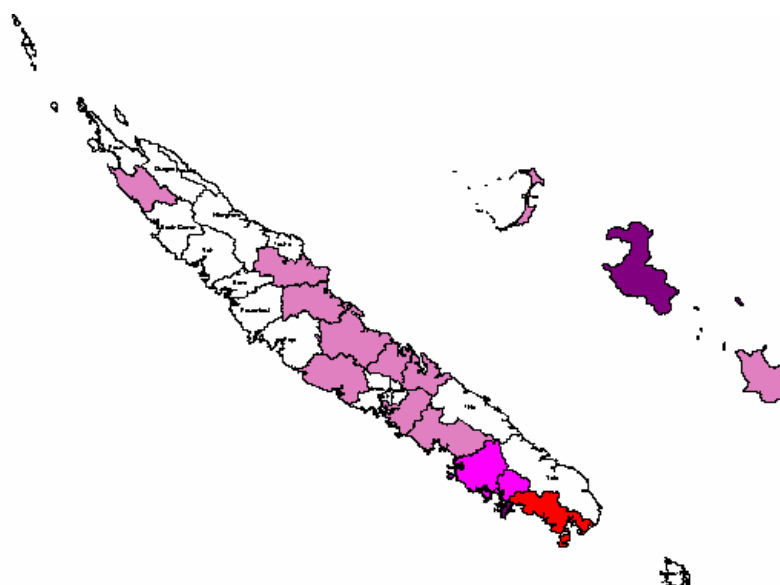


Distribution of reported cases by municipality confirmed that the municipality of Lifou (more than half the cases) and Noumea were those most affected.

Distribution of cases by municipality(17/08/05)

Légende :

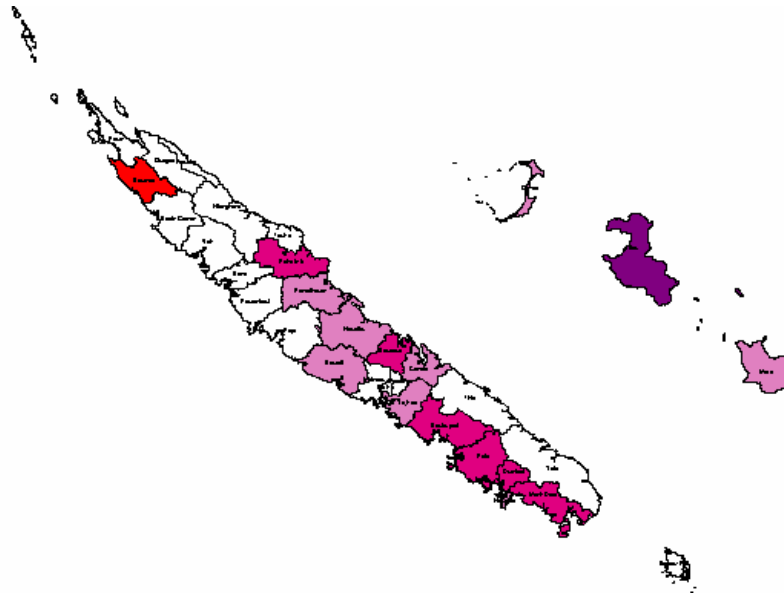
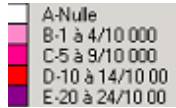
- A-Aucun
- B-1 à 4
- C-5 à 9
- D-10 à 14
- E-25 à 29



However the number of cases by population showed that the incidence rate was clearly higher in the municipality of Lifou (24.5 per 10 000).

Incidence by municipality (17/08/05)

Légende :



In that municipality, the period of festive custom gatherings (weddings, yam season), which favours exchanges between tribal areas, could explain in part the geographic spread of cases over the entire island. Surveillance measures were strengthened following this observation and two technicians from DASS-NC's Environmental Health Unit visited Lifou. This visit, which took place in August, led to the conclusion that the origin of the transmission was mainly hand-borne due to deficiencies in hygiene (no hand-washing, no soap), both within families and at the schools, and even a lack of sanitation in certain tribal areas.

In all, the epidemiological situation observed at that time, characterised by an unusual increase in the number of viral Hepatitis A cases compared to the previous five years, demonstrated high-levels of semi-endemic transmission of the virus in New Caledonia with:

- on the one hand, transmission in the form of a community outbreak developing over a period of several weeks and mainly affecting children under 15 in communities at risk (lack of private or community sanitation) in which most of the adults were already immune (Lifou, Païta, La Coulée);
- on the other hand, sporadic transmission involving more frequently those adults who had probably been protected during childhood by their lifestyles and who were now exposed at an older age during a period in which the virus was circulating more freely.

Strengthening surveillance

After strengthening surveillance measures, particularly at the various clinical laboratories, the latter submitted, to the best of their technical capacities, a retrospective list of the cases diagnosed since May, which made it possible to update the epidemiological data: 311 reported cases (2/3 in the under 15 age group) throughout the country as at 24/08/05, with an initial peak in early May and another in early August and certain municipalities more affected than others.

Role of healthcare professionals

It was at this point in time that it was deemed vital to provide wider information coverage to healthcare professionals. In fact, only those doctors contacted during the investigations or the visit to Lifou were fully aware of the problem.

Information about the epidemiological situation, which explained in detail the main recommendations to be given to parents, was sent to both public and private doctors, by e-mail or fax or through their supervising agencies, asking that they report any new cases diagnosed.

This awareness campaign for medical personnel in New Caledonia, which was carried out on an emergency basis, was designed to improve surveillance measures, and, by highlighting with patients the hygiene measures to be taken, make it possible to control inter-individual transmission of this disease.

Attending physicians, who are a vital link in surveillance and alert in the event of unusual phenomena, have an important role, as often they are the ones who may have observed the first in a larger-than-normal group of cases. Their role is, then, to inform the Health Activities Department early enough to ensure they can properly carry out their investigations and implement control measures.

Laboratory technicians are also an important link in the system as they receive the requests for serum tests prescribed by different doctors and can have a wider and earlier overview of the scope of the outbreak. Informing the Health Activities Department of unusually high numbers of viral Hepatitis A serum tests can also make it possible to begin epidemiological investigations, follow the evolution of the outbreak and assess the effectiveness of the health actions implemented.

Public health measures

Given the epidemiological situation, it seemed essential to:

- continue recording Hepatitis A cases from laboratories and doctors and extend the coverage to primary schools, so as to monitor the progress of the outbreak and measure the effects of the action taken (and possibly add this disease to the list of notifiable diseases);
- remind the public and doctors of the hygiene rules to follow so as to limit transmission of the disease;
- inform doctors of the need to recommend vaccination to people usually residing in areas of low endemicity and required to travel to a risk-prone area;
- seek the vaccination strategies best suited to the epidemiology of the disease in New Caledonia, in particular by recommending the vaccination of members of exposed

professions (staff of childcare centres, boarding facilities, disabled persons' centres, teachers, catering staff, sanitation service staff, etc.);

- give priority to risk-prone areas in the construction of toilet blocks;
- make sure that hygiene-oriented health education programmes are a priority.

The introduction of a public vaccination programme can only be planned as an adjunct to a diarrhoeal disease control programme. Its purpose would be to reduce the number of severe cases requiring medical hospitalisation.

Before introducing vaccination strategies, prior assessment is needed of:

- the incidence of severe forms in hospitalised patients;
- population immunity, by age and place of residence;
- length of protection provided by vaccination;
- results of vaccination programmes conducted in at-risk communities (Canada); and
- cost effectiveness and cost/benefit ratios of the proposed strategies.

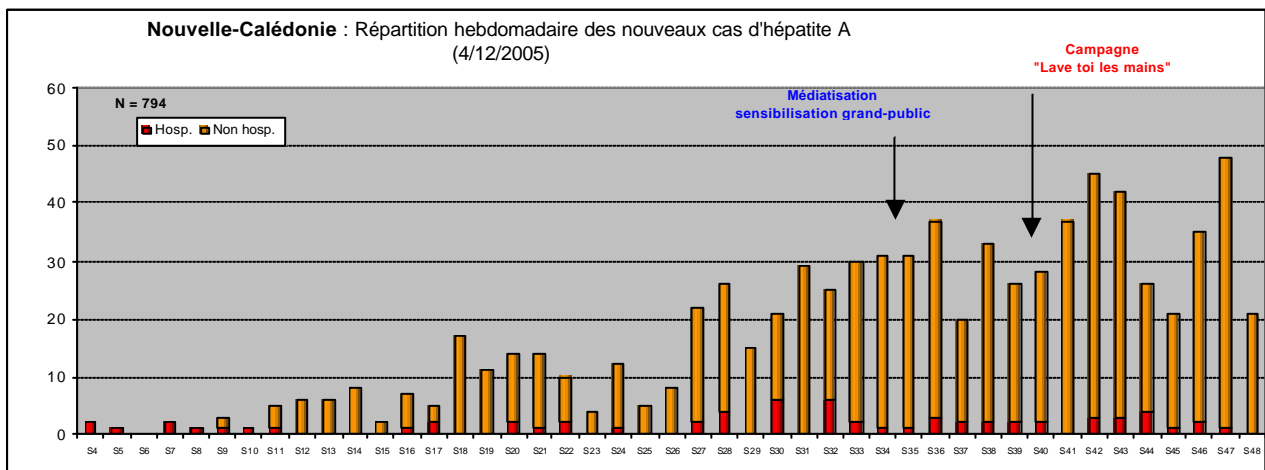
Epidemiological situation as at 4 December 2005 (week 48)

As at 4 December 2005, 794 new cases have been recorded since the beginning of the outbreak, with 197 on Lifou (24.9%), 231 in Nouméa (29.2%), 64 in Poindimié (8.1%), 45 in Dumbéa (5.7%), 37 in Mont-Dore (4.7%), 39 on Maré (4.9%), 34 in Paita (4.3%), 35 on Ouvéa (4.4%), 20 in Canala (2.5%) and 15 in Koumac (1.9%). Altogether, 76.8% of new cases were under 15 years of age and 54.3% were of the male sex.

The following figure shows, for New Caledonia as a whole, a regular weekly increase in the number of cases until 10 September (Week 36), followed by a drop in the weekly case total in Week 37 and a fresh gradual increase up to a peak in Week 42. The fall that occurred in Week 43, about one month after the 'Wash your hands' campaign began, was not confirmed and a third epidemic wave was observed from Week 47 to Week 48.

New Caledonia: weekly distribution of new Hepatitis A cases (4/12/2005)

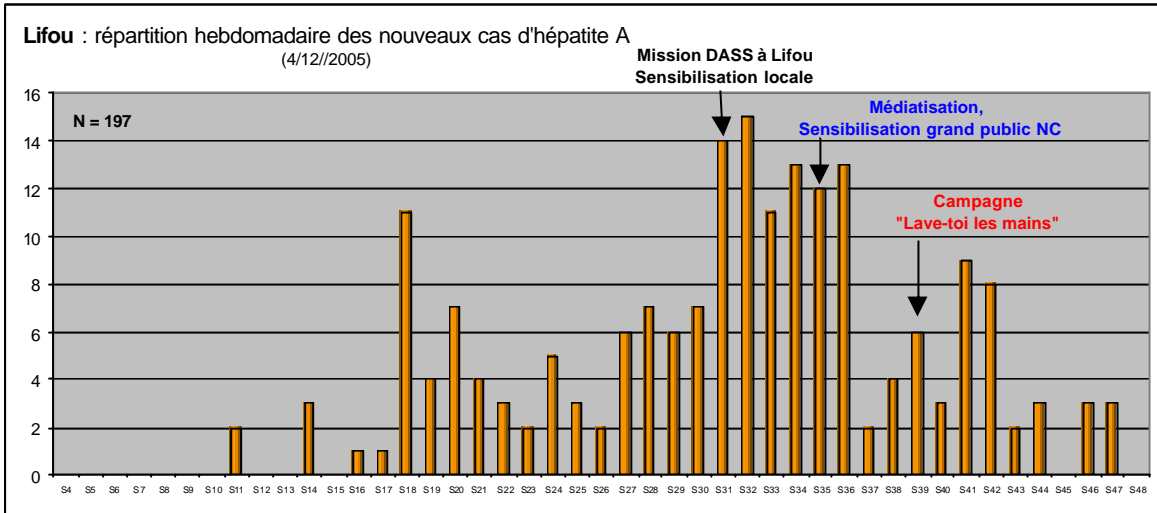
Public awareness campaign in the media 'Wash your hands' campaign



The following figure shows that, on Lifou, the effects of the local awareness-raising effort, after the DASS visit, in conjunction with a public information campaign, began to be visible from Week 37. Despite the minor peak observed during Week 41, the outbreak seems to be under control.

Lifou: weekly distribution of new Hepatitis A cases (4/12/2005)

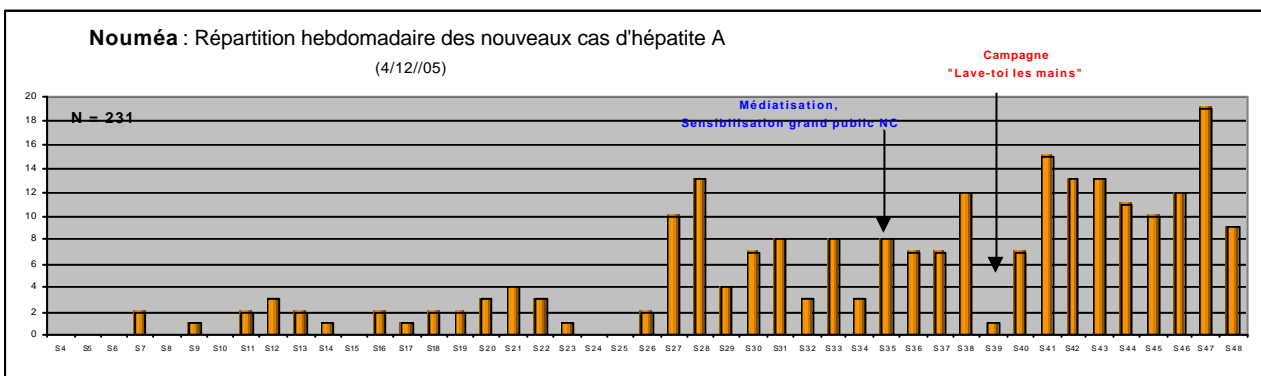
DASS visit to Lifou: local awareness-raising
 Public awareness campaign in the media
 'Wash your hands' campaign



In Nouméa, the weekly number of cases seemed to remain steady at about 8 on average, until Week 40, with a new peak being observed in Week 41. More than a month after the start of the community awareness campaign and the distribution of soap in schools, associated with the TV spot 'Don't mess up, wash your hands', the number of weekly cases is on the increase again. These facts show that it is definitely worthwhile continuing with the information and awareness campaign and indeed stepping up action in the most affected neighbourhoods (Rivière Salée, Montravel, Ducos, Vallée du Tir).

Nouméa: weekly distribution of new Hepatitis A cases (4/12/2005)

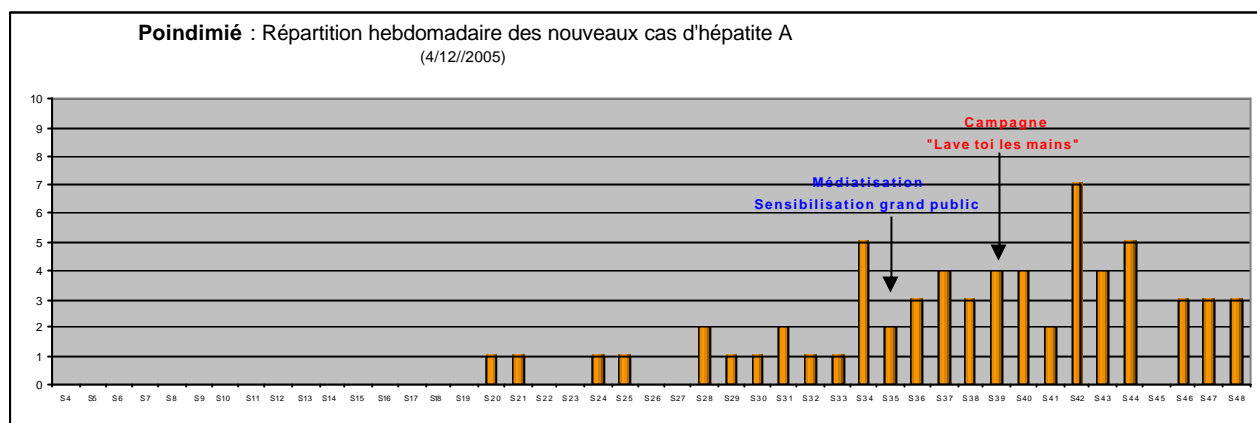
Public awareness campaign in the media
 'Wash your hands' campaign



The third most affected municipality is Poindimié with 64 cases. The outbreak began there after it started in the two previously mentioned municipalities, but with the number of weekly cases of around 5 from Week 34 on, seeming to drop to 3 new cases weekly after Week 46.

Poindimié: weekly distribution of new Hepatitis A cases (4/12/2005)

Public awareness campaign in the media 'Wash your hands' campaign



In conclusion, these observations show that it is still essential to continue with the public information and awareness campaigns, especially in the most affected areas, if we want to avoid a fresh outbreak during the forthcoming school holidays, when people are on the move (especially children) and therefore there is increased virus circulation.

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Monitor the outbreak on the PPHSN website

The full series of outbreak updates issued by DASS-NC, including outbreak graphs and maps by municipality, can be consulted on-line on the PPHSN website 'outbreak monitoring' web pages through a secure connection.

Information about the PPHSN outbreak monitoring web pages

These pages are viewed through a secure connection; access to them is restricted to PacNet subscribers. You need to enter a user name and password to access them. To obtain the password, please send a message to the following address: phs.cdc@spc.int

The information contained is confidential. Page content may not be reproduced without the approval of the health authorities concerned.

This material is additional to that posted on the PacNet list, on which graphs, for example, cannot be placed.

The material posted includes information updates on the outbreak of bloody mucoid diarrhoea in Wallis and Futuna in 1994, the dengue epidemic in New Caledonia in 2003 and 2004, the 2003 Tonga dengue epidemic, the cholera outbreak in Pohnpei in 2000, etc.

All PPHSN members are invited to use these pages and post material to them by sending us their newsletters, updates or outbreak reports at the above-mentioned electronic address.