

## New Caledonia's 2004 dengue fever mobilisation day

The type 1 dengue fever outbreak of 2003, which resulted in 17 deaths, had a strong impact on New Caledonians. In early 2004, when a resurgence of the outbreak looked imminent, a full suite of preventative measures was implemented, in particular an increase in the dissemination of health messages about eliminating larval breeding areas. However, from the start of neighbourhood visits, it was noted that the community had not become involved, a fact that was confirmed by the results of the entomological network. The decision was then made to modify the communications strategy and to organise a general mobilisation day on Saturday, 3 April 2004.

### The situation

Re-emergence of the type 1 dengue that had occurred in 2003 was observed from January 2004 onwards. Soon, some 20 cases were being reported each week. The distribution of the cases showed that the virus was being transmitted throughout the territory, most especially in Noumea city and on the island of Mare. Although a certain percentage of the population had immunity to this serotype, the weather conditions and entomological indexes indicated that a resurgence of the epidemic was likely.

**In fact, the New Caledonia Pasteur Institute's entomological data indicated that adult mosquito production was reaching unprecedented levels.**

In addition, an increase in the so-called "neglect" larval breeding areas (saucers under potted plants, plant cuttings containers, barrels, buckets, etc.) showed that part of the community was still insensitive to the problem, increasing the risk for a significant rise in the outbreak.

### The technical control measures

Health authorities barred routine insecticide spraying against adult mosquitoes so as to avoid the emergence of resistant forms.

In spite of the fact that most of the municipal districts are aware of the danger and have appropriate material and human resources (trained community workers, spraying equipment, etc.), the effectiveness of their activities is limited if the inhabitants do not eliminate their larval breeding areas.

**Technical intervention has its limits, and no measures aimed at stopping an outbreak are effective if the community continues to allow *Aedes aegypti* larvae to breed at their homes or workplaces.**

### A mobilisation day

Action targeted at areas surrounding a focus of infection, control measures at residences and communication campaigns are all important. However, certain behaviours seen and the entomological indexes showed that the message was not getting through to part of the population.

So the decision was made to hold a general mobilisation day throughout New Caledonia, as part of the overall prevention measures. The two main messages put across on the day were:

- everyone **should eliminate their own larval breeding areas**; and

- everyone **should continue** to do so on a regular basis afterwards.

## The mechanism

A communications campaign preceded and accompanied the mobilisation day. TV ads, which were part of an ongoing TV campaign, announced the activity, and 5000 posters were distributed in as many public areas as possible (Noumea bus shelters, public health clinics, schools, town halls, etc.). A press conference, interviews and reports were organised for television, the press and radio.

An illustration of a mosquito larva in the sights of a gun, the same as used for the communications campaign, was stamped on 87,600 red “anti-dengue” 100-litre garbage bags. The bags were sent out with an explanatory leaflet explaining how it was supposed to be used.

Some of the bags were distributed (in 25-bag rolls) to local government agencies and others were folded with the explanatory leaflet and mailed out to householders. The Atelier Protégé (a work assistance reintegration programme for the handicapped) folded 63,000 bags in two weeks.

The Government of New Caledonia, which initiated the activity, invited local agencies to take part in implementing the day on 3 April. Many official partners were involved in organising and setting up this action:

- the High Commission via the Vice Rector's Office and the armed forces;
- the Government of New Caledonia, via the Department of Education and the Health and Social Affairs Department;
- the Provinces, via their health and social affairs departments;
- the municipal districts (*communes*);
- the Office of Post and Telecommunications.

The New Caledonia Department of Education distributed bags, explanatory leaflets and posters to all the public primary schools. Every class received at least one bag, one leaflet and one poster.

## The impact of the day

A change in behaviour within the community is vital for the success of the fight against dengue. Experience to date has shown that prevention activities (grassroots actions, information campaigns for the general public or for specific audiences) have to confront the passiveness of individuals and even a welfare mindset. For example, some inhabitants expected municipal workers to come and eliminate the larval breeding areas around their houses. The alarming entomological indexes and the risk of an explosion of the outbreak led health authorities to explore other solutions.

So the concept of a day of action designed to reach every inhabitant in his/her own home by sending out “anti-dengue bags” to be used to eliminate breeding areas was chosen and implemented.

In terms of logistics, the day's success was mainly the result of the strong and rapid mobilisation of the various government agencies involved. The schools proved to be excellent vectors for promoting this activity and the municipal districts were key players in how well the activity went.

Indicators of the day's impact, in particular the entomological indexes, revealed a noticeable

participation by the community. Given the low number of reported cases of dengue fever, it was not possible to show the effect the day had on the course of the outbreak.

However, there were two main negative points to be noted:

- the deadline was too short, particularly for folding the bags; and
- communication needs to be improved, in particular the broadcast announcements of the day.

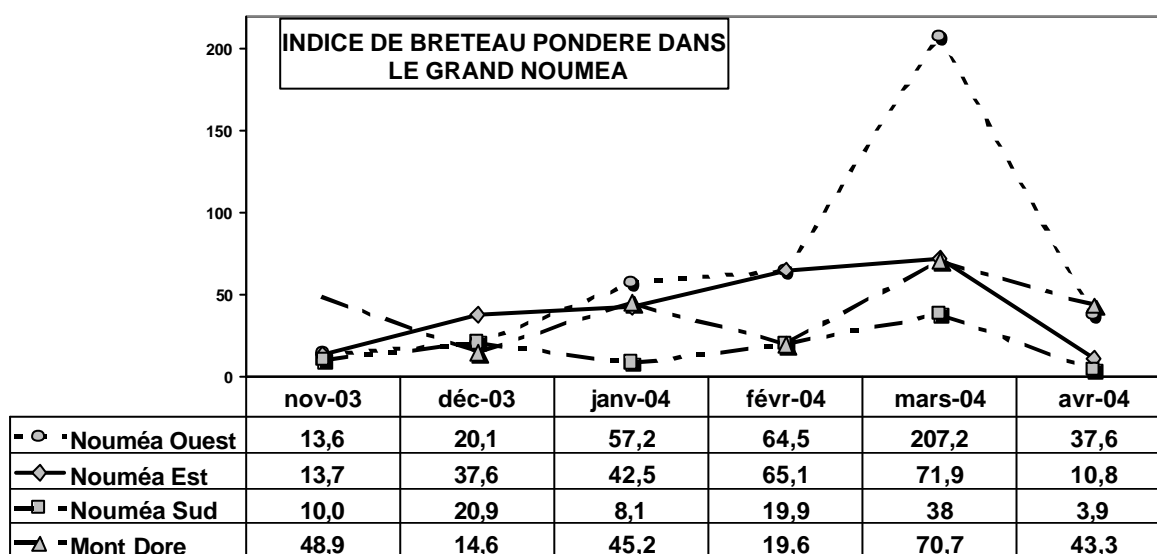
Given the positive impact of this activity, it should be held again when there is a risk of an outbreak in the future. In future, it would be good to give more lead time for organising the various partners. Less conventional and more direct means of communication could also be explored (having fire trucks go around with their sirens announcing the day, vehicles with megaphones, banners pulled by an aeroplane, etc.).

## Illustrations:

### DENGUE ENTOMOLOGICAL SURVEILLANCE NETWORK

Indexes for April 2004, published on 7 May 2004.

Weighted Breteau index in the greater Noumea area



Breteau index = Number of *Aedes aegypti* breeding areas per 100 houses visited.  $IB < 5$  = very low risk ;  $5 < IB < 50$  = medium risk;  $50 < IB$  = high risk.

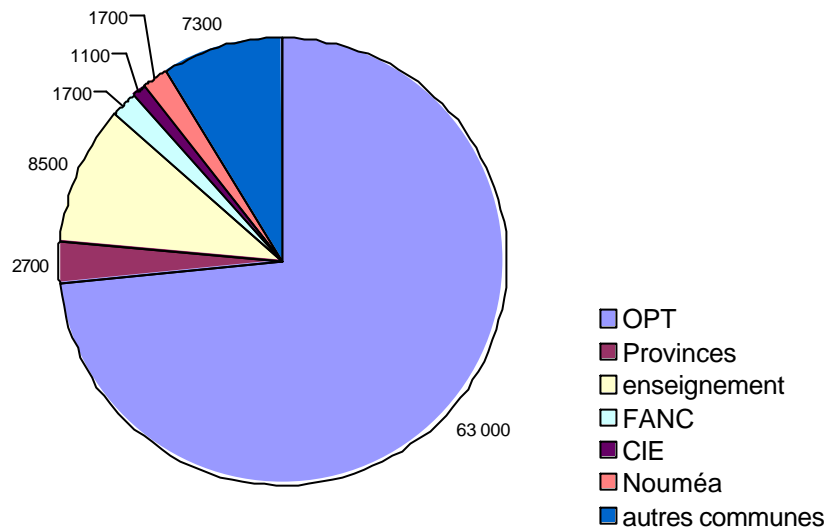
### Comments on index graphic

There was a spectacular drop in the Breteau index in all the areas in April, following the outreach day. The extent varied depending but in some areas, it even went below the “low or nonexistent risk of outbreak” threshold.

The weather conditions in April undoubtedly contributed, with lower than normal rainfall and temperatures falling. It is also usual after very high increases such as that observed in March for the indexes to fall quite abruptly.

Nevertheless, the main factor behind the halt in the spread of *Aedes aegypti* mosquito was probably to the community activity carried out on the Mobilisation Against Dengue Day on 3 April 2004. In particular, the contribution of the children, led and encouraged by their teachers, was undoubtedly very effective.

### Distribution of "DENGUE DAY" bags



#### Dr Bernard Rouchon

Médecin cadre territorial de la santé et de la prévention  
 Synopsis of the report from Mrs Caroline Fuentes and Dr Sylvie Barny  
 Direction des Affaires Sanitaires et Sociales  
 New Caledonia, 2004