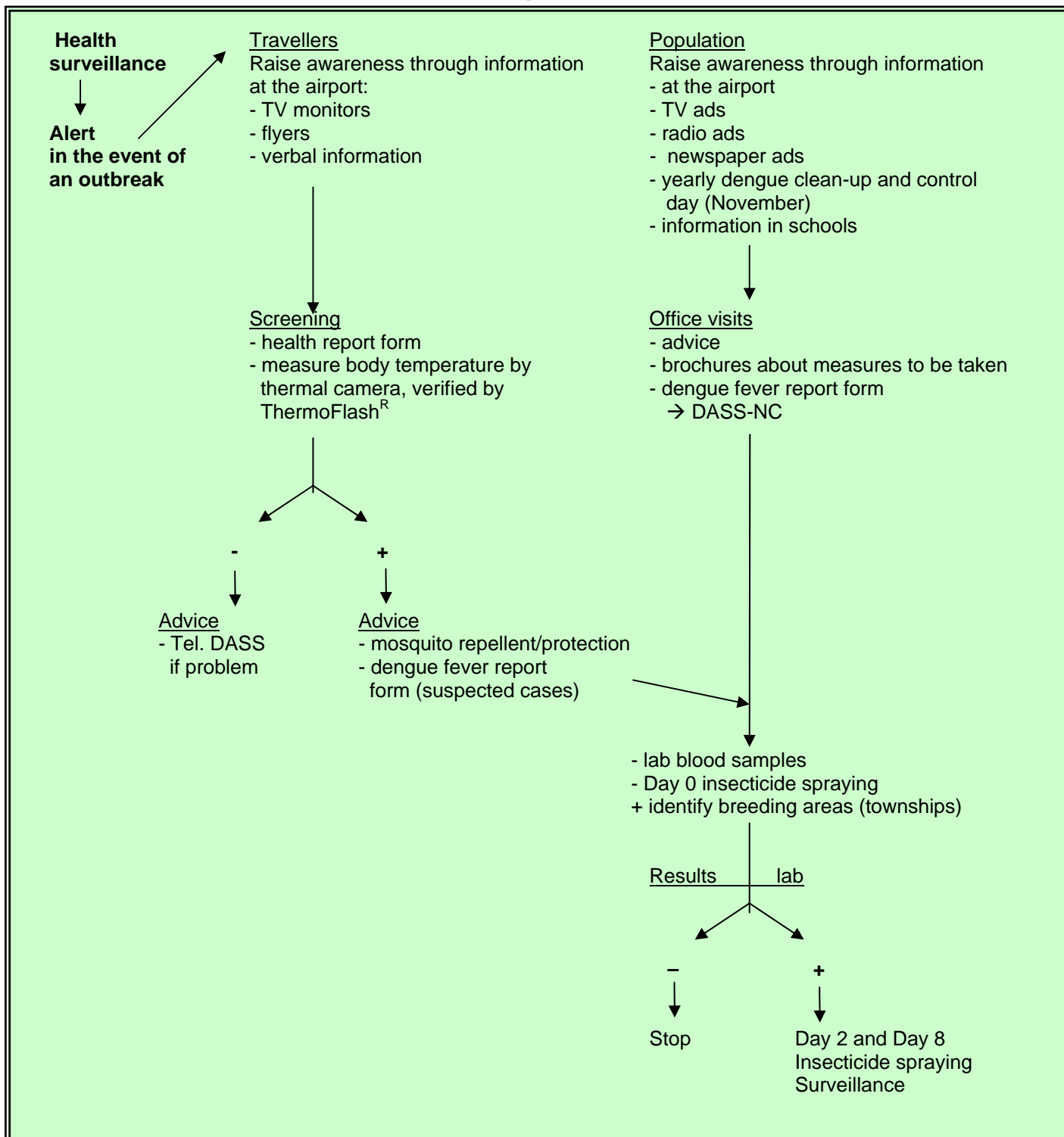


## Dengue fever: the New Caledonian experience

### Health surveillance

The Health Actions Office at the New Caledonia Department of Health and Social Affairs (DASS-NC) monitors outbreak alerts, in particular those that affect the Pacific region. So far this year, New Caledonian authorities have been able to protect the territory from import of the current DEN-1 outbreak in French Polynesia.

### Procedures to control imported cases of dengue fever



Results

Figure 1: Dengue fever cases per month from 1 January to 13 August 2007

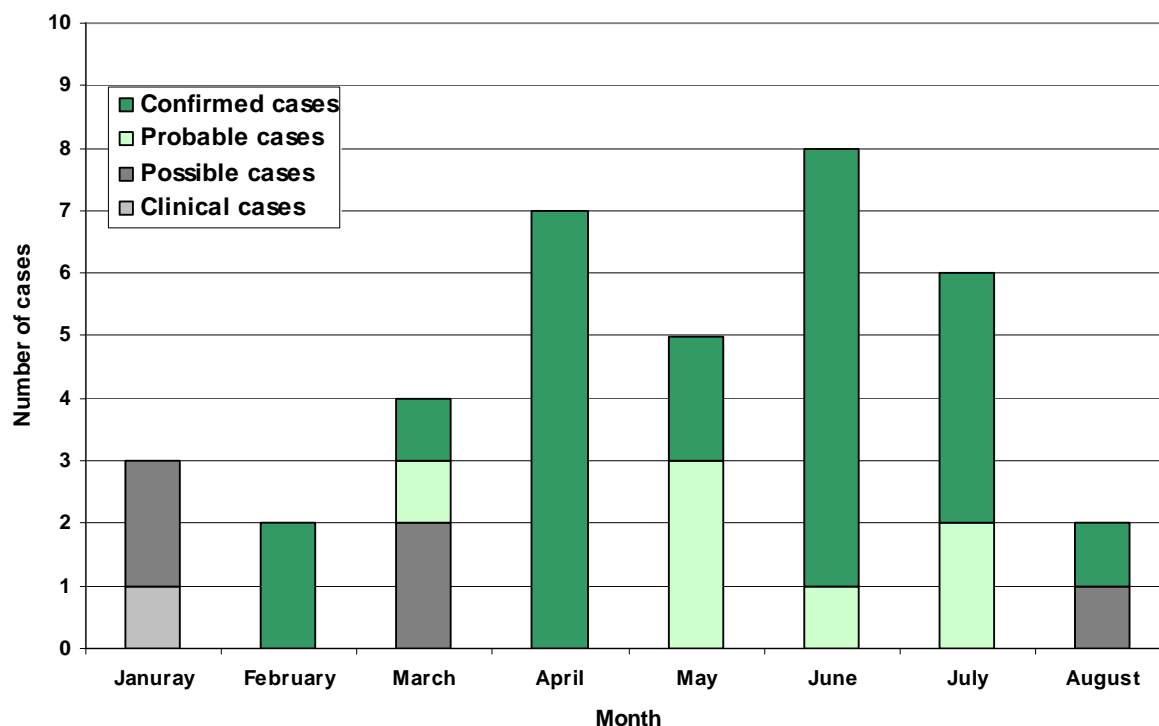


Table 1: Distribution of dengue fever cases from 1 January 2007 to 13 August 2007

Cases of dengue fever	Number of cases	Patient travelled recently
Clinical cases	1	0
Possible cases	5	0
Probable cases	7	3
Confirmed cases	24	12
<b>Total</b>	<b>37</b>	<b>15 (40.5 %)</b>

Note: Dengue fever case definitions:

- Clinical case: suspected case (clinical symptoms) without blood sample
- Possible case: + IgM with epidemiological evidence\* and no other diagnosis found
- Probable case: + IgM with epidemiological evidence\*
- Confirmed case: IgM conversion (from negative to positive) or + PCR or + Ag NS1

- \* - close contact with a confirmed case  
 - cluster of cases exists,  
 - recently (less than two weeks) returned from an area with dengue virus transmission

Travellers from French Polynesia generally arrive on the weekly flight. Since 1 April 2007, the Health Actions Office at DASS-NC has been using a thermal imaging camera to check all passengers on flights from French Polynesia.

**Table 2: Distribution of dengue fever cases, imported cases from French Polynesia and cases detected by infrared camera, from 1 April 2007 to 13 August 2007**

Dengue	Cases of dengue fever (total New Caledonia)	Recent trip to French Polynesia	Camera positive	Serotype	
				1	Unknown
Possible	1	-	-	-	1
Probable	6	2	1	-	6
Confirmed	21	9	6	18	3
<b>Total</b>	<b>28</b>	<b>11</b>	<b>7</b>	<b>18</b>	<b>10</b>

The infrared camera made it possible to detect seven of the 11 (63.6%) cases of dengue fever imported from French Polynesia during this period. The undetected cases either involved patients who were in the incubation phase when they went through the airport or patients who arrived on other flights, e.g. via New Zealand.

### Conclusion

In preparation for an influenza pandemic and since the DEN-1 epidemic that lasted until 2003, New Caledonia has acquired new resources such as a thermal imaging camera to supplement existing systems (sentinel network, etc.), thereby helping to avoid a new dengue fever outbreak in early 2007.

Since April 2007, New Caledonia has been using the camera to screen passengers arriving from French Polynesia for fever. Given that border screening cannot be 100% effective (patients in the incubation phase or those with few symptoms), these arrangements must be accompanied by surveillance and community screenings.

This procedure has proved to be very effective (64% of dengue fever cases were identified in this way) and could be extended to other Pacific Islands, if necessary using simpler fever detection methods such as ThermoFlash<sup>R</sup> or ear thermometers.

**Dr Anne Pfannstiel**

New Caledonia Department of Health and Social Affairs