

Type 1 Dengue fever epidemic in French Polynesia in 2001

This is an abstract of the report Type 1 Dengue fever epidemic in French Polynesia - 2001, released by the Health Department of French Polynesia.

The full report is available online on the PPHSN website:

<http://www.spc.int/phs/PPHSN/Outbreak/Reports/Intro.htm>

French Polynesia was affected by a Type 1 dengue fever (DEN-1) epidemic in 2001. This epidemic lasted for some 10 months, from February to November 2001, with a peak in the third week of July. It was responsible for some 33,000 cases of dengue fever recorded by general practitioners in the Society Islands group (an incidence of 16 cases per 100 inhabitants) and at least 800 cases in the other three island groups. This incidence is comparable to that estimated during the DEN-1 outbreak in 1989 (17%). The only serotype isolated at any time during this outbreak was Serotype 1. The epidemic mainly affected children under the age of 13 — that is, those born after the last DEN-1 outbreak and who were, therefore, not immunised against this serotype.

The outbreak gradually spread from the Leeward Islands to the Windward Islands. The Tuamotu and Marquesas Islands were affected later, beginning in June–July. In the Austral Islands, transmission was very low and stopped completely in July during the cool season. The school holidays played a significant role in transmission of the virus between island groups. The incidence rates were lower in rural areas than in the Tahiti urban area.

Nearly 1400 cases were hospitalised in the Territory's public and private facilities. This broad use of hospitalisation was motivated by the frequency of severe forms (called haemorrhagic dengue fever by the WHO) even though their gravity is mainly linked to plasma leakage). Of those hospitalised, 633 (45%) had severe forms, 278 (20%) of whom displayed shock symptoms at the time of admission. A total of eight deaths were recorded, all involving children under the age of 13.

The severe form rate was 2.7 per 1000 inhabitants. Of the 20,000 children aged 4 to 14 who had clinical DEN-1 symptoms, 1 child out of every 20 was hospitalised and 1 out of every 37 developed a severe form. During this outbreak, previous exposure to the DEN-2 epidemic in 1996–97 appears to have been a major risk factor for developing a severe form. The particular virulence of this strain probably played a role but this still needs to be demonstrated.

In spite of the fact that general practitioners followed hospitalisation guidelines, the hospitalisation capacities of Tahiti's paediatric services were overwhelmed, particularly during the three peak months of the epidemic in the urban area. Vector control probably helped space out the number of cases initially, but it was not able to reduce the overall intensity of the outbreak.

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The experience acquired during this epidemic has made it possible to outline response improvements for future outbreaks in the areas of both prevention and patient care.

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