The Health Intelligence Report

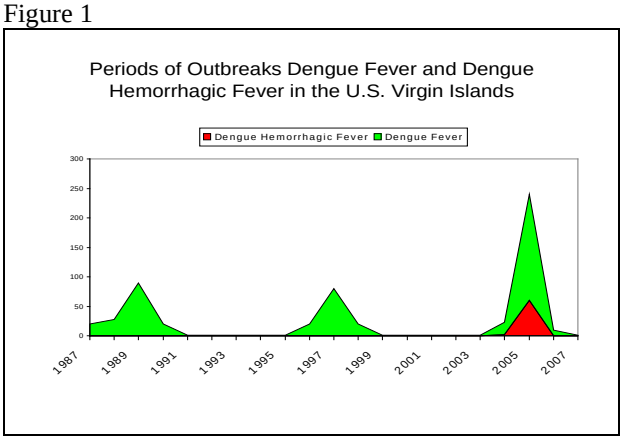
Office of Territorial Epidemiologist

Virgin Islands Department of Health

Dengue Virus Activity In the USVI: Historical Perspective

Over the past 25 years there have been three major periods of increased Dengue virus transmission in the US Virgin Islands (See Figure 1). These occurred in 1988-90 and 1995-97 following major Hurricanes, and most recently during the years 2004 and 2005, following a lengthy period of torrential rains.

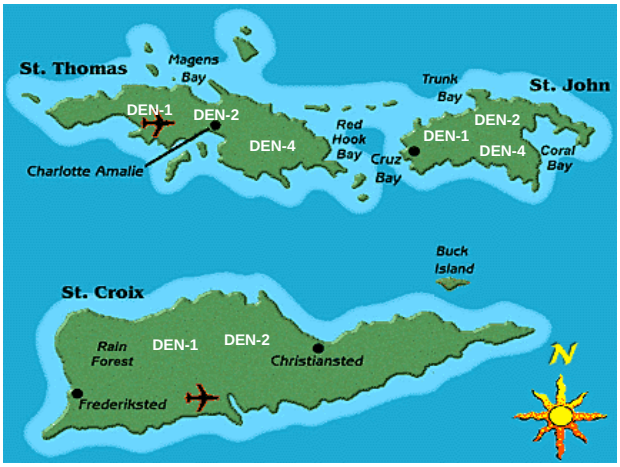
Figure 1



Dengue Virus Surveillance

There are four serotypes of Dengue virus which are named Dengue 1 through 4 (DEN-1, DEN-2, DEN-3, DEN-4). Of these, DEN-1, DEN2, and DEN-4 have been indentified as the cause of past outbreaks of Dengue Fever in the USVI. The most recent outbreak of Dengue Fever in 2004-2005 was caused by DEN-2. Figure 2 shows how these viruses have been distributed across the three major islands of the USVI. The DOH maintains a surveillance network together with the Centers for Disease Control Dengue Branch in Puerto Rico which will allow for the identification of the virus that causes a case of Dengue. However, for virus identification, serum samples from suspected cases should be collected within the first 5 days from onset of symptoms. In the USVI hospitalized persons suspected of having Dengue Fever are being tested to identify the Dengue virus. ***Private physicians SHOULD contact the Department of Health to arrange for serum samples from suspected cases to be tested to identify the type of Dengue virus.*** Testing performed on samples sent by physicians to reference laboratories can determine if an individual is infected by a Dengue virus but does not identify the serotype of Dengue virus that is causing the infection. Knowledge about the serotype of Dengue virus is critical for preventing outbreaks of the disease.

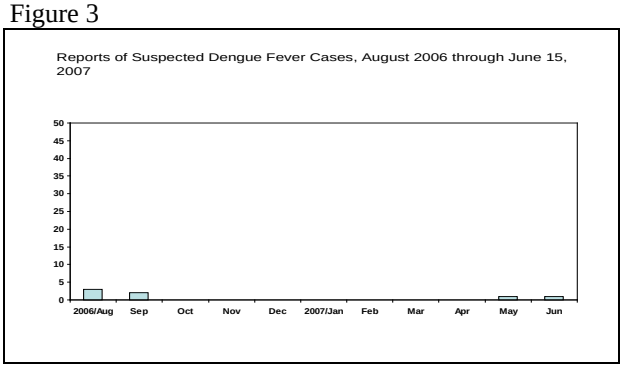
Figure 2



Recent Dengue Virus Activity

Episodes of Dengue Fever continue to occur in the USVI. Figure 3 shows the pattern of suspected Dengue Fever cases reported to the Department of Health since January 1, 2007. Positive test results on samples from these suspected cases indicate that the DEN-2 virus remains active on St. Thomas and St. Croix. Because a number of persons in both districts are already immune from DEN-2 future outbreaks from this virus may be more limited that would occur with the, DEN-3 which has not yet been active in the USVI.

Figure 3



Eugene S. Tull, Dr.P.H., MPH, MT (Territorial Epidemiologist)