

# Dengue

## Dengue Control : Everyone's Concern

Dengue/Dengue Haemorrhagic Fever (DF/DHF) has emerged as a major public health problem in the tropics and the sub-tropics. The factors contributing to the emergence of DF/DHF include rapid population growth, unplanned urbanization, deficiencies in water supply and solid waste management, increased travel and inadequate health budgets for dengue control.

The principal vector of dengue, *Aedes aegypti*, breeds in water containers in the domestic and peri-domestic environments. It has a short flight range of about 200 metres. Therefore, the main thrust of dengue prevention should be in households and in locations around them. This becomes the responsibility of individuals and families, supported by the community and local government including self-help groups.

Adequate and effective prevention and control methods exist, and relevant resolutions have been adopted by the World Health Assembly and other international forums. However, most national programmes are unable to effectively reverse the rising trend of DF/DHF. Health authorities continue to struggle to sustain vector-control efforts at the household, school and workplace levels. Investments made in bringing about behavioural change have not been adequate. To date, only a few national programmes, with support from international partners, have invested soundly in implementing carefully-

researched and meticulously planned advocacy and communication methods for making an impact. When implemented on a large scale, these interventions are likely to make a sound impact on reducing the burden of the disease.

The success of dengue prevention and control programme is possible only if every one is involved in the endeavours: individuals, families, community support groups, self-help groups, NGOs, local authorities and the department of health.

**At the household level**, individuals and families should be educated to empty all water containers, scrub them and dry them to remove eggs glued to the sides of the containers. It is also important to drain, scrub and dry water coolers, and flower vases regularly. This should be done at least once a week. All solid waste materials that collect rain-water should be disposed of in such a manner that no water is allowed to collect in them. Repair work should be promptly done to prevent any blockage of drainage pipes. All water containers in the house should be kept covered to prevent laying of eggs by the dengue vector.

**At the family level**, the use of mosquito repellents is recommended to reduce the human-mosquito contact. This is advised particularly around the peak biting time of the mosquito. Families should avoid human mosquito contact by the use of protective clothing of long sleeve



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shirts, full length pants, socks, and boots to avoid mosquito bites.

**School-children and women groups** can help increase awareness of dengue on how it spreads, and what individuals and families can do to prevent the disease. They can participate in monitoring the breeding sites at home, and in the school premises.

**At the community level**, welfare and self-help groups can contribute to dengue control by identifying commercial groups and agencies who can help manage the problem of used tyres, curing water tanks, undertaking clearing of minor engineering sites, and working with groups responsible for building and other development activities.

**Local authorities** such as the local government, and self-help groups can contribute by participating in vector control measures undertaken by the health department, e.g. space spraying through cold aerosol and thermal fogging. Local groups can facilitate the work of the health staff by ensuring the participation of community and by partly paying the cost of operations. In a decentralized set-up, budget can be provided by local self-government. Local groups and communities can also contribute substantially to the biological control efforts for larval control.

At all levels, there should be awareness about the signs and symptoms of dengue. The first occurrence of these signs and symptoms should prompt people to seek treatment from hospitals/treatment centres where standard case management is provided. This will help to reduce deaths from the disease to the minimum.

There is now a growing body of evidence which shows that social mobili-

zation and communication for behavioural impact are critical for sustainable dengue prevention and control. For this to succeed, resources and decision-making need to be decentralized. Emphasis of the programme should be on negotiating behavioural and social change through targeted government and private sector advocacy to enhance political and financial commitment. To achieve success, partnerships, support networks and greater focus on environmental improvements through urban planning, water management and solid waste disposal with active community involvement are needed.

International training was organized for more than 20 dengue-affected countries in the world for three years jointly by CDC, the Centre for Diseases Control, Atlanta, USA, supported by the Pan Americas, USAID and Inter-American Development Bank. Twelve case studies were published in a special Dengue Bulletin Supplement in 2004. These have included studies conducted in Cambodia, Indonesia, Fiji, Malaysia, Vanuatu and Vietnam.

The success achieved so far is due to the vision, creativity, and dedication of national teams. There is clearly a lot of investment in the form of research, planning and organization, which should be backed by social, political and financial support. Given the rising threat from the spread of DF/DHF and the recent global epidemiological trends, maintaining the *status quo* is not a viable option. There is a need for the development of a new paradigm in which healthy public policies should support and engage the general public and key stakeholders at national and local levels for reversing the rising trend of DF/DHF through prevention.

