Update on the *Aedes aegypti* mosquito eradication campaign in Tennant Creek, NT

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**Introduction**

On the 17\(^{th}\) February 2004, the mosquito species *Aedes aegypti*, a vector for dengue fever, was found in routine mosquito trapping in Tennant Creek. This was the first time since the 1950's that *Ae. aegypti* had been recorded in the Northern Territory (NT). The discovery of *Ae. aegypti* lead to a massive survey and eradication program within the town with the aim to remove the mosquito from the NT. These actions involved Medical Entomology Branch (MEB), Environmental Health, Tennant Creek Town Council, Jualikari Council, Anyinginyi Congress, staff from various other sections of the Centre for Disease Control and volunteers.

**Eradication program**

The eradication program headed by Peter Whelan and his staff from MEB consisted of several stages. The first stage in February was designed to determine the extent of the mosquito in Tennant Creek through surveying of premises for larvae and via mosquito trapping. This stage also included community education.

A free Hotline number was established for community inquiries. From February to March door to door visits were conducted informing...
Residents on breeding site elimination. Insecticide spray cans were handed out to each householder with instructions on how to apply the spray in their yard.

When it was realised that not all residents were able to efficiently recognise and eliminate breeding sites, a door-to-door eradication program was implemented from early March to the end of April. Teams from the Health Department and volunteers visited all residential and industrial premises and inspected for breeding sites, collected samples of mosquito larvae and treated the sites. The two local pest control companies in Tennant Creek were contracted to treat industrial sites. Side entry pits and storm water drains were treated in collaboration with the Tennant Creek Town Council. The Julalikari Council carried out inspection and treatment in the town camps.

Results

By late April, 1087 premises had been treated, with the remaining 14 premises to be treated by professional pest control operators. Only 3 premises refused treatment. Larval breeding of *Ae. aegypti* was found on 88 of the premises. Adult specimens of *Ae. aegypti* were collected on 9 trapping nights from 15 locations between February and April 2004. Lethal ovitraps were used for the first time in the NT as a lure and kill method.

Community health promotion

Within this time the Tennant Creek Town Council conducted a hard rubbish collection to help remove unwanted items such as disused baths, drip trays, empty paint tins and 44 gallon drums that could hold water and therefore be potential breeding sites. Media releases on the radio and in the local paper helped to provide the communities with advice on how to help in the eradication process.

The long Easter weekend (April 9-12), a time when many people would travel to and from Tennant Creek and transport *Ae. aegypti* out of the town to other regions of the NT, or beyond, was of great concern. Therefore, before Easter, posters were installed around the town including in local businesses explaining the importance of not transporting material and receptacles that could have held water (and therefore eggs or larvae) out of town. A large display board was placed at the local supermarket. A mail drop to each premises, via the post office, was conducted to provide information to increase the communities’ understanding of the importance of the eradication of this mosquito.

Currently road signs on entry into Tennant Creek are being organised to alert travellers and locals to the risk of transporting the eggs of the dengue mosquito in receptacles such as tyres or pet drinking bowls.

Progress

As of the end of April, no *Ae. aegypti* had been found in adult traps. The wet season was considered over and most of the breeding sites had dried up or had been destroyed. During the dry season, monitoring on a fortnightly basis is being conducted by the local Environmental Health Officer using adult traps and several lethal ovitraps throughout the town.

The unexpected May rainfall in Tennant Creek might have caused a hatch of drought resistant eggs still present in town. Advertisements were placed into the local Tennant Creek District Times and community announcements were organised to alert residents to the potential problem of drought resistant eggs hatching due to the recent rain.

It is planned to involve school students to participate in a ‘hunt for wrigglers’ and ‘tip out water holding receptacles’ activity.

Future plans

If no further rainfall occurs, the remainder of the dry season will be used to plan and organise intense eradication measures for the next wet season. It is planned to have established a team based in Tennant Creek in November that is trained to monitor and carry out any eradication as is needed. Renewed education of the community will begin before the next rains to avoid potential breeding sites existing in unused receptacles. It will be important to involve the community of Tennant Creek in the control and eradication of *Ae. aegypti* from the town and the wider NT. Surveys throughout the NT are planned to ensure that the dengue mosquito has not spread out of Tennant Creek or if incursions have occurred in surrounding areas that they are detected and dealt with quickly.