PAHO/HDM/CD/M/514-08

Monitoring Susceptibility to Insecticides

Monitoring the resistance of *Anopheles* to insecticides is a priority activity for the Network. The goal is to implement a surveillance system based on monitoring temporal and spatial variations in patterns of resistance to the main insecticides used in the Region. The bottle method developed by the CDC is routinely used to monitor such variations in the observed areas. Due to its practicality, this method can easily be adopted in the health services and can serve as a warning mechanism. The system also uses WHO's impregnated paper test, after determining the baseline and/or during the monitoring, to confirm the finding of resistant strains with respect to international reference standards.

The sentinel areas are localities or groups of localities that share eco-epidemiological characteristics and represent strata of high malaria transmission with the presence of the principal species and higher insecticide pressure. Depending on the characteristics of each country, the work is carried out in 4–10 "sentinel" localities/areas per country. Surveillance activities include the following:

i) establish the "diagnostic dose" for the principal species in areas with little exposure to insecticides,
ii) establish the diagnostic dose in the sentinel areas and obtain baseline mortality curves using the diagnostic doses of the most susceptible populations, and
iii) annually monitor the temporal variations in deviations in mortality curves in the sentinel areas.

The information collected at sentinel localities, is being included at regional database through a PDF form (in Spanish). Once the form is completed with information from each assay, a focal point at country level send the forms to a focal point in PAHO. The information will be automatically included at a database and dynamic informs will be updated and disseminated.