

EXECUTIVE SUMMARY

- In Assam, during the screening of 1,162 college students 24.6% were found Hb E-heterozygous, 4.6% Hb E- homozygous, 0.3% with sickle cell trait and 2.3% were β -thalassaemia carriers. Among 647 anti-natal mothers, screened for thalassaemia and haemoglobinopathy, 21.1 and 33.6% were found Hb E-heterozygous and Hb E-homozygous respectively, 0.1% with Hb S-heterozygous and 1.4% β -thalassaemia carriers.
- Overall prevalence of hypertension in rural Mizoram was found 12.8% after screening 6,369 individuals with increasing trend of prevalence with the age in both the sexes. Distribution showed 6.4% hypertensive in Stage I, 3.0% in Stage II and 1.7% in Stage III.
- During the multi-centric study on causes of death by verbal autopsy in Assam a total of 1,963 deaths (822 rural males, 624 rural females; 334 urban males, 183 urban females) were recorded in the study area. Stroke was found to be one of the leading causes of death in both sexes in some age groups in rural areas. In urban males non-communicable diseases like stroke, acute myocardial infarction, renal failure, cirrhosis of liver, carcinomas of digestive system were the main causes of death. Stroke was the predominant cause of death in the elderly urban females.
- Morbidity surveillance in Sikkim covering 10,812 cases revealed predominance of ARI (Rural 20.8%, Urban 12.4%), acute diarrhea (Rural 8.4%, Urban 3.9%) among the communicable diseases. Increasing trend of hypertension and diabetes among non-communicable diseases was observed.
- Mapping and size estimation of injecting drug users carried out in Manipur, Nagaland, Mizoram, Meghalaya and Assam resulted in identification of 2,464 IDU sites and about 50,000 estimated size of IDUs with highest number of IDUs in Manipur followed by Nagaland.
- During studies on development of early warning system for JE in Assam 16 of 100 mosquito pools comprising of *Culex tritaeniorhynchus*, *Cx. vishnui*, *Cx. whitmorei*, *Cx. fuscocephala*, *Mansonia annulifera* and *Ma. dives* were found positive for JE virus by ELISA. Nearly 80% of pig blood samples were found positive for neutralizing antibodies against JE virus. Distribution and densities of mosquito larvae exhibited a significant correlation with the extent of human settlement density, area under rice crop and area under wetlands.
- Fourth round of annual mass DEC administration brought down the mf rate to 1.2% (in cohort with vector control measures) and 1.4% (in cohort without vector control measures) from pre-intervention mf rate of 10.2% in a tea garden population of Assam.
- Studies on mosquito bio-diversity in Dibru-Saikhowa bio-sphere reserve of Assam resulted in detection of 52 species of mosquitoes under 11 genera comprising of genus *Anopheles* (18 sp.), *Culex* (13 sp.), *Aedes* (6 sp.), *Mansonia* (4 sp.), *Armigeres* (3 sp.), *Mimomyia* (2 sp.), *Ochlerostatus* (2 sp.), *Malaya* (1 sp.), *Toxorhynchites* (1 sp.), *Ficalbia*

(1 sp.) and *Aedeomyia* (1 sp.). Mosquito diversity was more in the buffer zone (49 species in 10 genera) than the core zone (42 species in 10 genera) of the bio-sphere reserve.

- Foci of human paragonimiasis were detected in Meghalaya, Tripura and Mizoram. In Changlang district of Arunachal Pradesh, paragonimiasis was found highly endemic (13%) with significantly higher prevalence in children (22.1%) than adults (10%). The ES antigen based ELISA developed for serodiagnosis of paragonimiasis was found 100% sensitive and highly specific.
- In a hospital based study nasal carriage pattern of *Staphylococcus aureus* was found 9.5%. The prevalence of methicillin resistant *S. aureus* (MRSA) was about 50% but mec-A gene was detected in only 30% strains. MRSA strains as compared to MSSA strains exhibited significantly higher antibiotic resistance against amikacin (44.0 vs 3.7%), doxycycline (55.6 vs 3.7%), gentamycin (70.4 vs 3.7%) and ampicillin (44.0 vs 8.3%).