Dengue is regarded as one of the most important arboviral infections in the world. Dengue is caused by infection with dengue viruses, all 4 types of which are circulating in South-East Asia Region, and has rapidly spread to 10 out of the 11 Member States.

About half of the world’s population is currently at-risk of dengue. Globally, every year, an estimated 50 million dengue infections occur, with half a million severe cases requiring hospitalization and over 20 000 deaths.

About 52% population in WHO South East Asia Region is at risk of dengue. In 2012, a total of 257 204 cases and 1229 deaths were reported from the Region.

Dengue is transmitted by *Aedes aegypti* and *Aedes albopictus* mosquitoes— the population of which is influenced by demographic, socio- economic and behavioural factors such as rapid urbanization, human activities, increased air travel.

Dengue fever (DF) is typically acknowledged to be a disease of early childhood but now there is evidence of increasing dengue incidence in older age groups.

Dengue infection causes flu-like illness, but occasionally develops into a potentially lethal complication called severe dengue. Recovery from infection by one serotype of the virus provides lifelong immunity against that particular serotype. However, it does not provide adequate immunity to the other serotypes and subsequent infections by other serotypes increase the risk of developing severe dengue including dengue hemorrhagic fever (DHF).

Several factors attributing to the spread of dengue are beyond health sector. Therefore, an effective dengue control programme requires high level political commitment and strong multisectoral partnership. Dengue control requires ongoing and continuous efforts on vector control through integrated vector management approach.

Social mobilization and community participation is crucial for this to be successful and sustainable.

**Spread of Dengue in WHO SEA Region**

![Map of the spread of dengue in WHO SEA Region](image)

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**Vector-borne diseases**

- Chikungunya
- Dengue
- Japanese encephalitis
- Kala-azar
- Lymphatic filariasis
- Malaria
- Schistosomiasis

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**World Health Organization**

Regional Office for South-East Asia
Checklist

Prerequisites

- National Dengue Strategic policy and plan including integrated vector management (IVM) plan
- Well organized, nationally coordinated dengue inter-sectorial activities
- Trained health staff; health workers, clinicians, nurses, laboratory and insecticides spray workers
- Efficient referral system (hospital, laboratory)
- Adequate resources

National guidelines

- Comprehensive Guidelines for Prevention and Control of DF and DHF (Clinical, laboratory, surveillance, vector control/management, communication for behavioural impact)
- Standardize clinical diagnosis and case management and surveillance form
- Information about dengue signs, symptoms, early precaution and preventive action for community
- Guideline and training modules for medical, public health officer, field staff and community volunteers

Education and training

- Training of health staff for surveillance and IVM
- In-service training for clinician, nurses, laboratory technician
- Education for
  - Undergraduate and postgraduate medical programmes
  - Continuing medical education

Emergency/outbreak response team

- Policy and guideline during outbreak
- Outbreak communication plan and strategy
- Training of staff at every level
- Standard case investigation
- Logistic availability
- Reporting, Monitoring and Evaluation at Health Center level
- Good and effective referral mechanism

Monitoring and evaluation

Monitoring involves the continuous collection of information during program implementation

- Surveillance data (human, virus, mosquito)
- Compliance of clinical management with dengue case management guidelines
- Supplies and equipment
- Community participation

Evaluation systematically assesses the programme effectiveness and efficiency. It evaluates the program plan and design, evaluation of implementation, evaluation of outcomes or impact

Aspects of programme that can be evaluated are

- Inputs – staffs, finance, equipment, supplies
- Processes – training, management, supervision, community participation
- Outputs – services delivered, goods delivered and staff trained
- Outcomes – changes in knowledge, practice and behavior
- Impact – change in dengue incidence and mortality

Words of advice

- Ensure high level political commitment and support for the development and implementation of policy and programme to prevent and control dengue
- Involve and establish multisectoral bodies and partnership
- Continue capacity building of health workforce and community volunteers
- Promote revitalization of primary health care
- Encourage and strengthen effective communication and social mobilization initiative
- Mobilize communities in prevention and control of dengue