

Role of Civic Bylaws for Prevention of Vector Borne Diseases

Pradeep Kumar Srivastava*

*Absolute Human Care Foundation, India.

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ABSTRACT

Public Health Act provides the power to protect the health and welfare of the people. The vector-borne diseases (VBDs) are of major public health concerns globally. Most of VBDs are transmitted to humans due to the interaction of vectors, hosts, environment and causative agents. The changing epidemiology of VBDs reflects rapid urbanization, poor sanitation, deforestation, population growth, and increased global travel, all of which facilitate vector expansion and pathogen spread. Social determinants such as poverty, inequality, and behavioral factors further increase vulnerability. Mosquito borne diseases like malaria, lymphatic filariasis (LF), dengue, chikungunya, and Japanese encephalitis (JE) continue to challenge public health system. Besides different measures adopted for mosquito control especially in urban areas, civic bylaws have been provisioned which for mosquito control mandate property maintenance to eliminate breeding sites, require window and door screens, and regulate insecticide application through licensing and safety standards. These provisions empower local governments to implement source reduction and spraying programs while ensuring accountability in chemical use to reduce mosquito populations and disease risk. Beyond routine vector control measures, many countries have enacted civic and public health laws to support mosquito control. For example, the Mosquito Abatement for Safety and Health (MASH) Act in the USA supports state and local programs, while the Philippines mandates reporting of communicable diseases to strengthen surveillance. In India, major cities operate under municipal and public health laws (e.g., Tamil Nadu Public Health Act, Delhi and Mumbai Municipal Corporation Acts) that require property owners to eliminate breeding sites, empower health officials to inspect premises, enforce control measures, mandate disease reporting, and impose penalties for non-compliance, including in construction sites. These legal provisions strengthen mosquito control through source reduction, inspection, enforcement, inter-agency coordination, and community participation. Based on experiences of states including metro cities in India and recommendations of an expert group during a workshop on Urban Malaria Scheme in 1995, a model bylaw was developed under the Urban Malaria Scheme in 1995 and disseminated to states by the National Vector Borne Disease Control Programme. The model bylaws emphasize all states to formulate and implement. It also guides states in managing domestic and peridomestic breeding sites, including inspection, notice, and penalty provisions. The model bylaws are for management of domestic and extra-domestic mosquito breeding places. The health officials are empowered to inspect the houses for domestic and peridomestic breeding and issue notice for taking preventive measures either by treating or eliminating it. The officials have also powers to impose penalty if the corrective measures are not taken in specified time. The penalty may increase for deliberate defaults because the breeding if not eliminated timely, it will lead to emergence of adult mosquitoes which are responsible for transmission of diseases to humans. The adoption and strict enforcement of such civic and building bylaws, supported by administrative and legal mechanisms and public awareness, are essential for sustainable prevention and control of vector-borne diseases.

Keywords: Health Act, Civic Bylaws, VBDs

Corresponding author: Pradeep Kumar Srivastava, Absolute Human Care Foundation, India, Email: pradeepksrivastava@gmail.com

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