



Guidelines on Establishment of Virology Laboratory in Developing Countries



**World Health
Organization**

Regional Office for South-East Asia

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Preface

Emerging infectious diseases caused by viruses have assumed great public health significance in the recent past. During the last three decades, almost 20 new viral pathogens have been detected. Some of these—e.g. human immunodeficiency virus (HIV) and hepatitis viruses—have already caused substantial mortality, morbidity and economic loss all over the world. The pandemic of serious acute respiratory syndrome (SARS) unequivocally demonstrated the rapidity with which new viruses can travel across the world and inflict misery. The threat of a pandemic with one of the subtypes of influenza virus is considered the greatest public health challenge in the current millennium so far.

Laboratories play a critical role in surveillance, diagnosis and monitoring of viral disease as well as in the understanding of the genetic changes in the viral genome. Laboratory tools are also essential for the diagnosis of dengue fever and chikungunya fever—two of the important vector-borne viral diseases—and for differentiating from other fevers for institution of rational and specific therapy and control measures.

Establishment of a reliable viral laboratory is a prerequisite for a strong public health response to emerging viral diseases. Unfortunately, several developing countries lack adequate capacity to diagnose viral infections. These guidelines are therefore intended to provide the minimum requirements for establishing a national virology laboratory, keeping in view the emergence of new viral pathogens. It is not meant to serve as a comprehensive laboratory manual for diagnosis of viral infections.

These guidelines cover key aspects of establishing a virology laboratory in a developing country and address issues pertaining to policy and programme, infrastructure, human resources, technologies available, and creating high-quality systems.

We hope that these guidelines provide fundamental information to the policy-makers and laboratory directors in developing countries to aid them in establishing virology laboratories in their respective countries, thereby enhancing national self-reliance in this area.

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