Abstract

Evaluation of the Dengue Surveillance System in Islamabad (2019)

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Abstract

Background: Dengue is a major public health threat since 2005 in Pakistan. Because of their rapid expansion and long duration, dengue epidemics reduce the productive capacity and economic development of many sections of society. Evaluation is an important step of the planning cycle to improve the utilization of resources.

Objective: The overall objective of the study is to assess how quickly the system can detect epidemics and to measure the capacity of the system to monitor trends in its geographical distribution over time.

Methods: A cross-sectional study was conducted from July to September 2019 in Islamabad, Pakistan. Quantitative and qualitative assessments of system attributes were carried out according to updated Centers for Disease Control and Prevention (CDC) guidelines for evaluating public health surveillance systems for 2001. Stakeholders were identified and approached. Four different types of semistructured questionnaires were prepared for each level of stakeholders.

Results: Simplicity was good, and case definition was uniform and easily understandable. Flexibility was poor, and the system was not capable of incorporating changes. Timeliness was excellent in terms of case reporting as well as case response by relevant stakeholders. Data entry operators were few but expert in their work; however, the quality of data remained a challenge as 40% forms were deficient in demographic and clinical information. Acceptability by the workers as well as the population was good. Sensitivity was high (87%). The predictive value positive (PVP) was excellent (76%). Stability was good in terms of finances and logistics, whereas representativeness was insufficient (only 30%).

Conclusions: The overall performance of the surveillance system for dengue in Islamabad is excellent in terms of sensitivity and the PVP. Timeliness is excellent, and acceptability is good, whereas representativeness is poor. Coverage of the system needs to be extended and private setups and laboratories included. Feedback being an important aspect of the planning cycle needs improvement.

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KEYWORDS

surveillance; PVP; sensitivity; specificity

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