

Abstract

Evaluation of Lab-based Influenza Surveillance System in Pakistan, 2017

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Background: Globally 5-10% of adults and 20-30% of the children are affected by influenza annually. Annual epidemics results in 3-5 million cases and 500,000 deaths. Influenza is a common illness in Pakistan however absence of a robust surveillance system makes assessment of burden of disease an issue.

Objective: The study was conducted to identify key strengths and weaknesses of the system and to make recommendations based on findings.

Methods: An evaluative descriptive study was conducted from April to July 2017. The Lab-based Influenza Surveillance System was conducted at the national level. Assessment of qualitative and quantitative system attributes was done utilizing the CDC's Updated Guidelines for Evaluating Public Health Surveillance Systems, 2001. Desk review of literature, departmental documents and reports were also conducted. The stakeholders were identified and interviewed using a semi-structured questionnaire.

Results: The system was found to be simple and easy to operate but less flexible to integrate with other diseases. Data quality was good as 80% of observed forms were completely filled. Timeliness was good as the data takes 24-48 hours from sample collection to report submission to the central level. Acceptability is good as private and public-sector hospitals and labs are involved. Sensitivity calculated was 62% and Predictive Value Positive (PVP) was 37.2%. The representativeness of Lab based influenza surveillance system is poor as it is a sentinel surveillance with specific reporting sites strategically placed. Data from all sentinel sites is analyzed at national reference lab where it is summarized to use for planning and management purposes.

Conclusions: The system is meeting its objectives. Sustainability and stability of the system needs to be improved by allocation of public funds. Extension of the coverage of the system will result in improved representativeness. Regular capacity building of the staff at reporting site will ensure continued quality of reporting.

(*iproc* 2018;4(1):e10619) doi: [10.2196/10619](https://doi.org/10.2196/10619)

Edited by Y Khader; this is a non-peer-reviewed article. Submitted 29.03.18; accepted 29.03.18; published 29.03.18.

Please cite as:

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iproc 2018;4(1):e10619

URL: <http://www.iproc.org/2018/1/e10619/>

doi: [10.2196/10619](https://doi.org/10.2196/10619)

PMID:

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