information system during 2007—2008 influenza season show that it is very easy for use and meet the requirements for specificity, sensitivity and timeliness.

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Evaluation of the Existing Bacterial Meningitis Surveillance System in Islamabad, Pakistan

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Background: Communicable diseases account for about 40% of the burden of disease and 45% of mortality in Pakistan. The WHO estimates that meningitis caused by Hib & S. pneumoniae is 45—100/100,000 in children under the age of 5 years. There are 3 surveillance mechanisms for bacterial meningitis in Islamabad namely Health Management & Information System (HMIS), Disease Early Warning System (DEWS) and Lab-based Bacterial Meningitis Surveillance (BMS) programme.

Objectives: This study aims at evaluation of surveillance systems to determine strengths & weaknesses and analyse their roles in meeting public health objectives.

Methods: The CDC's updated guidelines for evaluating public health surveillance systems were used to evaluate the existing systems on the basis of its system attributes. The surveillance arrangements were evaluated after literature review and series of meeting with the identified stakeholders. A structured performa was developed, pre-tested and used for collecting data. The strengths and weaknesses of the surveillance mechanisms were evaluated using the defined system attributes. A scoring system was evolved to compare the three arrangements based on the criterion of poor, fair and good.

Results: Lab based BMS system was found to be better than the other two arrangements as it is simple, stable, having good quality of data and higher Positive Predictive Value. HMIS was ranked second owing to its fair score in simplicity, flexibility, representativeness, stability and data quality. The data quality, acceptability and representativeness of DEWS do not fulfil the required criterion and was accordingly labelled as the weakest.

Conclusion: Though the Lab based BMS system achieved highest score, the system has limitation of having limited objectives and representing the sentinel population only. Therefore, the other two systems should be improved with the purpose to enhance case detection to formulate appropriate preventive strategies for the control of Bacterial Meningitis in Islamabad.

Evaluation of Hepatitis Surveillance Systems in Pakistan

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Introduction: Pakistan is facing a challenge both from communicable and chronic/non-communicable diseases accounting for 38.4% and 37.7% of total DALYs lost respectively. The high prevalence of viral hepatitis particularly B (3—4%) and C (5—6%) has forced Government of Pakistan to make prevention & control of Hepatitis as a priority. Biggest challenge in this regard is absence of any reliable information on its prevalence or incidence.

Objectives: Comprehensive review of the existing sources/systems of Hepatitis reporting/surveillance to identify key strengths and weaknesses to develop recommendations to strengthen the systems of hepatitis reporting.

Methodology: Current systems of viral hepatitis reporting, Health Management Information System (HMIS), Disease Early Warning System (DEWS) and the National Hepatitis Program Management Information System (HCPMIS) were reviewed in detail based on the CDC Updated Guidelines for Evaluating Public Health Surveillance Systems. A structured checklist proforma was developed for collection of information from key stakeholders and a comprehensive literature review was also done. Systems evaluated on standard attributes labeled as good, average and poor.

Results: Despite good acceptability & stability and average simplicity, flexibility & sensitivity; the HMIS lacks response mechanism. The HCPMIS possessed good flexibility, data quality and positive predictive value but had limited representative-ness. DEWS was found practically non-existent. About 70% disease load covered by private sector remains unreported.

Conclusions/Recommendations: None of the available systems seems to fulfill the information needs. The strengths of the HMIS and the sentinel sites established by the National Hepatitis Control Program however provide good opportunities for development of a state of the art acute viral hepatitis disease surveillance. A phased approach starting with few representative sentinel sites as well as major private health establishment is recommended for an adequate and appropriate response to the public health challenge.