Mixed-Methodology in Disease Surveillance, Response, and Control

Fauzia Aslam¹, Hammad Akram²

¹Graduate, Baqai Medical University, Karachi, Pakistan
²Graduate, Hamdard College of Medicine and Dentistry, Karachi, Pakistan

*Correspondence to: Hammad Akram, Email: hammadakram77@yahoo.com

Dear Editor,

An article previously published by one of the authors of the present letter in September 2017 issue (vol. 2, no. 3) of the International Journal of Basic Science in Medicine shares the importance of mixed-method approaches to improve disease tracking and control.¹ The present write up is an attempt to provide a further description of this mixed-method model that can be beneficial in disease surveillance and epidemiological processes. Our aim is to provide or propose a structure to carry out a multi-phasic, mixed type methodology (qualitative plus quantitative) to assess surveillance capabilities within a jurisdiction that can be pilot tested and used for different reportable conditions specially infectious diseases. We performed a literature review using keywords and Medical Subject Headings (MeSH) terms in the English language. The search was executed on PubMed and Web of Science. The terms such as “surveillance assessment” AND/OR “infectious disease”, “Qualitative approaches” AND “disease surveillance” and phrases such as “surveillance assessment methods”, “qualitative and quantitative methods in surveillance” were used. Boolean operators (AND/OR) were used where applicable. We specifically focused on qualitative studies in the disease surveillance area.

Quantitative Methods

In our previous publication, a 3-phase process was explained where quantitative methods could be used in all three phases which include quantification of all activities.¹ For this part, we propose to include (inclusion criteria) health care agencies (hospitals, clinics, and urgent care clinics), nursing homes, daycares, and schools.

Phase I: To collect baseline information to examine timeliness, frequency, completeness of existing surveillance process and capacity, e.g., count of disease reporting sites, no. of sites that could have reported diseases, and total no. of possible reporting sites;

Phase II: Outreach and education of newly identified and existing stakeholders during which following types of data can be collected, e.g., no. of sites reached out for outreach activities, no. of training/workshops & correspondences completed, no. of agreements established, recording of pre and post-test surveys during training/workshops; and

Phase III: Retesting parameters examined in the phase I to assess, e.g., changes in the no. of reporting sites, timeliness of reporting, completeness of data, etc. and finally dissemination of findings.

Qualitative Methods (During phase I)

Based on our literature review during our phase I (only), we propose semi-structured in-depth (key informant) interviews with inclusion criteria consisting of health professionals such as environmental health workers, public health professionals (in epidemiology and/or preparedness area), leadership (public health, health facilities), infection control/quality management staff, medical records department staff with sufficient (e.g. at least 1 years of) experience in communicable diseases, surveillance systems, etc.²,³ The interview questions could be structured to collect demographic profiles of the respondents, and mainly their knowledge and awareness regarding surveillance systems, e.g., processes and related attitude, motivations and barrier, data collection & reporting practices, determine its acceptability, comprehensibility, and time required to implement (among workforce and informants).

We drafted some knowledge-attitude-practice question examples below based on the reviewed literature (Box 1).²,⁴

© 2019 The Author(s); Published by Zabol University of Medical Sciences. This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.
Conclusions
We think that using the above-mentioned approach can improve situational awareness and preparedness capacity among health professionals, resulting in better surveillance activity, early detection of outbreaks and early implementation of interventions and control measures.

Ethical Approval
Not applicable.

Competing Interests
Authors declare no competing interests.

References