Supplement article

PanAfrican Medical Journal

Case study

Surveillance gaps analysis and impact of the late detection of the first Middle East respiratory syndrome case in South Batinah, Oman: a teaching case-study

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Cite this: The Pan African Medical Journal. 2019;33 (Supp 1):13. **DOI:**10.11604/pamj.supp.2019.33.1.18632
Received: 06/03/2019 **- Accepted:** 09/03/2019 **- Published:** 16/05/2019
Key words: Surveillance, MERS-CoV, Oman

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This article is published as part of the supplement **"Case Studies for Public Health in the Eastern Mediterranean Region"** sponsored by **The Eastern Mediterranean Public Health Network (EMPHNET)**

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Available online at: http://www.panafrican-med-journal.com/content/series/33/1/13/full

Abstract

Timeliness is one of the most important components of any successful surveillance system, besides the sensitivity, stability and positive predictive value. The impact of significantly delayed detection of a serious threatening disease could be so severe. Therefore, filling the gaps or defects is of high priority to prevent undesirable consequences to the public health. This teaching case study provides gaps analysis through a systematic approach to the existing surveillance system which detected Middle East Respiratory Syndrome (MERS-CoV) case significantly late, thus improving the ability to mitigate those gaps. It simulates an outbreak investigation including laboratory confirmation, finding epidemiological links, and implementation of control measures. The analysis of surveillance gaps for this single case of MERS-CoV would help the learner realize the role of surveillance major components; case definition, the implementation step, laboratory samples, training and follow up. This case study was developed based on a report submitted to the General Directorate of Disease Surveillance and Control in the Omani Ministry of Health in September 2017. It was designed for the training of field epidemiology trainees or any other health care workers working in public health-related fields. It can be administered in 4-5 hours as two sessions. Used as adjunct training material, the case study provides the trainees with the practical aspects and challenges of any surveillance system which might not be fully understood through theoretical lectures solely. It also builds competencies in identifying the major gaps and recommending the right root solutions.

How to use this case study

General instructions: this case study should be used as adjunct training material for novice epidemiology trainees to reinforce the concepts taught in prior lectures. The case study is ideally taught by a facilitator in groups of about 20 participants. Participants are to take turns reading the case study, usually a paragraph per student. The facilitator guides the discussion on possible responses to questions. The facilitator may make use of flip charts to illustrate certain points. Additional instructor's notes for facilitation are coupled with each question in the instructor's guide to aid facilitation.

Audience: this case study was developed for novice field epidemiology students. These participants are commonly health care workers working in the county departments of health whose background may be as

medical doctors, nurses, environmental health officers or laboratory scientists who work in public health-related fields. Most have a health science or biology background.

Prerequisites: before using this case study, participants should have received lectures on disease surveillance and outbreak investigation.

Materials needed: Flash drive, flip charts, markers, computers with Microsoft Excel

Level of training and associated public health activity: Surveillance– First identified Middle East Respiratory case, South Batinah Governorate, Oman

Time required: 4-5 hours (2 sessions)

Language: English

Case study material

- Download the case study student guide
- Request the case study facilitator guide

Competing interest

The authors declare no competing interests.

Acknowledgement

Authors would like to thank the Eastern Mediterranean Public Health Network (EMPHNET) for their technical support. Authors wish to acknowledge colleagues from Rustaq Hospital and Widam health center who were involved in the investigation of this case and public health officers in the disease surveillance and control in South Batinah Governorate.

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