Abstract

Defining Influenza Baseline and Threshold Values Using Surveillance Data - Egypt, Season 2016-17

Basma AbdElGawad; S Refaey; H Abu El Sood; S El Shourbagy; A Mohsen; M Fahim

Corresponding Author:
Basma AbdElGawad

Abstract

Background: Influenza infection represents a substantial public health problem resulting in global burden of mortality and morbidity. Influenza thresholds indicate level of disease activity that would signal the start or end of a season and provide an alert to an unusually severe or atypical season so, adjust preventive and control measures.

Objective: To establish baseline and threshold values for 2016/17 season.

Methods: Using Acute Respiratory Illness (ARI) surveillance data from 2013 to 2017, two parameters were assessed to monitor influenza activity: percentage of ARI samples positive for influenza and composite parameter (percentage of samples tested positive *ARI rate). Three threshold levels (baseline, alert and epidemic) were established by calculation of average of each week in all preceding seasons, 40% Upper Confidence Limit (UCL) and 90% UCL of each week respectively, then a four-week running average used to smooth the curve. Each parameter was compared against corresponding threshold and transmission intensity was categorized as low, moderate and high.

Results: For season 2016/2017, both parameters showed two waves of activity crossing baseline threshold. First started at week 35 to 45 with dominance of Flu A/H3 activity (293(89) % of 329 positive samples, remain was Flu B) that exceeds epidemic threshold. The other, started week 12 to 14 with dominance of Flu B activity (136(99) % of 138 positive samples, remain was Flu A/H3). Percentage positive parameter signaled other weeks away from the defined season.

Conclusions: Public health actions were taken in response to the observed increase flu A/H3 activity, to trim the impact and serious consequences of the disease. Continuous calculation of baseline and threshold levels can assess not only seasonal influenza but also potential pandemic influenza, contributing to the country's pandemic preparedness and have important implications especially for resource-limited countries.

(iproc 2018;4(1):e10600) doi:10.2196/10600

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:
AbdElGawad B, Refaey S, Abu El Sood H, El Shourbagy S, Mohsen A, Fahim M
Defining Influenza Baseline and Threshold Values Using Surveillance Data - Egypt, Season 2016-17
iproc 2018;4(1):e10600
URL: http://www.iproc.org/2018/1/e10600/
doi:10.2196/10600
PMID: