Methodology for Establishment of Epidemic Thresholds
Thresholds are calculated using Moving Epidemic Methods (MEM), a sequential analysis using R language available from: http://CRAN.R-project.org/web/package=mem) designed to calculate the duration, start and end of the annual influenza epidemic. MEM uses the 40th, 90th and 97.5th percentile established from available years of historical data to calculate threshold activities. Threshold activity for influenza is categorized as: below epidemic threshold, low, moderate, high or very high. Transmissibility of influenza can be inferred from ILI data while SARI data gives an indication of severity.

Summary

There was increased influenza activity in the third quarter of 2019 between epi-weeks 27 and 39. Rates of Influenza-Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) attributable to influenza virus infection were within the moderate threshold and remained within the low seasonal threshold in week 39. This second cycle of activity was of a moderate transmissibility and severity.
ILI Surveillance:
Specimens from 895 outpatients were received from two ILI surveillance sites. 794 (89%) were adequately sampled and tested. Influenza virus was detected in 155 (20%) of these samples. 75 (48%) were identified as Influenza B, 14 (9%) Influenza A H3N2, 26 (17%) Influenza A H1N1 (pandemic), 32 (21%) influenza A Untyped and 8 (5%) as Influenza A unsubtypeable.

SARI Surveillance:
During this same period, specimens were received from 1551 patients admitted to four SARI surveillance sites. 986 (64%) were adequately sampled and tested. Influenza was detected in 157 (16%) specimens; 104 (66%) of which were identified as Influenza B, 6 (4%) as Influenza A H3N2, 9 (6%) as Influenza A H1N1 (pandemic), 28 (18%) influenza A Untyped and 10 (6%) as Influenza A unsubtypeable.

Influenza Transmissibility

Fig 1: Percentage of Influenza Positive ILI Cases1 (Out-Patient Visit Surveillance) per Epi-Week against Epidemic Thresholds Set Using 2013 – 2018 Data

In October of 2019, ILI outpatient visits attributable to influenza virus infection were below epidemic threshold between weeks 40 and 43. Weeks 29 – 33 had a steady raise to High Epidemic threshold which was associated with an increase in influenza detection.
In October 2019, SARI admission attributable to influenza virus infection declined to below epidemic threshold in week 40 and has remained below epidemic threshold from week 40 to week 43.
Influenza viruses circulating are predominantly influenza B and there was also random detection of influenza A. Among the influenza A viruses subtyped, H1N1 (Pandemic) and H3N2 were seen in weeks 26–32. Most viruses were detected between weeks 8 and 37.

**Fig 4: Number of Influenza Positive Cases by Age Group**

The virus circulation was greater at the beginning of the age spectrum but the most affected age groups were the under-fives, aged 3 years.
The total number of samples collected as at 30th October 2019, is 2446. 88% (2159/2446) of the received samples were tested and 14.5% (312/2159) were positive for influenza virus while 86% (1847 /2159) were negative. The highest numbers of patients investigated were aged 10 years.
Fig: 7: Reported Influenza Cases among SARI patients’ admissions from sentinel sites in 2019.