Surveillance of influenza-like illness in Israel

Weekly update report for Week 12, ending 25-Mar-17

Summary: Influenza-like illness rates are low and resemble rates observed between influenza seasons.

Clinically: In the community: Clinic visit rates due to influenza-like illness and pneumonia are low and seasonally expected.

In hospitals: The percentages of visits to internal medicine and pediatric emergency rooms due to pneumonia are low and are below the multi-annual average; there was no significant change in the percentage of visits of 0-2 year olds to pediatric emergency rooms due to bronchiolitis.

Hospital bed occupancy rates in internal medicine and pediatric departments are continuing to decrease.

Laboratory: One out of 6 specimens (16.6%) collected during the past week from the sentinel clinics was found to be positive for influenza B. One additional specimen was found to be positive for RSV.

Morbidity

- Influenza-like morbidity (Figures 1-3): In the community: Both crude and age-specific visit rates to "Maccabi Healthcare Services" clinics due to influenza-like illness are low, and resemble the levels seen between influenza seasons. The crude visit rate is below the epidemic threshold. A similar picture arises from "Clalit" Health Services.
The baseline level and the influenza activity intensities were calculated using an algorithm that was developed in the framework of the European influenza surveillance project (EuroFlu), based on past data accumulated at the ICDC regarding visits to "Maccabi Healthcare Services" clinics due to influenza-like illness.
• **Pneumonia morbidity (Figures 4-5): In the community**: In the past week, no significant change was observed in the crude rate of visits to "Maccabi Healthcare Services" clinics due to pneumonia. The decrease in the visit rate for children and youths aged 2-18 years is continuing. In the remaining age groups, no significant change was observed in the visit rate. A similar picture arises from "Clalit" Health Services.

![Fig. 4: Weekly visits to community clinics due to pneumonia, by year, 2014-2017, compared to annual average](image1)

![Fig. 5: Weekly visits to community clinics due to pneumonia, by age, 2013-2017](image2)
In hospitals (based on the Ministry of Health database administered by the Health Information Division):

Pneumonia (Figures 6-7): The percentages of visits to internal medicine emergency rooms and to pediatric emergency rooms due to pneumonia are low, and are below the multi-annual average.

Bronchiolitis (Figure 8): In the past week, no significant change was observed in the percentage of visits of 0-2 year olds to pediatric emergency rooms due to bronchiolitis.
• **Hospitalizations (Figure 9):** The decreases in hospital bed occupancy rates in pediatric departments (approximately 87%) and in internal medicine departments (approximately 105%) are continuing.

![Fig. 9: Weekly average bed occupancy, internal and pediatric departments, all hospitals, 2017-2014](image)

Mortality

• **Figures 10-11:** Figure 10 shows the number of deaths throughout Israel as compared to the multi-annual average (updated for Week 6, ending 11-Feb-17). It arises from this figure that a decrease has recently been observed in the total number of deaths, which is still above the multi-annual average. It arises from Figure 11, based on data from the Epidemiology Division updated until Week 8 (ending 25-Feb-17), that the percentage of mortality that is due to pneumonia is within the seasonally expected range.
Fig. 10: Total deaths, all causes, 2012-2017, compared to annual average

Deaths
Year & week

Fig. 11: Percentage of pneumonia-related of all deaths, 2012-2017, compared to seasonal prediction
Laboratory

Findings of the Sentinel Clinic Network (Figures 12-13): Results of tests by the Central Virology Laboratory for the current week are summarized in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Week 12</th>
<th>Cumulative Data since Week 40</th>
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<tbody>
<tr>
<td></td>
<td>(19-Mar-17 - 25-Mar-17)</td>
<td>(ending 8-Oct-16)</td>
</tr>
<tr>
<td>No. of Specimens</td>
<td>6</td>
<td>1,275</td>
</tr>
<tr>
<td>No. of RSV-positive specimens</td>
<td>1 (16.6%)</td>
<td>140 (10.9%)</td>
</tr>
<tr>
<td>No. of influenza-positive specimens</td>
<td>1 (16.6%)</td>
<td>468 (37.6%)</td>
</tr>
</tbody>
</table>

| No. of influenza-positive specimens by type/ subtype |  |
|-----------------------------------------------------|--|--|
| Type A influenza                                    | 0 | 458 (97.8%) |
| – A (H1N1)pdm 09                                     | 0 | 1 (0.2%) |
| – A/unsubtyped*                                      | 0 | 0          |
| – A/H3                                               | 0 | 457 (99.8%)|
| – A/H1                                               | 0 | 0          |
| Type B influenza                                     | 1 (100%) | 10 (2.2%) |

* Specimens that were found to be positive for type A influenza, but were non-subtypeable.
Fig. 12: Positive influenza samples out of total samples collected by sentinel network, 2016/2017

Fig. 13: Percentage of positive samples for influenza and positive samples for RSV out of total samples collected by sentinel network, 2016/17
Data from hospitalized patients diagnosed at the Central Virology Laboratory at the Sheba Medical Center, Tel Hashomer (Figure 14)

During the past week, 9 specimens (approximately 5%) were found to be positive for influenza: 6 specimens were found to be positive for influenza A and 3 specimens were found to be positive for influenza B among hospitalized patients. Approximately 5% of the specimens were found to be positive for RSV, approximately 7% of the specimens were found to be positive for adenovirus and approximately 3% of the specimens were found to be positive for parainfluenza 3.
International influenza activity

Europe (FluNewsEurope): As of Week 11 (ending 20-Mar-17), the reduction in influenza activity is continuing in most European countries. In parallel, the decrease in the percentage of specimens positive for influenza in the sentinel network is continuing. In the past week, a high percentage of influenza B isolations was observed in the sentinels, but influenza subtype A/H3N2 is still the most dominant.

USA (CDC): As of Week 11 (ending 18-Mar-17), influenza activity in the USA is continuing to decrease. The percentage of clinic visits that are due to influenza-like illness is still above the baseline level. Additionally, 2 cases of influenza-related children’s deaths were reported. 4,416 of 24,680 specimens (approximately 18%) were found to be positive for influenza. Of these, 2,343 (53.1%) were found to be positive for influenza A. 2,073 specimens (46.9%) were found to be positive for influenza B.

So far, influenza A/H3 is the most dominant subtype.

Influenza A/H1N1 pdm09, influenza A/H3N2 and influenza B were found to be sensitive to Oseltamivir, Zanamivir and Peramivir.

Influenza A/H1N1 pdm09 and influenza A/H3N2 were found to be resistant to Adamantanes.