INTEGRATOR DEFINITION

2013 NYC Macroscope

Numerator: Patients with a CVX, CPT, or ICD-9 code indicating having received an influenza vaccination during 2013

Denominator: Patients with a visit in 2013

2013-14 NYC Health and Nutrition Examination Survey (HANES) and 2013 Community Health Survey (CHS)

Self-reported to have received an influenza vaccine within the past 12 months and reported seeing a doctor or other healthcare professional in the last 12 months for primary care

SUMMARY

The NYC Macroscope estimate of influenza vaccination prevalence was not statistically equivalent to estimates from NYC HANES or CHS. There was low sensitivity and high specificity of this indicator when comparing NYC Macroscope with NYC HANES and CHS.

RECOMMENDATION FOR USE

Not recommended

Influenza vaccination

Prevalence and comparisons by data source

Prevalence estimates of influenza vaccination were 20.9% in the NYC Macroscope, 47.6% in NYC HANES, and 47.3% in CHS. The prevalence estimate from the NYC Macroscope was not statistically equivalent to estimates from NYC HANES or CHS (p>0.99 for both comparisons). The influenza vaccination indicator met one out of five a priori criteria for agreement when comparing the NYC Macroscope with NYC HANES and CHS.

Prevalence comparison of influenza vaccination for NYC Macroscope vs. NYC HANES and CHS

<table>
<thead>
<tr>
<th>Prevalence comparison statistics (a priori criterion for agreement)</th>
<th>2013 NYC Macroscope* vs. 2013-14 NYC HANES</th>
<th>2013 NYC Macroscope† vs. 2013 CHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute difference (&lt;5%)</td>
<td>26.7% (No)</td>
<td>27.3% (No)</td>
</tr>
<tr>
<td>Prevalence ratio (0.85–1.15)</td>
<td>0.44 (No)</td>
<td>0.44 (No)</td>
</tr>
<tr>
<td>Two-tailed t-test (p-value ≤0.05)</td>
<td>p&lt;0.01 (No)</td>
<td>p&lt;0.01 (No)</td>
</tr>
<tr>
<td>Two one-sided t-tests (p-value &lt;0.05)</td>
<td>p&gt;0.99 (No)</td>
<td>p&gt;0.99 (No)</td>
</tr>
<tr>
<td>Spearman’s rank correlation of age- and sex-stratified estimates (r ≥0.80)</td>
<td>r=1.00 (Yes)</td>
<td>r=0.94 (Yes)</td>
</tr>
</tbody>
</table>

*NYC Macroscope estimates were weighted to NYC HANES in-care population.
†NYC Macroscope estimates were weighted to CHS in-care population.

Prevalence by data source, sex, and age group

Among all sex and age groups, NYC Macroscope estimates of influenza vaccine prevalence were significantly lower compared with NYC HANES estimates and CHS estimates (p<0.01 for all comparisons).
Influenza vaccination

Influenza vaccination prevalence in NYC Macrooscope, NYC HANES, and CHS by sex and age group

![Graph showing influenza vaccination prevalence by sex and age group in NYC Macrooscope, NYC HANES, and CHS](image)

**Indicator validity**

In the sample of NYC Macrooscope practice EHRs (N=48), there was substantial agreement, low sensitivity, and high specificity. In the sample of non-NYC Macrooscope practice EHRs (N=141), there was fair agreement, low sensitivity, and high specificity. When restricting this group to a subsample of practices that attested to Stage 1 Meaningful Use (N=86), there was moderate agreement, low sensitivity, and high specificity.

**Validity of influenza vaccination in a sample of EHRs from NYC HANES participants**

<table>
<thead>
<tr>
<th></th>
<th>NYC Macrooscope practice EHRs</th>
<th>Non-NYC Macroscope practice EHRs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Stage 1 Meaningful Use*</td>
</tr>
<tr>
<td>Kappa coefficient</td>
<td>0.61</td>
<td>0.34</td>
</tr>
<tr>
<td>Sensitivity (95% CI)</td>
<td>0.64</td>
<td>0.45</td>
</tr>
<tr>
<td>Specificity (95% CI)</td>
<td>0.96</td>
<td>0.93</td>
</tr>
<tr>
<td>Positive predictive value</td>
<td>0.93</td>
<td>0.90</td>
</tr>
<tr>
<td>Negative predictive value</td>
<td>0.76</td>
<td>0.54</td>
</tr>
<tr>
<td>Percent of records missing documentation in structured field</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Meaningful Use

NYC MACROSCOPE

ELECTRONIC HEALTH RECORD SURVEILLANCE INDICATOR FACT SHEET

Influenza vaccination

NYC MACROSCOPE TEAM

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For more information about this project, please visit

http://www1.nyc.gov/site/doh/data/health-tools/nycmacroscope.page

or email us at

nycmacroscope@health.nyc.gov

ACKNOWLEDGMENTS

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SUGGESTED CITATION


*Restricted to EHRs from providers or practices attesting to Stage 1 Meaningful Use as of December 31, 2013.