**Recent Antimicrobial Resistance Increases among \textit{S. pneumoniae} in Four Geographic Regions: Report from the SENTRY Antimicrobial Surveillance Program**

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**Abstract**

**Background:** Consistent trends toward greater resistance (R) rates for \textit{S. pneumoniae} and macrolides have been documented in various regional surveillance programs. We summarize R rates for 5 commonly used antimicrobial classes across 4 geographic regions (North America, Europe, Latin America, and Asia Pacific) from a global program (2007-2009).

**Methods:** SPCIs were susceptible (S) by CLSI broth microdilution methods in 2 monitoring reference laboratories against \textit{penicillin} (PEN), \textit{amoxicillin/clavulanate} (AC), \textit{ceftaxime} (CRO), \textit{clindamycin} (CL), \textit{ciprofloxacin} (CIP), \textit{moxifloxacin} (Moxi), and \textit{tetracycline} (TET). Isolates were collected from community-based sites, primarily from respiratory tract infections, and the majority of the remaining isolates were from bloodstream or hospital-acquired infections. The collection was divided into 352 pre-PCV7 (1998-1999) and 352 post-PCV7 (2007-2009) subset samples.

**Results:** Across all three (1) surveillance years in four geographic regions USA, Europe, Latin America, and Asia Pacific (APAC) regions of a global program (2007-2009)

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<tr>
<td><strong>Susceptibility</strong></td>
<td><strong>S</strong> (%)</td>
<td><strong>R</strong> (%)</td>
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<tr>
<td><strong>PEN</strong></td>
<td>69.0</td>
<td>31.0</td>
</tr>
<tr>
<td><strong>TET</strong></td>
<td>75.7</td>
<td>24.3</td>
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<tr>
<td><strong>CL</strong></td>
<td>70.2</td>
<td>29.8</td>
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<tr>
<td><strong>CRO</strong></td>
<td>64.6</td>
<td>35.4</td>
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<tr>
<td><strong>CIP</strong></td>
<td>89.9</td>
<td>10.1</td>
</tr>
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**Conclusions:** The introduction of Prevnar 13 has significantly reduced the number of \textit{S. pneumoniae} isolates overall, particularly from children aged 2-5 years. This update of SENTRY Program results from USA isolates of \textit{S. pneumoniae} will continue to provide important trends for future years.

**References**

4. JMI Laboratories, North Liberty, Iowa, USA; SA Pathology, Adelaide, Australia

**Introduction**

The SENTRY Antimicrobial Surveillance Program has been a continuously-active global resistance surveillance program for more than a decade. Isolates of \textit{Streptococcus pneumoniae} have been collected from clinical specimens obtained by a variety of methods from patients with upper and lower respiratory tract infections, urinary tract infections, skin and skin structure infections, and bacteremia. The collection was monitored at four sentinel laboratory sites: Emory University Hospital (Atlanta, Georgia), Medical University of South Carolina (Charleston, South Carolina), University of Iowa (Iowa City, Iowa), and The University of Texas Medical School at Houston (Houston, Texas). The collection was divided into 352 pre-PCV7 (1998-1999) and 352 post-PCV7 (2007-2009) subset samples.

**Susceptibility testing and Enterococci:** Susceptibility testing was performed by reference CLSI (2009) and 2010) broth microdilution method utilizing a panel of 17 agents selected from the SENTRY Antimicrobial Surveillance Program (SAP) database. Each isolate was tested against one agent of the panel of 17 agents. Presented results represent the total isolates tested over the 3-year sampling period.

**Results:** Across all three (1) surveillance years in four geographic regions USA, Europe, Latin America, and Asia Pacific (APAC) regions of a global program (2007-2009; 14,934 organisms).

**Conclusion:** The results presented in this report are consistent with previous reports from the SENTRY Program and other antimicrobial surveillance programs, and demonstrate the importance of monitoring antimicrobial resistance trends over time.

**References**


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