Sepsis Incidence and Mortality

California Statewide Sepsis Incidence over Time

- The figure below shows the number of sepsis hospitalizations and sepsis hospitalization rates per 100 hospitalizations (all reasons) from 2010-2017.

- From 2010 to 2017, the number of sepsis hospitalizations increased 112.0% from 119,338 to 253,030.

- Sepsis case hospitalizations represented 3.2% of all hospitalizations in 2010 and 7.1% in 2017 (a 119.1% increase).

![Sepsis Hospitalization Rate (%) California: 2010-2017 (Annual) (Source: OSHPD Discharge Data; Data reflect updated Modified Dombrovskiy Method of case identification (ICD-9 & ICD-10).]

**Sepsis Hospitalization Rate (%)**

- **Number of sepsis hospitalizations**
- **Total number of hospitalizations (all reasons)**
- **Sepsis cases per 100 hospitalizations (%)**

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**California Statewide Sepsis Mortality over Time**

- The figure below shows the number of sepsis deaths and the sepsis in-hospital mortality per 100 sepsis cases from 2010-2017.

- From 2010 to 2017, the *number* of deaths among hospitalized sepsis cases increased 29.6% from 29,115 to 37,726 in California.

- During the same time period, the percentage of hospitalized sepsis cases that resulted in death decreased 38.9% from 24.4% to 14.9%.

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**Sepsis Case Mortality Rate (%)**  
**California: 2010-2017 (Annual)**

*Source: OSHPD Discharge Data; Data reflect updated Modified Dombrovskiy Method of case identification (ICD-9 & ICD-10).*

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Relationship between Sepsis Incidence and Mortality in California

- As shown in the summary table below, the percentage of all hospitalizations that were sepsis-related monotonically increased 7-14% each year since 2010, with the latest increase of 13% from 2016-2017.

- During the same time period, the case-mortality rate monotonically declined 5-9% each year since 2010, with the latest reduction of 8% from 2016-2017.

- The reduction in sepsis case-mortality in California from 2010 is estimated to have saved 78,778 lives from 2011-2017.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Total number of hospitalizations (all reasons)</td>
<td>3,682,406</td>
<td>3,640,016</td>
<td>3,591,236</td>
<td>3,511,443</td>
<td>3,501,007</td>
<td>3,544,778</td>
<td>3,554,135</td>
<td>3,563,008</td>
<td>-3.2%</td>
</tr>
<tr>
<td>Number of sepsis hospitalizations</td>
<td>119,338</td>
<td>132,538</td>
<td>139,379</td>
<td>154,617</td>
<td>173,517</td>
<td>200,790</td>
<td>223,072</td>
<td>253,020</td>
<td>112.0%</td>
</tr>
<tr>
<td>Sepsis cases per 100 hospitalizations (%)</td>
<td>3.2%</td>
<td>3.6%</td>
<td>3.9%</td>
<td>4.4%</td>
<td>5.0%</td>
<td>5.7%</td>
<td>6.3%</td>
<td>7.1%</td>
<td>119.1%</td>
</tr>
<tr>
<td>Change sepsis hospitalization rate per year</td>
<td>-</td>
<td>12%</td>
<td>7%</td>
<td>13%</td>
<td>13%</td>
<td>14%</td>
<td>11%</td>
<td>13%</td>
<td>7% to 14%</td>
</tr>
<tr>
<td>Number of hospital sepsis cases that end in death</td>
<td>29,115</td>
<td>30,478</td>
<td>30,331</td>
<td>31,483</td>
<td>32,042</td>
<td>34,512</td>
<td>36,185</td>
<td>37,726</td>
<td>29.6%</td>
</tr>
<tr>
<td>Sepsis deaths per 100 sepsis cases (%)</td>
<td>24.4%</td>
<td>23.0%</td>
<td>21.8%</td>
<td>20.4%</td>
<td>18.5%</td>
<td>17.2%</td>
<td>16.2%</td>
<td>14.9%</td>
<td>-38.9%</td>
</tr>
<tr>
<td>Change in sepsis death rate per year</td>
<td>-</td>
<td>-6%</td>
<td>-5%</td>
<td>-6%</td>
<td>-9%</td>
<td>-7%</td>
<td>-6%</td>
<td>-8%</td>
<td>-5% to -9%</td>
</tr>
<tr>
<td>Lives saved vs. 2010 (excess if 2010 rate persisted)</td>
<td>-</td>
<td>1,857</td>
<td>3,673</td>
<td>6,239</td>
<td>10,291</td>
<td>14,475</td>
<td>18,238</td>
<td>24,004</td>
<td>78,778</td>
</tr>
</tbody>
</table>