Table XII-1  
LARYNX CANCER (Invasive)  
WITH UP TO THREE JOINPOINTS BY RACE AND SEX  

<table>
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<tr>
<th>Year</th>
<th>APC</th>
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<td>1983-96</td>
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<td></td>
<td>1996-98</td>
<td>-10.9*</td>
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<td>1.8*</td>
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The APC is the Annual Percent Change based on rates age-adjusted to the 1970 U.S. standard population using the Joinpoint Regression Program.  
* The APC is significantly different from zero (p<.05).
Table XII-2
LARYNX CANCER (Invasive)
SEER INCIDENCE RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES§, BY RACE AND SEX

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§ SEER Program. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, unless noted.
λ SEER Program. Rates are per 100,000 and are age-adjusted to the world standard population.
- Statistic not shown. Rate based on less than 25 cases for the time interval.
### Table XII-3
LARYNX CANCER (Invasive)
U.S. MORTALITY RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES, BY RACE AND SEX

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AGE-ADJUSTED RATES, 1994-98

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AGE-SPECIFIC RATES, 1994-98

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δ NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, unless noted.

Φ NCHS public use tape. Rates are per 100,000 and are age-adjusted to the world standard population.

- Statistic not shown. Rate based on less than 25 cases for the time interval.
Table XII-4
LARYNX CANCER (Invasive)
SURVIVAL RATES, BY RACE, SEX, DIAGNOSIS YEAR, STAGE AND AGE

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<td>5-YR RELATIVE SURVIVAL RATES</td>
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5-YR RELATIVE SURVIVAL RATES, 1992-97b
AGE AT DIAGNOSIS:

| <45 | 64.2 | 63.3 | 66.4† | 67.5 | 66.7 | 69.2† | 56.6† | 58.1† | - |
| 45-54 | 63.7 | 65.7 | 53.0† | 67.7 | 69.8 | 56.2† | 46.3† | 47.7† | 41.1† |
| 55-64 | 66.5 | 66.8 | 65.3 | 67.5 | 68.2 | 64.8 | 58.9 | 56.7 | 67.4† |
| 65-74 | 63.7 | 64.8 | 59.3 | 64.9 | 65.7 | 61.9 | 50.1† | 55.0† | 32.8† |
| 75+ | 64.0 | 69.9 | 45.0† | 64.6 | 71.9 | 41.7† | 57.3† | 51.5† | - |
| Under 65 | 65.2 | 66.0 | 62.2 | 67.4 | 68.4 | 63.3 | 54.4 | 54.1 | 55.9† |
| 65 and over | 63.8 | 66.3 | 54.8 | 64.9 | 67.4 | 55.5 | 52.0 | 54.2† | 45.1† |

Rates are based on End Results data from a series of hospital registries and one population-based registry.
Rates are from the SEER Program. They are based on data from population-based registries in Connecticut, New Mexico, Utah, Iowa, Hawaii, Atlanta, Detroit, Seattle-Puget Sound and San Francisco-Oakland. Rates are based on follow-up of patients through 1997.
The difference in rates between 1974-76 and 1992-97 is statistically significant (p<.05).
The standard error of the survival rate is between 5 and 10 percentage points.
The standard error of the survival rate is greater than 10 percentage points.
Statistic could not be calculated.
### Table XII-5

LARYNX CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Males and Females

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| Mortality               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| U.S.                    | 1.5  | 1.4  | 1.4  | 1.4  | 1.4  | 1.3  | 1.4  | 1.4  | 1.4  | 1.3  | 1.4  | 1.3  | 1.3  | 1.3  | 1.2  | 1.2  | 1.2  |
| SEER                    | 1.4  | 1.4  | 1.4  | 1.3  | 1.4  | 1.2  | 1.3  | 1.2  | 1.3  | 1.2  | 1.3  | 1.2  | 1.2  | 1.2  | 1.1  | 1.0  | 1.0  | 1.0  |

Relative Survival Rates (SEER)

| Survival Rate          | 1-year | 2-year | 3-year | 4-year | 5-year | 6-year | 7-year | 8-year | 9-year | 10-year | 11-year | 12-year | 13-year | 14-year | 15-year | 16-year | 17-year | 18-year | 19-year | 20-year | 21-year | 22-year | 23-year |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1-year                 | 88.7   | 89.1   | 89.3   | 88.4   | 90.2   | 88.5   | 90.7   | 89.5   | 88.2   | 86.8   | 89.3   | 87.6   | 90.6   | 88.3   | 87.4   | 87.7   | 89.5   | 88.6   | 86.4   |
| 2-year                 | 76.6   | 79.7   | 82.3   | 79.9   | 81.6   | 77.5   | 80.7   | 80.2   | 79.1   | 76.9   | 79.9   | 77.8   | 80.8   | 78.1   | 78.8   | 77.6   | 80.0   | 79.5   |
| 3-year                 | 70.4   | 75.6   | 76.1   | 75.2   | 75.6   | 71.2   | 75.6   | 73.2   | 74.0   | 72.4   | 74.4   | 71.2   | 74.0   | 73.7   | 71.8   | 70.5   | 74.9   |
| 4-year                 | 66.0   | 70.9   | 72.6   | 71.5   | 72.0   | 66.2   | 70.2   | 68.7   | 70.3   | 69.5   | 67.7   | 66.7   | 70.0   | 69.3   | 66.0   | 66.3   |
| 5-year                 | 63.3   | 67.1   | 69.2   | 67.8   | 69.2   | 63.6   | 68.1   | 65.6   | 67.8   | 67.1   | 64.0   | 65.0   | 67.7   | 66.0   | 61.9   |
| 6-year                 | 59.8   | 64.5   | 66.2   | 64.9   | 66.3   | 61.6   | 64.2   | 61.5   | 64.6   | 64.4   | 61.8   | 60.9   | 63.9   | 62.6   | 62.8   |
| 7-year                 | 56.5   | 61.6   | 63.3   | 62.8   | 63.4   | 59.6   | 61.6   | 59.2   | 61.1   | 62.7   | 59.5   | 59.2   | 63.2   | 63.4   | 62.9   |
| 8-year                 | 53.8   | 60.1   | 61.5   | 60.4   | 62.3   | 58.2   | 58.8   | 57.4   | 57.5   | 60.1   | 56.3   | 57.0   |
| 9-year                 | 51.6   | 57.2   | 60.5   | 57.6   | 59.9   | 56.4   | 56.1   | 54.6   | 55.3   | 57.3   | 53.9   |
| 10-year                | 50.0   | 55.7   | 58.9   | 55.8   | 58.0   | 54.6   | 54.0   | 51.8   | 53.7   | 55.7   |
| 11-year                | 49.4   | 52.8   | 57.1   | 53.8   | 55.7   | 51.8   | 52.7   | 50.1   | 51.1   | 48.8   | 47.2   | 50.4   |
| 12-year                | 46.8   | 51.3   | 55.5   | 50.2   | 53.0   | 48.8   | 50.7   | 47.9   |
| 13-year                | 46.6   | 49.6   | 53.9   | 48.0   | 49.5   | 47.2   | 50.4   |
| 14-year                | 45.9   | 49.5   | 52.6   | 46.7   | 47.6   | 46.2   |
| 15-year                | 44.5   | 46.8   | 51.5   | 46.0   | 44.5   |
| 16-year                | 42.2   | 44.9   | 48.7   | 44.6   |
| 17-year                | 41.2   | 44.7   | 48.0   |
| 18-year                | 41.2   | 42.8   |
| 19-year                | 37.7   |
| 20-year                | 37.7   |
| 21-year                | 35.3   |
| 22-year                | 35.1   |
| 23-year                | 33.3   |

Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population. Survival rates are relative rates expressed as percents.
Table XII-6
LARYNX CANCER (Invasive)
INCIDENCE, MORTALITY, AND SURVIVAL RATES
By Year of Diagnosis/Death
All Races, Males

Year of Diagnosis/Death

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Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population. Survival rates are relative rates expressed as percents.
Table XII-7
LARYNX CANCER (Invasive)
INCIDENCE, MORTALITY, AND SURVIVAL RATES
By Year of Diagnosis/Death
All Races, Females

Year of Diagnosis/Death

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Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population. Survival rates are relative rates expressed as percents.
### LARYNX CANCER (Invasive)

Percent Diagnosed With Cancer In 10, 20 and 30 Years and In Remaining Lifetime, Given Cancer Free At Current Age By Race and Sex

Lifetime Risk (Percent) of Being Diagnosed (11 SEER Areas) With Cancer and Lifetime Risk (Percent) of Dying (Total U.S.) From Cancer

1996-1998

#### All Races

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Lifetime Risk of Being Diagnosed = 0.67% Lifetime Risk of Being Diagnosed = 0.17%
Lifetime Risk of Dying = 0.25% Lifetime Risk of Dying = 0.06%

#### Whites

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Lifetime Risk of Being Diagnosed = 0.67% Lifetime Risk of Being Diagnosed = 0.17%
Lifetime Risk of Dying = 0.23% Lifetime Risk of Dying = 0.06%

#### Blacks

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Lifetime Risk of Being Diagnosed = 0.83% Lifetime Risk of Being Diagnosed = 0.23%
Lifetime Risk of Dying = 0.43% Lifetime Risk of Dying = 0.09%
### Incidence

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<td>-3.3 -4.1 -0.6</td>
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<td>-2.0 -2.4 -1.5</td>
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<tr>
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The EAPC is the Estimated Annual Percent Change over the time interval.

Statistic not shown. Rate based on less than 25 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Incidence data are from the 11 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, and Los Angeles) and Alaska. Unless specified, other tables use data from 9 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Native Alaskans. For incidence, all 11 SEER areas are included. For mortality, information is included for all states except Connecticut, Oklahoma, Louisiana, and New Hampshire.

Mortality data are analyzed from a public-use file provided by the National Center for Health Statistics (NCHS).

The EAPC is significantly different from zero (p<.05).
Table XII-10
LARYNX CANCER (Invasive)

AGE-ADJUSTED SEER INCIDENCE RATES§ AND SEER MORTALITY RATES§
By Registry, Race and Sex

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<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
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<td>3.6</td>
<td>6.3</td>
<td>1.4</td>
<td>3.6</td>
<td>6.2</td>
<td>1.4</td>
<td>6.0</td>
</tr>
<tr>
<td>9 registries</td>
<td>3.7</td>
<td>6.5</td>
<td>1.4</td>
<td>3.7</td>
<td>6.4</td>
<td>1.4</td>
<td>6.3</td>
</tr>
<tr>
<td>San Francisco-Oakland</td>
<td>3.2</td>
<td>5.6</td>
<td>1.2</td>
<td>3.3</td>
<td>5.8</td>
<td>1.2</td>
<td>5.6</td>
</tr>
<tr>
<td>Connecticut</td>
<td>4.6</td>
<td>7.8</td>
<td>2.1</td>
<td>4.4</td>
<td>7.4</td>
<td>1.9</td>
<td>8.0</td>
</tr>
<tr>
<td>Metropolitan Detroit</td>
<td>4.7</td>
<td>8.5</td>
<td>1.8</td>
<td>4.3</td>
<td>7.7</td>
<td>1.6</td>
<td>6.6</td>
</tr>
<tr>
<td>Hawaii</td>
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<td>0.7</td>
<td>5.0</td>
<td>8.7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Iowa</td>
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<td>7.0</td>
<td>1.7</td>
<td>4.1</td>
<td>7.0</td>
<td>1.6</td>
<td>-</td>
</tr>
<tr>
<td>New Mexico</td>
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<td>5.1</td>
<td>1.2</td>
<td>3.2</td>
<td>5.4</td>
<td>1.3</td>
<td>-</td>
</tr>
<tr>
<td>Seattle-Puget Sound</td>
<td>3.3</td>
<td>5.7</td>
<td>1.3</td>
<td>3.3</td>
<td>5.7</td>
<td>1.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Utah</td>
<td>1.7</td>
<td>2.9</td>
<td>0.7</td>
<td>1.7</td>
<td>2.9</td>
<td>0.8</td>
<td>-</td>
</tr>
<tr>
<td>Metropolitan Atlanta</td>
<td>4.2</td>
<td>8.1</td>
<td>1.3</td>
<td>3.8</td>
<td>7.2</td>
<td>1.1</td>
<td>5.9</td>
</tr>
<tr>
<td>San Jose-Monterey</td>
<td>2.6</td>
<td>4.5</td>
<td>1.0</td>
<td>2.7</td>
<td>4.7</td>
<td>1.2</td>
<td>-</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>3.5</td>
<td>6.3</td>
<td>1.3</td>
<td>3.5</td>
<td>6.2</td>
<td>1.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>

SEER MORTALITY RATES§, 1994-98

| REGISTRY            |           |         |         |         |         |         |         |         |         |
|                     |           |         |         |         |         |         |         |         |         |
| 11 registries       | 1.1       | 1.9    | 0.4    | 1.0     | 1.8    | 0.4    | 2.3     | 4.5    | 0.7     |
| 9 registries        | 1.1       | 1.9    | 0.4    | 1.0     | 1.8    | 0.4    | 2.3     | 4.3    | 0.8     |
| San Francisco-Oakland | 0.9      | 1.5    | 0.4    | 1.0     | 1.6    | 0.5    | 1.9     | 2.8    | -       |
| Connecticut         | 1.2       | 2.1    | 0.5    | 1.1     | 1.9    | 0.5    | 3.5     | 6.7    | -       |
| Metropolitan Detroit | 1.5      | 2.8    | 0.6    | 1.3     | 2.4    | 0.5    | 2.5     | 4.7    | -       |
| Hawaii              | 0.7       | 1.4    | -      | -       | -      | -      | -       | -      | -       |
| Iowa                | 1.0       | 1.8    | 0.4    | 1.0     | 1.8    | 0.4    | -       | -      | -       |
| New Mexico          | 0.9       | 1.6    | -      | 0.9     | 1.6    | -      | -       | -      | -       |
| Seattle-Puget Sound | 0.8       | 1.5    | 0.3    | 0.8     | 1.4    | 0.3    | -       | -      | -       |
| Utah                | 0.5       | 0.9    | -      | 0.4     | 0.9    | -      | -       | -      | -       |
| Metropolitan Atlanta| 1.3       | 2.6    | -      | 1.1     | 2.1    | -      | 2.0     | 4.3    | -       |
| San Jose-Monterey   | 0.8       | 1.4    | -      | 0.8     | 1.5    | -      | -       | -      | -       |
| Los Angeles         | 1.1       | 2.1    | 0.4    | 1.1     | 1.9    | 0.4    | 2.4     | 4.7    | -       |

Note: San Jose-Monterey and Los Angeles are new SEER areas as of 1992 and their data are only used in tables where indicated.
§ SEER Program. Incidence rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
\( ^\text{NCHS public use tape. Mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.} \)
- Statistic could not be calculated or populations are inadequate.
Table XII-11
LARYNX CANCER (Invasive)
AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY RATES BY STATE, 1994-98
All Races, Males and Females

<table>
<thead>
<tr>
<th>State</th>
<th>Rate</th>
<th>SE</th>
<th>Rank</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL U.S.</td>
<td>1.3</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Five States</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District of Columbia</td>
<td>3.4</td>
<td>0.34</td>
<td>(01)</td>
<td>161.5</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>2.0</td>
<td>0.18</td>
<td>(02)</td>
<td>53.8</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1.8</td>
<td>0.09</td>
<td>(03)</td>
<td>38.5</td>
</tr>
<tr>
<td>Kentucky</td>
<td>1.6</td>
<td>0.09</td>
<td>(04)</td>
<td>23.1</td>
</tr>
<tr>
<td>Nevada</td>
<td>1.6</td>
<td>0.13</td>
<td>(05)</td>
<td>23.1</td>
</tr>
<tr>
<td>Low Five States</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td>0.8</td>
<td>0.06</td>
<td>(47)</td>
<td>-38.5</td>
</tr>
<tr>
<td>Nebraska</td>
<td>0.8</td>
<td>0.10</td>
<td>(48)</td>
<td>-38.5</td>
</tr>
<tr>
<td>Oregon</td>
<td>0.8</td>
<td>0.07</td>
<td>(49)</td>
<td>-38.5</td>
</tr>
<tr>
<td>Hawaii</td>
<td>0.7</td>
<td>0.11</td>
<td>(50)</td>
<td>-46.2</td>
</tr>
<tr>
<td>Utah</td>
<td>0.5</td>
<td>0.07</td>
<td>(51)</td>
<td>-61.5</td>
</tr>
</tbody>
</table>

- **d**: NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
- **SE**: Standard error of the rate.
- **PD**: Percent difference between state rate and total U.S. rate.
- **æ**: Difference between state rate and total U.S. rate is statistically significant (p<=.0002).
Table XII-12
LARYNX CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY RATES BY STATE, 1994-98

<table>
<thead>
<tr>
<th>State</th>
<th>Rate</th>
<th>SE</th>
<th>Rank</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL U.S.</td>
<td>2.3</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High Five States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District of Columbia</td>
<td>6.6ae</td>
<td>0.72</td>
<td>(01)</td>
<td>187.0</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>3.7ae</td>
<td>0.38</td>
<td>(02)</td>
<td>60.9</td>
</tr>
<tr>
<td>Louisiana</td>
<td>3.2ae</td>
<td>0.18</td>
<td>(03)</td>
<td>39.1</td>
</tr>
<tr>
<td>Tennessee</td>
<td>2.5ae</td>
<td>0.15</td>
<td>(04)</td>
<td>26.1</td>
</tr>
<tr>
<td>West Virginia</td>
<td>2.8'</td>
<td>0.23</td>
<td>(05)</td>
<td>21.7</td>
</tr>
<tr>
<td><strong>Low Five States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>1.4ae</td>
<td>0.10</td>
<td>(47)</td>
<td>-39.1</td>
</tr>
<tr>
<td>Oregon</td>
<td>1.4ae</td>
<td>0.13</td>
<td>(48)</td>
<td>-39.1</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1.4ae</td>
<td>0.22</td>
<td>(49)</td>
<td>-39.1</td>
</tr>
<tr>
<td>Idaho</td>
<td>1.3ae</td>
<td>0.21</td>
<td>(50)</td>
<td>-43.5</td>
</tr>
<tr>
<td>Utah</td>
<td>0.9ae</td>
<td>0.15</td>
<td>(51)</td>
<td>-60.9</td>
</tr>
</tbody>
</table>

\( ae \)  NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

\( SE \)  Standard error of the rate.

\( PD \)  Percent difference between state rate and total U.S. rate.

\( ' \) Absolute difference between state rate and total U.S. rate is 15% or more.

\( \) Difference between state rate and total U.S. rate is statistically significant (\( p \leq .0002 \)).
### Table XII-13

#### LARYNX CANCER (Invasive)

**AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY RATES BY STATE, 1994-98**

**All Races, Females**

<table>
<thead>
<tr>
<th>State</th>
<th>Rate</th>
<th>SE</th>
<th>Rank</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL U.S.</strong></td>
<td>0.5</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High Five States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District of Columbia</td>
<td>0.9`</td>
<td>0.23</td>
<td>(01)</td>
<td>80.0</td>
</tr>
<tr>
<td>Kentucky</td>
<td>0.8`</td>
<td>0.08</td>
<td>(02)</td>
<td>60.0</td>
</tr>
<tr>
<td>Nevada</td>
<td>0.6`</td>
<td>0.12</td>
<td>(03)</td>
<td>20.0</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>0.6`</td>
<td>0.14</td>
<td>(04)</td>
<td>20.0</td>
</tr>
<tr>
<td>West Virginia</td>
<td>0.6`</td>
<td>0.10</td>
<td>(05)</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Low Five States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nebraska</td>
<td>0.3`</td>
<td>0.08</td>
<td>(47)</td>
<td>-40.0</td>
</tr>
<tr>
<td>South Dakota</td>
<td>0.3`</td>
<td>0.10</td>
<td>(48)</td>
<td>-40.0</td>
</tr>
<tr>
<td>Alaska</td>
<td>0.3`</td>
<td>0.18</td>
<td>(49)</td>
<td>-40.0</td>
</tr>
<tr>
<td>Hawaii</td>
<td>0.2aæ</td>
<td>0.07</td>
<td>(50)</td>
<td>-60.0</td>
</tr>
<tr>
<td>Utah</td>
<td>0.1aæ</td>
<td>0.04</td>
<td>(51)</td>
<td>-80.0</td>
</tr>
</tbody>
</table>

---

d: NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
SE: Standard error of the rate.
PD: Percent difference between state rate and total U.S. rate.
æ: Difference between state rate and total U.S. rate is statistically significant (p<=.0002).
Figure XII-1

SEER Incidence and U.S. Mortality Rates*  
Larynx

*Rates are age-adjusted to the 1970 U.S. standard million population.  Regression lines are calculated using the Joinpoint Regression Program.