



## Cancer Mortality in Rhode Island Cities and Towns, 1987-2000

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In support of local cancer control task forces in Rhode Island, the Rhode Island Cancer Registry of the Rhode Island Department of Health (HEALTH) has constructed cancer mortality rates for 39 municipalities, using death reports made to HEALTH over the 14 years 1987-2000, and population data from the US censuses of 1990 and 2000.

### BACKGROUND

In the period 1987-2000, Rhode Island's average annual, age-adjusted, gender-specific mortality rates for all malignant neoplasms (males: 284.3 per 100,000; females: 181.4 per 100,000) exceeded New England's rates (males: 273.2 per 100,000; females: 179.5 per 100,000), which in turn exceeded national rates (males: 268.0 per 100,000; females: 171.7 per 100,000). (Table 1) These differentials, observed for more than fifty years, have decreased over time, especially in the last 15 years of observation, and especially for women.

### METHODS

Counts of Rhode Island resident deaths from malignant neoplasms occurring between January 1, 1987, and December 31, 2000, categorized by age, gender, cause of death, and municipality were prepared from death reports made to HEALTH.

Counts of the Rhode Island population by age, gender, and municipality were obtained from publications of the 1990 and 2000 United States Censuses of Population.<sup>1</sup> Analogous counts were estimated for the years 1991-1999 by linear interpolation, and for the years 1987-1989 by linear projection, using data from the two censuses.

Average annual, age-adjusted, gender-specific statewide and municipal cancer mortality rates were calculated from cancer death reports, actual and estimated counts of the Rhode Island population, and the year 2000 United States Standard Population.<sup>2</sup> The rates are expressed as "deaths per 100,000 population." Ninety-five percent confidence intervals were calculated for each municipal rate, and compared with the overall state rate, by gender. Statistically significant ( $P < 0.05$ ) differences between state and municipal rates were noted. (Table 1)

### RESULTS

The statewide age-adjusted cancer mortality rate for all cancers combined is 284.3 per 100,000 among males and 181.4 per 100,000 among females. (Table 1) By mu-

nicipality, rates among males vary from 197.3 per 100,000 for East Greenwich to 382.0 per 100,000 for New Shoreham, and rates among females vary from 136.6 per 100,000 for East Greenwich to 246.5 per 100,000 for New Shoreham. (Table 1)

Generally, Rhode Island's municipal-level cancer mortality rates have wide confidence limits, thus limiting their usefulness in identifying disparities at this level of geographical analysis. Among 78 possible gender-specific municipal-to-state comparisons, five are statistically significant at the probability level  $P < 0.05$ , including:

1. lower-than-state rates for males residing in East Greenwich
2. lower-than-state rates for females residing in East Greenwich
3. lower-than-state rates for females residing in Bristol
4. higher-than-state rates for females residing in Warwick
5. higher-than-state rates for males residing in Woonsocket

### DISCUSSION

Cancer is a major cause of mortality in Rhode Island, as it is in the United States as a whole. Between two and three of every ten people in Rhode Island will die of the disease. Cancer death rates vary widely at the municipal level, but, with few exceptions, cannot be used to identify disparities among cities and towns because of statistical impre-

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