Mortality Trends in Hyde County, NC

A Resource for Healthy Communities
# Table of Contents

List of Tables ................................................................................................................................................................................................... 3
List of Figures ................................................................................................................................................................................................. 3

1. Introduction ................................................................................................................................................................................................ 6

2. Data Highlights ........................................................................................................................................................................................... 7

3. Methods, Interpretation, and References .............................................................................................................................................. 13
   Data Sources ............................................................................................................................................................................................. 13
   Measures ................................................................................................................................................................................................... 13
   Interpreting the Pie Charts ......................................................................................................................................................................... 14
   Interpreting the Trend Figures ................................................................................................................................................................... 15
   Caveats about the Concepts of Race, Gender, and Geography ......................................................................................................... 17
   References ................................................................................................................................................................................................. 17

4. Leading Causes of Death (Top 5) ........................................................................................................................................................................................... 19

List of Tables

Table 1. Leading contributors to premature mortality in Hyde County by race and gender, 1999-2001 ................................................................. 24

List of Figures

Figure 1. Leading causes of death for the US, NC, and Hyde County, 1999-2001 ........................................................................................................ 20
Figure 2. Leading causes of death - age-adjusted mortality for the US, NC, and Hyde County, 1999-2001 ................................................................. 21
Figure 3. Leading causes of death in Hyde County by race and gender, 1999-2001 .............................................................................................. 22
Figure 4. Leading causes of death in Hyde County by race, 1999-2001 ....................................................................................................................... 23
Figure 5. All causes of death: Trends in mortality rates by county, region and state 1979-2001 with projections to 2010 ........................................ 30
Figure 6. All causes of death: Trends in age adjusted mortality rates by county, region, state, and nation 1979-2001 with projections to 2010 ................................................................................................................................. 31
Figure 7. All causes of death: Trends in age adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 .................................... 32
Figure 8. All causes of death: Disparity in mortality rates by race 1979-2001 with projections to 2010 ........................................................................ 33
Figure 9. All causes of premature mortality: Trends in premature mortality rates by county, region and state, 1979-2001 with projections to 2010 ................................................................................................................................. 36
Figure 10. All causes of premature mortality: Trends in age-adjusted premature mortality rates by county, region, state, and nation 1979-2001 with projections to 2010 ................................................................................................................................. 37
Figure 11. All causes of premature mortality: Trends in age-adjusted premature mortality rates by race and gender, 1979-2001 with projections to 2010 ................................................................................................................................. 38
Figure 12. All causes of premature mortality: Disparity in premature mortality rates by race, 1979-2001 with projections to 2010 ................................................................................................................................. 39
Figure 13. Heart Disease: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 .................................................... 42
Figure 14. Heart Disease: Trends in age adjusted mortality rates by county, region, state, and nation 1979-2001 with projections to 2010 ................................................................................................................................. 43
Figure 15. Heart Disease: Trends in age-adjusted mortality rates by race and gender 1979-2001 with projections to 2010 ................................................................................................................................. 44
Figure 16. Heart Disease: Disparity in mortality rates by race and gender 1979-2001 with projections to 2010 .................................................................. 45
Figure 17. Cancer - Trachea, Bronchus, and Lung: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ............................................................................................................... 48
Figure 18. Cancer - Trachea, Bronchus, and Lung: Trends in age-adjusted mortality rates by county, region, and state, 1979-2001 with projections to 2010 ............................................................................................................... 49
Figure 19. Cancer - Trachea, Bronchus, and Lung: Trends in age-adjusted mortality rates by race and gender 1979-2001 with projections to 2010 ............................................................................................................... 50
Figure 20. Cancer - Trachea, Bronchus, and Lung: Disparities in mortality rates by race, 1979-2001 with projections to 2010 ............................................................................................................... 51
Figure 21. Chronic Lower Respiratory Disease: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ............................................................................................................... 54
Figure 22. Chronic Lower Respiratory Disease: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 ............................................................................................................... 55
Figure 23. Chronic Lower Respiratory Disease: Trends in mortality rates by race and gender, 1979-2001 with projections to 2010 ........................ 56
Figure 24. Chronic Lower Respiratory Disease: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ....................... 57
Figure 25. Stroke: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 60
Figure 26. Stroke: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 ................ 61
Figure 27. Stroke: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 ........................................ 62
Figure 28. Stroke: Disparity in age-adjusted mortality rates by race, 1979-2001 with projections to 2010 .................................................. 63
Figure 29. Cancer - Colon, Rectum and Anus: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 66
Figure 30. Cancer - Colon, Rectum and Anus: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 ........................................ 67
Figure 31. Cancer - Colon, Rectum and Anus: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 ........................................ 68
Figure 32. Cancer - Colon, Rectum and Anus: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ....................... 69
Figure 33. All Other Unintentional Injuries and Adverse Effects: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 72
Figure 34. All Other Unintentional Injuries and Adverse Effects: Trends in age-adjusted mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 73
Figure 35. All Other Unintentional Injuries and Adverse Effects: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 ........................................ 74
Figure 36. All Other Unintentional Injuries and Adverse Effects: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ........................................ 75
Figure 37. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 78
Figure 38. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 ........................................ 79
Figure 39. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in mortality rates by race and gender, 1979-2001 with projections to 2010 ........................................ 80
Figure 40. Nephritis, Nephrotic Syndrome, and Nephrosis: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ........................................ 81
Figure 41. Atherosclerosis: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010 ........................................ 84
Figure 42. Atherosclerosis: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 ........................................ 85
Figure 43. Atherosclerosis: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 ........................................ 86
Figure 44. Atherosclerosis: Disparity in mortality rates by race, 1979-2001 with projections to 2010 .......................................................... 87
Figure 45. Cancer - Breast: Trends in mortality rates by county, region and state, 1979-2001 with projections to 2010 ............................. 90
Figure 46. Cancer - Breast: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010 .................................................. 91
Figure 47. Cancer - Breast: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 .................. 92
Figure 48. Cancer - Breast: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ......................................................... 93
Figure 49. Unintentional Motor Vehicle Injuries: Trends in mortality rates by county, region and state, 1979-2001 with projections to 2010 .......................................................... 96
Figure 50. Unintentional Motor Vehicle Injuries: Trends in age-adjusted mortality rates by county, region, state and nation, 1979-2001 with projections to 2010 .......................................................... 97
Figure 51. Unintentional Motor Vehicle Injuries: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010 .......................................................... 98
Figure 52. Unintentional Motor Vehicle Injuries: Disparity in mortality rates by race, 1979-2001 with projections to 2010 ................. 99
Introduction

Health Indicators Series:
A Resource for Healthy Communities
October 2003

Report Series #2: Mortality Trends for Hyde County

Health Indicators is a series of reports describing community health at the state and county level. Health Indicators supplements the Eastern North Carolina Health Care Atlas published by the Center for Health Services Research and Development at East Carolina University. These reports are intended to provide state policy makers, local health departments, hospitals, and community-based health planning groups with a wide range of information useful for diagnosing the health of North Carolina and its local communities, evaluating the effectiveness of existing services, and envisioning and planning new interventions. The reports in this periodically published series can be used in conjunction with the County Health Data Book, produced by the North Carolina Office of Healthy Carolinians, as part of the Community Health Assessment Process. Individual reports in ECU’s Health Indicator Series are custom made for the counties of North Carolina. Reports in this series will describe trends in mortality, including premature mortality for all causes of death, true (crude) and age-adjusted mortality for leading causes of death, and measures of rate disparities or inequalities.

Report Series #2 of the series focuses attention on the two overarching goals of Healthy People 2010, the national blueprint for health improvement. The first goal is to increase the span and quality of life and the second is to eliminate health disparities. North Carolina’s companion plan Healthy Carolinians 2010 has also embraced these two goals.

Report Series #2 is a tool to help evaluate how well Hyde County and North Carolina are doing in relation to the goals set forth in Healthy People 2010 and Healthy Carolinians 2010 as well as important differences in life span. Using rate comparisons, this report describes the inequalities between Hyde County and North Carolina, between whites and non-whites, and between males and females. Premature mortality, the focus of Report Series #1, is included in the death from all causes section located at the beginning of this report. The measure used to quantify premature mortality is described in more detail in the Methods and Interpretations section.

This report describes the leading contributors to mortality, provides a geographic context, and examines trends and inequalities over twenty years. The report begins with data highlights, provided as an introduction to the data, rather than a summary of it. Readers are encouraged to draw their own conclusions from the data and pose new questions suggested by what they see. The second section presents overall and five leading contributors to mortality for the state as a whole and by race and gender. Pie charts describe the relative contribution of each of five leading contributors to the overall rate. The charts also provide comparisons to the nation. Making the area of each pie chart equivalent to the rate for the population group conveys the dimension of disparity across population groups. The last section charts recent trends in mortality and disparities in early death and provides projections to the year 2010. These charts place Hyde County health status in a historical context and provide a glimpse into the future.
Data Highlights
Trends and Disparities in Mortality in Hyde County

Leading Causes of Death
The five leading causes of death are:
1. Heart Disease
2. Cancer (all sites)
3. COPD – Chronic Obstructive Pulmonary Disease
4. Stroke
5. Nephritis, Nephrotic Syndrome and Nephrosis
5. All Other Unintentional Injuries and Adverse Effects (a tie)

General
• Racial disparities, in most cases, are hard to identify because of sporadic trends over time associated with the relatively small population.

All Causes of Death
• As of 2001, the overall mortality rate in Hyde County is 39% greater than Eastern North Carolina and 42 % greater than North Carolina as a whole.

• A moderately reliable trend suggests that the mortality rate is increasing and is 18% higher than it was 22 years ago.

• A reliable trend in the age-adjusted mortality rate cannot be established but a decreasing rate of 9% is suggested.

• No reliable trend in age-adjusted mortality is evident except that of white males, who have seen a dramatic decrease (29%). The trends for white females and non-white males and females are not significant enough to make accurate future predictions.

• There does not appear to be a disparity in mortality rates between whites and non-whites.

All causes of Premature Mortality
• True and age-adjusted premature mortality rates in Hyde County are showing a decrease. The trends are moderately reliable. The age-adjusted rate has decreased by 3% and exceeds the decreases of ENC, NC and the US.

• Future projections of age-adjusted mortality in Hyde County show premature mortality rates approaching the national rate by 2010.
• Non-white females and white males are both experiencing a moderately reliable decreasing trend in their rates of premature mortality.
• White females have moderately reliable increasing rate of premature mortality.
• Non-white males did not have a trend which was accurately correlated to the data.
• Overall, non-whites have had higher premature mortality rates than whites over the last 22 years but no trend in disparity is apparent.
Ten Leading Causes of Death

A Comparison of county to state rates of age-adjusted mortality by Hyde County’s 10 leading contributors in 2001

<table>
<thead>
<tr>
<th>Higher than the state rate</th>
<th>Lower than the state rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease - 57%</td>
<td>Stroke - 21%</td>
</tr>
<tr>
<td>TLB Cancer - 3%</td>
<td></td>
</tr>
<tr>
<td>COPD - 13%</td>
<td></td>
</tr>
<tr>
<td>CRA Cancer - 45%</td>
<td></td>
</tr>
<tr>
<td>All other Unintentional Injuries - 1%</td>
<td></td>
</tr>
<tr>
<td>Unintentional Motor Vehicle Injuries - 37%</td>
<td></td>
</tr>
<tr>
<td>Nephritis, Nephrotic Syndrome, and Nephrosis - 21%</td>
<td></td>
</tr>
<tr>
<td>Atherosclerosis - 35%</td>
<td></td>
</tr>
<tr>
<td>Breast Cancer - 30%</td>
<td></td>
</tr>
<tr>
<td>Unintentional Motor Vehicle Injuries - 18%</td>
<td></td>
</tr>
</tbody>
</table>

Heart Disease

- True rates of mortality due to Heart Disease in Hyde County are increasing in a moderately reliable trend.
- The true mortality rate due to Heart Disease in Hyde County was 92% greater than ENC in 2001, compared to 17% greater in 1979.
- The age-adjusted trend is not significant but the rate in Hyde County is generally greater than for the eastern region, state, and nation.
- Non-white, age-adjusted mortality rates for heart disease are generally lower than white rates but no trend is evident.

Cancer – Trachea, Bronchus, and Lung (TBL)

- Disregarding significant fluctuations of rate, TBL Cancer has seen an 8% increase between 1979 and 2001.
- The age-adjusted rate of mortality due to TBL Cancer among white females is increasing in Hyde County, in a moderately reliable trend.

Chronic Lower Respiratory Disease/Chronic Obstructive Pulmonary Disease – (CLRD/COPD)

- The true mortality rate in Hyde County due to Chronic Lower Respiratory Disease has increased significantly from 1979 to 2001, as a moderately reliable trend. In 1979 the rate was 35% lower than the region, and in 2001, it was 52% greater.
• Future projections show the rate of mortality due to Chronic Lower Respiratory Disease increasing in Hyde County, ENC, and NC.

• Non-white females show a moderately reliable increase in age-adjusted mortality rates due to Chronic Lower Respiratory disease. All other trends are not adequately supported by the data.

**Stroke**

• A moderately reliable, significant trend of reduction in true mortality rates due to stroke has occurred in Hyde County between 1979 and 2001.

• A reliable trend is seen in the age-adjusted rates of stroke in Hyde County, which show the county’s rate as being 27% less than ENC and 21% less than NC in 2001.

• All combinations of race and gender enjoy falling rates of mortality due to stroke. The large and reliable rate of decline is observed among non-white females. The trend among non-white males is not supported by the data. White males and females are experiencing similar rates of declining mortality with moderate reliability.

**Cancer – Colon, Rectum, and Anus (CRA)**

• The true and age-adjusted rates of CRA Cancer are increasing in Hyde County, with moderate reliability. The region and state’s rates both decreased.

• The age-adjusted rate of increase was 45% greater than ENC in 2001.

• All populations are experiencing an increase in the rate of CRA Cancer, however, only the non-white males’ and non-white females’ trends are moderately reliable, the other trends are not adequately supported by the data.

**All other Unintentional Injuries**

• True and age-adjusted mortality rates due to all other unintentional injuries and adverse effects are declining in Hyde County, in moderately reliable trends.

• The rates are declining faster than those of ENC, NC, or the US.

• White males experience a moderately reliable decrease in age-adjusted mortality rate due to all other unintentional injuries and adverse effects. All other trends are not adequately supported by the data.
Nephritis, Nephrotic Syndrome, and Nephrosis

- Severe fluctuations in mortality due to Nephritis, Nephrotic Syndrome, and Nephrosis have occurred in Hyde county between 1979 and 2000, causing the rate of mortality to be statistically insignificant in most cases.
- However, the rate of mortality due to Nephritis, Nephrotic Syndrome, and Nephrosis does seem to be decreasing in Hyde County. It is projected to continue increasing in the region, state, and nation.
- White males experienced a moderately reliable decreasing trend in their age-adjusted mortality rate; all other trends were not adequately supported by the data.

Atherosclerosis

- Mortality trends in Hyde County due to Atherosclerosis seem to be statistically insignificant. In recent years, the rate of mortality in Hyde County has been more than double the rate in ENC and NC.

Cancer – Breast

- Fluctuations in true mortality due to Breast Cancer create a trend line that is not adequately supported by the data.
- In 2001 the true mortality rate due to Breast Cancer in Hyde County was 28% greater than NC and 25% greater than ENC.
- The age-adjusted rate of Breast Cancer appears to be greatly increasing in Hyde County.
- Great fluctuations have occurred in the rates of Breast Cancer in both white and non-white females since 1979.

Unintentional Motor Vehicle Injuries

- The true and age-adjusted rates of mortality in Hyde County due to Unintentional Motor Vehicle Injuries have historically remained above the rate of ENC and NC. The rate is projected to fall below the rate of ENC in the near future.
- The rate of mortality in Hyde County due to Unintentional Motor Vehicle Injuries is declining at a rate greater than the rates of ENC and NC.
- The age-adjusted rate of mortality among white males shows a moderately reliable decrease in rate of 95% over the time period. All other trends are not reliably supported by the data.
Methods, Interpretation, and References

Methods and Interpretation

Data Sources
The data for mortality and premature mortality in Hyde County were obtained from death certificate data from the North Carolina State Center for Health Statistics and population data from the North Carolina Office of State Planning. For the US, data were obtained from the Compressed Mortality File compiled by the National Center for Health Statistics.

Measures
Two types of mortality measures are covered in this report. The first type is based on the density of deaths per population for a given area over a specified time interval. This type includes the true or “crude” mortality and age-adjusted mortality rates. These mortality rates are typically used in discerning where deaths are occurring and for comparing mortality among areas. The second type of mortality measure is years of life lost before age 75 (YLL-75). The YLL-75 measures include the death density component of both types of mortality rate measures, but they are further weighted by the number of years of life lost before age 75. Like mortality rates, they can either be true (crude) or age-adjusted. These measures provide an indication of the burden of premature mortality in a population or community, much like a count of the number of deaths. In this report the first type of mortality measures—true and age-adjusted rates—are emphasized. Premature mortality (YLL-75) is considered only for general mortality or deaths by all causes. Premature mortality is the focus of report #1.

A simple count of the number of deaths occurring within an area for a given time period is useful for identifying potential problems or issues of public concern—particularly if the deaths result from a rare cause or are deemed an emerging problem for at-risk socio-demographic groups. In this sense, simple count data act as harbingers. Because nothing is known about the underlying population base from which health events arise, the analytical or even political utility of simple count data is limited. The size of the underlying population will have a natural influence on the observed number of health events. The observed influence can be measured as the density of deaths per underlying population. When measured over a given unit of time (usually 1 to 5 years), the density becomes a rate. (The rate is typically multiplied by 100,000 for ease in interpreting the usually small resultant value.) This is the actual observed or true rate for an area and it is an improvement over simple count data because it accounts for the relative size of the underlying population. The chief advantage of the true rate is that it useful for focusing attention on potential public health problems more rigorously than simple counts data. However, the number of health events such as mortality are influenced by more than just the underlying size of the population. The composition of the population will have additional effects on the number of health events that occur and for the analysis of mortality the most important effect is that of the population’s age structure.

Because aging is the greatest risk for mortality, the age structure (composition) of a population will have an effect on the true mortality rate. For example, two counties may have similar population sizes but one has a larger proportion of people over the age of 45 than the other. It is more likely that the older population will experience more deaths over the course of time, which will be reflected in a higher true mortality rate. Age structure, therefore, has a direct effect on the true mortality rate and in order to make meaningful comparisons population, age structures need to be controlled.

Age-adjustment or controlling for a population’s age structure requires an external reference or standard to weight the comparison populations by
age groups. (Currently, the US 2000 Standard Million Population is used in age adjusting populations for comparisons.) The weighting scheme redistributes the age group sizes of the observed population as if it had the same structure as the standard reference population. The standardized age group population is then applied the number of deaths found in the corresponding age group of the observed population to produce an expected number of deaths for that age group. The expected number of deaths are summed and then divided by the weighted total population yielding an age-adjusted death rate. Once age structure is controlled, analysis of the effects of selected diseases on mortality is more tractable and the effects of race and gender can be studied more effectively.

The study of premature mortality focuses on the burden of disease and death in a population. The amount of burden is measured in the accumulated amount of years of life lost (YLL) before a benchmark age. We use 75 years of age as a benchmark because it approximates current life expectancy at birth in the United States and gives weight to deaths from chronic disease occurring in later life. To calculate the number of years lost, the age of each person who dies before age 75 is subtracted from 75 and the lost years are summed. The YLL for each person who dies before age 75 is first aggregated and then the result divided by the population under 75 years of age. Again, the value will be relatively small and so a further multiplication of 10,000 magnifies the number into a more understandable rate. The true YLL for an area, like the true mortality rate, is not readily comparable to other areas but is useful for assessing community health, evaluating health services, and for health planning. Comparisons are possible when age-adjustment with a standard reference population is used.

Age-adjusted rates for both mortality and premature mortality have little intrinsic meaning, however, and can mask the burden and trends of health events that may be of local importance. A casual inspection of adjusted rates may divert attention from the actual health problems of a population and inappropriately guide interventions or resource allocation. Thus, it is important to consider the actual number of deaths (count data) in conjunction with the true rate first, and then use the adjusted rate only if one wishes to factor out age in understanding the health of a population. All of the statistics presented are for the three-year period (1999 to 2001). A three-year period was used because it provides a useful summary of the mortality experience while minimizing wide year-to-year fluctuations in the rate due to the effect of small numbers.

Interpreting the Pie Charts
Pie charts are provided as a visual representation of the burden of mortality and they also depict the proportion of mortality accounted for by each of the leading contributors. (The leading causes of death are found in the table preceding the pie chart section.) The pie charts compare the relative levels of burden and proportions by region and demographic groups. With the exception of the second pie chart figure, all rates are true (or crude). The area of each pie is based on the true mortality rate for the population over a three-year period (1999-2001), with larger pie charts representing higher true mortality rates. For purposes of presentation, we set a limit on the smallest possible area of a circle and assigned this area to the population with the smallest rate. (This lower limit is based on the age-adjusted rate for white females in North Carolina.) We then scaled up the circles for all other groups proportionately based on their rates.

The first two pie chart figures compare the proportions of leading causes of death across regions at the national, state, and county level. The first figure in this set allows comparisons using true rates, which illustrates the relative burden of disease intrinsic to each region. The second figure, which is age-adjusted, allows for direct comparisons among regions. The following two figures use proportions based on true mortality rates to show the relative burden of disease intrinsic within race/gender groups and within two major racial groups.

While comparing the pie charts, the reader should remember that the slices of the pie show differences in how much of the total true or age-adjusted mortality rate is accounted for by a specific contributor, not the absolute differences in magnitude of the disease-specific true mortality rate. Finally, the reader will see that some pies are composed of different leading contributors to mortality, so they have different colored slices.
The variable sizes of pie slices demonstrate differences in the mortality patterns across populations and are of significant importance in studying inequalities and disparities in population health.

**Interpreting the Trend Figures**

Four different types of figures are created to show trends in mortality by all causes and for each of the leading causes in the county over a twenty-one year period. True and age-adjusted mortality rate trends are shown for deaths by all causes in addition to the ten leading causes of death. Premature mortality is described for deaths by all causes only. The first figure in the trend series illustrates the true mortality rates for the county, region, and state. Here, the magnitude of each region’s mortality pattern for each time interval can be examined. The second figure shows age-adjusted mortality rates for the county, region, state, and nation. In this figure, these geographical entities can be compared directly, because their age structures have been controlled. The third figure compares trends in age-adjusted mortality rates by race and gender. Again, age structure is controlled for each group, which permits observation of the effects of race and gender on these groups. The last figure depicts racial differentials based on true mortality over the twenty-one year time period. True mortality is used here so that the percent differences of the actual number of deaths, or the relative mortality experience for, can be examined for potential disparities. Trend lines provide historical depth to mortality processes as well as a basis for future comparisons and action.

The trend line concept is borrowed from statistical modeling. However, unlike true modeling, we are not assuming the statistical independence of each sequential observation (the rate at time interval x). Instead, our assumption is that each observation is dependent to some degree on previous observations, forming a trend. If the degree of dependence is high, then the observations (rates) should lie close to the trend line. If observations appear to bounce around the fitted line in a random fashion, then there is less dependence and less of a trend in the observations. The purpose of trend lines is to uncover patterns in the data, which will assist the investigator in determining and understanding the underlying processes which generate them.

Mathematically, an equation of the line can be derived from a set of observation points. This line is an estimate of where each observed rate would be if the previous observation could predict with 100% accuracy the value of the next observation. In nature, this situation seldom arises and the degree to which individual observations deviate from this linear trend line is an indication of how well they “fit” or conform to the trend. The linear trend lines in the time series figures project theoretical rates to the year 2010 from historical values (1979 to 2001) to provide a general idea about where mortality trends are heading.

The equation of the line allows the user to calculate an expected or fitted rate—a rate on the trend line—for a given year. The variable “x” in the equation of the line represents the ordinal year in the series. For example, 1990 represents the 12th year in the time series. When the number 12 is substituted for x in the equation of the line describing ENC’s age-adjusted mortality rate for cancer of lung, trachea, and bronchus for the years 1979 to 2001, the calculated fitted rate approaches 63 persons dying per 100,000 people from this disease. The observed age-adjusted rate for 1990 is 69 deaths per 100,000 people. (The observed rates are the values found in the table that runs along the x-axis of the time series chart.) For the year 1990, the expected mortality rate is 63 per 100,000 people compared to the observed rate of 69—an underestimate of six people for that year. Each previous and subsequent year’s difference between the expected and observed rates will vary by a greater or lesser degree. The amount of variation can be measured to determine how well the line fits or models the observed data.

The time series figures include coefficients of determination (R²), to note when the trend lines are significant, and the percent increase or decrease from 1979 to 2001. The coefficients of determination are included in order to show how well the trend lines fit the data. R-square can range from 0 to 1, with higher scores representing a better fit. The trend lines are generally unreliable when R² is less than 0.11, moderately
reliable when $R^2$ is between 0.11 and 0.35, and most reliable when $R^2$ is greater than 0.35. Graphically, data points, data lines, and trend lines are weighted according to their significance. The thinnest, dotted trend lines are for those where $R^2$ is less than 0.11 and should be considered non-significant. The thickest dotted lines are used for trends where the $R^2$ is greater than 0.35. In some cases, the trend lines do not fit the data well (i.e. small $R^2$). In other words, the presentation of a trend line does not necessarily indicate a linear trend in the data line. In some instances a non-linear trend may be present; however, the theoretical basis with which to explore non-linear trends is beyond the scope of this publication.

Graphically, data points, data lines, and trend lines are weighted according to their significance. The thinnest, dotted trend lines are for those where $R^2$ is less than 0.11 and should be considered non-significant. The thickest dotted lines are used for trends where the $R^2$ is greater than 0.35. In some cases, the trend lines do not fit the data well (i.e. small $R^2$). In other words, the presentation of a trend line does not necessarily indicate a linear trend in the data line. In some instances a non-linear trend may be present; however, the theoretical basis with which to explore non-linear trends is beyond the scope of this publication. The percent change provides a quantitative measure of the projected rate of change as well as an indication of whether the trend is increasing or decreasing. Percentage increase or decrease is provided on the graphs for trends where $R^2$ is greater than 0.11. The reader should evaluate all available data carefully before drawing conclusions about mortality patterns.

The reader will notice that some data lines in the trend figures fluctuate widely. This fluctuation is due to two main factors. In a small population, the number of deaths may vary widely from year-to-year and lead to large changes in annual mortality and premature mortality rates, a phenomenon known as the effect of small numbers. In addition, because mortality is based on the age of death, any fluctuation in the distribution of deaths across age groups from year-to-year can cause rates to change dramatically. Both the number of deaths and the age of decedents influence trends in mortality.

Each figure, with the exception of the one showing disparity, is accompanied by two comparison tables located in the lower portion of the page. These tables are structured so that the reader can compare the rates derived from the equation of the line (i.e., the fitted rates) among different regions or demographic groups. The 1979 and 2001 tables compare the fitted rates calculated for the beginning and end of the observed time series in terms of percent difference. For example, Hyde County's fitted rate for cancer of the lung, trachea, and bronchus in 1979 is 15% greater than (GT) ENC's fitted rate. In 2001, Hyde County's fitted rate is 5% less than (LT) ENC's fitted rate. The tables permit a quick assessment of trends calculated from observed time series data.

Caveats about the Concepts of Race, Gender, and Geography

We also offer several caveats about the concepts of race, gender, and geography as they apply to the analysis of mortality patterns. While we do intend to bring attention to the stark racial inequalities in mortality across North Carolina, we do not mean to imply that this is a biological phenomenon. Other factors such as differences in socioeconomic status, educational attainment, occupation, and lifestyle probably account for the large racial gaps in mortality rates. Likewise, gender inequalities may have less to do with biological differences between men and women than with socially structured gender roles, health behaviors, occupational exposures, and use of health services. Finally, it is important to consider that county borders may not always be the most appropriate way to look at specific health problems. Few of our health care problems begin or end at political boundary lines and many of our health problems in North Carolina are common to large groups of counties. Counties are convenient units of data collection and readers should not jump to conclusions about health problems or possible solutions based solely on the way data appear when aggregated to this level. In some cases, data at multi-county, zip code, or minor civil division levels are a better way to understand problems and solutions. Similarly, as indicated in Healthy Carolinians 2010, consideration needs to be given to whether or not a county is characterized as rural or urban, as this can be an indication to the level of development and amount of resources available in a county.
References


Leading Causes of Death in Hyde County, NC
Figure 1. Leading causes of death for Hyde County, the United States, North Carolina, and Eastern North Carolina, (1999-2001). True Mortality rate per 100,000 population.

**Table:**

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>North Carolina</th>
<th>Eastern North Carolina</th>
<th>Hyde County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths / 100,000</td>
<td>849</td>
<td>885</td>
<td>920</td>
<td>1232</td>
</tr>
</tbody>
</table>

**Notes:**
- NC rate is 4% higher than US rate.
- ENC rate is 4% higher than NC rate.
- County rate is 34% higher than ENC rate.
- County rate is 39% higher than NC rate.
- County rate is 45% higher than US rate.

Pie charts are proportionally scaled using the state age-adjusted mortality rate of white-females (718 deaths / 100,000 pop) as a standard. The areas are proportional to the rates. Slices without percentages constitute less than 5% of the deaths within that chart.
Figure 2. Leading causes of death for Hyde County, the United States, North Carolina, and Eastern North Carolina, (1999-2001). Age-Adjusted Mortality rate per 100,000 population.

United States
- Heart Disease: 32%
- Cancer (All Sites): 29%
- COPD and Allied Conditions: 23%
- Cerebrovascular Disease / Stroke: 7%
- Diabetes Mellitus: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 8%
- All Other Causes: 5%
- All Other Unintentional Injuries: 22%

959 deaths/100,000

Heart Disease
Cancer (All Sites)
COPD and Allied Conditions
Cerebrovascular Disease / Stroke
Diabetes Mellitus
Nephritis, Nephrotic Syndrome, and Nephrosis
All Other Causes
All Other Unintentional Injuries

North Carolina
- Heart Disease: 35%
- Cancer (All Sites): 27%
- COPD and Allied Conditions: 22%
- Cerebrovascular Disease / Stroke: 8%
- Diabetes Mellitus: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 5%
- All Other Causes: 23%

908 deaths/100,000

ENC rate is 9% higher than NC rate.

Eastern North Carolina
- Heart Disease: 27%
- Cancer (All Sites): 28%
- COPD and Allied Conditions: 22%
- Cerebrovascular Disease / Stroke: 8%
- Diabetes Mellitus: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 5%
- All Other Causes: 27%

988 deaths/100,000

County rate is 3% lower than ENC rate.

Hyde County
- Heart Disease: 36%
- Cancer (All Sites): 27%
- COPD and Allied Conditions: 5%
- Cerebrovascular Disease / Stroke: 35%
- Diabetes Mellitus: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 8%
- All Other Causes: 22%

855 deaths/100,000

County rate is 12% higher than US rate.

NC rate is 6% higher than US rate.

Pie charts are proportionally scaled using the state age-adjusted mortality rate of white-females (718 deaths / 100,000 pop) as a standard. The areas are proportional to the rates. Slices without percentages constitute less than 5% of the deaths within that chart.
Figure 3: Leading causes of death for Hyde County by race and gender, (1999-2001). True Mortality rate per 100,000 population.

Non-White Males

- Non-White Male rate is 20% lower than White Male rate, and 10% higher than Non-White Female rate.
- 1108 deaths/100,000

White Males

- 1380 deaths/100,000

Non-White Females

- Non-White Female rate is 10% lower than Non-White Male rate, and 22% lower than White Female rate.
- 998 deaths/100,000

White Females

- 1274 deaths/100,000

Pie charts are proportionally scaled using the state age-adjusted mortality rate of white-females (718 deaths / 100,000 pop) as a standard. The areas are proportional to the rates. Slices without percentages constitute less than 5% of the deaths within that chart. In instances where multiple causes were equal in rank, all those causes were included.
Figure 4: Leading causes of death for Hyde County by race (1999-2001).
True Mortality rate per 100,000 population.

- **White rate is 21% higher than Non-White rate.**

**Whites**
- Heart Disease: 38%
- Cancer (All Sites): 24%
- COPD and Allied Conditions: 19%
- Cerebrovascular Disease / Stroke: 5%
- All Other Unintentional Injuries: 5%
- Atherosclerosis: 5%
- Alzheimers Disease: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 5%
- Pneumonia and Influenza: 5%
- Essential (Primary) Hypertension: 5%
- All Other Causes: 5%

**Non-Whites**
- Heart Disease: 32%
- Cancer (All Sites): 27%
- COPD and Allied Conditions: 5%
- Cerebrovascular Disease / Stroke: 5%
- All Other Unintentional Injuries: 5%
- Atherosclerosis: 5%
- Alzheimers Disease: 5%
- Nephritis, Nephrotic Syndrome, and Nephrosis: 5%
- Pneumonia and Influenza: 5%
- Essential (Primary) Hypertension: 5%
- All Other Causes: 5%

**Deaths per 100,000 Population**
- Whites: 1327
- Non-Whites: 1053

Pie charts are proportionally scaled using the state age-adjusted mortality rate of white-females (718 deaths / 100,000 pop) as a standard. The areas are proportional to the rates. Slices without percentages constitute less than 5% of the deaths within that chart. In instances where multiple causes were equal in rank, all those causes were included.
Table 1. Leading contributors to mortality in Beaufort County by race and gender, 1999-2001.

<table>
<thead>
<tr>
<th>Race by Gender</th>
<th>Total</th>
<th>Males</th>
<th>Females</th>
<th>Race</th>
<th>Non-Whites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
</tr>
<tr>
<td>2nd</td>
<td>Cancer (all sites)</td>
<td>Cancer (all sites)</td>
<td>Cancer (all sites)</td>
<td>Cancer (all sites)</td>
<td>Cancer (all sites)</td>
</tr>
<tr>
<td>3rd</td>
<td>Cerebrovascular Disease / Stroke</td>
<td>COPD and Allied Conditions</td>
<td>Cerebrovascular Disease / Stroke</td>
<td>Cerebrovascular Disease / Stroke</td>
<td>Cerebrovascular Disease / Stroke</td>
</tr>
<tr>
<td>4th</td>
<td>COPD and Allied Conditions</td>
<td>Cerebrovascular Disease / Stroke</td>
<td>COPD and Allied Conditions</td>
<td>COPD and Allied Conditions</td>
<td>COPD and Allied Conditions</td>
</tr>
<tr>
<td>5th</td>
<td>Pneumonia and Influenza</td>
<td>All Other Unintentional Injuries</td>
<td>Pneumonia and Influenza</td>
<td>Pneumonia and Influenza</td>
<td>All Other Unintentional Injuries</td>
</tr>
</tbody>
</table>
Mortality Trends in Hyde County, NC
All Causes of Death, All Causes of Premature Mortality and Ten Leading Causes of Mortality; 1979-2001
Ten Leading Causes of Death

Heart Disease

Cancer - Trachea, Bronchus, and Lung

Chronic Lower Respiratory Disease

Stroke

Cancer - Colon, Rectum, and Anus

All Other Unintentional Injuries and Adverse Effects

Nephritis, Nephrotic Syndrome, and Nephrosis

Atherosclerosis

Cancer - Breast

Unintentional Motor Vehicle Injuries
All Causes of Death
Figure 5. All Causes of Death:
Trends in mortality rates by county, region, and state,
1979-2001 with projections to 2010

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>County</th>
<th>ENC Disparity</th>
<th>NC Disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>18% GT</td>
<td>11% LT</td>
</tr>
<tr>
<td>ENC</td>
<td>15% LT</td>
<td>1% GT</td>
</tr>
<tr>
<td>NC</td>
<td>11% LT</td>
<td>3% GT</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>County</th>
<th>ENC Disparity</th>
<th>NC Disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>35% LT</td>
<td>2% LT</td>
</tr>
<tr>
<td>ENC</td>
<td>34% LT</td>
<td>2% GT</td>
</tr>
<tr>
<td>NC</td>
<td>33% LT</td>
<td>1% GT</td>
</tr>
</tbody>
</table>
Figure 6. All Causes of Death:
Trends in age-adjusted mortality rates by county, region, state, and nation,
1979-2001 with projections to 2010

Hyde 9% decrease
R² = 0.04
y = -4.48x + 1125

ENC 13% decrease
R² = 0.89
y = -6.91x + 1145

NC 13% decrease
R² = 0.90
y = -6.49x + 1058

US 14% decrease
R² = 0.94
y = -7.39x + 1032

1979 Hyde rate is 2% less than ENC
2001 Hyde rate is 3% greater than ENC

Disparity of Fitted Rates in 1979
Hyde ENC NC US
2% GT 6% LT 8% LT 8% LT
2% LT 8% LT 10% LT ENC
9% GT 8% GT 2% LT NC
9% GT 11% GT 3% GT US

Disparity of Fitted Rates in 2001
Hyde ENC NC US
3% GT 3% LT 11% LT 15% LT
3% GT 8% LT 12% LT ENC
12% GT 8% GT 5% LT NC
18% GT 14% GT 5% GT US
Figure 7. All Causes of Death:
Trends in age-adjusted mortality rates by race and gender,
1979-2001 with projections to 2010

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th></th>
<th>NWM</th>
<th>WM</th>
<th>NWF</th>
<th>WF</th>
</tr>
</thead>
<tbody>
<tr>
<td>9% GT</td>
<td>1535</td>
<td>1990</td>
<td>695</td>
<td>441</td>
</tr>
<tr>
<td>8% LT</td>
<td>2066</td>
<td>2018</td>
<td>1124</td>
<td>664</td>
</tr>
<tr>
<td>92% GT</td>
<td>1874</td>
<td>1355</td>
<td>968</td>
<td>565</td>
</tr>
<tr>
<td>114% GT</td>
<td>1113</td>
<td>804</td>
<td>804</td>
<td>804</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th></th>
<th>NWM</th>
<th>WM</th>
<th>NWF</th>
<th>WF</th>
</tr>
</thead>
<tbody>
<tr>
<td>17% LT</td>
<td>1535</td>
<td>1990</td>
<td>695</td>
<td>441</td>
</tr>
<tr>
<td>15% LT</td>
<td>1535</td>
<td>1990</td>
<td>695</td>
<td>441</td>
</tr>
<tr>
<td>84% GT</td>
<td>1355</td>
<td>1355</td>
<td>804</td>
<td>804</td>
</tr>
<tr>
<td>84% GT</td>
<td>1113</td>
<td>1113</td>
<td>804</td>
<td>804</td>
</tr>
</tbody>
</table>
Figure 8. All Causes of Death: Disparity in mortality rates by race, 1979-2001 with projections to 2010
All Causes of Premature Mortality
**Figure 9. All Causes of Premature Mortality:**
Trends in premature mortality rates by county, region and state, 1979-2001 with projections to 2010

![Graph showing trends in premature mortality rates by county, region and state, 1979-2001 with projections to 2010.](image)

- **Hyde:** 33% decrease
  - $R^2 = 0.16$
  - $y = -21.04x + 1416$
- **ENC:** 17% decrease
  - $R^2 = 0.85$
  - $y = -8.86x + 1176$
- **NC:** 19% decrease
  - $R^2 = 0.86$
  - $y = -9.42x + 1080$

### Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>County</th>
<th>Hyde</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17% LT</td>
<td>24% LT</td>
<td>Hyde</td>
</tr>
<tr>
<td>20% GT</td>
<td>8% LT</td>
<td>ENC</td>
<td></td>
</tr>
<tr>
<td>31% GT</td>
<td>9% GT</td>
<td>NC</td>
<td></td>
</tr>
</tbody>
</table>

### Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>County</th>
<th>Hyde</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3% GT</td>
<td>8% LT</td>
<td>Hyde</td>
</tr>
<tr>
<td>3% LT</td>
<td>ENC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9% GT</td>
<td>12% GT</td>
<td>NC</td>
<td></td>
</tr>
</tbody>
</table>

1979 Hyde rate is 20% greater than ENC
2001 Hyde rate is 3% less than ENC
Figure 10. All Causes of Premature Mortality:
Trends in age-adjusted premature mortality rates by county, region, state, and nation,
1979-2001 with projections to 2010

<table>
<thead>
<tr>
<th>County</th>
<th>Decrease</th>
<th>R²</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>38%</td>
<td>0.18</td>
<td>y = -25.43x + 1467</td>
</tr>
<tr>
<td>ENC</td>
<td>23%</td>
<td>0.92</td>
<td>y = -13.27x + 1267</td>
</tr>
<tr>
<td>NC</td>
<td>25%</td>
<td>0.92</td>
<td>y = -12.92x + 1141</td>
</tr>
<tr>
<td>US</td>
<td>22%</td>
<td>0.92</td>
<td>y = -12.04x + 1047</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates

1979 Hyde rate is 16% greater than ENC
2001 Hyde rate is 7% less than ENC
Figure 11. All Causes of Premature Mortality: Trends in age-adjusted premature mortality rates by race and gender, 1979-2001 with projections to 2010.
Figure 12. All Causes of Premature Mortality: Disparity in premature mortality rates by race, 1979-2001 with projections to 2010

Race
30% decrease
R² = 0.01
y = -1.36x + 101
Heart Disease
Figure 13. Heart Disease
Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

NC: 21% decrease
\[ R^2 = 0.85 \]
\[ y = -3.12x + 319 \]

ENC: 15% decrease
\[ R^2 = 0.77 \]
\[ y = -2.15x + 309 \]

Hyde: 39% increase
\[ R^2 = 0.19 \]
\[ y = 6.47x + 361 \]

1979 Hyde rate is 17% greater than ENC
2001 Hyde rate is 92% greater than ENC

<table>
<thead>
<tr>
<th>Disparity of Fitted Rates in 1979</th>
<th>Disparity of Fitted Rates in 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>ENC</td>
</tr>
<tr>
<td>14% LT</td>
<td>11% LT</td>
</tr>
<tr>
<td>17% GT</td>
<td>3% GT</td>
</tr>
<tr>
<td>13% GT</td>
<td>3% LT</td>
</tr>
</tbody>
</table>
Figure 14. Heart Disease:
Trends in age-adjusted mortality rates by county, region, state, and nation,
1979-2001 with projections to 2010

1979 Hyde rate is 19% less than ENC
2001 Hyde rate is 41% greater than ENC
Figure 15. Heart Disease
Trends in age-adjusted mortality rates by race and gender
1979-2001 with projections to 2010

NWM
4% increase
$R^2 = 0.00$
$y = 0.85x + 446$

WM
19% decrease
$R^2 = 0.04$
$y = -5.44x + 630$

NWF
91% increase
$R^2 = 0.09$
$y = 6.58x + 159$

WF
23% increase
$R^2 = 0.03$
$y = 2.84x + 274$
Figure 16. Heart Disease: Disparity in mortality rates by race, 1979-2001 with projections to 2010

Race
9% increase
$R^2 = 0.00$
$y = 0.21x - 50$
Cancer -
Trachea, Bronchus, and Lung
Figure 17. Cancer - Trachea, Bronchus, and Lung: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Hyde</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>83</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td>80</td>
<td>51</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>81</td>
<td>101</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td>82</td>
<td>17</td>
<td>46</td>
<td>45</td>
</tr>
<tr>
<td>83</td>
<td>68</td>
<td>47</td>
<td>46</td>
</tr>
<tr>
<td>84</td>
<td>68</td>
<td>50</td>
<td>48</td>
</tr>
<tr>
<td>85</td>
<td>69</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>86</td>
<td>69</td>
<td>49</td>
<td>51</td>
</tr>
<tr>
<td>87</td>
<td>87</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>88</td>
<td>107</td>
<td>58</td>
<td>53</td>
</tr>
<tr>
<td>89</td>
<td>55</td>
<td>58</td>
<td>57</td>
</tr>
<tr>
<td>90</td>
<td>91</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>91</td>
<td>148</td>
<td>61</td>
<td>59</td>
</tr>
<tr>
<td>92</td>
<td>55</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>93</td>
<td>73</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>94</td>
<td>56</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>95</td>
<td>132</td>
<td>66</td>
<td>62</td>
</tr>
<tr>
<td>96</td>
<td>134</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>97</td>
<td>0</td>
<td>66</td>
<td>64</td>
</tr>
<tr>
<td>98</td>
<td>76</td>
<td>66</td>
<td>64</td>
</tr>
<tr>
<td>99</td>
<td>57</td>
<td>65</td>
<td>64</td>
</tr>
<tr>
<td>00</td>
<td>53</td>
<td>66</td>
<td>63</td>
</tr>
<tr>
<td>01</td>
<td>120</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>02</td>
<td>87</td>
<td>65</td>
<td>65</td>
</tr>
</tbody>
</table>

- **Hyde**: 19% increase, $R^2 = 0.01$, $y = 0.60x + 70$
- **ENC**: 62% increase, $R^2 = 0.86$, $y = 1.19x + 42$
- **NC**: 56% increase, $R^2 = 0.83$, $y = 1.07x + 42$

1979 Hyde rate is 68% greater than ENC
2001 Hyde rate is 23% greater than ENC

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>Hydro</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% LT</td>
<td>40% LT</td>
<td>Hyde</td>
</tr>
<tr>
<td>68% GT</td>
<td>0%</td>
<td>ENC</td>
</tr>
<tr>
<td>68% GT</td>
<td>0%</td>
<td>NC</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>Hydro</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>18% LT</td>
<td>22% LT</td>
<td>Hyde</td>
</tr>
<tr>
<td>23% GT</td>
<td>4% LT</td>
<td>ENC</td>
</tr>
<tr>
<td>28% GT</td>
<td>4% GT</td>
<td>NC</td>
</tr>
</tbody>
</table>
Figure 18. Cancer - Trachea, Bronchus and Lung:
Trends in age-adjusted mortality rates by county, region, and state, 1979-2001 with projections to 2010

1979 Hyde rate is 19% greater than ENC
2001 Hyde rate is 5% less than ENC

Hyde
- 8% increase
- $R^2 = 0.00$
- $y = 0.22 + 62$

ENC
- 35% increase
- $R^2 = 0.68$
- $y = 0.83x + 53$

NC
- 35% increase
- $R^2 = 0.71$
- $y = 0.77x + 48$

Disparity of Fitted Rates in 1979
- Hyde: 16% LT
- ENC: 23% LT
- NC: Hyde

Disparity of Fitted Rates in 2001
- Hyde: 5% GT
- ENC: 3% LT
- NC: Hyde

Hyde County
Figure 20. Cancer - Trachea, Bronchus, and Lung:
Disparity in mortality rates by race,
1979-2001 with projections to 2010
Chronic Lower Respiratory Disease
Figure 21. Chronic Lower Respiratory Disease: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

Hyde ENC NC
563% increase 182% increase 155% increase
$R^2 = 0.28$ $R^2 = 0.96$ $R^2 = 0.96$
y = $2.62x + 10$ y = $1.31x + 16$ y = $1.26x + 18$

1979 Hyde rate is 35% less than ENC
2001 Hyde rate is 52% greater than ENC

Disparity of Fitted Rates in 1979
Hyde ENC NC
55% GT 74% GT Hyde
35% LT 12% GT ENC
42% LT 11% LT NC

Disparity of Fitted Rates in 2001
Hyde ENC NC
34% LT 33% LT Hyde
52% GT 2% GT ENC
50% GT 2% LT NC
Figure 22. Chronic Lower Respiratory Disease:
Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010

1979 Hyde rate is 42% less than ENC
2001 Hyde rate is 8% greater than ENC

Hyde ENC NC US

Disparity of Fitted Rates in 1979
Hyde ENC NC US
73% GT 72% GT 101% GT
42% LT 1% LT 17% GT
50% LT 14% LT 15% LT

Disparity of Fitted Rates in 2001
Hyde ENC NC US
7% LT 11% LT 14% LT
8% GT 5% LT 7% LT
13% GT 6% GT 3% LT
16% GT 8% GT 3% GT
Figure 23. Chronic Lower Respiratory Disease: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010
Figure 24. Chronic Lower Respiratory Disease: Disparity in mortality rates by race, 1979-2001 with projections to 2010

Race
62% decrease
$R^2 = 0.02$
y = -2.55x + 90
Stroke
Figure 25. Stroke: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

Hyde
52% decrease
$R^2 = 0.32$
y = $-3.68x + 156$

ENC
15% decrease
$R^2 = 0.53$
y = $-0.56x + 81$

NC
12% decrease
$R^2 = 0.46$
y = $-0.41x + 77$

1979 Hyde rate is 92% greater than ENC
2001 Hyde rate is 10% greater than ENC
Figure 26. Stroke:
Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>County</th>
<th>ENC</th>
<th>NC</th>
<th>US</th>
<th>Disparity of Fitted Rates in 1979</th>
<th>Disparity of Fitted Rates in 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>Hyde</td>
<td>144</td>
<td>121</td>
<td>128</td>
<td>80% LT to 32% LT</td>
<td>57% GT to 35% LT</td>
</tr>
<tr>
<td></td>
<td>ENC</td>
<td>131</td>
<td>138</td>
<td>128</td>
<td>81% LT to 34% LT</td>
<td>74% GT to 37% LT</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>120</td>
<td>118</td>
<td>112</td>
<td>82% LT to 30% LT</td>
<td>72% GT to 29% LT</td>
</tr>
<tr>
<td></td>
<td>US</td>
<td>97</td>
<td>96</td>
<td>84</td>
<td>96% LT to 40% LT</td>
<td>86% GT to 35% LT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>County</th>
<th>ENC</th>
<th>NC</th>
<th>US</th>
<th>Hyoide</th>
<th>ENC</th>
<th>NC</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Hyde</td>
<td>144</td>
<td>121</td>
<td>128</td>
<td>90% LT to 30% LT</td>
<td>76% GT to 38% LT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENC</td>
<td>131</td>
<td>138</td>
<td>128</td>
<td>81% LT to 34% LT</td>
<td>74% GT to 37% LT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>120</td>
<td>118</td>
<td>112</td>
<td>82% LT to 30% LT</td>
<td>72% GT to 29% LT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US</td>
<td>97</td>
<td>96</td>
<td>84</td>
<td>96% LT to 40% LT</td>
<td>86% GT to 35% LT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 27. Stroke:
Trends in age-adjusted mortality rates by race and gender,
1979-2001 with projections to 2010
Figure 28. Stroke:
Disparity in mortality rates by race,
1979-2001 with projections to 2010

Race
93% increase
$R^2 = 0.01$
y = 2.82x + 67
Cancer -
Colon, Rectum, and Anus
Figure 29. Cancer - Colon, Rectum and Anus: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

- **Hyde**
  - 461% increase
  - $R^2 = 0.22$
  - $y = 1.50x + 7$
- **ENC**
  - 28% increase
  - $R^2 = 0.63$
  - $y = 0.21x + 17$
- **NC**
  - 12% increase
  - $R^2 = 0.33$
  - $y = 0.10x + 18$

1979 Hyde rate is 57% less than ENC
2001 Hyde rate is 90% greater than ENC

Disparity of Fitted Rates in 1979
- Hyde: 131% GT
- ENC: 156% GT
- NC: 11% GT

Disparity of Fitted Rates in 2001
- Hyde: 47% LT
- ENC: 49% LT
- NC: 3% GT

Disparity of Fitted Rates in 2001
- Hyde: 90% GT
- ENC: 3% LT
- NC: 95% GT
Figure 30. Cancer: Colon, Rectum and Anus:
Trends in age-adjusted mortality rates by county, region, and state,
1979-2001 with projections to 2010

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>County</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>132% GT</td>
<td>130% GT</td>
</tr>
<tr>
<td>ENC</td>
<td>1% LT</td>
<td>ENC</td>
</tr>
<tr>
<td>NC</td>
<td>57% GT</td>
<td>1% GT</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>County</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyde</td>
<td>31% LT</td>
<td>36% LT</td>
</tr>
<tr>
<td>ENC</td>
<td>8% LT</td>
<td>ENC</td>
</tr>
<tr>
<td>NC</td>
<td>57% GT</td>
<td>9% GT</td>
</tr>
</tbody>
</table>
Figure 31. Cancer: Colon, Rectum and Anus:
Trends in age-adjusted mortality rates by race and gender,
1979-2001 with projections to 2010

NWM: 681% increase  
$R^2 = 0.16$  
y = 2.57x - 8

WM: 11% increase  
$R^2 = 0.00$  
y = 0.17x + 33

NWF: 633% increase  
$R^2 = 0.13$  
y = 1.81x - 6

WF: 53% increase  
$R^2 = 0.01$  
y = 0.31x + 13

Disparity of Fitted Rates in 1979
- NWM: 501% LT  
- WM: 24% LT  
- NWF: 25% LT
- WF: 30% LT

Disparity of Fitted Rates in 2001
- NWM: 23% LT  
- WM: 30% LT  
- NWF: 59% LT  
- WF: 50% LT

Disparity of Fitted Rates in 2001
- NWM: 30% LT  
- WM: 44% LT  
- NWF: 41% LT
- WF: 41% GT

Disparity of Fitted Rates in 2001
- NWM: 145% LT  
- WM: 88% GT  
- NWF: 70% GT
- WF: 70% GT
Figure 32. Cancer: Colon, Rectum and Anus:
Disparity in mortality rates by race
1979-2001 with projections to 2010

Race
88% decrease
$R^2 = 0.88$
$y = -11.22x + 280$
All Other Unintentional Injuries and Adverse Effects
Figure 33. All Other Unintentional Injuries and Adverse Effects: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

1979 Hyde rate is 91% greater than ENC
2001 Hyde rate is the same as ENC
Figure 34. All Other Unintentional Injuries and Adverse Effects: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010

Hyde: 69% decrease, $R^2 = 0.25$, $y = -1.68x + 54$

ENC: 35% decrease, $R^2 = 0.75$, $y = -0.54x + 34$

NC: 29% decrease, $R^2 = 0.75$, $y = -0.38x + 29$

US: 22% decrease, $R^2 = 0.69$, $y = -0.27x + 24$

1979 Hyde rate is 59% greater than ENC

2001 Hyde rate is 23% less than ENC
Figure 35. All Other Unintentional Injuries and Adverse Effects: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010

<table>
<thead>
<tr>
<th>Race</th>
<th>Gender</th>
<th>Disparity of Fitted Rates in 1979</th>
<th>Disparity of Fitted Rates in 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWM</td>
<td></td>
<td>73% decrease R² = 0.09 y = -3.52x + 106</td>
<td>74% LT 80% LT 95% LT NWM</td>
</tr>
<tr>
<td>WM</td>
<td></td>
<td>93% decrease R² = 0.32 y = -4.43x + 105</td>
<td>74% LT 87% LT 32% LT NWM</td>
</tr>
<tr>
<td>NWF</td>
<td></td>
<td>82% decrease R² = 0.04 y = -0.80x + 21</td>
<td>39% GT 80% LT 42% GT WM</td>
</tr>
<tr>
<td>WF</td>
<td></td>
<td>267% increase R² = 0.03 y = 0.65x + 5</td>
<td>48% GT 62% LT 80% LT WF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Gender</th>
<th>Disparity of Fitted Rates in 1979</th>
<th>Disparity of Fitted Rates in 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWM</td>
<td></td>
<td>73% decrease R² = 0.09 y = -3.52x + 106</td>
<td>74% LT 80% LT 95% LT NWM</td>
</tr>
<tr>
<td>WM</td>
<td></td>
<td>93% decrease R² = 0.32 y = -4.43x + 105</td>
<td>74% LT 87% LT 32% LT NWM</td>
</tr>
<tr>
<td>NWF</td>
<td></td>
<td>82% decrease R² = 0.04 y = -0.80x + 21</td>
<td>39% GT 80% LT 42% GT WM</td>
</tr>
<tr>
<td>WF</td>
<td></td>
<td>267% increase R² = 0.03 y = 0.65x + 5</td>
<td>48% GT 62% LT 80% LT WF</td>
</tr>
</tbody>
</table>

Age-adjusted mortality rate per 100,000 population

Figure 35. All Other Unintentional Injuries and Adverse Effects: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010
Figure 36. All Other Unintentional Injuries and Adverse Effects: Disparity in mortality rates by race, 1979-2001 with projections to 2010
Nephritis, Nephrotic Syndrome, and Nephrosis
Figure 37. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

1979 Hyde rate is 120% greater than ENC
2001 Hyde rate is 55% greater than ENC
Figure 38. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010

1979 Hyde rate is 47% greater than ENC
2001 Hyde rate is 8% greater than ENC
Figure 39. Nephritis, Nephrotic Syndrome, and Nephrosis: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010
Figure 40. Nephritis, Nephrotic Syndrome, and Nephrosis: Disparity in mortality rates by race, 1979-2001 with projections to 2010

Race
60% decrease
$R^2 = 0.30$
y = -5.65x + 206
Atherosclerosis
Figure 41. Atherosclerosis:
Trends in mortality rates by county, region, and state, 1979-2001 with projections to 2010

- Hyde: 57% increase
  \[ R^2 = 0.01 \]
  \[ y = 0.13x + 5 \]
- ENC: 30% decrease
  \[ R^2 = 0.36 \]
  \[ y = -0.13x + 9 \]
- NC: 56% decrease
  \[ R^2 = 0.83 \]
  \[ y = -0.25x + 10 \]

1979 Hyde rate is 44% less than ENC
2001 Hyde rate is 25% greater than ENC

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th></th>
<th>Hyde</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT</td>
<td>44%</td>
<td>79%</td>
<td>91%</td>
</tr>
<tr>
<td>LT</td>
<td>48%</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th></th>
<th>Hyde</th>
<th>ENC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT</td>
<td>25%</td>
<td>20%</td>
<td>47%</td>
</tr>
<tr>
<td>LT</td>
<td>87%</td>
<td>33%</td>
<td>49%</td>
</tr>
</tbody>
</table>
Figure 42. Atherosclerosis:
Trends in age-adjusted mortality rates by county, region, state, and nation,
1979-2001 with projections to 2010

Hyde
34% decrease
\( R^2 = 0.01 \)
\( y = -0.12x + 8 \)

ENC
60% decrease
\( R^2 = 0.74 \)
\( y = -0.46x + 17 \)

NC
75% decrease
\( R^2 = 0.89 \)
\( y = -0.53x + 16 \)

US
71% decrease
\( R^2 = 0.95 \)
\( y = -0.66x + 18 \)

1979 Hyde rate is 53% less than ENC
2001 Hyde rate is 23% less than ENC
Atherosclerosis: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010

NWM 167% increase  \( R^2 = 0.01 \)
\[
y = 0.45x + 6
\]

WM 101% increase  \( R^2 = 0.01 \)
\[
y = 0.43x + 9
\]

NWF 137% decrease  \( R^2 = 0.13 \)
\[
y = -1.05x + 17
\]

WF 55% decrease  \( R^2 = 0.01 \)
\[
y = -0.12x + 5
\]

### Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>Race</th>
<th>GT</th>
<th>LT</th>
<th>NWM</th>
<th>WM</th>
<th>NWF</th>
<th>WF</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWM</td>
<td>61%</td>
<td>39%</td>
<td>141</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WM</td>
<td>186%</td>
<td>14%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NWF</td>
<td>18%</td>
<td>82%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WF</td>
<td>1%</td>
<td>99%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>Race</th>
<th>GT</th>
<th>LT</th>
<th>NWM</th>
<th>WM</th>
<th>NWF</th>
<th>WF</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWM</td>
<td>21%</td>
<td>79%</td>
<td>104</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WM</td>
<td>140%</td>
<td>60%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NWF</td>
<td>86%</td>
<td>14%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WF</td>
<td>86%</td>
<td>14%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 43. Atherosclerosis: Trends in age-adjusted mortality rates by race and gender, 1979-2001 with projections to 2010
Figure 44. Atherosclerosis: Disparity in mortality rates by race, 1979-2001 with projections to 2010
Cancer - Breast
Figure 45. Cancer - Breast:
Trends in mortality rates by county, region, and state,
1979-2001 with projections to 2010

1979 Hyde rate is 54% greater than ENC
2001 Hyde rate is 25% greater than ENC
Figure 46. Cancer - Breast:
Trends in age-adjusted mortality rates by county, region, state, and nation,
1979-2001 with projections to 2010

Hyde 25% increase
\[ R^2 = 0.01 \]
[214x298]y = 0.33x + 29

ENC 1% increase
\[ R^2 = 0.00 \]
[215x421]y = 0.01x + 30

NC 9% decrease
\[ R^2 = 0.11 \]
[214x515]y = -0.13x + 31

US 9% decrease
\[ R^2 = 0.34 \]
[214x605]y = -0.15x + 33

1979 Hyde rate is 2% less than ENC
2001 Hyde rate is 21% greater than ENC
Figure 47. Cancer - Breast:
Trends in age-adjusted mortality rates by race and gender,
1979-2001 with projections to 2010

Disparity of Fitted Rates in 1979

<table>
<thead>
<tr>
<th>Race</th>
<th>Disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWF</td>
<td>27% LT</td>
</tr>
<tr>
<td>WF</td>
<td>37% GT</td>
</tr>
</tbody>
</table>

Disparity of Fitted Rates in 2001

<table>
<thead>
<tr>
<th>Race</th>
<th>Disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWF</td>
<td>27% LT</td>
</tr>
<tr>
<td>WF</td>
<td>37% GT</td>
</tr>
</tbody>
</table>
Figure 48. Cancer - Breast: Disparity in mortality rates by race, 1979-2001 with projections to 2010
Unintentional Motor Vehicle Injuries
Unintentional Motor Vehicle Injuries:
Trends in mortality rates by county, region, and state,
1979-2001 with projections to 2010

Hyde: 37% decrease
\[ R^2 = 0.04 \]
\[ y = -0.63x + 38 \]
ENC: 17% decrease
\[ R^2 = 0.46 \]
\[ y = -0.22x + 29 \]
NC: 25% decrease
\[ R^2 = 0.63 \]
\[ y = -0.29x + 26 \]

1979 Hyde rate is 29% greater than ENC
2001 Hyde rate is 2% less than ENC

Disparity of Fitted Rates in 1979
- Hyde: 22% LT, ENC: 31% LT, NC: 29% GT
- Hyde: 2% LT, ENC: 11% LT, NC: 45% GT

Disparity of Fitted Rates in 2001
- Hyde: 3% GT, ENC: 18% LT, NC: 22% GT
- Hyde: 2% LT, ENC: 20% LT, NC: 25% GT

Figure 49. Unintentional Motor Vehicle Injuries:
Trends in mortality rates by county, region, and state,
1979-2001 with projections to 2010
Figure 50. Unintentional Motor Vehicle Injuries:
Trends in age-adjusted mortality rates by county, region, state, and nation, 1979-2001 with projections to 2010

Hyde
40% decrease
$R^2 = 0.04$
y = -0.69x + 38

ENC
13% decrease
$R^2 = 0.34$
y = -0.16x + 28

NC
20% decrease
$R^2 = 0.56$
y = -0.23x + 25

US
27% decrease
$R^2 = 0.79$
y = -0.31x + 22

1979 Hyde rate is 37% greater than ENC
2001 Hyde rate is 6% less than ENC
Unintentional Motor Vehicle Injuries: Disparity in mortality rates by race, 1979-2001 with projections to 2010

Race
15% increase
$R^2 = 0.00$
y = 0.36x + 52
Appendix

Heart Disease
Stroke
Atherosclerosis
Cancer - Lip, Oral Cavity, and Pharynx
Cancer - Stomach
  Cancer - Colon, Rectum, and Anus
  Cancer - Liver
  Cancer - Pancreas
  Cancer - Larynx
  Cancer - Trachea, Bronchus, and Lung
  Cancer - Malignant Melanoma of Skin
  Cancer - Breast
  Cancer - Cervix Uteri
  Cancer - Ovary
  Cancer - Prostate
  Cancer - Bladder
  Cancer - Brain
  Cancer - Non-Hodgkin's Lymphoma
  Cancer - Leukemia
  Human Immunodeficiency Virus (HIV) Disease
Septicemia
Diabetes Mellitus
Influenza and Pneumonia
Chronic Lower Respiratory Disease
Chronic Liver Disease and Cirrhosis
Nephritis, Nephrotic Syndrome, and Nephrosis
Unintentional Motor Vehicle Injuries
All Other Unintentional Injuries and Adverse Effects
Suicide
Homicide
Legal Intervention
Alzheimer's Disease