

## Chapter 4: Socio-Demographic Information

**He who enjoys good health is rich, though he knows it not.**

— Italian Proverb

**Age is something that doesn't matter, unless you are a cheese.**

— Billie Burke

**It's not how old you are, but how you are old.**

— Marie Dressler

### 4.1 Findings of Demographic Health Status and Resource Data

#### 4.1.1 Introduction

This chapter presents selected demographic and health status indicator data in order to provide a context in which the CHNAP population groups were studied. These data provide a framework for interpretation and understanding of the findings of CHNAP Health Care Survey and Community Forums. It concludes with some discussion of recent analyses of factors relating to health (transportation, domestic violence, preventable hospitalization issues, and emergency room use).

*The Human Condition* contains essential information for understanding the health and human service challenges facing residents of Cape Cod. One section of that report is a compilation of socio-demographic information in the form of a “Community Portrait” for each of the fifteen Cape Cod towns. Community Portraits include: U.S. Census data, birth/death statistics, health status indicators, public services utilization rate and facilities inventory, public assistance caseloads, unemployment rates, crime statistics, and health and welfare spending.

The Barnstable County Department of Human Services has maintained and updated this information in its Human Services Data Bank - a unique resource that is a wealth of information from which to obtain data. For purposes of this report, researchers focus on the socio-demographic and health status information relating to access to four health-specific areas: dental, medical, mental health, and preventive health services.

In addition to the resources in the Data Bank, the Cape Cod Commission has published *CapeTrends – Demographic and Economic Characteristics and Trends, Barnstable County* (1998).\*

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\* Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County–Cape Cod*. Fifth Edition, 1998

As an affiliate agency of the State Data Center (Massachusetts Institute for Social and Economic Research – MISER – at the University of Massachusetts, Amherst), the Cape Cod Commission maintains a current, comprehensive collection of data from the U.S. Census Bureau. Much of the data and analysis used to describe population trends; age distribution, race and ethnicity distribution, and employment were obtained from *CapeTrends*.

#### 4.1.2 Demographics

##### *Population Trends*

*CapeTrends* reported that Barnstable County (Cape Cod) had the highest population growth-rate of Massachusetts's counties for most of this century (until 1990 when it was outpaced by its island neighbors). The population of Barnstable County grew sevenfold between 1920 and 1990; the rate of growth exceeded 50% in the 1950s and 1970s. Between 1980 and 1990, the population of Barnstable County grew by 26% while the Massachusetts population grew by a rate of just 5%. The Cape Cod population reached 205,128 by 1997 according to U.S. Census Bureau estimates issued in March 1998. This figure is only 272 people fewer than the MISER's projection for the year 2000. This population represents an increase of 10% from 186,605 in 1990, to lead all mainland Massachusetts counties in the rate of population growth during this period. Only the islands of Martha's Vineyard and Nantucket had higher growth rates (17% and 25% respectively).

Barnstable County was the only county in which resident deaths outnumbered births between 1990 and 1997. That net loss was offset by the highest net in-migration of residents. The number of residents who in-migrated to Cape Cod during 1990-1997 is estimated to be 20,157 according to *CapeTrends*. Between 1980 and 1990, Barnstable County also had the highest in-migration rate in Massachusetts. The largest growth rate occurred in Mashpee where the population more than doubled from 3,700 in 1980 to 7,884 in 1990. The town with the least growth was Truro where the population grew from 1,486 in 1980 to 1,573 in 1990.\*

##### *Age Distribution*

Over the past three decades, the median age of Cape Cod residents rose nearly nine years: from 30.8 years in 1960, to 34.3 years in 1970, to 37.1 in 1980, and to 39.5 years in 1990. Barnstable County has the highest median age among Massachusetts's counties. Examination of the age distribution indicates that residents 30-39 years of age are the largest age group at 16% of the total population. Greatest growth from 1980 to 1990 was evident among residents 40-49 years of age where the population nearly doubled (86%).

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\* Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County–Cape Cod*. Fifth Edition, 1998, page 4.

Barnstable County had the highest percentage of its residents 65 years of age and over in 1990 (22%) while 14% of Massachusetts residents were 65 years of age or older. Cape residents 65-74 years of age were 13% of the total in both 1980 and 1990, while the proportion 75-84 years of age rose from 6% in 1980 to 7% in 1990, and the 85 years and older age group remained at 2% of all residents. The Cape Cod population 65 years of age and over represented 23% of the County total by 1996, as estimated by the U.S. Census Bureau. This 11% growth-rate in five years was the highest of all Massachusetts counties, nearly double the 6% statewide rate of growth among this age group.\*

Figure I: Total Population With Age Distributions, Barnstable County, 1970-2010, presents the age distributions of the Barnstable County population from 1970-2010. Appendix I and included graphs and tables which provide population trends for 1970-2010 for all towns by region of Cape Cod.

### *Race and Ethnicity Distribution/Linguistic Diversity*

According to the 1990 U.S. Census, 96.2% of the residents of Barnstable County were white. The census counted 8,649 non-White residents and Hispanic White residents in Barnstable County, an increase of 53% over 1980, while White residents (non-Hispanic) increased 25% over 1980.† Appendix K includes data on race and ethnicity in all towns by region of Cape Cod.

Of the 7,054 non-White Barnstable County residents in 1990, the largest racial group was Black (2,827), followed by the other races (2,079), American Indian (1,180), and Asian (968). The Hispanic White population totaled 1,595. Many of the Hispanic residents speak only Spanish while others are bilingual. Additionally, many of the Black residents are Haitian people whose primary language is Haitian Creole. However, French is the written language Haitians have studied in school, therefore, it is their primary written language.

Over the past decade, an increasing number of Brazilians have come to Barnstable County. The primary language spoken in these households is Portuguese. The Massachusetts Department of Public Health (MDPH) Office of Refugees and Immigrants estimates that there are 800,000 Portuguese speaking Massachusetts residents statewide,‡ as on the Cape, new Portuguese-speaking populations are Brazilian rather than Azorean or from mainland Portugal. The Brazilian Consulate in Boston now estimates that 5,000 Brazilians live and work on Cape Cod.

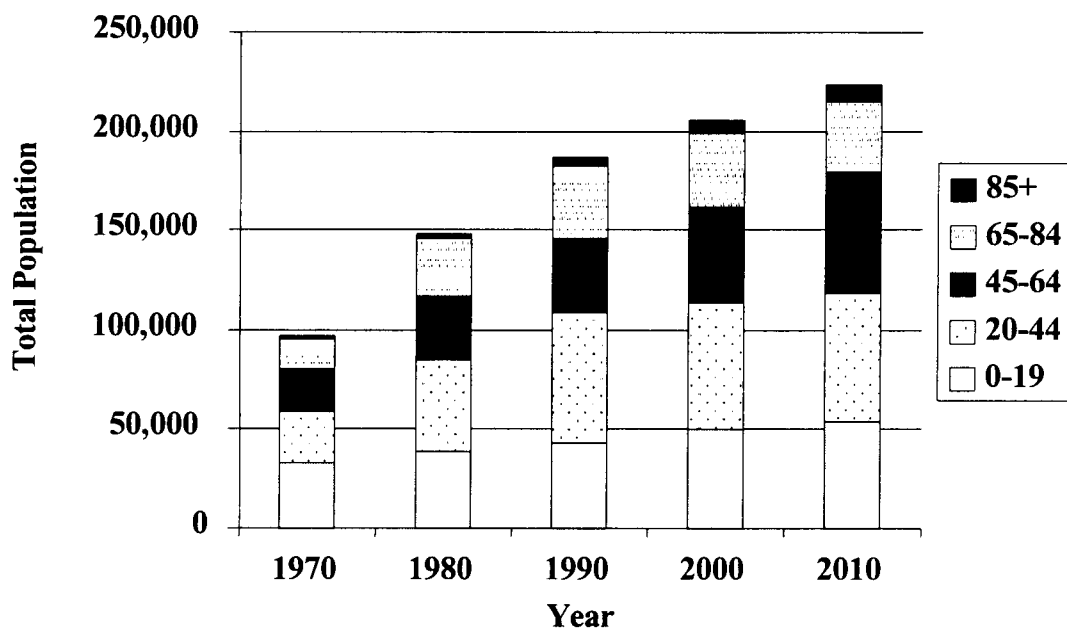
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\* Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County–Cape Cod*. Fifth Edition, 1998, page 5.

† Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County–Cape Cod*. Fifth Edition, 1998, page 5.

‡ Massachusetts Department of Public Health, Bureau of Family and Community Health, Office of Refugee and Immigrant Health. *Refugees and Immigrants in Massachusetts*. May 1997

**Figure I**  
**Total Population with Age Distributions**  
**Barnstable County, 1970-2010**



Source: Massachusetts Institute for Social and Economic Research, University of Massachusetts at Amherst, December 1994

The Massachusetts Department of Education summarizes the results of classroom surveys of children enrolled in grades K-12 in all Massachusetts school districts in a series of reports each year. Table 53 and Table 54 display the “Primary Language Is Not English” (PLINE) report from 1992 to 1997 for students on Cape Cod. Additional data on PLINE is included in Appendix L.

*Table 53: Primary Language Is Not English & Bilingual Students Who Can Do Work in English: Barnstable County, 1992-1997*

<b>School District</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
Barnstable	136	168	153	177	222	197
Bourne	6	4	8	7	12	1
Brewster	2	1	2	3	2	4
Chatham	4	3	5	14	14	17
Eastham	0	1	2	3	0	2
Falmouth	78	75	87	83	89	78
Harwich	12	12	14	10	14	11
Mashpee	10	12	5	3	3	1
Orleans	1	0	3	3	0	3
Provincetown	35	36	27	25	17	18
Sandwich	5	8	9	2	4	3
Truro	0	0	0	4	2	3
Wellfleet	0	0	0	0	0	0
Dennis-Yarmouth	105	117	132	67	70	90
Cape Cod Vocational	15	10	7	6	2	3
Upper Cape Vocational	2	12	1	1	1	1
<b>TOTAL</b>	411	459	455	408	452	432

*Table 54: Primary Language is Not English; Limited English Speaking Ability; and Cannot Do Work in English: Barnstable County, 1992-1997*

<b>School District</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
Barnstable	94	86	90	50	64	55
Bourne	3	0	3	5	1	0
Brewster	0	0	0	0	0	2
Chatham	0	0	0	0	4	10
Eastham	0	0	0	0	0	2
Falmouth	7	4	13	23	18	7
Harwich	0	0	0	0	4	0
Mashpee	3	9	3	0	0	0
Orleans	0	0	0	0	0	0
Provincetown	17	17	0	0	0	0
Sandwich	0	0	0	0	0	0
Truro	0	0	0	0	0	0
Wellfleet	0	0	0	0	0	0
Dennis-Yarmouth	25	26	36	22	11	37
Cape Cod Vocational	3	6	7	0	0	0
Upper Cape Vocational	0	0	0	0	0	0
<b>TOTAL</b>	<b>152</b>	<b>148</b>	<b>152</b>	<b>100</b>	<b>102</b>	<b>113</b>

Barnstable, Falmouth, and Dennis-Yarmouth are school districts with the largest numbers of students whose primary language is not English. Portuguese, Spanish, and Haitian Creole are the most common languages in Barnstable; Portuguese, Cape Verdean, Spanish, and Chinese in Falmouth; and Portuguese and Spanish in Dennis-Yarmouth. In Provincetown, the number of bilingual students (primarily Portuguese) have decreased from 52 in 1992 to 18 in 1997. In Chatham, the number of Spanish and Haitian bilingual students has grown to 27 in 1997. The numbers of bilingual students in other school districts are very small.

There have been year-to-year fluctuations in the numbers of bilingual students who can do the school work in English and those who have limited English speaking ability and cannot do school work in English. This may be an indication of the immigration patterns of their families. There has been an increase from 81 bilingual students in 1996 to 127 in 1997 in the Dennis-Yarmouth school system and a decrease in Barnstable from 286 bilingual students in 1996 to 252 in 1997. These students are primarily Portuguese- and Spanish speaking-, and may be a reflection of the movement of their families within the Mid Cape.

#### *Per Capita Income*

According to the 1990 U.S. Census, the per capita income in 1989 for Barnstable County was \$16,402, compared with \$17,224 for Massachusetts. Orleans had the highest per capita income (\$19,249); Mashpee had the lowest per capita income (\$14,526).

The differences in the distribution of 1989 income compiled in *The Human Condition - A Study of the Human Environment on Cape Cod* demonstrates the following most significant findings. The percentage of people in the County (38%) and State (34%) earning less than \$25,000 was similar. The annual income greater than \$50,000 was very different (26% County and 36% State) and slightly different for incomes between \$25,000 and \$50,000 (36% County and 30% State) as shown in Figure J: Annual Per Capita Income, Barnstable County and Massachusetts, 1989.

#### *Poverty Level*

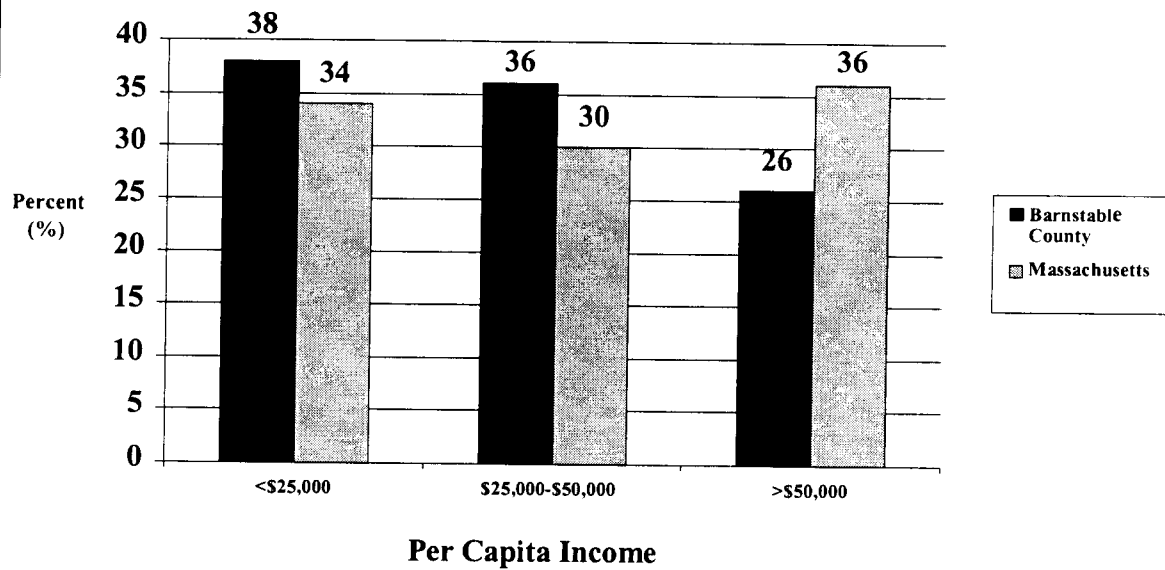
The 1989 poverty levels are more significant indicators of the economic well being of Cape Cod residents. Figure K: Poverty Levels, Barnstable County and Massachusetts, 1989, compares the percentage of the population below 100% of the poverty level, the percentage of the population below 200% of the poverty level and the percentage of children under 18 years of age living below 100% of the poverty level in Barnstable County and Massachusetts.

The 1989 poverty data shows notable variation in income levels and distribution among the towns on Cape Cod (see Appendix M). Dennis, Eastham, Falmouth, Provincetown, Wellfleet, and Yarmouth have higher percentages of their populations below 100% of the poverty level than Barnstable County as a whole. Most notably, ten towns (Bourne, Dennis, Eastham, Falmouth, Harwich, Orleans, Provincetown, Truro, Wellfleet, and Yarmouth) exceed the County and State percentage of population below 200% of the poverty level. Dennis, Eastham, Falmouth, Provincetown, Wellfleet, and Yarmouth have higher percentages than the County in the number of children under 18 years of age living below 100% of the poverty level.

During the four-year period, since the last federal census in 1990 (income data collected for 1989), the number of persons living below the poverty level in Massachusetts increased nearly 150,000 persons (an increase of 28%). In comparison, Barnstable County saw an increase of over 5,500 people (an increase of 40% since 1989). Nationally, since 1989, the percentage of people living in poverty grew by 25%.

For children, the estimates are more significant. The number of children under age 18 years of age living in poverty in Massachusetts grew by nearly 95,000 (an increase of 53%). While at the same time, children under 18 years of age living in poverty in Barnstable County increased by over 2,899 (a 63% increase). Figure L: Percent of Population Living in Poverty, Barnstable County, 1989 & 1993 presents the latest 1993 estimates of the percentages of people in Barnstable County living in poverty in 1989 and 1993. These numbers are estimates provided by the U.S. Census Bureau in January 1998.

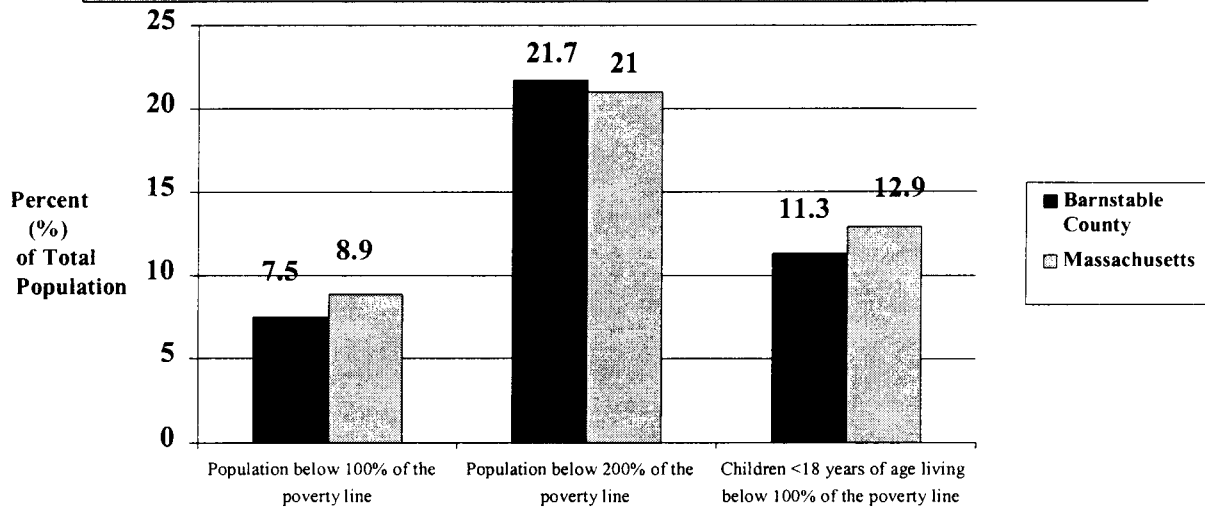
**Figure J**  
**Annual Per Capita Income**  
**Barnstable County and Massachusetts, 1989**



Source: 1990 U.S. Census data, collected for the year 1989

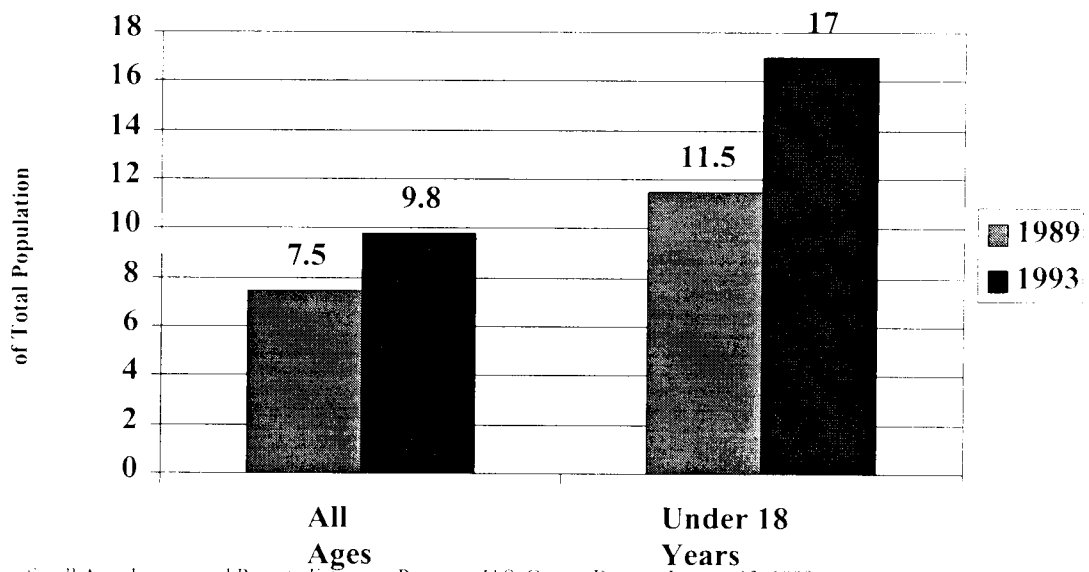


**Figure K  
Poverty Levels  
Barnstable County and Massachusetts, 1989**



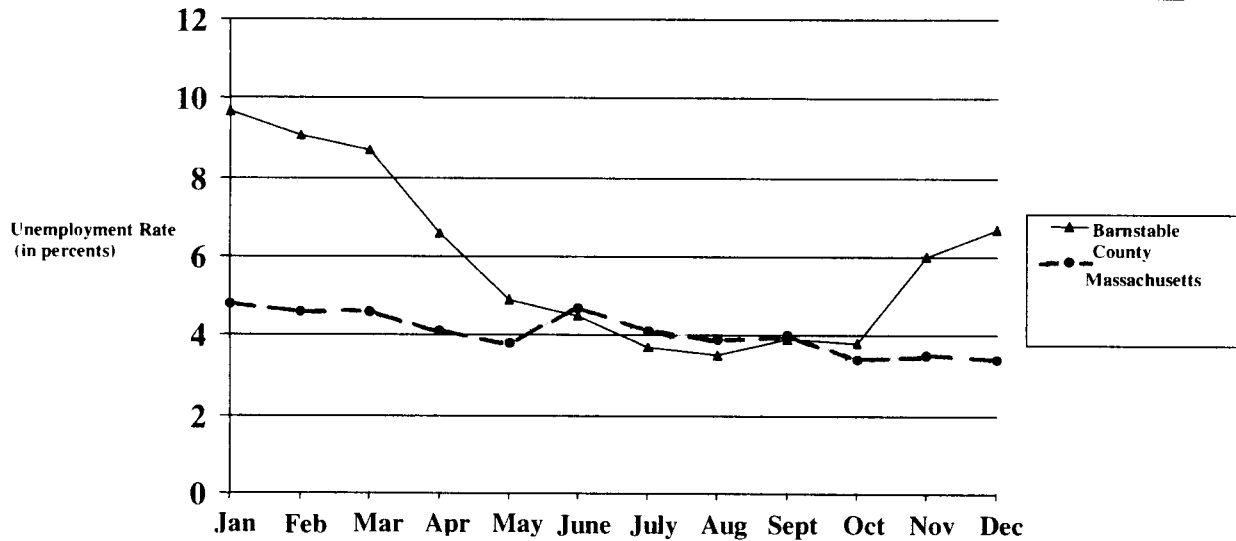
Source: 1990 U.S. Census data, collected for the year 1989

**Figure L**  
**Percentage of Population Living in Poverty**  
**Barnstable County, 1989 and 1993**



Source: Small Area Income and Poverty Estimates Program, U.S. Census Bureau, January 13, 1998.  
Taken from State and County Income Poverty estimates 1993.

**Figure M**  
**Unemployment Rates by Month**  
**Barnstable County and Massachusetts, 1997**



Source: Local Area Unemployment Statistics (LAUS), Bureau of Labor Statistics, <http://stats.bls.gov/lauavail.htm>

### Employment/Industry Profile

The Massachusetts Department of Employment and Training (MDET) maintains a research library with the annual employment and wage summary data by Standard Industrial Classifications for establishments subject to unemployment insurance.

Cape Cod has a very distinctive economic industry profile given its abundant seasonal tourist population and an increasing elderly population. The service industry (24,733 employees) and retail trade (24,363 employees) sectors each represented nearly one-third of the total annual average number of employed people in Cape Cod in 1996.\*

It is therefore not surprising to see that the unemployment rates in Figure M are significantly higher during the months of October through April. The 1997 average annual unemployment rate for every town on the Cape except Brewster was higher than the annual rate (4%) for the State. Employment opportunities for year-round Cape Cod residents are significantly linked to the fluctuating seasonal service and retail sectors.

According to the latest full year data available from MDET, there were 7,633 private sector, unemployment insurance covered establishments that reported in Barnstable County in 1996.

The Table 55: Distribution of Employees of Private Sector Establishments: Barnstable County, 1st Quarter 1996 displays the distribution of employees of private sector establishments who reported to the MDET in the first quarter of 1996.

*Table 55: Distribution of Employees of Private Sector Establishments: Barnstable County, 1st Quarter 1996*

<b>Number of Employees</b>	<b>Number of Establishments</b>	<b>% of Total</b>
1 to 4	3,114	55%
5 to 9	1,340	24%
10 to 19	684	12%
20 to 49	398	7%
50 to 99	89	2%
100 to 249	65	1%
250 to 499	6	<1%
500+	3	<1%
<b>TOTAL</b>	<b>5,699</b>	<b>100</b>

The *Massachusetts Employer Directory*, published by the MDET in August 1997, reported that the three largest employers in Barnstable County are Cape Cod Hospital (over 1,000

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\* Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County-Cape Cod*. Fifth Edition, 1998, Page 8.

employees), Falmouth Hospital (between 500 and 999 employees), and the Woods Hole Oceanographic Institute (between 500 and 999 employees). These data indicate that small, private sector establishments dominate the employment profile in Barnstable County.

Table 56 provides employment data for the industries with the largest number of employees according to the most recent annual data available (1996) from the MDET.

*Table 56: Industries with Largest Number of Employees: Barnstable County, 1996*

<b>Industry Classification</b>	<b>Annual Average # Employees</b>
<b>Health Care</b>	
Nursing and Personal Care Facilities	2,732
Hospitals	2,327
Home Health Care Services	2,046
Medical Doctors' Offices and Clinics	1,143
<b>Health Care Total</b>	<b>8,248</b>
<b>Government</b>	
Local Government, including staffing schools	8,211
Federal Government	1,812
State Government	1,298
<b>Government Total</b>	<b>11,321</b>
<b>Services</b>	
Eating and Drinking Places	9,873
Grocery Stores	3,565
Hotels and Motels	3,382
Miscellaneous Shopping Goods Stores	2,028
Miscellaneous Amusement and Recreation Services	1,222
<b>Services Total</b>	<b>20,070</b>
<b>Other</b>	
Research and Testing Services	1,348
<b>Other Total</b>	

According to data from the MDET, the workforce of Eating and Drinking Places, Hotels and Motels and Miscellaneous Shopping Goods increased from two and one half to three times between January and July 1996. Over 8,000 employees are employed in the health service sector. Hospitals, Nursing, and Personal Care Facilities were among the top six industries where average employment increased by more than 100 employees from 1995 to 1996.\*

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\* Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County-Cape Cod*. Fifth Edition, 1998, page 8.

### 4.1.3 Health Status Indicators

#### *Perinatal and Child Health Indicators*

Table 57 presents the 1995 perinatal and child health indicators (low birth weights, births to adolescents, no prenatal care in the first trimester and publicly funded prenatal care) for Barnstable County, Massachusetts and the towns of Cape Cod by region.

*Table 57: Perinatal and Child Health Indicators: Barnstable County, 1995* \*

	<b>Low Birth Weight (&lt;2500 Grams)</b>	<b>Births to Adolescents as % of Total Births</b>	<b>No Prenatal Care in 1<sup>st</sup> Trimester</b>	<b>Publicly Funded Prenatal Care</b>
Massachusetts	6.4%	7.3%	10.7%	26.4%
Barnstable County	5.6%	5.3%	9.8%	27.3%
<b>Upper Cape</b>				
Bourne	4.4%	4.8%	7.0%	37.1%
Sandwich	7.8%	3.0%	7.3%	9.7%
Mashpee	5.0%	5.6%	7.2%	19.6%
Falmouth	4.2%	4.2%	7.7%	27.6%
<b>Mid Cape</b>				
Barnstable	4.7%	4.9%	13.4%	28.7%
Dennis	9.8%	4.5%	9.9%	36.4%
Yarmouth	6.0%	9.2%	10.1%	35.8%
<b>Lower Cape</b>				
Orleans	2.9%	2.9%	11.8%	28.6%
Harwich	6.2%	6.2%	9.3%	22.9%
Brewster	6.0%	4.4%	14.9%	19.7%
Chatham	10.6%	10.6%	12.8%	25.5%
<b>Outer Cape</b>				
Eastham	5.0%	15.0%	0.0%	31.6%
Truro	0.0%	0.0%	0.0%	18.2%
Wellfleet	6.7%	0.0%	12.3%	33.3%
Provincetown	0.0%	12.5%	31.3%	20.0%

The data from the MDPH indicate that Barnstable County is below the state average for three of the four perinatal and child health indicators – low birth weight (<2500 grams), births to adolescents, and no prenatal care in the first trimester. Four towns in Barnstable County have a higher percentage of infants with low birth weight than

\* Source: Massachusetts Department of Public Health, Health Status Indicators Report, 1995 Totals.

Barnstable County and the State. Births to adolescents as a percentage of total births are above the State rate of 7.3% in four of the fifteen towns in Barnstable County. Seven of fifteen towns have higher rates than both the County and the State for no prenatal care in the first trimester, 9.8% and 10.7% respectively. Eight of the fifteen towns have a higher percentage than the County overall. The County has a higher percentage than the State for publicly funded prenatal care (See Appendix N for additional perinatal indicators).

An important health status indicator that has not been accurately reflected in the data from the MDPH is the "adequacy of prenatal care." Current data is not available at this time, as there are statistical mechanisms that are being refined to insure accurate reporting of information to the MDPH. The Cape Cod and the Islands Community Health Network (CCICHN) (see Appendix O) recently released a comprehensive study entitled *Potential Barriers to Participation in Prenatal Care on Cape Cod*. Appendix P includes the *Investigation of Mothers' Experiences of Breastfeeding on Cape Cod*. These studies represent years of discussion and focus groups, as well as telephone and mail-in surveys and contains extremely valuable information in understanding the dynamics of perinatal health and breastfeeding issues in Barnstable County.

#### ***Communicable Diseases***

Within the Division of Laboratory and Communicable Disease Control of the MDPH, information can be obtained concerning the many infectious diseases affecting Barnstable County and the State. In reviewing the data for the past ten years, the HIV/AIDS epidemic stands out as the most striking as it affects the people of Cape Cod. Table 58 summarizes the profile of people with AIDS in the County and the State by town of residence, year of diagnosis, transmission, age group, gender, and race. In reviewing the data from the AIDS Surveillance Program of MDPH, Provincetown has the highest cumulative case rate per 100,000 in the State, accounting for 55% of the people with AIDS in the County; while the County ranks third in the State. The HIV/AIDS epidemic affects every town on Cape Cod, increasingly connected with the twin epidemic of substance abuse.

Table 58: AIDS Cases Among Residents of Barnstable County (As of April 1, 1998)\*

<b>Barnstable County</b>				
	<b>Number</b>	<b>Per Cent</b>	<b>Number</b>	<b>Per Cent</b>
<b>Total Cases</b>	482		13,034	
<b>City/Town of Residence &gt; = 10 Cases</b>				
Barnstable	62	13%		
Dennis	12	2%		
Falmouth	23	5%		
Provincetown	263	55%		
Truro	13	3%		
Wellfleet	10	2%		
Yarmouth	38	8%		
Other < 10	61	13%		
<b>Year of Diagnosis</b>				
<=1988	105	22%	2,365	18%
1989	34	7%	996	8%
1990	37	8%	1,058	8%
1991	48	10%	1,317	10%
1992	57	12%	1,714	13%
1993	69	14%	1,718	13%
1994	40	8%	1,382	11%
1995	48	10%	1,179	9%
1996	30	6%	845	6%
<b>Transmission Categories</b>				
Male Sex w/male	366	76%	5,317	41%
Injecting Drug User	55	11%	4,404	34%
Male Sex w/Male and IDU	28	6%	502	4%
Receipt of Blood Products	6	1%	332	3%
Heterosexual Contact	13	3%	1,152	9%
Undetermined	10	2%	1,122	9%
Pediatric	4	1%	205	2%
<b>Age Group</b>				
< 13	4	1%	194	1%
13-19	0	0%	48	0%
20-29	55	11%	2,206	17%

\* Source: Massachusetts Department of Public Health, AIDS Surveillance Program, April 1998.



30-39	238	49%	6,405	49%
40-49	145	30%	3,214	25%
50+	40	8%	967	7%
<b>Gender</b>				
Male	451	94%	10,591	81%
Female	31	6%	2,443	19%
<b>Race</b>				
White	442	92%	7,593	58%
Black	14	3%	2,994	23%
Hispanic	19	4%	2,349	18%
Other/Unknown	7	1%	98	1%

In January-March, 1997 the Tri-County AIDS Consortium (TCAC) conducted a HIV/AIDS services needs assessment for the Cape and Islands to assess adequacy of services and linkages in the region. From the 92 responses, only four people (7%) did not have health insurance. The survey data showed a larger number of people leaving the Cape for medical and dental services, due in great part, to perceptions about the quality of medical services. This assessment contains important information from the perspective of people living with HIV/AIDS and is contained in Appendix Q of this report.

The incidence of diseases reportable to the MDPH Bureau of Communicable Disease Control and local Boards of Health in the County are provided in Table 59. Although the State mandates that ninety diseases be reported by household members, physicians, laboratories, and other officials designated by the MDPH, underreporting is a traditional problem statewide. Most notably salmonellosis, Lyme disease, and campylobacter enteritis are the top three diseases that have had an impact on the people of Cape Cod over the past ten years. Lyme disease stands out as the disease on the rise, while the incidence of salmonellosis and campylobacter enteritis appears stable.

*Table 59: Selected Reportable Communicable Diseases: Barnstable County, 1993-1997\**

<b>Number of Cases</b>						
<b>Reportable Disease<sup>†</sup></b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>Total</b>
Campylobacter Enteritis	34	37	30	29	35	165
E. Coli	7	1	8	4	7	27
Giardiasis	8	12	10	10	13	53
Hepatitis B Chronic	10	11	17	10	15	63
Hepatitis, Type A	4	2	4	27	24	61
Hepatitis, Type B	2	0	0	2	0	4
Hepatitis Mixed A&B	1	0	0	0	0	1
Haemophilus Influenza Systemic Infection	0	0	0	2	0	2
Lyme Disease	16	37	12	71	52	188
Meningitis, Viral	6	9	2	10	4	31
Measles	0	0	0	0	0	0
Meningitis, Other	2	1	0	0	1	4
Neisseria Meningitis	0	2	0	1	1	4
Streptococcus Pneumonia, Other	0	0	5	2	4	11
Pertussis (Whooping Cough)	1	1	3	1	3	9
Pneumococcal Meningitis	3	2	0	0	0	5
Salmonellosis	49	79	45	52	37	262
Shigellosis	4	2	6	4	4	20
Yersiniosis	0	1	1	2	1	5

\* Source: Massachusetts Department of Public Health, Bureau of Communicable Disease Control, June 1998.

† This table reflects only the diseases with 10 or more cases reported from 1988-1997 to the Massachusetts Department of Public Health, Bureau of Communicable Disease Control and the local Boards of Health in Barnstable County.

Another category of communicable diseases is sexually transmitted diseases (STDs), exclusive of HIV/AIDS. Here again, underreporting is viewed as a problem by the Division of STD Prevention, however, researchers know that people of Cape Cod have been diagnosed with any one of thirty-four diseases, most notably chlamydia, gonorrhea, syphilis, and genital warts.

Table 60 identifies the number of cases reported over the past ten years in Barnstable County. Genital Warts appears to have surged in 1995 and has abated in subsequent years. Consistent with the rest of the State, the highest STD incidence on Cape Cod is chlamydia, while the incidence of gonorrhea and syphilis is declining.

*Table 60: Selected Sexually Transmitted Diseases: Barnstable County, 1988-1997\**

<b>Number of Cases</b>											
<b>Disease</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>Total</b>
Chlamydia	98	168	152	147	126	93	92	86	104	88	1154
Gonorrhea	40	49	53	54	33	23	35	28	31	20	366
Syphilis	7	7	8	3	3	2	3	5	6	5	49
Genital Warts	0	0	0	0	0	7	3	12	4	1	27
<b>Total</b>	145	224	213	204	162	125	133	131	145	114	1,596

#### *Mental Health and Substance Abuse*

According to the National Co-morbidity Survey commissioned by the Substance Abuse and Mental Health Services Administration, 30% of the people of the United States have had at least one alcohol, drug abuse, or mental health disorder in the past year. Nationally, that means that 52 million people, 15 to 54 years of age have been in need of counseling, intervention, or a hospital stay related to one of these conditions.<sup>†</sup> Using 1990 U.S. census data, that means an estimated 1,062,704 people 15 to 54 years of age in Massachusetts and an estimated 27,683 people 15 to 54 years of age in Barnstable County have been in need of mental health treatment.

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\* Source: Massachusetts Department of Public Health, Division of STD Prevention

<sup>†</sup> National Council for Community Behavioral Healthcare. *Breaking Through the Stigma*. Sample Letter to Congress. May 1998

In 1995, *The Human Condition* reported that more than one-half (55%) of all resident respondents reported experiencing significant levels of anxiety, stress, or depression in their household over the prior twelve months. This translates to a serious problem for about 42,000 Cape Cod households (or an estimated 100,000 persons). Additionally, in 1995 the age-adjusted rate for suicide in the County (9.5 per 100,000) was approximately 25% higher than the State (7.6 per 100,000).

Table 61 provides data on the use of mental health services at selected non-profit agencies on Cape Cod over the past year.

*Table 61: Use of Mental Health Services at Selected Non-profit Mental Health Providers: Barnstable County, 1997*

<b>Disorder</b>	<b>Number</b>	<b>% of Total</b>
<b>Cape Cod Human Services*</b>		
Family and childhood related disorders	107	6
Affective disorders (bi-polar, major depression)	865	46
Psychosis (schizophrenic disorders, affective psychosis)	734	39
All other disorders and unknown	170	9
<b>Total</b>	1876	100
<b>Gosnold†</b>		
Family and childhood related disorders	694	43
Affective disorders (bipolar, major depression)	471	29
Psychosis (schizophrenic disorders, affective psychosis)	322	20
All other disorders and unknown	129	8
<b>Total</b>	1,616	100
<b>Lower Cape Human Services</b>		
Family and childhood related disorders	116	29
Affective disorders (bipolar, major depression)	242	61
Psychosis (schizophrenic disorders, affective psychosis)	11	3
All other disorders and unknown	27	7
<b>Total</b>	396	100
<b>Massachusetts Department of Mental health</b>		
Major biological mental illness including affective disorder and psychosis	715	55
Severe and persistent personality disorders	585	45
<b>Total</b>	1300	100

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\* 40% of the total number of Cape Cod Human Services clients have substance abuse disorders. This is in addition to the 1,876 mental health clients.

† 33% of the total number of Gosnold clients have substance abuse disorders. This is in addition to the 1,616 mental health clients.

Although the people accessing mental health services from these non-profit agencies are only a portion of the Cape residents receiving counseling, it gives an indication of the incidence of the need for mental health counseling. Falmouth is the only town on Cape Cod that provides free mental health counseling to uninsured residents. In 1997, Falmouth Human Services provided counseling to 190 people. Of those served, 26 received counseling for substance abuse.

*The Human Condition* also documented that Cape Cod residents rank alcoholism and drug abuse as the second and third-most serious community issues. At least three-quarters of *The Human Condition* respondents believed both of these two issues to be a moderate-to-major problem in their community. In 1998, the Bureau of Substance Abuse Services at the MDPH and Health and Addictions Research, Inc. reported a summary of substance abuse indicators in Massachusetts for 1993-1995. Table 62 provides data on selected substance abuse indicators (hospital discharges, deaths, publicly-funded treatment admissions, weekly Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) meetings and other indicators collected by state agencies). Hospital discharge data may be incomplete and underreported and data on the contribution of alcohol and drug use to morbidity and mortality may only reflect the most obvious cases. However, the perception of substance abuse problems by the residents of Cape Cod were validated by the data in Table 62.

**Table 62: Substance Abuse Indicators by Town: Barnstable County, 1993-1995**

Town	1990 Census	Mean Rate per 100,000 Population				
		Hospital Discharges* per Year 1993-1995	Deaths† per Year 1993-1995	Treatment Admissions‡ per Year 1993-1995	Weekly self-help meetings§ per Year 1993-1995	Injection Drug User Treatment Admissions** 1994
Massachusetts	6,016,425	1,044	34	1,530	46	280.4
Barnstable County	186,602	900	46	1,825	119	210.2
Barnstable	40,949	1,191	42	2,795	91	325.5
Bourne	16,064	549	32	1,191	122	108.2
Brewster	8,440	604	39	952	39	153.7
Chatham	6,579	931	51	911	51	129.0
Dennis	13,864	1,085	73	1,453	187	185.5
Eastham	4,462	720	29	1,123	86	214.5
Falmouth	27,960	712	59	2,555	175	217.8
Harwich	10,275	925	57	1,119	29	81.0
Mashpee	7,884	715	24	1,897	73	319.6
Orleans	5,838	912	22	1,325	605	NA
Provincetown	3,561	1,809	60	2,624	623	471.6
Sandwich	15,489	346	31	835	55	107.6
Truro	1,573	623	60	1,688	80	NA

\* Hospital discharges includes alcohol-related and drug-related diagnosis by zip code of residence. Information is from Massachusetts Division of Health Care Finance and Policy.

† Death certificate data for substance abuse-related deaths is from the Massachusetts Registry of Vital Records and Statistics.

‡ Treatment admissions from publicly-funded substance abuse treatment facilities for primary person, significant other, and/or family.

§ Number of self-help meetings is available by town where meetings occur from Alcoholics Anonymous and Narcotics Anonymous meeting directories.

\*\* Injection drug user treatment admissions is taken from the Massachusetts Department of Public Health, Health Status Indicators Report; data is for fiscal year 1994 (Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services; Appendix C: Indicators of Substance Abuse in Massachusetts, 1985-1995, February 1998; and Health Status Indicators Report for Barnstable County.

Wellfleet	2,493	908	65	1,699	65	213.8
Yarmouth	21,174	1,297	55	1,623	29	222.3

Residents of four of the fifteen towns on Cape Cod have rates of substance abuse-related hospital discharges that exceed the State rate; one town has over one and one-half times the State rate. Barnstable County had fewer substance abuse-related hospital discharges than the State per year from 1993-1995.

Ten towns had substance abuse-related death rates higher than the State rate. Barnstable County had 26% more alcohol and drug use death rates than the State per year from 1993-1995.

Residents from seven towns had treatment admissions to alcohol and drug programs higher than the State rate. In 1994, three towns exceeded the State rate for injection drug user admissions to treatment programs. Barnstable County had 16% more treatment admissions to alcohol and drug programs than the State per year from 1993-1995.

Weekly self-help meetings (AA and NA) exceeded the State rate in twelve of the fifteen towns on the Cape; two towns had more than thirteen times the number of meetings than in the State, with two other towns having nearly four times the number of self-help meetings. Barnstable County had two and one-half times the number of self-help meetings than the State per year from 1993-1995.

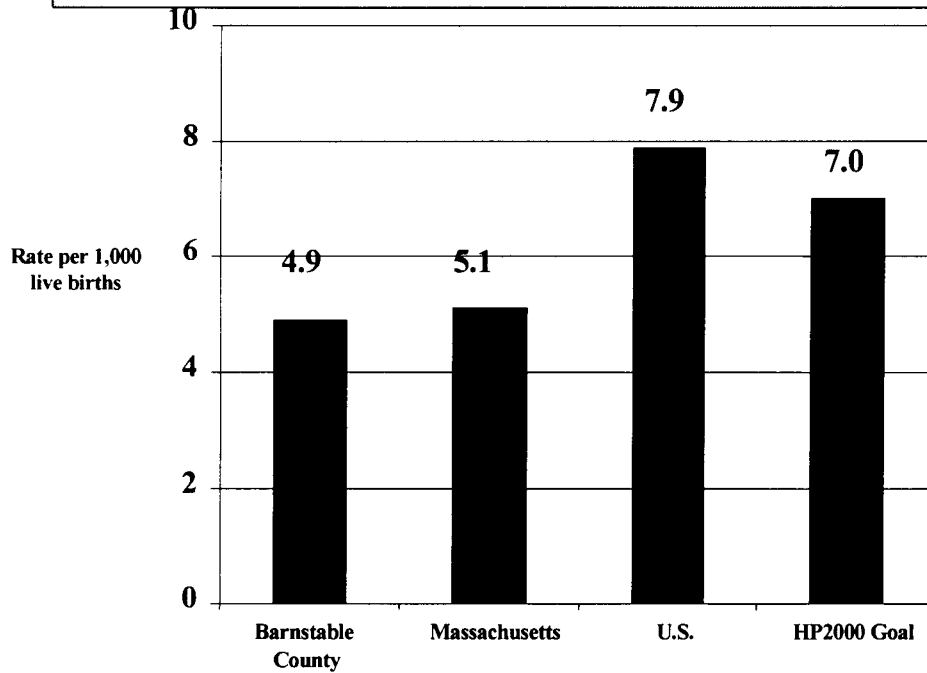
#### ***Death Rates***

The infant mortality rate (IMR) in Barnstable County in 1995 was lower than the State, the U.S., and the Healthy People 2000 Goal as shown in Figure N. Massachusetts Department of Public Health (MDPH) data for 1989 to 1996 indicates that there was no statistically significant increase or decrease in the IMR for Barnstable County during that period.

Figure O provides the age-adjusted death rates per 100,000 for Barnstable County, compared with to the State and the U.S. rates.

Although Barnstable County has lower rates relating to heart disease, breast cancer and homicide when compared to the State, Table 63 and Figure P represent the causes of death which exceed the State and/or National rates. Those causes include deaths from all cancers, lung cancer, motor vehicle accidents, all other accidents, suicide, AIDS, and alcohol and drug use.

**Figure N**  
**Infant Mortality Rate**  
**Barnstable County, Massachusetts, United States and**  
**HealthyPeople 2000 Goal**

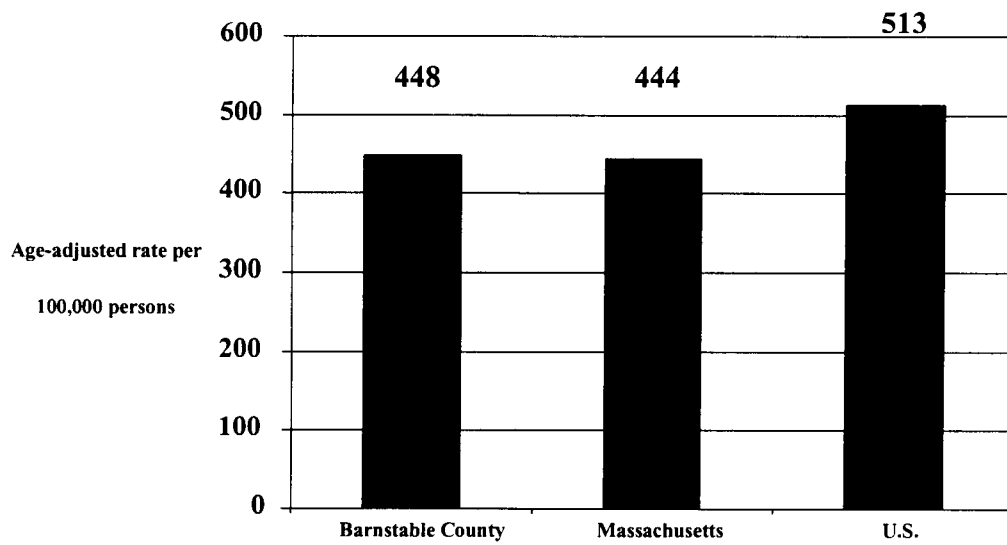


Sources: Massachusetts Department of Public Health, 1995 Data for Barnstable County and Massachusetts  
National Center for Health Statistics, 1994 Data for United States  
Healthy People 2000 for HP 2000 goal

Note: Infant mortality is defined as the death of a child less than 1 year old and we expressed as a rate per 1,000 live births



**Figure O**  
**Age-Adjusted Death Rate**  
**Barnstable County, Massachusetts and United States**



Sources: 1. Massachusetts Department of Public Health, 1995 Data  
2. National Center for Health Statistics, 1993 Data  
Note: Age- Adjusted rates are adjusted to the 1940 standard U.S. population

*Table 63: Age-Adjusted Death Rates for Selected Causes: Barnstable County, Massachusetts, United States and Healthy People 2000 Goals\**

<b>Cause of Death</b>	<b>Barnstable County</b>	<b>Mass .</b>	<b>United States</b>	<b>HP2000 Goal</b>
Heart Disease	132.4	143.8	145.3	100.0
Cancer	136.1	131.7	132.6	130.0
Breast Cancer	20.5	21.8	21.5	20.6
Lung Cancer	41.1	37.1	40.8	42.0
Motor Vehicle Accidents	8.6	7.1	15.0	15.5
Suicide	9.5	7.6	11.3	10.5
Homicide	2.2	3.9	10.7	7.2
All Other Accidents	16.4	13.1	14.4	29.3
HIV/AIDS	20.4	14.2	12.5	-
Alcohol/Drug Use	17.9	16.2	-	-

Figure Q: New Cancer Cases, Barnstable County, 1989-1994 and Figure R: Cancer Deaths, Barnstable County, 1989-1994 display the trends in new cancer cases and deaths from cancer, 1989-1994. It is clear that the number of new cancer cases in Barnstable County is increasing, while cancer deaths are decreasing. Appendix R contains selected Cancer Incidence Maps of Cape Cod illuminating the towns where breast, lung, melanoma, and prostate cancers exceed the incidence Statewide.

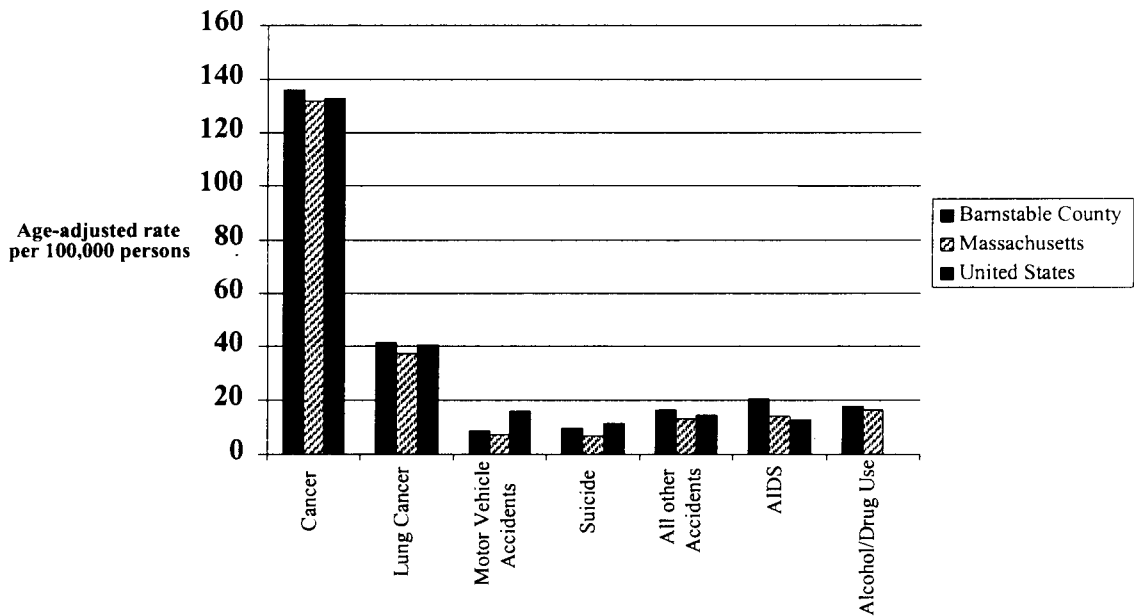
During the period of 1982-1990, breast cancer incidence had been significantly higher in nine Cape Cod towns than statewide. Thus, in December 1994, the Massachusetts Department of Public Health started funding the Cape Cod Breast Cancer and Environmental Study led by the Silent Spring Institute (SSI). At the close of three years of research, SSI has analyzed patterns of higher breast cancer incidence, amassed substantial data about the Cape environment, and searched for clues about inter-relationships. SSI's research demonstrates that higher breast cancer rates on Cape Cod are unlikely to be adequately explained by differences between the Cape and the rest of the State for established risk factors. These results point to a need for research to identify new etiologic factors that may contribute to higher breast cancer on the Cape.<sup>†</sup> SSI continues to investigate these factors on Cape Cod.

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\* Sources: Massachusetts Department of Public Health, 1995 Data; National Center for Health Statistics, 1993 Data; Healthy People 2000. Note: Rate is per 100,000 population; Rates are age-adjusted to the 1940 U.S. standard population.

<sup>†</sup> Silent Spring Institute. Cape Cod Breast Cancer and the Environment Study. Final Report. Executive Summary. December 1997. Pages iii and xi.

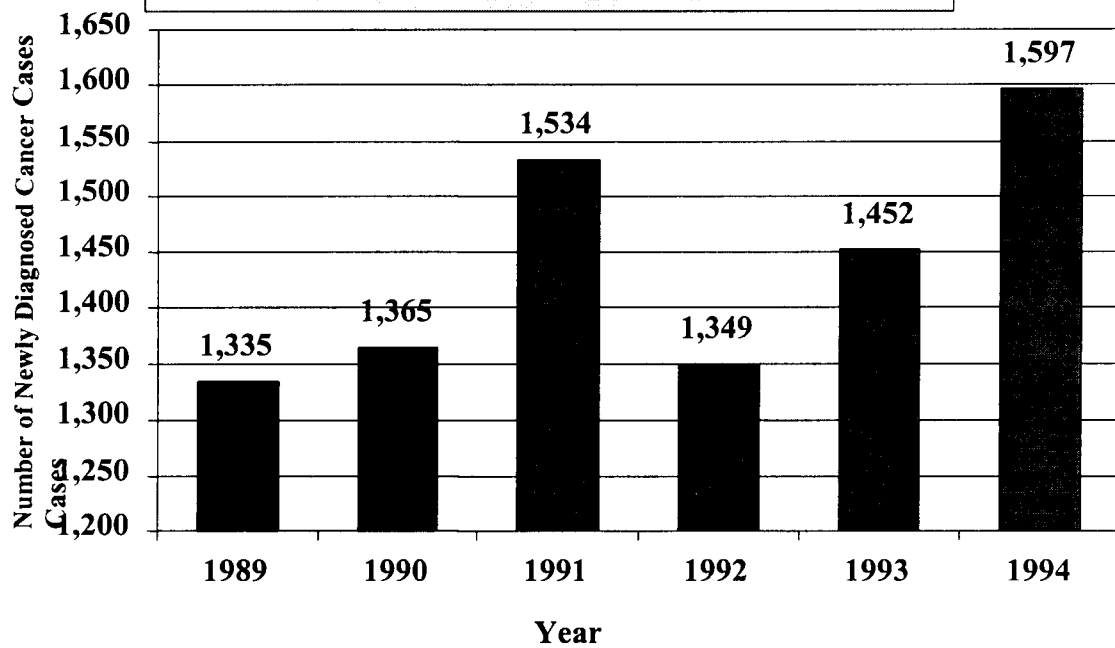
**Figure P**  
**Age-Adjusted Death Rates**  
**Which Exceed State and/or National Rates Barnstable County**



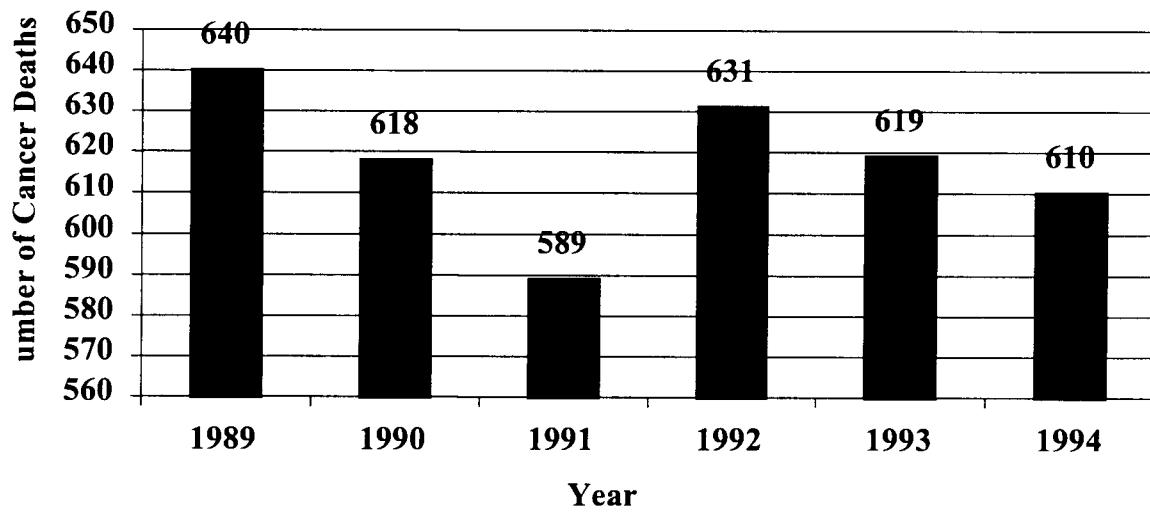
Sources: 1. Massachusetts Department of Public Health, 1995 Data  
 2. National Center for Health Statistics, 1993 Data

Note: Figures are age-adjusted to the 1940 standard U.S. population

**Figure Q**  
**New Cancer Cases**  
**Barnstable County, 1989-1994**



**Figure R**  
**Cancer Deaths**  
**Barnstable County, 1989-1994**



#### **4.1.4 Health Resources**

##### **Health Facilities**

The location of health facilities is often a major factor for consumers in accessing primary health care services. There are three hospitals (Cape Cod Hospital, Falmouth Hospital, and the Rehabilitation Hospital of the Cape and Islands) in Barnstable County. Sources of primary care in Barnstable County include Cape Cod Healthcare's physician practices, the Falmouth Free Clinic, the O'Neill Health Center, the two community health center sites of the Outer Cape Health Services and the Veterans Administration clinic. Cape Cod has several non-profit providers of mental health services as well as many private mental health therapists who are providing services from their offices throughout Cape Cod.

##### **Dental Care**

Six general and pediatric dental practices accept Medicaid (MassHealth) in Barnstable County. Appendix S includes a table that identifies the nine other dentists who accept MassHealth for 19 out of 179 dentists throughout the County. Of the 19 dentists who accept MassHealth, eight practice General Dentistry (three of whom are currently accepting MassHealth patients), two take Pediatrics only, three are Oral Surgeons, four practice Orthodontics, one only repairs dentures and one only provides nursing home visits.

##### **Primary Care Providers**

As of October 1997, the Massachusetts Board of Registration in Medicine (BRM) listed 419 physicians with business addresses on Cape Cod. The BRM listing does not identify physician full-time equivalents or physicians who are semi-retired, not practicing, or have part of their practice off Cape or out of state. However, after a telephone survey in May-June 1998 of physicians practices listed with the BRM, 385 physicians were determined to be in active practice and information was not available for 22 physicians. Of these 407 physicians, 131 are practitioners of Family Practice, General Practice, Internal Medicine, or Pediatrics. Only six of these primary care physicians (4.6%) reported not accepting MassHealth; two of whom are awaiting MassHealth approval.

Ten other physicians with primary specialties in Allergy and Immunology, Emergency Medicine, General Surgery, Gynecology, Obstetrics and Gynecology, Physical Medicine and Rehabilitation, and Pulmonary Diseases also are MassHealth Primary Care Clinicians (PCC) on Cape Cod. Of the 135 MassHealth PCCs, 68.9% are accepting new patients and 66.7% are accepting new MassHealth patients on Cape Cod.

Of the 407 physicians on Cape Cod believed to be in active practice:

- 75% are accepting new patients,
- 16% are not accepting new patients,
- Information from 10% is not available,
- 85% accept MassHealth,
- 10% do not accept MassHealth,
- Information from 5 % is not available,
- 72% are accepting new patients with MassHealth,
- 22% are not accepting new patients with MassHealth, and
- Information from 6% is not available.

The adequacy of supply of primary care physicians on Cape Cod requires more analysis since full-time equivalency information is not available as well as information about practices open to new patients and people with MassHealth. Appendix T contains an analysis of all Cape physicians who are PCCs. It also contains an analysis of Cape Cod physicians—including of whether or not they are accepting MassHealth and/or accepting new patients.

All specialty physicians who are not MassHealth PCCs need to have a referral from a PCC before caring for a patient with MassHealth. Additionally, many physicians only see patients with MassHealth who are enrolled with an HMO in whom the physician is affiliated. At the end of June 1998, Tufts Associated Health Plan and Blue Cross/Blue Shield chose not to submit proposed plans to the Massachusetts Division of Medical Assistance (DMA), the state division that administers MassHealth. The DMA, therefore, discontinued its contracts with Tufts and HMO Blue while retaining contracts with other HMOs. New DMA contracts with HMOs will affect the number of participating physicians providing services to people on Cape Cod.

### **Health Insurance Status**

Although actual numbers of people who are uninsured are not known on a County level, *The Human Condition* estimated there were 25,000 people on Cape Cod with no health insurance in 1995. During that same year, a Boston University School of Public Health study stated there were 671,000 people in Massachusetts without coverage, (11.1%) of the total population. By 1996, the estimate of the statewide figure rose to 766,000

people, 12.4% of the population.\* One can project that the County estimate has increased as well.

The health insurance status of Cape Cod residents needs further research; the CHNAP was careful to ensure that insurance status was clearly addressed in the survey.

Because access to public programs in Massachusetts is related to insurance status, as well as income level, statistics will be presented on MassHealth (Medicaid) enrollment and “free care” of Cape Cod residents in this section.

***MassHealth (Medicaid)***

According to the State Division of Medical Assistance (DMA), as of February 27, 1998, the number of Medicaid enrollees in Barnstable County was 17,831. The Town of Barnstable had the largest MassHealth population, with 4,951 enrollees, roughly 11% of its 1995 population). The next highest on the list were Mashpee and Yarmouth with 1,034 and 2342 enrollees respectively (or 10.6% and 10.4 % of their 1995 populations). Falmouth had 2,999 enrollees (or 10.1 % of its 1995 population). Over two-thirds of the Cape Cod population that is enrolled in MassHealth is located in the communities of Barnstable, Falmouth, Yarmouth, and Mashpee which account for approximately one-half the entire County population. Table 64 presents the number of MassHealth enrollees and MassHealth enrollees as a percentage of total population by town.

***Table 64: MassHealth (Medicaid) Enrollees by Town: Barnstable County, February 1998<sup>†</sup>***

<b>Town</b>	<b>MassHealth (Medicaid) Enrollment</b>			<b>Population</b>	
	<b>Feb. 27, 1998 MassHealth Enrollees</b>	<b>% of 1995 Town Population</b>	<b>% of County MassHealth Enrollees</b>	<b>1995 Town Population</b>	<b>% of 1995 County Population</b>
Barnstable	4,951	11.1	27.8	44,671	21.6
Bourne	1,518	8.5	8.5	17,936	8.7
Brewster	521	5.2	2.9	10,085	4.9
Chatham	326	4.6	1.8	7,078	3.4
Dennis	1,453	9.4	8.1	15,403	7.4
Eastham	332	6.3	1.9	5,294	2.6
Falmouth	2,999	10.1	16.8	29,743	14.4
Harwich	693	6.1	3.9	11,315	5.5
Mashpee	1,034	10.6	5.8	9,764	4.7
Orleans	374	5.4	2.1	6,953	3.4

\* Boston Globe. *More in state lack health insurance*. September 30, 1997. Page 1.

† Source: Medicaid Waiver Caseload by County and City, Massachusetts Division of Medical Assistance, April 1998



Town	MassHealth (Medicaid) Enrollment			Population	
	Feb. 27, 1998 MassHealth Enrollees	% of 1995 Town Population	% of County MassHealth Enrollees	1995 Town Population	% of 1995 County Population
Provincetown	322	8.9	1.8	3,616	1.7
Sandwich	617	3.4	3.5	18,206	8.8
Truro	103	6.3	0.6	1,625	6.8
Wellfleet	246	8.5	1.4	2,885	1.4
Yarmouth	2,342	10.4	13.1	22,624	10.9

All MassHealth enrollees have either chosen or been assigned to a primary care clinician (PCC). A list of MassHealth PCCs by town is provided in Appendix T.

A July 1997 DMA report lists current MassHealth enrollment for Primary Care Clinician program clinicians. The report displays self-reported maximum practice capacity for MassHealth enrollment. The number of MassHealth enrollees in practices ranged from 5 to 1,341, and reported capacity ranged from 40 to 10,000 patients. The average current enrollment is 12.2% of reported capacity.\*

#### *“Free Care”*

The Massachusetts Division of Health Care Finance and Policy (MDHCFP) administers a program for uncompensated care, or “free care,” with contributions from all hospitals contributing the same percentage of their private sector charges to a financing pool. Based on different formulas, the hospitals either pay an additional amount to the pool or receive additional monies from the pool on an annual basis. In fiscal year 1998, insurance companies started contributing to the pool, thereby reducing the amount of money hospitals must contribute.

In order to be eligible for full free care (80% of the pool funds), a patient’s family income must be less than 200% of the Federal Poverty Level (FPL). Partial free care is available for those patients between 200% and 400% FPL. A “medical hardship” category is available to patients at any level income, although only 2% of pool funds are available for partial free care and medical hardship combined. The final category of “emergency bad debt” consumes 18% of the pool.†

In assessing the health uninsured of Barnstable County, it is important to also look at hospital discharge data for uninsured individuals. Table 65 provides data from the MDHCFP for the eight communities on Cape Cod that have within them the top 100 zip codes of people 18-64 years of age who were uninsured during their hospitalizations

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\* Massachusetts Division of Medical Assistance. *Monthly Update of PCC Providers*. July 1997.

† Commonwealth of Massachusetts – *Report of the Special Commission on Uncompensated Care*. February 3, 1997, page 21.

in 1996. The uncompensated care ("free care") pool supported the cost of these individuals' hospitalizations.

*Table 65: Massachusetts Hospital Discharges for Uninsured Individuals 18-64 Years of Age: Barnstable County Residents, 1996*

<b>State Rank</b>	<b>Zip Code</b>	<b>Post Office Location</b>	<b>Total Uninsured Discharges</b>	<b>Rate of Uninsured Discharges/1,000 persons</b>
12	02652	North Truro	7	29.54
16	02639	Dennisport	19	26.13
65	02651	North Eastham	10	12.63
68	02657	Provincetown	35	12.23
71	02646	Harwichport	9	12.10
73	02601	Hyannis	108	12.04
93	02556	North Falmouth	16	10.66
99	02559	Bourne	16	10.07

Additional information from the MDHCFP regarding the uncompensated care delivered through Cape Cod and Falmouth Hospitals comes from the Report of the Special Commission on the Uncompensated Care Pool of February 1997. Both hospitals had a projected additional net liability to the uncompensated care pool for fiscal year 1997. The report suggests that the majority of people who use the pool are very low income working individuals. This statewide analysis demonstrates that a majority of pool recipients and patients whose care results in bad debt could be classified as very low income, working individuals. However, current data from the MDHCFP projects that the liability for both hospitals in fiscal year 1998 will be less than that in 1997.\*

#### 4.1.5 Related Health Access Issues

##### *Transportation*

Cape Cod's population is estimated to be nearly triple from winter to summer, topping one-half a million with the influx of summer residents and visitors.<sup>†</sup> The number of cars on the road increases significantly in summer months. The following overview of local resources describes services in the summer months, however, transportation to health care services is viewed as a problem all year round.

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\* Commonwealth of Massachusetts – Report of the Special Commission on Uncompensated Care. February 3, 1997. Table 2 “Summary of Projected Fiscal Year 1997 Uncompensated Care Pool Calculation and April 1998 statements from Rick Fitzmaurice, Massachusetts Division of Health Care Finance and Policy.

<sup>†</sup> Cape Cod Commission. *CapeTrends, Demographic and Economic Characteristics and Trends, Barnstable County–Cape Cod*. Fifth Edition, 1998, page 6.

Appendix U contains information on the *Public Transportation on Cape Cod, Fall 1997-Spring 1998* published by the Cape Cod Regional Transit Authority (CCRTA). In addition to the regular bus service provided by the CCRTA SeaLine (Hyannis to Woods Hole), Villager (Hyannis to Barnstable Village) and H<sub>2</sub>O Line (Hyannis to Orleans), the b-bus is available with door-to-door, ride-by-appointment service for any purpose by Cape Cod residents of all ages. CCRTA has also coordinated with Plymouth and Brockton and Bonanza bus services to connect with these services in Hyannis and Falmouth. Although the b-bus availability varies by town throughout Cape Cod, the services are not available after 7:00 p.m. each day, except Sunday when b-bus services cease at 1:00 p.m.

One additional innovative transit service is the Falmouth Hospital Courtesy Bus. Any resident of the Upper Cape who lacks transportation due to limited resources is eligible to use the service, free of charge, to access non-emergency care, such as pre-scheduled doctor's appointments, lab work, or to visit at Falmouth Hospital or the JML Care Center. This service was introduced in 1994 and has averaged nearly 5,000 rides over each of the past two years.\*

"The availability of adequate and appropriate transportation has long been an issue of concern in the communities comprising the Lower and Outer portion of Cape Cod." This is the opening statement of the *Transportation Coordination Study* completed in February 1997 by the Community Transportation Association of America and the Lower/Outer Cape Community Coalition.

Indeed, people throughout Cape Cod, not only from the Lower and Outer Cape, express concern over the availability of adequate and appropriate transportation services. The following six basic areas for improving transportation services Cape-wide are identified by the Study: 1) Route and Schedule Coordination Among Transportation Providers; 2) Consolidation of Council On Aging Van Services with b-bus Service; 3) Development of Local Feeder Services; 4) Local Shuttle Service Design; 5) Coordinated Volunteer Transportation Efforts; and 6) Public/Private Partnership Opportunities. The full text of this report is included in the Appendix U.

### *Domestic Violence*

Domestic violence is a major public health problem faced primarily by women and children, although a small percentage of men are also victims of violence. Domestic violence includes partner violence, spouse abuse, child abuse, and battering.

The effect of domestic violence on health is both direct and indirect. Domestic violence directly threatens the physical and mental health of abused individuals; as a cause of

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\* Falmouth Hospital. *1996 Community Benefits Report*. October 1997, page 15, and Courtesy Bus Utilization by Year Fiscal Year 1996 to Fiscal Year 1998 year-to-date from Terri Ahern, Market Research and Analysis, Cape Cod Healthcare, April 1998.

family/life disruption, domestic violence creates a barrier to an individual's access to systems of health care.

Two sources of data to support documentation of Cape Cod's domestic violence problem are statistics from the court system for the issuance of a Restraining Orders Form (209A) and the monthly average of child abuse and neglect report Form (51A) from the Department of Social Services.

The following data were derived from records of four courts: Barnstable Probate Court and the Administrative Office of the District Court for the Barnstable District Court, the Falmouth District Court and the Orleans District Court. Since Falmouth District Court did not begin operations until January 1996, women may have used the Barnstable Courts for the issuance of 209As.

*Table 66: Restraining Orders: Barnstable County, 1996 and 1997*

	<b>1996</b>	<b>1997</b>
Barnstable Probate Court	735	470
Barnstable District Court	719	544
Falmouth District Court	313	451
Orleans District Court	472	452

Although the total numbers of 209As for Barnstable County showed a one-year decrease from 1996 to 1997, when evaluating the level of domestic violence, analysis of the utilization of domestic violence hotlines and services, as well as police and Sheriff's Department reports, is important. A regional needs assessment is being conducted on Cape Cod relating to the perceived needs of domestic violence victims according to their service providers. The staff person for this assessment is working from the offices the Community Action Committee of the Cape and Islands in Hyannis.

Available data from the Department of Social Services (DSS) combine Barnstable County and the Islands. Since 1995, there has been a slight increase in the number of 51As being completed by the DSS.\*

#### *Preventable Hospitalizations*

In January 1994, a report of the Massachusetts Rate Setting Commission stated that the factors that cause preventable hospitalizations may include the following:

- The inability to obtain services, due to difficulty with transportation, child care issues, or restricted office hours;

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\* Massachusetts Department of Social Services. Cape and Islands Regional Office.

- No insurance or under-insurance, which can create financial barriers and reluctance to seek timely care;
- Cultural and linguistic barriers that can affect the use of primary care or result in failure to follow prescribed treatment protocols;
- Fear or distrust of the medical establishment, to the extent that one avoids medical care or does not comply with proper treatment regimes; this can have a detrimental effect on health and may be influenced by socio/cultural factors;
- Organizational “systems” problems, such as lack of patient follow-up, inadequate equipment, no reimbursement for necessary equipment and medications, and administrative inefficiencies; and
- Inappropriate diagnosis or outmoded care.\*

Hence, communities may use their preventable hospitalization data in a variety of ways to help identify and monitor opportunities for improving the health care delivery system.

The Massachusetts Division of Health Care Finance and Policy (MDHCFP) has developed an information system which focuses on an extensive small area analysis of “preventable hospitalizations,” identifying geographic regions in Massachusetts where access to, or the effectiveness of, primary and preventive care could be improved. This approach examines twenty-four diagnostic ambulatory care sensitive conditions which, if treated in a timely and effective manner in a primary care setting, and if properly managed afterwards, do not usually advance to the point where hospitalization is required. Table 67 contains the preventable hospitalization rates of the towns on Cape Cod by zip code for the fiscal years 1989-1990, 1992-1993, and 1995-1996.

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\* Massachusetts Rate Setting Commission. *Preventable Hospitalization in Massachusetts*. January 1994. page 4.

*Table 67: Preventable Hospitalizations: Age-Adjusted Annualized Rates Per 1,000 Persons Aged 0-64 in Barnstable County\**

<b>Small Area Zip Code †</b>	<b>Town</b>	<b>Fiscal Year 1989 - 1990</b>	<b>Fiscal Year 1992 - 1993</b>	<b>Fiscal Year 1995 - 1996</b>
All Zips	Massachusetts	11.74	11.7	8.98
00001	Barnstable	6.9	8.0	4.8
00002	Barnstable	7.5	8.3	4.1
00003	Bourne	9.6	8.5	6.7
00004	Chatham	5.2	6.4	3.7
00005	Dennis	5.3	3.4	4.3
00006	Dennis	6.9	11.4	10.2
00007	Falmouth	11.4	9.8	6.0
00008	Falmouth	14.3	11.6	9.5
00009	Eastham/Wellfleet	4.6	6.0	5.6
00011	Harwich/Chatham	7.0	4.2	5.1
00012	Truro/Provincetown	7.1	5.6	5.5
00013	Orleans	7.1	6.3	3.7
00014	Sandwich	8.5	6.0	4.4
00083	Mashpee	15.4	20.0	9.4
02532	Bourne	17.8	11.8	9.7
02540	Falmouth	11.3	15.2	9.0
02601	Barnstable	10.6	9.0	8.9
02631	Brewster	6.7	4.4	5.4
02632	Barnstable	5.9	5.8	5.6
02645	Harwich	6.1	5.8	4.9
02660	Dennis	6.2	9.0	5.5
02664	Yarmouth	10.7	4.8	8.1
02673	Yarmouth	10.9	5.9	6.6
02675	Yarmouth	5.5	5.8	6.2

When comparing the preventable hospitalization rate for the State with the trends from these three years, the towns on Cape Cod have maintained rates lower than the State rate, with some variations within specific towns. For example, East Falmouth residents and people with post office boxes (zip code 02541) had a higher rate in 1989-1990, a slightly lower rate in 1992-1993, and a higher rate in 1995-1996. During the same period, the residents of Falmouth with zip code 02740 had a comparatively lower rate in

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\* Sources: Massachusetts Rate Setting Commission and the Division of Health Care Finance and Policy. Appendix A in both *Improving Primary Care: Using Preventable Hospitalization as an Approach*, April 1995 and *Preventable Hospitalization in Massachusetts*, Update for Fiscal Years 1995 and 1996, April 1998.

† The above-referenced publication includes the tables to convert the small area Zip Codes to the actual Zip Codes.

1989-1990, a higher rate in 1992-1993, and the same rate in 1995-1996. Buzzards Bay has maintained a consistently higher rate than the State for these years, however it has decreased consistently during the seven years. Finally, four areas with rate fluctuations that may need closer examination are Dennisport, South and West Dennis, Mashpee and South Yarmouth.

Preventable hospitalization variations were examined in Mashpee by using multiple data sources in an April 1995 report of the Massachusetts Rate Setting Commission. According to this analysis, Mashpee may be experiencing changes in its rates of preventable hospitalization due to an inability to accommodate population growth. The report raised the following questions.

- Are the clinics located where the greatest population growth is occurring?
- Are there characteristics of the facilities and/or the new residents that may complicate service delivery and utilization?
- What illnesses plague the new and old residents? Are these conditions preventable?

Table 68 compares the hospital discharges for primary manageable conditions for four of the ambulatory sensitive conditions (angina, asthma, bacterial pneumonia, and diabetes) for each town on Cape Cod, as compared to County and State rates. Bourne and Eastham exceed both the County and State rates for angina, while Truro slightly exceeds both the County and State rates for diabetes. Yarmouth exceeds both County and State rates for asthma.

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\* Massachusetts Rate Setting Commission. *Improving Primary Care: Using Preventable Hospitalization as an Approach*. April 1995. pages 28-30

*Table 68: Hospital Discharges for Selected Primary Manageable Conditions: Age Adjusted Rate/100,000 Persons; Barnstable County and Massachusetts, Fiscal Year 1995\**

<b>Area</b>	<b>Asthma</b>	<b>Bacterial Pneumonia</b>	<b>Angina</b>	<b>Diabetes</b>
Massachusetts	164.3	213.2	91.3	61.8
Barnstable County	71.7	73.6	51.2	30.6
Barnstable	97.3	98.4	47.0	39.0
Bourne	51.0	115.8	104.0	38.6
Brewster	35.2	74.6	33.1	44.6
Chatham	55.5	20.4	41.9	26.7
Dennis	77.7	62.9	67.0	20.2
Eastham	87.2	44.7	120.9	22.8
Falmouth	9.2	23.9	17.6	16.5
Harwich	82.1	78.6	79.2	58.3
Mashpee	63.4	57.3	29.4	17.2
Orleans	29.1	20.5	77.9	18.6
Provincetown	25.0	186.1	0	0
Sandwich	31.5	90.9	36.2	20.3
Truro	51.0	15.6	66.6	64.0
Wellfleet	45.2	71.1	0	0
Yarmouth	199.2	102.0	58.0	41.4

### Emergency Room Usage

The use of a hospital emergency room for non-emergency purposes is an indicator of difficulties with access to health care. Lack of health insurance and/or lack of a primary health care provider are among the determinants of the decision to use the hospital emergency room for non-emergency purposes. Table 69 shows that for the period 1995-1997, Cape Cod Hospital and Falmouth Hospital combined averaged approximately 86,000 emergency room visits per year. Tables 70 and 71, show 1997 Emergency Room Usage by Classifications and Source of Payment for Falmouth Hospital and Cape Cod Hospital, respectively.

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\* Source: Massachusetts Department of Public Health: Health Status Indicators Report (October 1, 1994 to September 30, 1995 data).



*Table 69: Number of Emergency Room Visits Reported on Annual 403 Cost Report : Cape Cod Hospital and Falmouth Hospital, 1995, 1996, and 1997*

<b>Hospital</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
Cape Cod Hospital	58,213	56,814	57,381
Falmouth Hospital	29,289	28,059	28,301
<b>TOTAL</b>	<b>87,502</b>	<b>84,873</b>	<b>85,682</b>

Data for fiscal year 1997 from Cape Cod Hospital and Falmouth Hospital indicate that individuals who pay for emergency room visits out-of pocket (self-pay) are more likely to use the emergency room for "non-emergency purposes" (Class I and Class II at Falmouth Hospital and elective at Cape Cod Hospital) than people for whom payments are made by a third party (generally, public or private health insurance). While about one-half of all emergency room visits by people who use a third party payor for "non-emergency" purposes, nearly two-thirds of all visits by people who are self-pay are for elective or Class I or Class II "emergencies." These data do not, however, indicate the number of self-pay individuals who have health insurance but chose not to use it.

*Table 70: Emergency Room Usage by Classification and Source of Payment: Falmouth Hospital, FY 1997*

<b>Patient Classification</b> †	<b>Number of Cases</b>					
	<b>All Patients</b>		<b>Third Party</b>		<b>Self-Pay</b>	
	<b>#</b>	<b>Column %</b>	<b>#</b>	<b>Column %</b>	<b>#</b>	<b>Column %</b>
Class I	293	1.7	244	1.7	49	2.0
Class II	7,731	46.1	6,297	44.0	1,434	58.3
Class III	5,897	35.2	5,047	35.3	850	34.6
Class IV	2,842	17.0	2,716	19.0	126	5.1
<b>TOTAL</b>	<b>16,763</b>	<b>100.0</b>	<b>14,304</b>	<b>100.0</b>	<b>2,459</b>	<b>100.0</b>

\* Source: Massachusetts Division of Health Care Finance and Policy (Note: Aggregate data not clinically derived)

† Falmouth Hospital, April 1998 Emergency Department Patient Classification System: **Class I: Limited** (e.g., insect bite, otitis media, pharyngitis, strep throat, upper respiratory infection, wound check, or prescription refill). **Class II: Brief** (e.g., back pain, bronchitis, cellulitis, contusion, croup, headache, impetigo, laceration, rash, sinusitis, or urinary track infection). **Class III: Intermediate** (e.g., abdominal pain, acute myocardial infarction, asthma, child abuse, cholecystitis, congestive heart failure, open fracture, or transient ischemic attack). **Class IV: Extended** (e.g., gastro-intestinal bleeding, overdose/ingestion, pneumothorax, sexual assault, trauma [resuscitation], or unconscious).

*Table 71: Emergency Room Usage by Classification and Source of Payment: Cape Cod Hospital, FY 1997\**

Priority Classification	Number of Visits					
	All Patients		Third Party		Self-Pay	
	Number	Column %	Number	Column %	Number	Column %
Elective	30,493	53.6	23,793	51.0	6,700	65.4
Urgent	17,036	30.0	14,216	30.5	2,820	27.6
Emergency	9,352	16.4	8,631	18.5	721	7.0
<b>TOTAL</b>	56,881	100.0	46,640	100.0	10,241	100.0

Table 72 contains quarterly fiscal year 1997 data from Cape Cod Hospital. These data indicate that use of the emergency room for elective purposes as a percentage of all emergency room use increased significantly during the tourist season. The difference in elective use of the emergency room between third party payor and self-pay individuals does not change significantly with the tourist season.

*Table 72: Quarterly Elective Emergency Room Use as % of All Use: Cape Cod Hospital, FY 1997†*

Payment Status	% of All Use that is Elective Use				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
Third Party Payor	42.8	46.8	54.7	56.8	51.0
Self-Pay	60.3	64.0	68.7	69.0	65.4
All Patients	46.5	50.0	57.1	58.7	53.6

## 4.2 Discussion of Socio-Demographic Information

### Demographic issues

The total population of Cape Cod is similar to that of a moderately-sized city. In contrast to most cities of comparable size, the population is spread rather unevenly over fifteen towns in a large geographic area where public transportation is limited. These circumstances pose a considerable barrier to geographic access to health care services

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\* Source: Cape Cod Hospital, June 1998.

† Source: Cape Cod Hospital, June 1998.

and resources for some of the people with limited resources who were included in this study.

Cape Cod is one of the fastest growing regions of Massachusetts. As such, one can expect the barriers to health care and gaps in health care services to continue to be a problem in the absence of significant improvements in the availability and accessibility of health care.

The relatively large population of people over 65 years of age poses its own health challenges. While some of these individuals are retirees with comfortable incomes and adequate health insurance, many others lack the resources (e.g., income, transportation, and adequate insurance) that facilitate access to health care.

The population of Cape Cod continues to change such that the health care system and health care providers need to be increasingly competent in responding to the racial, cultural, and linguistic diversity of the region. While the population is predominantly White with English as its primary language, there is a well-established Native American population, Black/African American and Cape Verdean populations, growing Brazilian and Hispanic populations, and a small, stable Haitian Creole-speaking Haitian community. Many members of the Brazilian and Hispanic communities speak Portuguese and Spanish, respectively, as their primary language.

While poverty levels are comparable to those of the State, there are pockets of poverty in some communities while other communities demonstrate considerable affluence. It is this dichotomy – poverty amid affluence – that typifies many Cape Cod communities and which has served to mask the problems of access to health care experienced by people who were the focus of this study. One of the most striking observations of the latest data available from the US Census is the larger percentage increase in the number of people living below the poverty level in Barnstable County than in Massachusetts and the United States.

Cape Cod also features an employment profile that exacerbates health care access problems. A significant amount of employment is seasonal and in the service and retail industries which are closely tied to the tourist industry. People employed under these circumstances are those most often without health insurance for themselves and/or their families.

### **Health Status**

With few exceptions, the health status profile of the entire population of Barnstable County does not differ from the State profile. The elevated incidence of breast cancer across all regions of the Cape has prompted in-depth study since December 1994. Since differences in mammography and established risk factors for breast cancer are unlikely to fully explain the higher breast cancer rates on the Cape – compared to the rest of Massachusetts – strong support for the current research is critical in understanding these statistics. Death rates for all cancers – and lung cancer in particular on Cape Cod – are

high than the state and the nation. Cape Cod has higher death rates due to motor vehicle accidents, all other accidents, and suicide – in comparison with the. In these categories, however, Cape Cod's death rate is lower than the national rates. Health status data for the populations that were the focus of this study has traditionally, not been available. The CHNAP Community Health Care Survey was designed to obtain information about health status of these populations. CHNAP data suggest that under-served populations may be in poorer health than the population as a whole.

AIDS and HIV infection are among the diseases and conditions that are particularly significant health care problems on Cape Cod. People with HIV/AIDS require both primary care services and a range of specialty care services, some of which require travel to Boston or other urban areas for care. The HIV/AIDS epidemic affects every town on Cape Cod and is increasingly connected with substance abuse. The incidence of substance abuse – as measured by treatment admission, hospital discharges, self-help meetings, and substance abuse-related deaths – is significantly higher in some Cape Cod towns in comparison to the County and to the State. It is commendable that nearly every town on Cape Cod has more self-help meetings than the average town in Massachusetts.

Lyme Disease has also been a growing concern throughout the past ten years on Cape Cod – with variation in the actual numbers of reported cases each year. Yet the complex treatment regimes for this disease and differing medical treatment modalities have lead many people off-Cape or even out of state for care.

### Health Resources

Unlike a city where health care facilities are accessible by public transportation, the location of the few health care facilities on Cape Cod combined with a limited public transportation system creates significant barriers to access to some services. Travel time and distance from the lower and outer Cape to Cape Cod Hospital is considerable—and especially during the tourist season.

There are few dentists on Cape Cod who accept MassHealth patients.

Many physicians participate in the MassHealth Program. The average current enrollment is 12% of capacity. Although over two-thirds of Cape physicians are accepting new patients with MassHealth, the changes in insurance affiliations with the Massachusetts Division of Medical Assistance affect the number of physicians providing services to people with MassHealth on Cape Cod.

The number of persons on Cape Cod without health insurance is not precisely known. While approximately one-half of the Cape population lives in the towns of Barnstable, Falmouth, Yarmouth, and Mashpee, those communities account for nearly two-thirds of the MassHealth (Medicaid) enrollees on Cape Cod.

The recent emergency room utilization data from Cape Cod Hospital and Falmouth Hospital indicate that individuals who pay for emergency room visits out-of-pocket are more likely to use the emergency room for non-emergency reasons than people for whom payments are made by a third party. A more thorough assessment of the hospitals' data by zip code would be valuable.

### **4.3 Highlights of Socio-Demographic Information**

#### **4.3.1 Demographics**

- Barnstable County (Cape Cod) had the highest population growth-rate of Massachusetts counties for most of this century (until 1990 when it was outpaced by its island neighbors).
- The median age of Cape Cod residents rose nearly nine years over the past three decades: from 30.8 years in 1960, to 34.3 years in 1970, to 37.1 in 1980, and to 39.5 years in 1990. Barnstable County has the highest median age among Massachusetts' counties.
- Residents 30-39 years of age are the largest age group of the total population (16%).
- Barnstable County had the highest percentage of its residents 65 years of age and over in 1990 (nearly 23%) while 14% of Massachusetts residents were 65 years of age or older.
- According to the 1990 U.S. Census, 96.2% of the residents of Barnstable County were White. The census counted 8,649 non-White residents and Hispanic White residents in Barnstable County, an increase of 53% over 1980, while white residents (non-Hispanic) increased 25% over 1980.
- Of the 7,054 non-White Barnstable County residents in 1990, the largest racial group was Black (2,827), followed by the other races (2,079), American Indian (1,180), and Asian (968). The Hispanic White population totaled 1,595.
- Over the past decade, an increasing number of Brazilians have settled in Barnstable County. The primary language spoken in these households is Portuguese. The Brazilian Consulate in Boston now estimates that 5,000 Brazilians live and work on Cape Cod.
- According to the 1990 U.S. Census, the per capita income in 1989 for Barnstable County was \$16,402, compared with \$17,224 for Massachusetts.
- The annual household income greater than \$50,000 was very different (26% County, 36% State).

- Ten towns (Bourne, Dennis, Eastham, Falmouth, Harwich, Orleans, Provincetown, Truro, Wellfleet, and Yarmouth) exceed the County and State percentage of population living below 200% of the poverty level.
- Estimates of the number of people living in poverty for 1993 indicate a significant increase in the number of people living in poverty in Barnstable County over the 1989 Census data.
- The Cape population is estimated to nearly triple from winter to summer (exceeding one-half a million with the influx of summer residents and visitors).

#### 4.3.2 Employment

- Cape Cod has a very distinctive economic profile given its abundant seasonal tourist population and an increasing elderly population.
- Employment opportunities for year-round Cape Cod residents are significantly linked to the fluctuating seasonal service and retail industry sectors.

#### 4.3.3 Health Status

- Barnstable County is below the State average for three of the four perinatal and child health indicators – low birth weight (<2500 grams), births to adolescents, and no prenatal care in the first trimester.
- The HIV/AIDS epidemic stands out as the most striking as it affects the people of Cape Cod.
- Provincetown has the highest cumulative AIDS case rate per 100,000 in the State, accounting for 55% of the people with AIDS in the County; while Barnstable County ranks third in the State.
- Salmonellosis, Lyme disease, and campylobacter enteritis are the top three diseases that have had an impact on the people of Cape Cod over the past ten years.
- Lyme disease stands out as the disease on the rise, while the incidence of salmonellosis and campylobacter enteritis have been consistently reported.
- In 1995, *The Human Condition - A Study of the Human Environment on Cape Cod* reported that more than one-half (55%) of all resident respondents reported experiencing anxiety, stress, or depression in their household over the prior twelve months. This translates to a problem for about 42,000 Cape Cod households (or an estimated 100,000 persons).

- In 1995, the age-adjusted rate for suicide in the County (9.5 per 100,000) was higher than the State rate (7.6 per 100,000).
- Ten towns have substance abuse related death rates higher than the State rate.
- Barnstable County had 26% more substance abuse related death rates than the State per year from 1993-1995.
- Residents from seven towns have treatment admissions to alcohol and drug programs higher than the State rate.
- Weekly self-help meetings (AA and NA) exceeded the State rate in twelve of the fifteen towns on the Cape; two towns have more than thirteen times the number of meetings than in the State, with two other towns having nearly four times the number of self-help meetings. Barnstable County has two and one-half times the number of self-help meetings than the State per year from 1993-1995.
- Barnstable County has lower rates relating to heart disease, breast cancer, and homicide when compared to the State
- Causes of death which exceed the State and/or National rates include deaths from all cancers, lung cancer, motor vehicle accidents, all other accidents, suicide, AIDS and alcohol and drug use.
- During the period of 1982-1990, breast cancer incidence had been significantly higher in nine Cape Cod towns than statewide.
- The number of new cancer cases in Barnstable County is increasing, while deaths from cancer are decreasing.

#### 4.3.4 Health Resources

- Six general and pediatric dental practices accept MassHealth (Medicaid) in Barnstable County; nine other dentists accept MassHealth for a total of 19 out of 179 dentists throughout the Barnstable County.
- In June 1998, there were a total of 135 physicians who were MassHealth Primary Care Clinicians on Cape Cod: 69% of the MassHealth Primary Care Physicians on Cape Cod were accepting new patients, and 67% of the MassHealth Primary Care Physicians on Cape Cod were accepting new MassHealth patients.
- In June 1998, 407 physicians were listed with the Massachusetts Board of Registration in Medicine and/or were identified through this study and are believed to be in an active practice: 75% of all physicians on Cape Cod were accepting new

patients, 16% are not accepting new patients; and information from 10% was not available.

- 85% of all physicians on Cape Cod were accepting MassHealth, 10% do not accept MassHealth and information from 5% was not available.
- 72% of all physicians on Cape Cod were accepting new patients with MassHealth, 22% were not accepting new patients with MassHealth, and information from 6% was not available.
- *The Human Condition - A Study of the Human Environment on Cape Cod* estimated there were 25,000 people on Cape Cod with no health insurance in 1995.
- According to the Division of Medical Assistance (DMA), as of February 27, 1998, the number of Medicaid (MassHealth) enrollees in Barnstable County was 17,831.
- The Town of Barnstable had the largest MassHealth population with 4,951 enrollees, roughly 11%, of its 1995 population). The next higher towns on the list were Mashpee and Yarmouth with 1,034 and 2342 enrollees respectively (or 10.6% and 10.5 % of their 1995 populations). Falmouth has 2,999 enrollees (or 10.1 % of its 1995 population).
- While the towns of Barnstable, Falmouth, Yarmouth, and Mashpee account for approximately one-half the entire Cape Cod population, over two-thirds of the Cape's population that is enrolled in MassHealth live in those four communities.
- The majority of people who use the "free care" pool are very low income, working individuals.

#### 4.3.5 Related Health Access Issues

- People throughout the Cape express concern over the availability of adequate and appropriate transportation services.
- The effect of domestic violence is both direct and indirect. Although the total number of restraining orders for Barnstable County showed a one-year decrease from 1996 to 1997, analysis of the utilization of domestic violence hotlines and services – as well as police and sheriff reports – is critical.
- There has been a slight increase in the number of child abuse /neglect complaints being completed by the Department of Social Services for Cape Cod and the Islands.
- When comparing the preventable hospitalization rate for the Commonwealth – with trends for Cape Cod – the towns have maintained rates lower than the State rate, with some variations within specific towns.



- Hospital discharge rates on Cape Cod for primary manageable conditions for four ambulatory sensitive conditions (angina, asthma, bacterial pneumonia, and diabetes) are lower than State rates – except for higher angina rates in Bourne and Eastham; higher diabetes rates in Truro; and higher asthma rates in Yarmouth.
- Data for fiscal year 1997 from Cape Cod Hospital and Falmouth Hospital indicate that individuals who pay for emergency room visits out-of-pocket (self-pay) are more likely to use the emergency room for “non-emergency purposes” than people for whom payments are made by a third party (generally – public or private insurance).
- Quarterly data from Cape Cod Hospital indicate that use of the emergency room for elective purposes as a percentage of all emergency room use increases significantly during the tourist season.

