Delawareans Without Health Insurance
2000

prepared for
the Delaware Health Care Commission

by

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Introduction

The Delaware Health Care Commission has, since its inception, been concerned about access to health care for all Delawareans. While that is not its only focus, since the Commission's mandate is broad, improving access to health care is a primary goal. Access to health care has several dimensions. One of those dimensions is covered in this report, and that is health insurance coverage. Those with health insurance typically enjoy greater access to health care providers than do those who are without it.

Persons who do not have health insurance are still likely to require medical care at some point in time. When they do require such services, their condition may be significantly worse than had it been detected and addressed at an earlier stage. In addition, the uninsured will tend to use one of the most expensive providers, the emergency room. Ultimately, providers must cover all of their costs. Services delivered to the insured and the uninsured alike, figure into that cost. As a result, some of the cost of services provided to the uninsured is shifted to the insured population. This raises the overall cost of fringe benefits to employers.

To better understand the nature of the uninsured population, the Delaware Health Care Commission has been monitoring its size and structure for a number of years. This report is a significant update and offers both new information and analysis. It adds information for the years 1998 and 2000 to the database. In addition, much of the information is now reported as three-year averages in order to add stability to the estimates. Finally, adjustments have been made to some of the tables to reflect recently reported 2000 Census data. This will make figures that report counts rather than percentages inconsistent with prior reports.

The report has three major sections. In the first section, the current status of the uninsured in Delaware and the region is discussed. A time series, beginning in 1982 and ending in 2000 is used to show any trends. The second section focuses on the labor market in Delaware and existing and future trends that might affect employer provided health coverage. The third section contains information on health insurance coverage for a variety of demographic variables. The implications of current demographic trends are also considered in this section.

The Uninsured

Background

Two primary sources of data are available for measuring access to health insurance in Delaware. The first source is the March Current Population Survey (CPS), conducted annually by the U.S. Bureau of Census. The second source is the Behavioral Risk Factor Surveillance System, conducted monthly for the U.S. Centers for Disease Control and Prevention by the Center for Applied Demography and Survey Research at the University of Delaware, through the Delaware Division of Public Health. Both sources are valuable in their own right, but each has associated advantages and disadvantages.

The CPS is conducted monthly throughout the nation and is designed to measure the unemployment rate and other employment related statistics for the 50 states and the nation. More than 64,000 households are included in the sample and data is gathered on approximately 131,800 persons in those households. Each month, the basic employment information is gathered along with optional information that changes from month to month. The March CPS is usually referred to as the annual demographic file, since it captures a broad array of demographic information along with basic employment data. Part of that demographic information concerns health insurance coverage.

In Delaware, the CPS involves about 700 households monthly, usually containing more than 1,400 persons. This sample size is sufficient for producing statewide estimates on a wide variety of demographic indicators. When measuring the percentage of the population without health insurance, for example, the accuracy is approximately +/- 1.7%. This year for the first time, three-year averages can be reported at the county level.

The health insurance questions were added to the CPS in 1982. There were modifications to the questions in 1989 and again in 1995. However, a consistent data series can be constructed in spite of the changes. One aspect of the health insurance questions, time frame, is important to understand, since it differs between the two primary sources of data. The questions on the CPS are asked with reference to the previous year. Thus, in March 2000, respondents were asked about health insurance coverage in 1999. However, there is considerable evidence to suggest that the responses given are highly correlated with their current health insurance status or at least to

the current quarter. The U.S. Bureau of Census conducted significant parallel testing between the Survey of Income and Program Participation (SIPP) and the Current Population Survey. The SIPP sample of households is part of a panel that is re-interviewed quarterly for more than two years. Thus, the survey is able to more accurately follow the respondent's health insurance status over time. The comparisons of estimates of health insurance coverage obtained from the CPS show a strong relationship between the SIPP responses and the CPS responses at the time the questions were asked. Thus, for purposes of this report, the year referenced in the tables and text always refers to the year in which the question was asked.

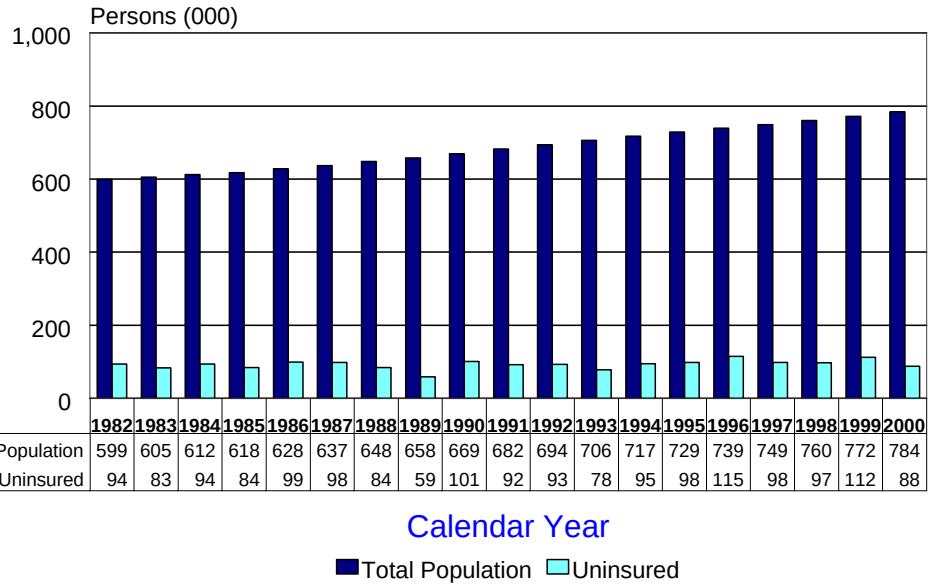
The second source of health insurance information is the Behavioral Risk Factor Surveillance System (BRFSS). The survey has been carried out by the Center for Applied Demography and Survey Research since 1990. The sample consists of residents of the state who are 18 years old or older. Each month approximately 300 households are contacted statewide and then an adult respondent is randomly chosen from within each household to be interviewed. The survey is wide-ranging. Among the questions asked are whether the person being interviewed currently has health coverage. If they are not covered, they are asked how much time has elapsed since they were covered. The limitation of BRFSS is that it only represents adults. However, the sample size is sufficient to obtain county level estimates that are more accurate than those that can now be obtained from the CPS. Together the BRFSS and the CPS provide a powerful set of data for understanding the health insurance problems in Delaware today.

In the balance of this section, the current estimates of the uninsured will be presented. In addition, time series information will be used to show trends contained within those estimates. Finally, county level estimates will be provided along with a comparison of Delaware with the larger region.

The Uninsured 1982-2000

The point estimates for the number of persons without health insurance from 1982 to 2000 are shown in Figure 1-1 below. The term "point estimate" is used here to describe the results obtained from the CPS for a single year. There are several general observations that can be made about the information contained in this figure. First, the number of persons without

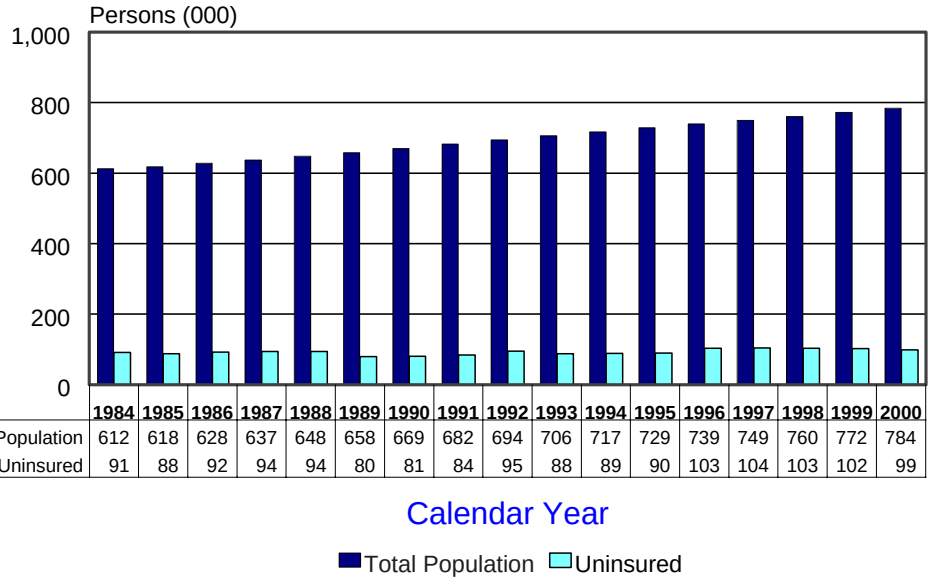
Figure 1-1
Estimated Persons without Health Insurance
in the State of Delaware



	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Population	599	605	612	618	628	637	648	658	669	682	694	706	717	729	739	749	760	772	784
Uninsured	94	83	94	84	99	98	84	59	101	92	93	78	95	98	115	98	97	112	88

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1982-2000

Figure 1-2
Estimated Persons without Health Insurance
in the State of Delaware (3 year average)



	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Population	612	618	628	637	648	658	669	682	694	706	717	729	739	749	760	772	784
Uninsured	91	88	92	94	94	80	81	84	95	88	89	90	103	104	103	102	99

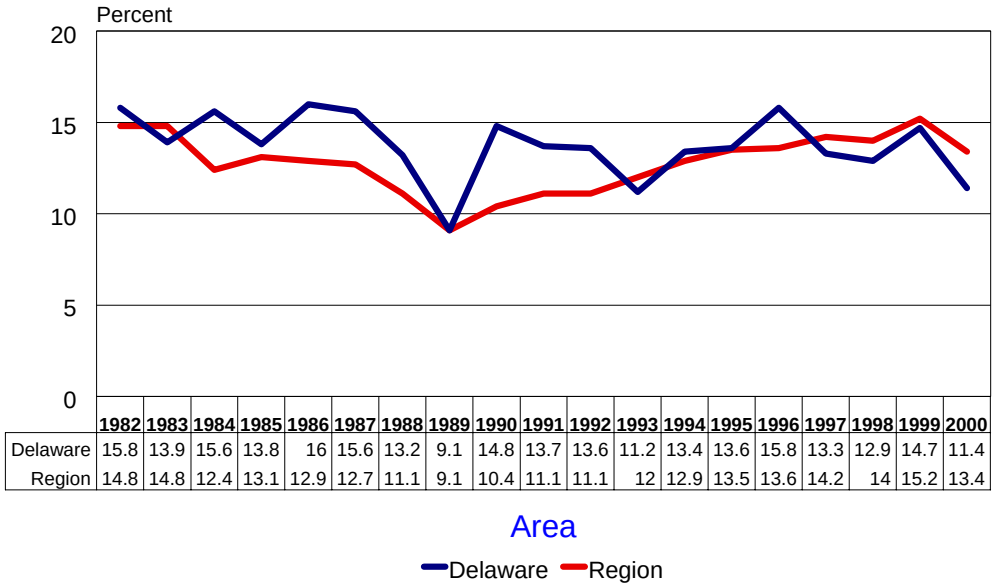
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1982-2000

health insurance in 2000 (88,000) dropped substantially during the past year. Last year's estimate could have been the result of random variation. However, this year's estimate includes the full impact of the CHIP program for the first time. Both sources may have contributed to this result. This also includes the 2000 population count and that is 23,000 larger than previously estimated.

Second, while the number of uninsured has remained reasonably stable, the population of Delaware has increased by more than 185,000 since 1982. Had the number of uninsured kept pace with population growth, there would have been more than 35,000 additional persons without health insurance in 2000 based on the one-year estimate. Clearly, there are other factors operating that impact the number of uninsured apart from population growth.

Figure 1-2 shows the same information as a three-year moving average. This tends to remove some of the year-to-year fluctuations that are due to random variation associated with sample surveys. The number of uninsured varies between 80,000 and 104,000 over the entire period, which is a relatively small range given that the standard error is about 13,000. The sudden increase in the 1996 estimate appears to have been a statistical artifact that was not confirmed in either 1997 or 1998. A similar pattern occurred in 1999-2000. The 3-year average tends to moderate those movements.

Figure 1-3
Percent of Persons without Health Insurance
for Delaware and the Region



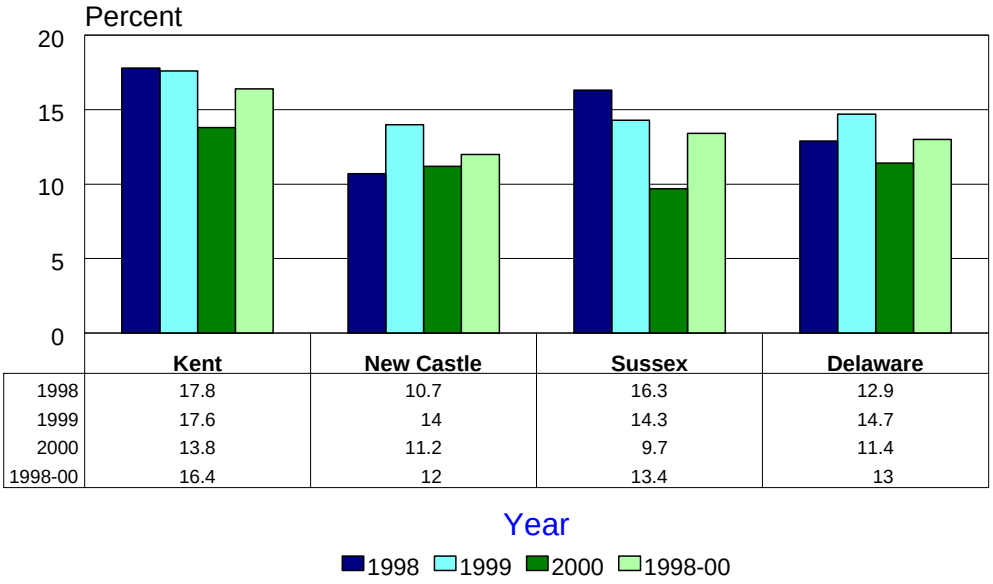
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Delaware	15.8	13.9	15.6	13.8	16	15.6	13.2	9.1	14.8	13.7	13.6	11.2	13.4	13.6	15.8	13.3	12.9	14.7	11.4
Region	14.8	14.8	12.4	13.1	12.9	12.7	11.1	9.1	10.4	11.1	11.1	12	12.9	13.5	13.6	14.2	14	15.2	13.4

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1982-2000

The proportion of the population without health insurance, shown in Figure 1-3 above, has also shown distinct improvement since the recent peak in 1996. The rate has fallen over the years from about 15% in the 1982-1987 period to approximately 13.0% in the late-1990s. Some of this is undoubtedly due to legislative and policy initiatives, but at least some of the shift may be attributed to favorable demographics. In either case, Delaware is better off.

Also found in Figure 1-3 are comparative rates for the region which includes Maryland, Pennsylvania, New Jersey, and New York. From 1982 through 1992 Delaware's percentage of uninsured tended to be about 2% higher than that calculated for the entire region. However, as the graph shows, the percentage in the region began to rise after 1989 and has been flat or higher in most years. Delaware's rates, although more variable, tended to fall during the same period. At least part of this has to do with Delaware's economy, a job creation machine that was even able to absorb the impact of major job cuts by some of the state's larger employers.

Figure 1-4
Percent of Persons without Health Insurance in Delaware
By County



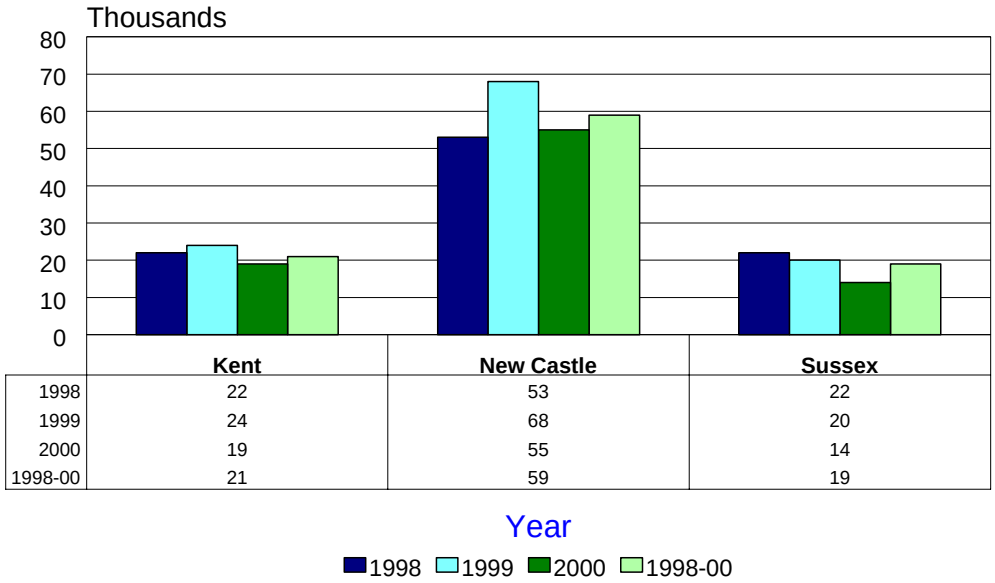
	Kent	New Castle	Sussex	Delaware
1998	17.8	10.7	16.3	12.9
1999	17.6	14	14.3	14.7
2000	13.8	11.2	9.7	11.4
1998-00	16.4	12	13.4	13

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1998-2000

Since 1996, the Census Bureau has provided county level identifiers on the CPS data. The sample sizes are sufficient to produce some rudimentary estimates at the county level. Since the sample sizes are small in Kent and Sussex counties, more random variation can be expected. The percentage of uninsured in each county is found in Figure 1-4, above. Both the single year

estimates and the three-year averages show significant differences between the county rates. Residents of New Castle County enjoy the lowest rate consistently during the three-year period. Kent County is highest, with the percentage of uninsured reaching more than almost 16% for the 1998-2000 period. Kent County residents are almost 37% more likely to be without insurance than those in New Castle County.

Figure 1-5
Persons without Health Insurance in Delaware
by County



	Kent	New Castle	Sussex
1998	22	53	22
1999	24	68	20
2000	19	55	14
1998-00	21	59	19

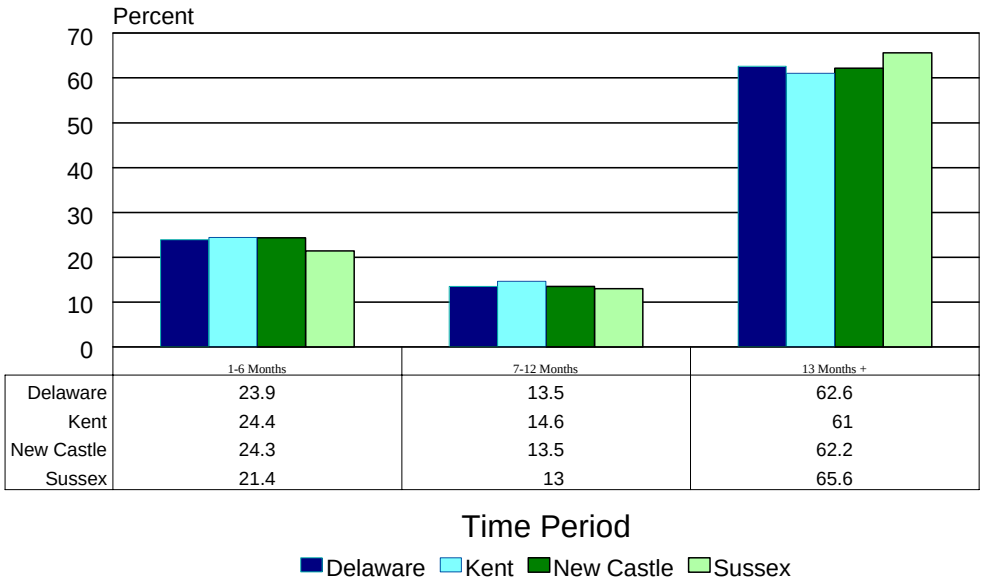
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1998-2000

The estimates of uninsured persons by county are provided in Figure 1-5, above. New Castle County residents are the most numerous even though the rate is significantly lower. Almost 60% of the uninsured reside in New Castle County. The distribution is also reasonably stable over the three-year period with occasional exceptions.

There are several interesting questions that can be addressed by the Behavioral Risk Factor Surveillance System, information particularly about those who are without health insurance. Those respondents were asked, “About how long has it been since you had health coverage?” Their answers are displayed in Figure 1-6, below. The data is reported as a three year average since there is a great deal of variability in the responses given the sample size is constrained to the number of persons currently without health insurance. Even with that constraint, the results are quite consistent. About 24% of Delawareans who are uninsured are

without insurance for from one to six months. A little more than 13% of the uninsured respondents report being without insurance for up to a year. These data suggest that the majority (almost 63%) of Delaware's uninsured adults have remained uninsured for a significant amount of time. The longer the period an individual is without coverage, the higher the likelihood that they will develop a need for medical services.

Figure 1-6
Length of Time without Health Insurance in Delaware by County



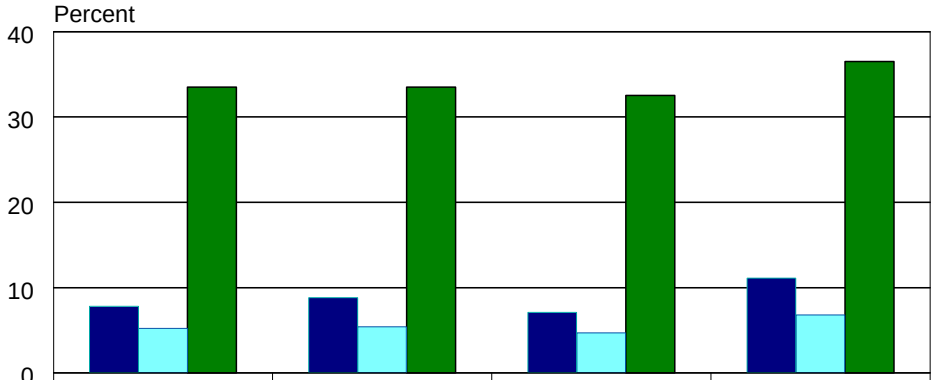
	1-6 Months	7-12 Months	13 Months +
Delaware	23.9	13.5	62.6
Kent	24.4	14.6	61
New Castle	24.3	13.5	62.2
Sussex	21.4	13	65.6

Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Health and Social Services, 1998-2000 Behavioral Risk Factor Survey

If 63% of adult Delawareans remain uninsured for one year or more, there is a high likelihood that they may need medical services of some kind. In addition, it is also likely that routine preventative measures may be overlooked. The BRFSS gives some insight to this issue in a question addressed to all respondents. They were asked if they had needed to see a doctor in the past 12 months but could not because of the cost. Their answers are tabulated in Figure 1-7, below.

About 5% of the people who currently had health insurance answered affirmatively to that question. In contrast, those currently uninsured were seven times more likely to say that they had to forego a visit with a doctor. Those same results apply equally well across the three counties.

Figure 1-7
Needed a Doctor but too Costly
by Insurance Status and County



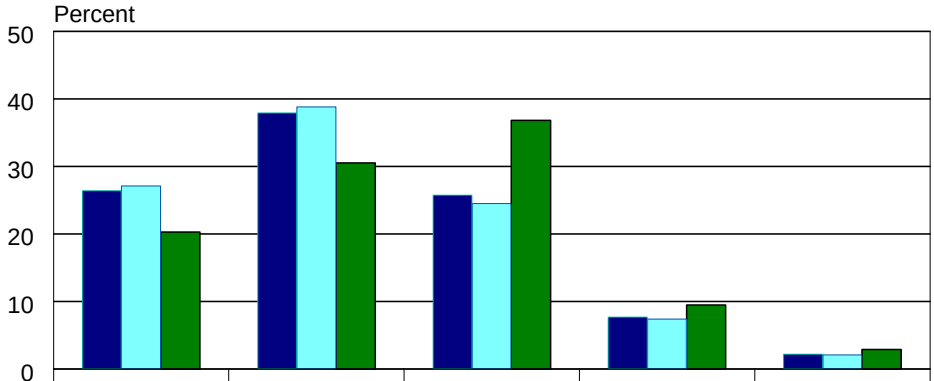
	Delaware	Kent	New Castle	Sussex
All	7.8	8.8	7.1	11.1
Insured	5.2	5.4	4.7	6.8
Uninsured	33.5	33.5	32.5	36.5

Insurance Status

All Insured Uninsured

Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Health and Social Services, 1998-2000 Behavioral Risk Factor Survey

Figure 1-8
Health Status
by Insurance Status



	Excellent	Very Good	Good	Fair	Poor
All	26.4	37.9	25.7	7.7	2.2
Insured	27.1	38.8	24.5	7.4	2.1
Uninsured	20.3	30.5	36.8	9.5	2.9

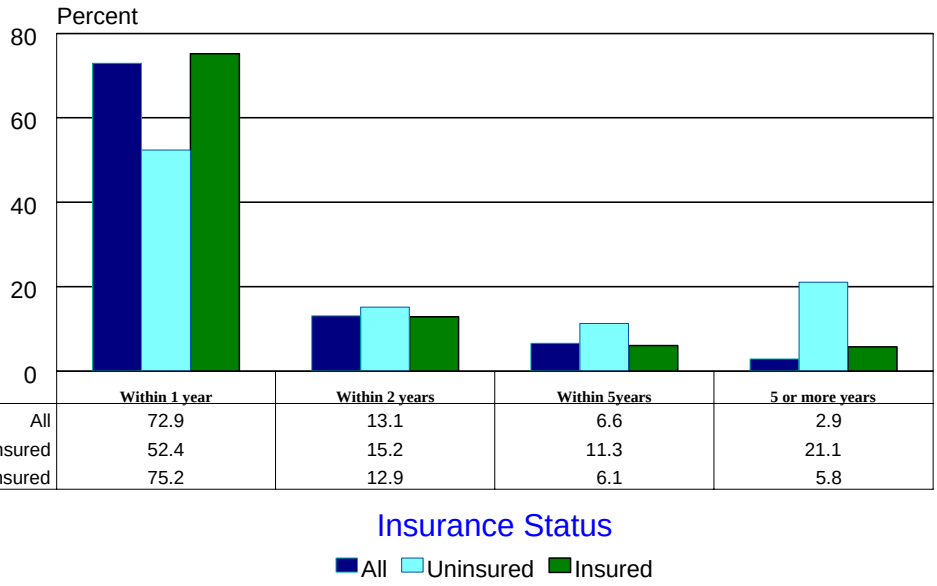
Insurance Status

All Insured Uninsured

Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Health and Social Services, 1998-2000 Behavioral Risk Factor Survey

There is also reason to be concerned about the uninsured and their need for medical coverage. They may need a doctor more often if their health status is less positive than those who are insured. Evidence to this possibility is found in Figure 1-8 above, where the uninsured tend to be less optimistic about their health status.

Figure 1-9
Time Since Last Routine Checkup
by Insurance Status



	Within 1 year	Within 2 years	Within 5years	5 or more years
All	72.9	13.1	6.6	2.9
Uninsured	52.4	15.2	11.3	21.1
Insured	75.2	12.9	6.1	5.8

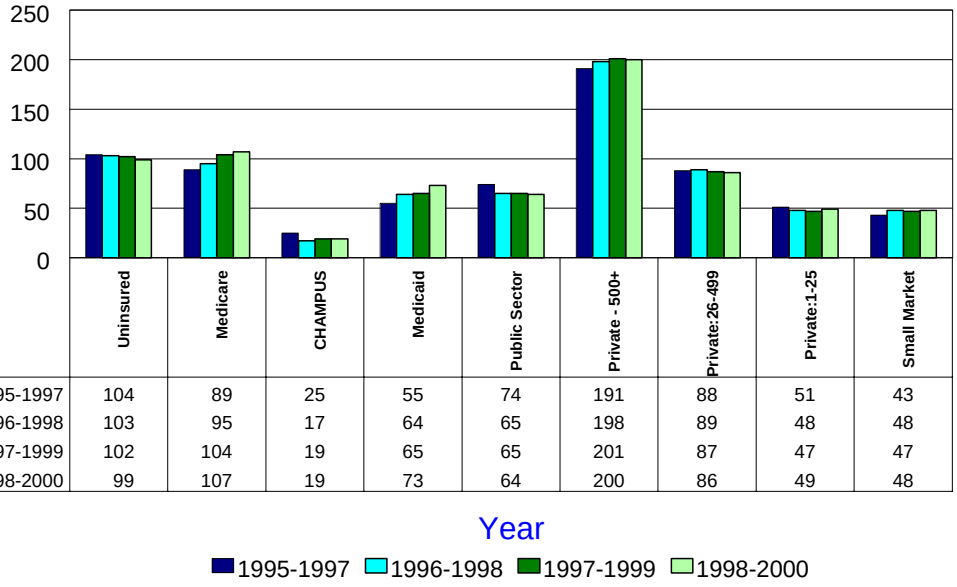
Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Health and Social Services, 1998-2000 Behavioral Risk Factor Survey

One other often mentioned feature of the uninsured is that problems are detected late and then treatment is more difficult. This position is supported by the data displayed in Figure 1-9 above. A person who reports being without insurance during the last year is more likely not to have had a routine checkup.

Finally, it is useful to understand something about how people obtain their health coverage. This can be particularly important in determining the amount of influence government policy can have on Delaware's population. Figure 1-10 below shows that Delawareans get their health insurance in many different ways. Excluding the 99,000 uninsured, about 199,000 people receive their health insurance through one of three government programs, Medicare, Medicaid, or one of several military sources (CHAMPUS). The public sector at all levels insures some 64,000 residents. Within the private sector there are two distinct groups. The large employers (more than 500 employees) are largely self-insured and don't utilize the insurance market in a conventional

way. These account for the largest single group of residents numbering more than 200,000. The balance, some 183,000 obtain their insurance through smaller employers who purchase various group plans in the insurance market or obtain insurance as individuals.

Figure 1-10
Number of Persons in Delaware
by Source of Insurance



	Uninsured	Medicare	CHAMPUS	Medicaid	Public Sector	Private - 500+	Private:26-499	Private:1-25	Small Market
1995-1997	104	89	25	55	74	191	88	51	43
1996-1998	103	95	17	64	65	198	89	48	48
1997-1999	102	104	19	65	65	201	87	47	47
1998-2000	99	107	19	73	64	200	86	49	48

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census Current Population Survey, March 1995-2000

One interesting feature of this information, not found in Figure 1-10, is that many people report having multiple sources of health insurance over the year. For example in 2000, 13.2% of the population reported receiving Medicare, but only 4.6% say that Medicare was the only source of insurance that they had during the year. Similarly, 13% reported Medicaid as their source of coverage, but only 4.2% said that it was their only means of coverage. These two situations probably represent two different dynamics. Medicare recipients are quite often carrying additional insurance to cover any medical services not handled by that program. Medicaid recipients, on the other hand, seem to be more likely to move from some type of group coverage to Medicaid and back again as their life situation changes.

In conclusion, it should be noted that, while at any point there are approximately 11.4% of Delawareans uninsured, the proportion that are uninsured at some point during the year is closer to 18% based on national statistics. The same statistic derived from the Survey of Income and Program Participation, points to a median time without coverage of 7.1 months. This rate is

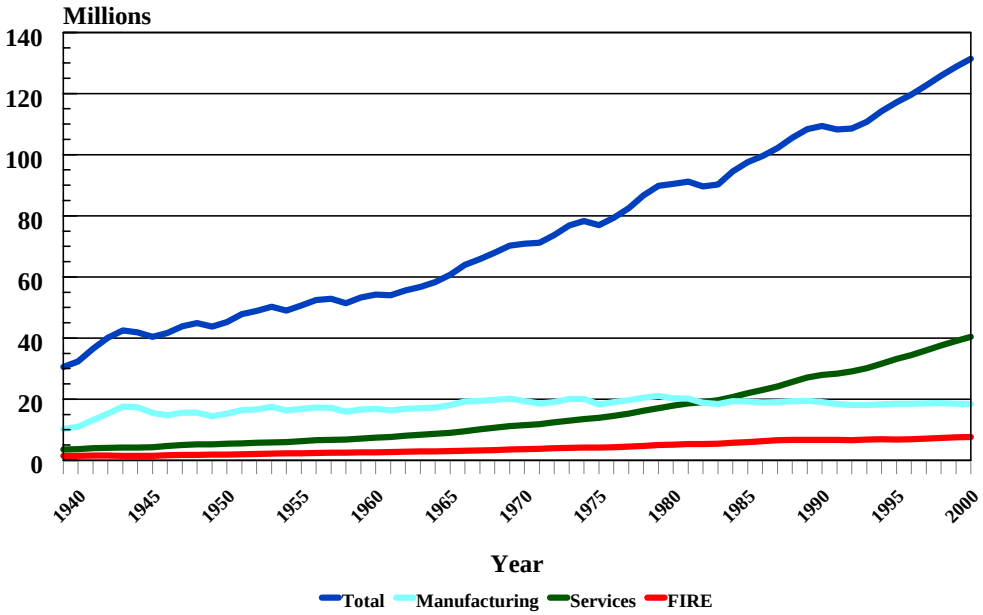
lower than the one shown in Figure 1-6 above because children, who are less likely to experience periods without coverage, are included in the estimate. Overall, it appears that health insurance coverage in Delaware is headed in the right direction and, with the addition of Medicaid managed care and the Childrens Health Insurance Program, the proportion of uninsured Delawareans should fall or at least be stable absent changes in other demographic and economic variables.

Labor Market Issues

Background

Health care coverage is inexorably linked to an individual's employment status along with the type and size of firm for which they work. Many Delawareans have recently experienced more instability in their labor market activity and this has, inevitably, affected aspects of their coverage. The factors producing this increased instability are varied and are both national and international in scope. There are, however, some basic trends that are important to understand since they are affecting and will continue to affect health care coverage in the years to come.

Figure 2-1
US Non-Agricultural Employment:
Selected Sectors 1939-2000

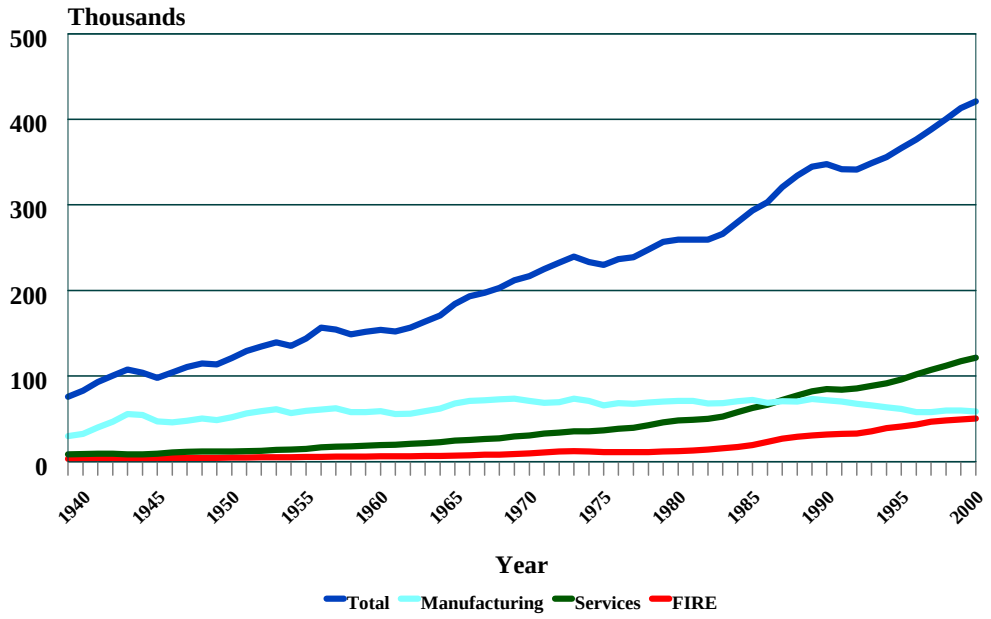


Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Labor Statistics

In Figure 2-1 above, the total employment for the United States from 1939 through 2000 is shown along with three of the ten employment sectors namely: manufacturing, services, and FIRE (finance, insurance, and real estate). The graph clearly shows the impact that the business cycle has had on total employment in the mid-1970s, the early 1980s, and the early 1990s. All of these economic events are associated with rapid increases in the percentage of persons without health coverage. The more subtle influence is related to the change in the structure of

employment. Manufacturing employment reached its peak in the late 1970s and has been in a steady but very shallow decline for the most part. Service industry employment increased steadily over the entire period and began accelerating its growth when manufacturing employment was at its peak. In 1981, service sector employment surpassed manufacturing employment and today it accounts for nearly twice as much employment as manufacturing. This trend will probably continue unabated for the foreseeable future.

Figure 2-2
Delaware Non-Agricultural Employment:
Selected Sectors 1939-2000

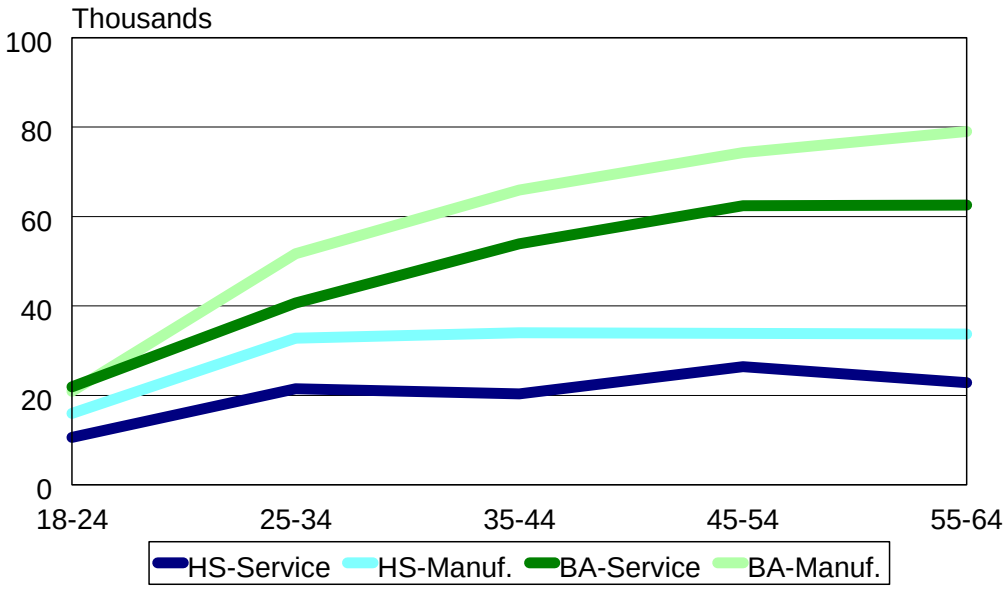


Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Labor Statistics, Delaware Department of Labor

The pattern was similar in Delaware, although the recession of the mid-1970s was more severe and the later ones were perhaps less damaging than they had been nationwide. For instance, statewide manufacturing employment peaked during 1989. This marked the end of the expansion of the 1980s. Since then, the number of manufacturing jobs available to Delawareans has dropped significantly and continues to fall even today. In 1986, four years after it happened nationally, statewide service industry employment surpassed manufacturing employment. The rate of growth in service sector employment in recent years has slowed somewhat compared with the rate for the U.S. but this has been offset by the incredible growth in the FIRE sector.

Employment in the FIRE sector clearly exploded after the passage of the Financial Center Development Act in the early 1980s. It continued to grow dramatically until the 1990-1991 recession. To most observers' surprise, the growth re-ignited in 1992 and continues today. A comparison of the trends in Figure 2-1 and Figure 2-2 show this to be a Delaware phenomenon.

Figure 2-3
Average Annual Earnings by
Sector, Age, and Education in 1998-2000



Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census Current Population Survey, March 2000

The importance of these inter-sector employment shifts is shown in Figure 2-3 above. Figure 2-3 shows the average annual earnings by age, education, and industrial sector. The top two lines represent annual earnings for college graduates in the manufacturing and service sector respectively. The bottom two lines depict the same information for high school graduates in the same two sectors.

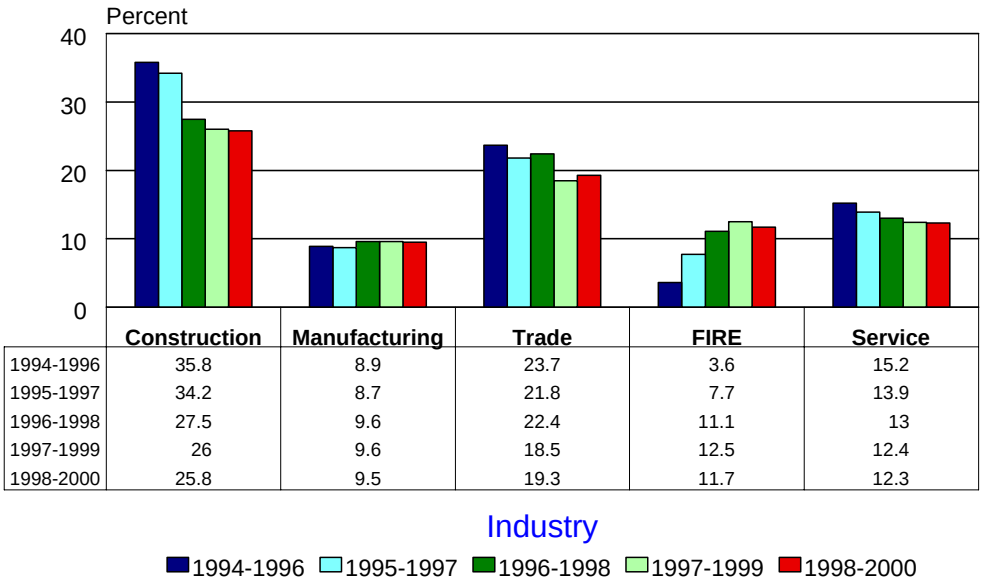
The graph shows a difference of about $40,000 in annual earnings between the two sectors for both levels of education. If the same health care benefits were offered in both sectors, the cost to employers would be a much larger proportion of the annual salary in the service sector than in manufacturing. This suggests that employees in the service sector will likely be offered fewer benefits.

In addition, those employed in manufacturing are much more likely to be represented in a collective bargaining unit, a union. They are also more likely to work full-time with significant overtime, which further reduces the impact of the cost of benefits on total compensation. In contrast, service sector workers are more likely to be employed by non-union companies and are much more likely to work part-time. These factors, coupled with the increasing number of service sector workers relative to the number of manufacturing workers will tend to increase the number of uninsured or under-insured people.

Firm Sector and Size

There are significant differences in both the level and pattern of the uninsured, depending upon the type of industry in which an individual is employed. For instance, according to Figure 2-4 below, construction workers frequently report being uninsured. Although it may be noted that some construction workers are unionized, and are usually provided health coverage, many more are either employed by a non-union company or are self-employed. Overall, it is estimated that more than 25% of all construction workers are uninsured.

Figure 2-4
Percent of Persons without Health Insurance in Delaware by Industrial Sector



	Construction	Manufacturing	Trade	FIRE	Service
1994-1996	35.8	8.9	23.7	3.6	15.2
1995-1997	34.2	8.7	21.8	7.7	13.9
1996-1998	27.5	9.6	22.4	11.1	13
1997-1999	26	9.6	18.5	12.5	12.4
1998-2000	25.8	9.5	19.3	11.7	12.3

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Many persons employed in the trade industry (retail and wholesale) also find themselves without health coverage. Because this sector is not heavily unionized and is reliant on a large number of part-time workers (most of whom do not qualify for a typical health insurance

package), it is not unexpected that an estimated 19% of those employed in the trade industry currently lack health coverage. The most recent data suggests that the upward trend operating since 1994 has moderated.

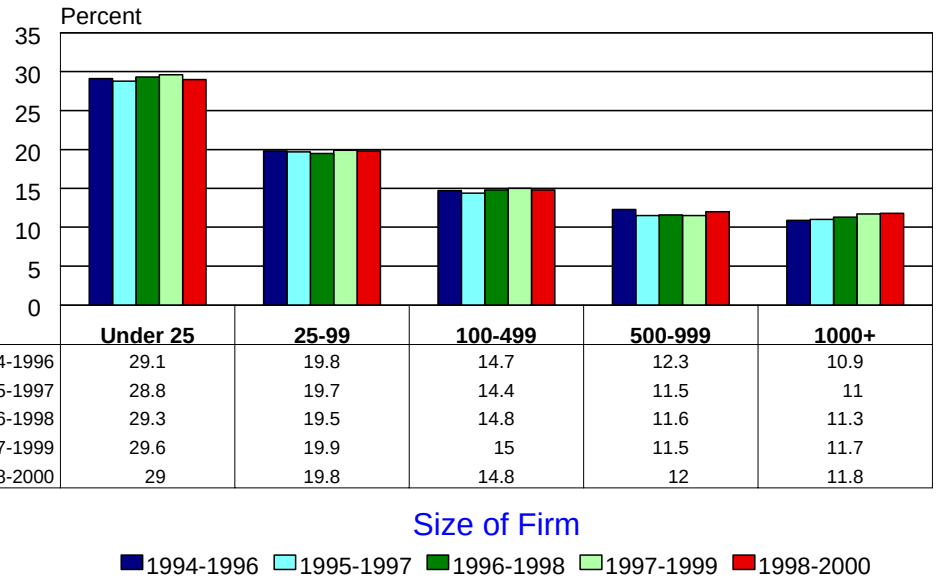
Of the other industries represented in Figure 2-4, approximately 12% of all those employed in the service industry are not offered access to health insurance as part of a benefits package. This number appears to be declining somewhat over the period. This probably reflects the changing nature of the service industry.

Roughly 10% of those employed in manufacturing and FIRE do not have health coverage. However, the proportion uninsured in the FIRE sector appears to be increasing. This could, for example, reflect an increase in full-time temporary employees in this sector

Finally, it also should be pointed out that the differences in coverage between industries are among the largest observed for any variable in this report. The importance of this information relates to the changing structure of the economy. As employment shifts from manufacturing to the service sector, the percentage of uninsured workers increases by about 3%. The importance of the FIRE sector in Delaware cannot be over estimated at least with respect to health coverage, although the 2000 estimates make this conclusion less clear. While the percentage of uninsured in the region has been rising, Delaware's rate has either been falling or remaining steady. This appears, in large part, to be related to the accelerating FIRE sector and to a less rapidly growing service sector.

The other important inter-sector shift, which is more subtle, is associated with the nature of downsizing in Delaware's manufacturing sector. A significant portion of those employees who were "downsized" belonged to headquarters support operations as opposed to the factory floor. In many cases, those same employees started or joined firms that supplied services to their previous employer who simply wanted to "out-source" those functions. Many of these new jobs are classified as business services, part of the service sector, and are far from the typical "hamburger flipper" often discussed in the media. This has produced increases in annual earnings in the service sector that bodes well for benefit programs in the future.

Figure 2-5
Percent of Persons without Health Insurance in the US
by Size of Firm



	Under 25	25-99	100-499	500-999	1000+
1994-1996	29.1	19.8	14.7	12.3	10.9
1995-1997	28.8	19.7	14.4	11.5	11
1996-1998	29.3	19.5	14.8	11.6	11.3
1997-1999	29.6	19.9	15	11.5	11.7
1998-2000	29	19.8	14.8	12	11.8

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Employees who work for small firms (under 100 employees) are less likely to have health insurance than those that work for large firms (more than 500 employees). Figure 2-5 above shows this relationship.

The graph shows that there are two distinct groupings: (1) firms with less than 100 employees where the percentage without health insurance is 24% and (2) firms with more than 500 employees where the percentage of those without health insurance is 12%. The larger firms are perhaps more likely to be unionized at least to the extent that larger firms have a higher probability of being in sectors such as manufacturing. They are also more likely to pay higher wages, which makes the relative cost of health insurance more tolerable. From a tax perspective, the provision of health insurance also provides a convenient way to increase total compensation.

A somewhat disturbing trend is also evident in Figure 2-5. It appears, at least from the national perspective, that those working for smallest firms are not improving their insurance coverage in comparison with five years ago. What makes this trend so disconcerting is the fact that the economy has been expanding for almost ten years. The same can be said for larger firms, however. One explanation for this lack of improvement is the lack of increases in wages

nationally and the restructuring and cost cutting practiced by most firms, which has produced significant increases in earnings.

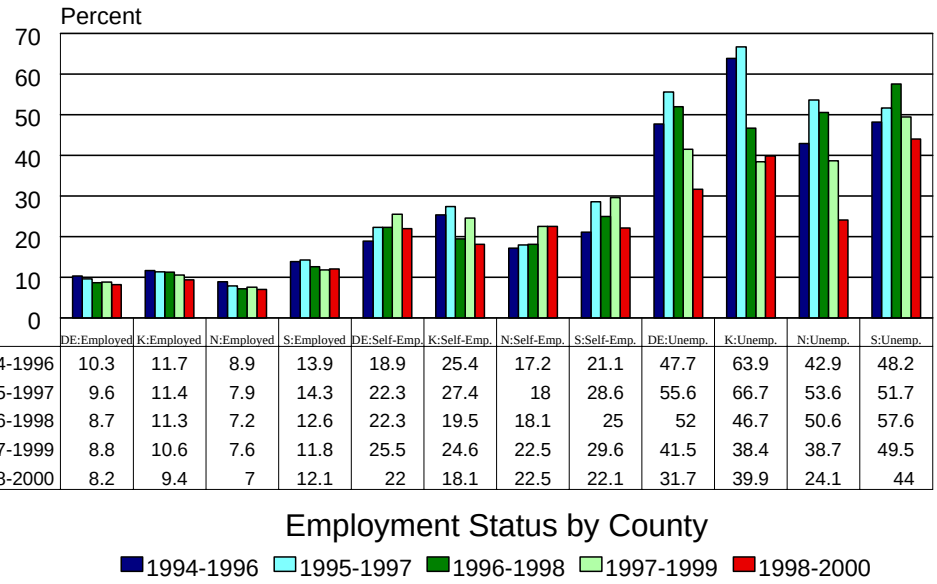
In conclusion, these data suggest that any effort to increase coverage must focus on smaller firms. Those firms will tend to provide lower levels of compensation, will probably use more part-time employees, and may offer less stable employment. However, they are growing faster and becoming a bigger part of the economy. This fact may tend to mitigate some of the negative factors over time. On the other hand, the large firms with better coverage are becoming smaller and that does not help the long-term outlook. There is no doubt, however, that all of these factors will tend to make the goal of better access to health care a challenge for the foreseeable future.

Employment Status and Class

Approximately 75% of all Delawareans are covered by some form of group health insurance. The vast majority is covered through their employer and therefore any disruption in employment will undoubtedly increase the likelihood that coverage will lapse. The reason that coverage may not automatically lapse is because that individual may be covered by another worker in the family, or the coverage may be extended through payments by the employee, or the individual may qualify for some government sponsored plan like Medicaid or Medicare. Still, the disruption is significant as is shown in Figure 2-6, below.

The information reported in Figure 2-6 shows that the probability of being without heath insurance increases by nearly a factor of four when the individual is unemployed. The percentage on the average rises from about 8% to in the vicinity of 32% as the individual's employment status changes. There is considerably more volatility in the estimates in Kent and Sussex counties because of small sample sizes, but the relationship mirrors that in New Castle County where sample size is not a problem. While those that are self-employed are also found in relatively small numbers in the BRFSS survey, the lack of health insurance is at least twice as prevalent as that of those with traditional employment. This year there is little observable difference between the counties with respect to the self-employed.

Figure 2-6
Percent of Adults without Health Insurance in Delaware
by County and Employment Status



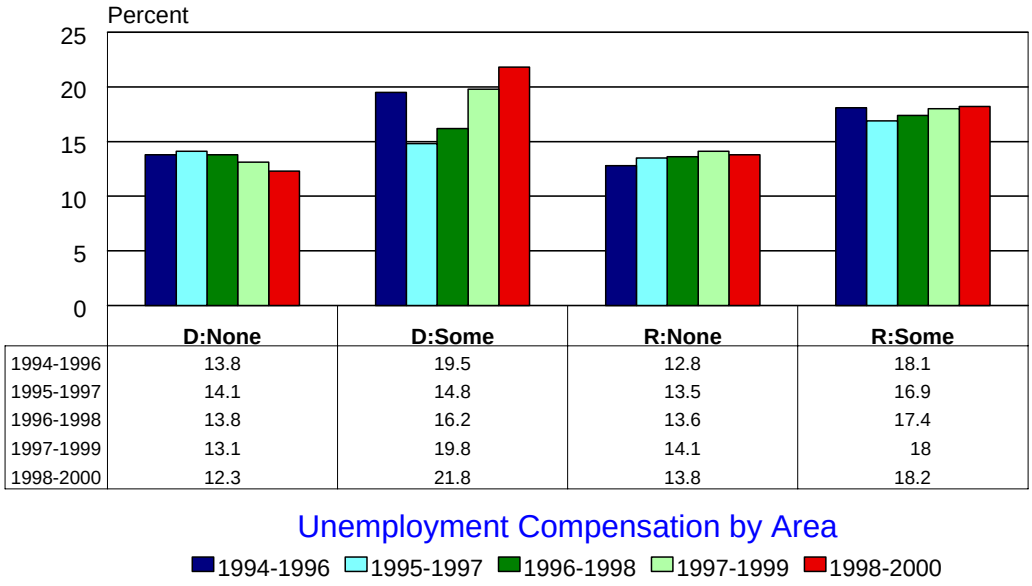
	DE:Employed	K:Employed	N:Employed	S:Employed	DE:Self-Emp.	K:Self-Emp.	N:Self-Emp.	S:Self-Emp.	DE:Unemp.	K:Unemp.	N:Unemp.	S:Unemp.
1994-1996	10.3	11.7	8.9	13.9	18.9	25.4	17.2	21.1	47.7	63.9	42.9	48.2
1995-1997	9.6	11.4	7.9	14.3	22.3	27.4	18	28.6	55.6	66.7	53.6	51.7
1996-1998	8.7	11.3	7.2	12.6	22.3	19.5	18.1	25	52	46.7	50.6	57.6
1997-1999	8.8	10.6	7.6	11.8	25.5	24.6	22.5	29.6	41.5	38.4	38.7	49.5
1998-2000	8.2	9.4	7	12.1	22	18.1	22.5	22.1	31.7	39.9	24.1	44

Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Health and Social Services, 1994-2000 Behavioral Risk Factor Survey

The other piece of information that deserves comment is the relative differences between the lack of coverage for employed workers in the three counties. The rate in New Castle County is significantly lower than those observed in Kent and Sussex counties. Following the earlier argument, this probably arises from differences in the economic base, since larger firms with higher wages and more stable employment are located primarily in the northern part of the state.

In Figure 2-7 below, further evidence is found about the relationship between insurance coverage and employment status. In this analysis, the receipt of unemployment compensation is used as an indicator of an interruption of employment at some point during the year. In both Delaware and the region, there is a significant rise in the lack of health coverage associated with receiving benefits. While the effect is more muted than in Figure 2-6, where a more direct measure was available, the percentage is always higher in the region where the sample size permits a better estimate.

Figure 2-7
Percent of Persons without Health Insurance
by Receipt of Unemployment Compensation and Area



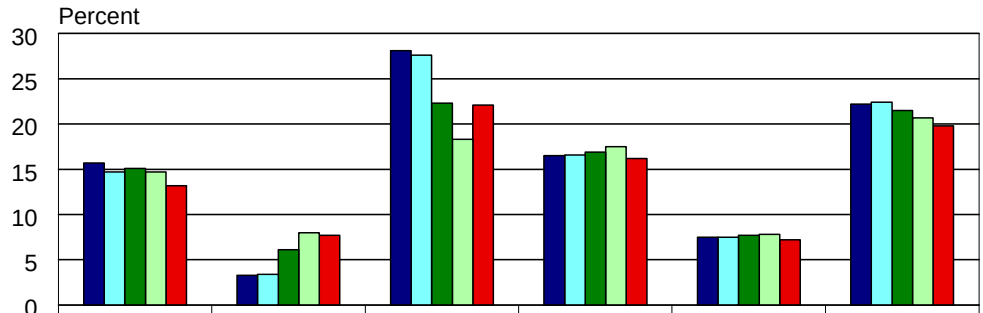
	D:None	D:Some	R:None	R:Some
1994-1996	13.8	19.5	12.8	18.1
1995-1997	14.1	14.8	13.5	16.9
1996-1998	13.8	16.2	13.6	17.4
1997-1999	13.1	19.8	14.1	18
1998-2000	12.3	21.8	13.8	18.2

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

The final graph in this section of the report represents the percentage of workers without health insurance in Delaware and the region as indicated by three broad classes namely: private sector workers, government workers, and the self-employed. In Figure 2-8 below, Delaware workers in the private sector average 3% fewer uninsured than those in the region. Within the private sector, Delaware seems to be improving slightly over the time period, which is consistent with the increase in workers in the FIRE sector. The rates in the region, for the private sector, are increasing, which probably reflects increases in the service sector and in part-time employees. Both trends should be watched carefully.

It is no surprise that government employees both in Delaware and the region are far more likely to have health insurance than the private sector in general. Government rates are comparable with very large private sector firms operating in a unionized work place. The only government workers who are likely to lack coverage are temporary/part-time workers or private contractors.

Figure 2-8
Percent of Persons without Health Insurance
by Class of Worker and Area



	D:Private	D:Govern.	D:Self-emp.	R:Private	R:Govern.	R:Self-emp.
1994-1996	15.7	3.3	28.1	16.5	7.5	22.2
1995-1997	14.7	3.4	27.6	16.6	7.5	22.4
1996-1998	15.1	6.1	22.3	16.9	7.7	21.5
1997-1999	14.7	8	18.3	17.5	7.8	20.7
1998-2000	13.2	7.7	22.1	16.2	7.2	19.8

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

A more interesting structural shift, which has been underway for some time, is that government workers are representing a smaller proportion of the labor force, since that sector is growing less rapidly than employment overall. This implies that the percentage of uninsured workers will tend to rise, even if all the rates within these classes remain constant.

The information about the self-employed corroborates the information from the BRFSS discussed earlier. The data for the region, however, shows that the significant upward trend previously identified has moderated. There are a variety of potential explanations. One reason, which is consistent with other data, is that tight labor markets have allowed many of those previously classified as “self-employed” to find work and to gain benefits. Those that remain self-employed are likely to be financially stronger and better able to obtain health insurance.

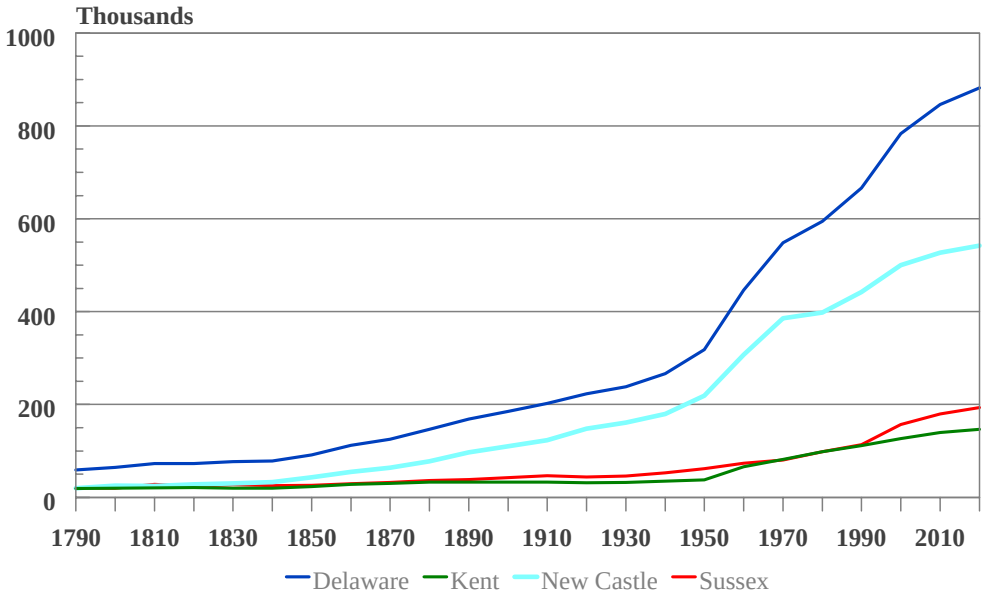
Demographic Characteristics

Background

Labor market characteristics are only some of the variables that play a role in influencing the proportion of people without health insurance. Demographic variables also may help explain a population's lack of health insurance. Others simply provide a convenient method for describing this condition among subsets of the population. Both will be addressed in this section.

Before returning to the health insurance issue, a few important factors driving population growth need to be addressed. In the first section of the report, it was reported that the number of uninsured had remained reasonably stable while the population increased substantially. There are, however, some recent indications, also discussed in the previous section, that future population increases could be accompanied by increasing numbers of uninsured. For that reason, it is important to understand how Delaware is growing.

Figure 3-1
Population of Delaware and Counties



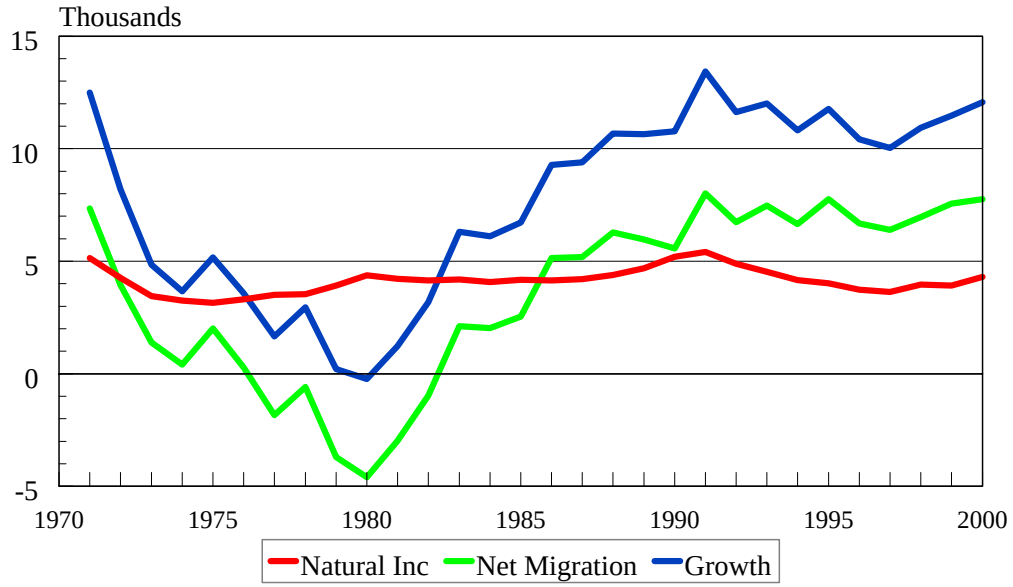
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Decennial Census 1790-2000
Delaware Population Consortium, June 2000

In Figure 3-1 above, the pattern of population growth for the state and for each county is shown from the first U.S. census in 1790 through the current 30-year projection in 2020. The state grew at a fairly steady rate from 1840 to 1950, when population growth began to explode.

This pattern continued unabated for 20 years until the oil-crisis induced recession and the migration to the sun-belt began. Population growth resumed in 1980, although at a much slower rate, and is predicted to continue to grow at rates around 1% annually. Kent County continues to grow slowly at rates that are consistent with those of the state in the last century. However, Sussex County has been growing at a rate of 3% per year, which approaches those observed in New Castle County during 1950-1970.

If current conditions continue, this population growth would likely generate another 15,000-20,000 uninsured persons over the next 20 years. But, current conditions, especially those in the labor market, are unlikely to continue. In fact, global competition and pressure on production costs may cause employers to rethink the total compensation package. The structural changes in the labor market alone will probably lead to an increase in the uninsured. Legislative changes and innovative government programs may also act to mitigate any increase in those numbers. However, it is difficult to speculate as to how these different factors will average out.

Figure 3-2
Sources of Population Growth in Delaware



Source: Center for Applied Demography and Survey Research, University of Delaware

Figure 3-2 above illustrates the components of Delaware's population growth since 1980. The darkest line in the graph represents annual population growth. It has been as little as 2,000 persons in 1982, at the end of the recession, and as much as 13,000 persons when the economy peaked in 1989.

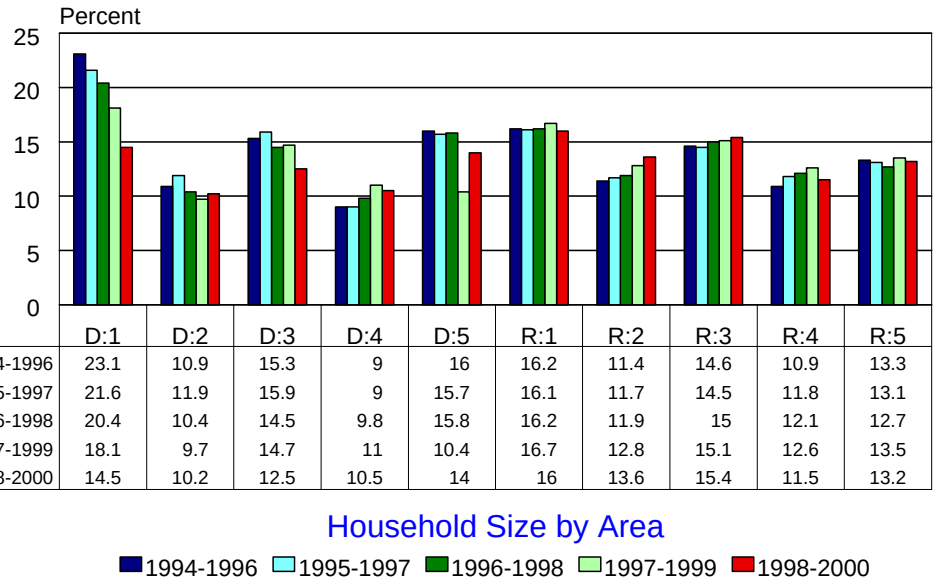
Overall growth is dependent upon two components: natural increase and net migration. Natural increase is the number of births to Delaware residents less the number of Delaware residents that die. That quantity is represented by the lightest curve in Figure 3-2 and has been around 4,000 per year until the "baby boomlet" started in 1985 and ended in 1991.

Net migration, which is the result of persons moving into Delaware less persons moving out of Delaware, is clearly the volatile component of the growth picture. It has moved from net out-migration in 1982 of -2000 to a high of +8000 net in-migration at the peak of the economic cycle. It then fell during the recession years of the early 1990s and today accounts for about half of all population growth. From these data, it is easy to see that Delaware's population growth is heavily influenced by local labor market conditions. Delaware's economy has consistently produced unemployment rates below those for the nation and region and has continued to generate new jobs sufficient to attract net in-migration. The characteristics of those jobs, in particular their health benefits, can and probably have affected coverage rates in Delaware.

Household Composition

The size and structure of the households, within which individuals live, has much to do with the probability of having health care coverage. Each of the variables addressed in this section, to include household size, marital status, and relationship to head of household, give a slightly different slant on the problem. Figure 3-3 below, contains information about the percentage of uninsured in relation to household size within Delaware and the region. The most disadvantaged group is the single person household. The percentage of uninsured is 7% above the proportions for most of the other categories. Single person households also fare somewhat worse in Delaware than in the region. Those individuals are somewhat disadvantaged since there is no second worker in the household to share the risk of losing coverage. They are also more likely to be a younger person at the low-end of the life cycle of earnings and are more likely to work in a job that does not provide health insurance coverage. Of course, the rate is reduced somewhat by older persons living alone who are covered by Medicare.

Figure 3-3
Percent of Persons without Health Insurance
by Household Size and Area



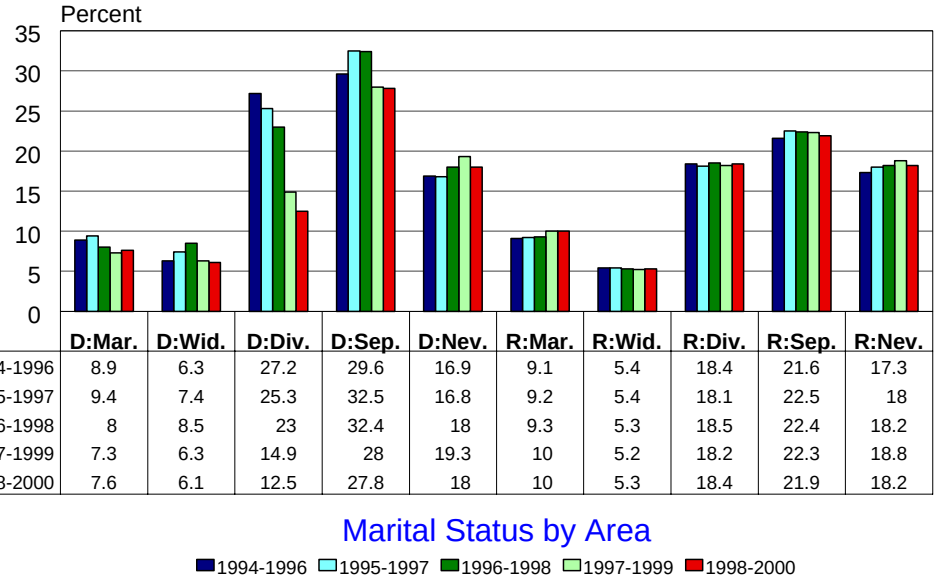
	D:1	D:2	D:3	D:4	D:5	R:1	R:2	R:3	R:4	R:5
1994-1996	23.1	10.9	15.3	9	16	16.2	11.4	14.6	10.9	13.3
1995-1997	21.6	11.9	15.9	9	15.7	16.1	11.7	14.5	11.8	13.1
1996-1998	20.4	10.4	14.5	9.8	15.8	16.2	11.9	15	12.1	12.7
1997-1999	18.1	9.7	14.7	11	10.4	16.7	12.8	15.1	12.6	13.5
1998-2000	14.5	10.2	12.5	10.5	14	16	13.6	15.4	11.5	13.2

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Two and four person households were least likely to report lacking health coverage. The two-person household has a high probability of being a married couple with two incomes. The four-person household is also likely to have two working adults within it. The three-person household is a mixed picture since it also includes a single parent with two minor children, thus the risk of being without coverage rises. Overall the relationship between household size and the lack of health insurance coverage in Delaware tracks well with that of the region.

Marital status is closely linked to household size and composition. This relationship can be easily seen in Figure 3-4 below. For instance, the lowest rates observed over the period, usually under 6%, are reported by the widowed. This is expected since the largest majority of this group is qualified for Medicare. Thus, age may have more to do with their higher insurance rate than marital status. Married people have the next lowest rate with less than 8%. Married couples, with or without children, usually have two chances to obtain coverage. That may not be true if one spouse is not in the labor force or only works part-time. Still, the probabilities of having health insurance increases and household members are more likely to be protected against the loss of coverage during times when one or the other is unemployed.

Figure 3-4
Percent of Persons without Health Insurance
by Marital Status and Area



	D:Mar.	D:Wid.	D:Div.	D:Sep.	D:Nev.	R:Mar.	R:Wid.	R:Div.	R:Sep.	R:Nev.
1994-1996	8.9	6.3	27.2	29.6	16.9	9.1	5.4	18.4	21.6	17.3
1995-1997	9.4	7.4	25.3	32.5	16.8	9.2	5.4	18.1	22.5	18
1996-1998	8	8.5	23	32.4	18	9.3	5.3	18.5	22.4	18.2
1997-1999	7.3	6.3	14.9	28	19.3	10	5.2	18.2	22.3	18.8
1998-2000	7.6	6.1	12.5	27.8	18	10	5.3	18.4	21.9	18.2

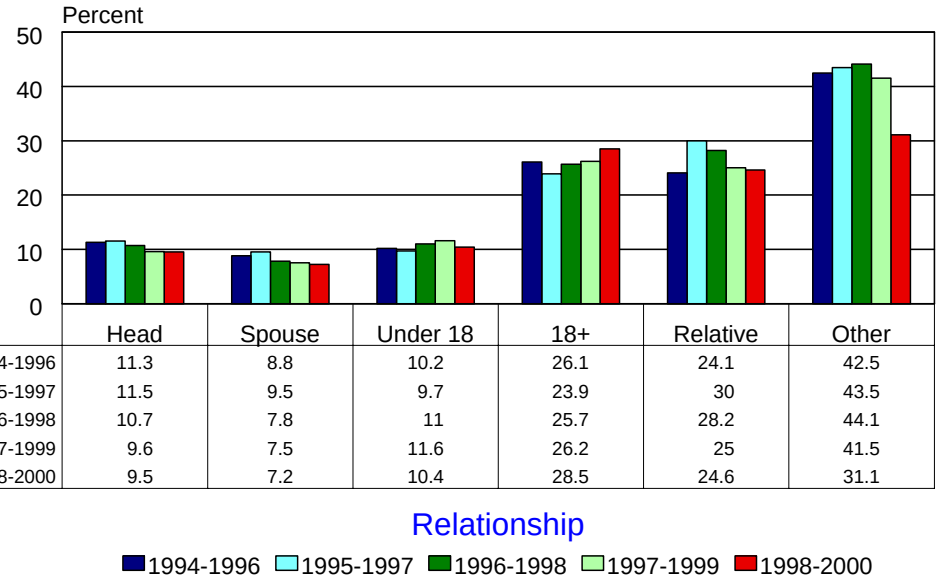
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Younger adults heavily populate the "never married" category and, as will be explained later, are less likely to have coverage. For this reason, their risk of being uninsured is more than twice that of a married person.

The last two groups, which are usually one-adult households, are interesting for different reasons. First, the "separated" group in Delaware is quite volatile, however on the average the risk is higher than that observed for the younger, "never married" category. This group is typically a transitional one and the person will probably move on to the divorced category. The separated person's lack of coverage is less than that of the divorced person because some may be able to legally retain coverage until a final disposition of the marriage is reached. Once the person is divorced, the probability of having coverage will depend in large part on the person's labor force status. It should be kept in mind that a significant number of people in this category are making major transitions and may suffer significant income losses. Interestingly, Delawareans in this category are significantly worse off than their regional counterparts. Given the similarity in all of the other categories, this difference does stand out, although it is not at all clear why there should be such a difference.

Figure 3-5

Percent of Persons without Health Insurance in Delaware by Relationship to Head



	Head	Spouse	Under 18	18+	Relative	Other
1994-1996	11.3	8.8	10.2	26.1	24.1	42.5
1995-1997	11.5	9.5	9.7	23.9	30	43.5
1996-1998	10.7	7.8	11	25.7	28.2	44.1
1997-1999	9.6	7.5	11.6	26.2	25	41.5
1998-2000	9.5	7.2	10.4	28.5	24.6	31.1

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

The final demographic variable in this series is relationship to the head of household. Figure 3-5 above depicts its association with the risk of being without health insurance. There are, once again, two distinct groupings. First, there are the typical adults and minor children whose risk levels are around 10%. (This group of children excludes many who are not the children of the head of household but are living in the house.) The head group also includes all of those single person households whose risks were also elevated. This is the reason why the spouse group has about a 2% less risk of being without health insurance. Minor children are dependent on the adult(s) health insurance coverage and there may be either one or two adults in the household. Thus, the risk will always be higher than that for the spouse group where there must be two married adults in the household.

The second major grouping includes adult offspring who are living at their parent's home, relatives or non-related persons. The risk level for all three groups is more than twice that of the first group. With the exception of full-time students who still might be covered by their parent's insurance, all will require health insurance through some other means. The fact that they are adults living in a household where they are neither the head or spouse in the household suggests that they are less likely to be active labor force participants. In addition, there are many children in these groups as well.

Taken together these demographic variables point in the same direction. Does the person have multiple opportunities to obtain health insurance coverage? For instance, households that contain two married adults have a lower risk not only for themselves, but also for any minor children. Unfortunately, demographic trends do not favor this model. First, from 1980 to 1990 the number of single person households rose from 21% of all households to 23% and is continuing to grow. Second, those living in non-family households rose from 11% in 1980 to 13% in 1990. The number of married couple households with or without children has fallen from 61% in 1980 to 57% in 1990. Finally, the number of children under the age of 18 living with only one parent has risen from 19% to 21% over the decade. None of these trends favors reducing the risk of being without health insurance coverage and it is unlikely that those trends will be easily reversed.

Age Structure

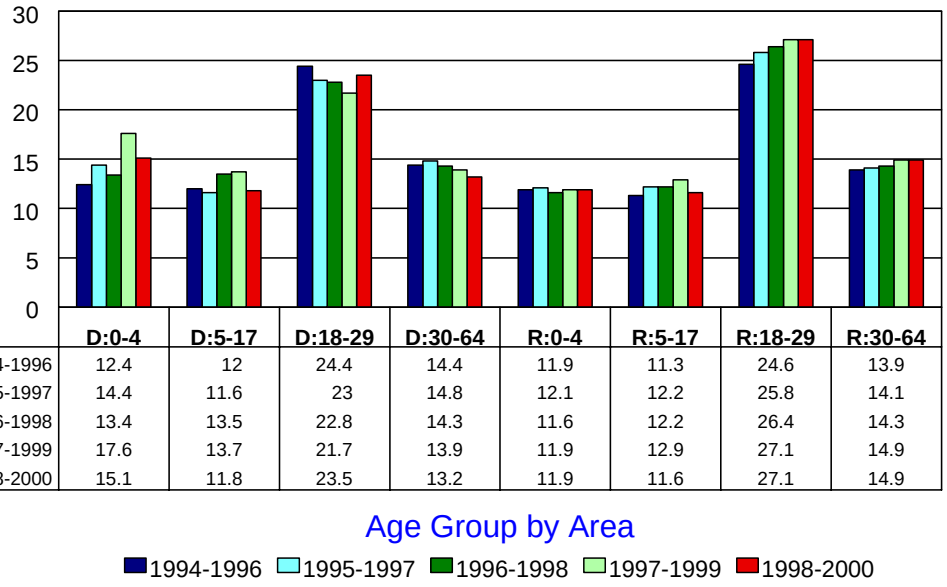
By and large, age appears to be a factor that influences the probability a person has health coverage. The most obvious example is the relationship between age and one's eligibility to qualify for Medicare, i.e. the person is 65 years old or older. Thus, the question for that age group must focus on the extent of coverage and not on its existence.

Because the majority of persons 65 years and older have access to health coverage, only the percentage of persons without health insurance coverage for the other age groups is found in Figure 3-6 below. In both Delaware and the region, dependent children, those under the age of 18, have the lowest risk of being uninsured. Only about 13% of them are estimated to lack health coverage. Their uninsured rate is somewhat higher than it was in Figure 3-5, which imposed the additional requirement that they also live in and were related to the head of household. Thus, it should be remembered that the following graph contains information for all children, regardless of their living arrangement. Only recently have these measurements been influenced by the CHIP program.

For a variety of reasons, persons aged 18-29 were most likely to report being uninsured. In both the state and the region, the risk of not having health coverage for this group exceeds 23% and there is no sign of improvement in the time series and it may be worsening. This group suffers from a multitude of disadvantages. First, they are more likely to be unmarried. Second, they are more likely to hold lower paying jobs which provide no health benefits. Third, because their income levels are generally lower, it is often difficult for them to purchase private

insurance. Fourth, since they are generally healthy, it may seem reasonable not to expend the additional resources needed to purchase health coverage. As this group ages into the next group, aged 30-64, the risk begins to fall as those disadvantages recede.

Figure 3-6
Percent of Persons without Health Insurance
by Age Group and Area



	D:0-4	D:5-17	D:18-29	D:30-64	R:0-4	R:5-17	R:18-29	R:30-64
1994-1996	12.4	12	24.4	14.4	11.9	11.3	24.6	13.9
1995-1997	14.4	11.6	23	14.8	12.1	12.2	25.8	14.1
1996-1998	13.4	13.5	22.8	14.3	11.6	12.2	26.4	14.3
1997-1999	17.6	13.7	21.7	13.9	11.9	12.9	27.1	14.9
1998-2000	15.1	11.8	23.5	13.2	11.9	11.6	27.1	14.9

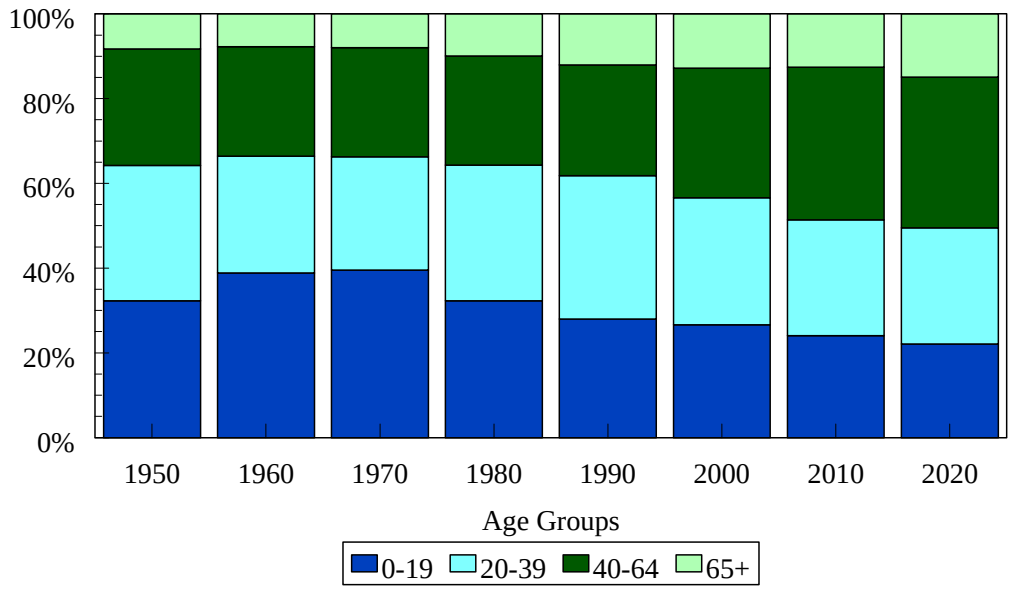
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Given these very predictable differences, the way the age distribution changes over time will have a definite impact on the overall level of health insurance coverage in Delaware. This progression is found in Figure 3-7 below. In 1990, the largest age group is 20-39 and contains about 30% of the population. By the year 2010, however, the largest group is 40-64. Their ranks are being swollen by net in-migration, which disproportionately affects those under the age of 50 and the movement of the baby boomers through time.

There are several observations to be made about Figure 3-7 below. First, the proportion of the population ages 0-19 and 20-39 decreases steadily over the coming decades. The falling numbers in this group are part of the reason Delaware's health coverage rates have been stable. As the proportion of population in the two oldest groups increases, overall risk of being uninsured will fall. As the "baby boomers" age (and they represent a significant part of the age distribution), their overall risk level should decrease. The real issue, therefore, will be economic

conditions in the state and in the nation as this huge group reaches what would normally be their peak earning years.

Figure 3-7
Age Structure in Delaware
1950-2020



Source: Center for Applied Demography and Survey Research, University of Delaware
Delaware Population Consortium, June 2000

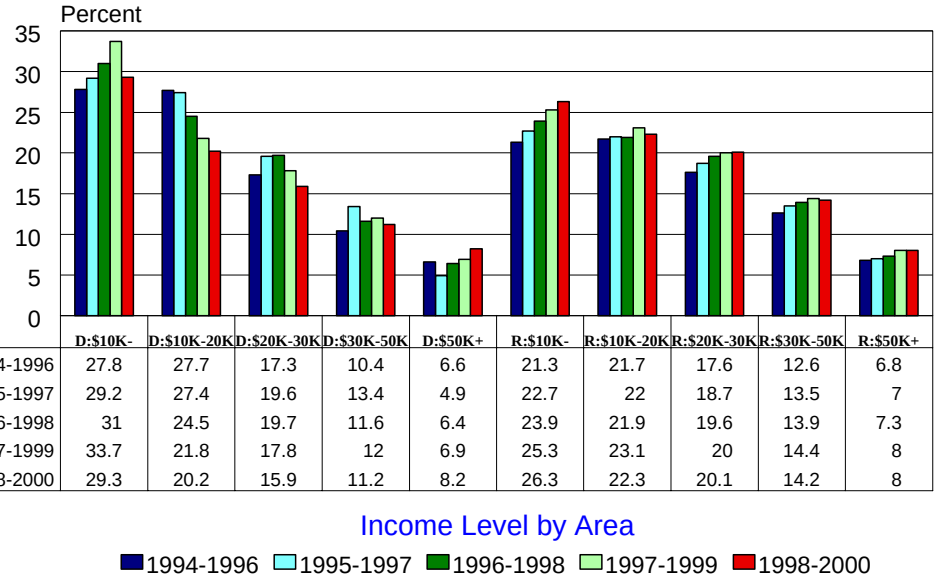
Will they be the victims of another round of downsizing? Will they become frustrated with the lack of advancement since there are so many competing for the same jobs? Will they turn to self-employment as a means of increasing their standard of living? All of these are unknown at this point but are likely to have an effect either positive or negative on health insurance coverage. This aging population will also put pressure on health care costs and will probably alter the behavior of employers.

Income and Education

Economic well-being has two different effects on the probability of having health insurance coverage. At the low end of the income spectrum, there are programs such as Medicaid available as part of the social safety net. Individuals at the high end of the income spectrum have the assets and income that allow them to be unconcerned about insuring their health. They can afford to take the risk. The biggest problem arises among those that do not qualify for a government program, cannot afford insurance, and certainly cannot pay the medical bills if their

luck runs out. Figure 3-8 below provides data with respect to annual income and lack of health insurance.

Figure 3-8
Percent of Persons without Health Insurance
by Household Income and Area



	D:$10K-	D:$10K-20K	D:$20K-30K	D:$30K-50K	D:$50K+	R:$10K-	R:$10K-20K	R:$20K-30K	R:$30K-50K	R:$50K+
1994-1996	27.8	27.7	17.3	10.4	6.6	21.3	21.7	17.6	12.6	6.8
1995-1997	29.2	27.4	19.6	13.4	4.9	22.7	22	18.7	13.5	7
1996-1998	31	24.5	19.7	11.6	6.4	23.9	21.9	19.6	13.9	7.3
1997-1999	33.7	21.8	17.8	12	6.9	25.3	23.1	20	14.4	8
1998-2000	29.3	20.2	15.9	11.2	8.2	26.3	22.3	20.1	14.2	8

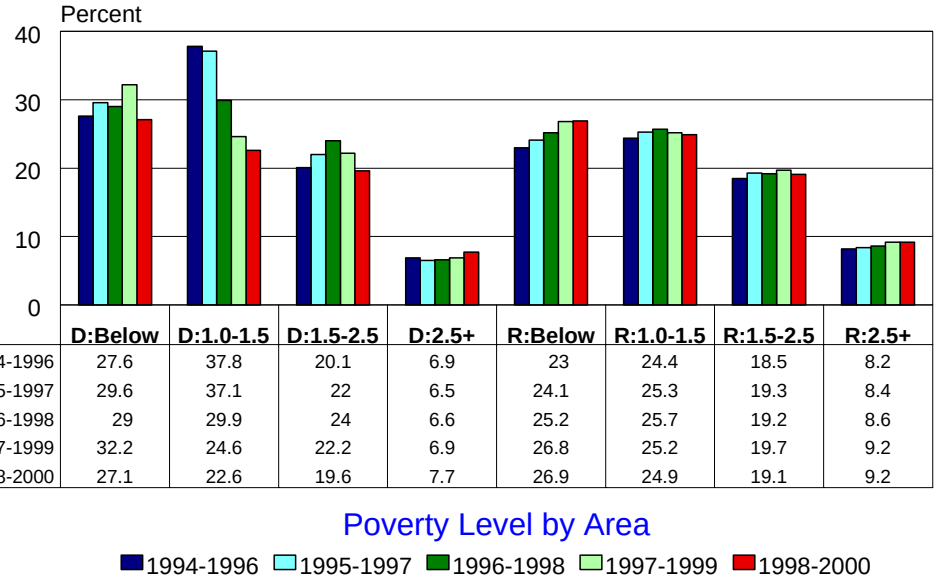
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Persons whose annual income is under $20,000 per year have a risk more than 1 in 4 of being without health insurance coverage. In the lowest income category, Delaware seems to average about 6% higher than the region as a whole. As income increases, the percentage of persons without coverage falls. At the $50,000 and over level, about 8% or 1 in 12 are without health insurance and some of those may have sufficient assets to warrant self-insurance. This strong relationship undoubtedly represents the fact that health insurance as a percentage of total compensation falls as income rises and thus holders of those jobs are likely to be given those benefits.

Poverty is a function of two variables, household income and household size. It is poverty status that tends to be used to define who is eligible for government health insurance programs. In Figure 3-9 below data are found relating poverty to the lack of health insurance coverage. There seems to be very little difference between those below poverty and the near poverty group, which is between 1.0 and 1.5 of the poverty level. The effect of Medicaid serves

to keep the rate somewhat lower for those below poverty than it would be in the absence of the program. Some people in the second group also qualify for Medicaid, but the proportion is smaller than in the below poverty group. The trend for the lowest group is in the wrong direction.

Figure 3-9
Percent of Persons without Health Insurance
by Poverty Level and Area



	D:Below	D:1.0-1.5	D:1.5-2.5	D:2.5+	R:Below	R:1.0-1.5	R:1.5-2.5	R:2.5+
1994-1996	27.6	37.8	20.1	6.9	23	24.4	18.5	8.2
1995-1997	29.6	37.1	22	6.5	24.1	25.3	19.3	8.4
1996-1998	29	29.9	24	6.6	25.2	25.7	19.2	8.6
1997-1999	32.2	24.6	22.2	6.9	26.8	25.2	19.7	9.2
1998-2000	27.1	22.6	19.6	7.7	26.9	24.9	19.1	9.2

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Overall, the percentage of persons without health insurance falls as the distance from the below poverty group increases. The lowest level of risk appears to be experienced by households with incomes above $45,000, the median household income in Delaware. Finally, the rates in Delaware are roughly comparable to those in the region. However, there does seem to be a steady increase in the proportion of persons in the poverty group in Delaware, while the regional proportion has remained consistently lower but increasing.

Table 3-1
Cumulative Persons by Poverty Status, Age Group, and Health Insurance Coverage
(3-year average 1998-2000)

Poverty	0-18 All	0-18 No HI	19+	19+ No HI
under 0.50	14,785	4,209	16,540	6,466
0.50 to 0.74	26,240	6,397	28,274	9,499
0.75 to 0.99	36,497	8,016	43,287	13,695
1.00 to 1.24	48,031	11,147	60,463	17,402
1.25 to 1.49	54,419	12,427	76,385	21,704
1.50 to 1.74	70,740	18,449	100,036	28,170
1.75 to 1.99	80,294	20,241	121,903	31,924
2.00 to 2.49	102,377	22,279	165,229	39,030
2.50 to 2.99	126,510	25,141	219,391	48,787
3.00 to 3.49	143,331	25,745	261,453	51,206
3.50 to 3.99	161,629	26,611	309,511	56,238
4.00 to 4.49	174,559	27,046	342,752	58,661
4.50 to 4.99	182,125	27,248	371,244	61,531
5.00 & over	218,698	28,930	549,571	71,494

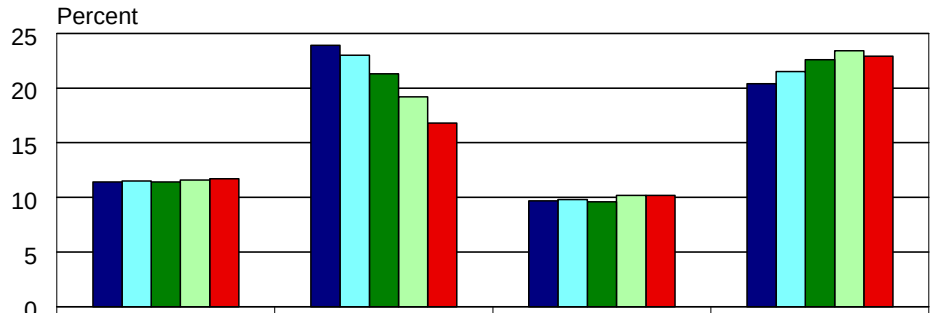
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1998-2000

In Table 3-1 above, the cumulative distribution of persons by poverty, age, and health insurance status is shown. A three-year moving average is used to reduce the sampling variability.

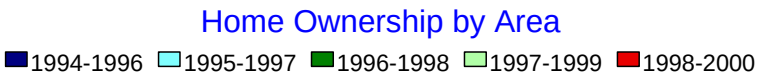
These data have particular meaning for those charged with providing healthcare to those 18 years and younger in Delaware. The table shows that an estimated 28,930 are without health insurance. Of those, only 8,016 are officially classified as being under the poverty line, and just over 30% are above 2.00 times the poverty line.

Another measure of economic wellbeing is the accumulation of assets. One such measure of that accumulation is home ownership. Those results are found in Figure 3-10 below. The graph shows that for renters, the percentage of those without coverage is twice the rate for those who own or are buying their principal place of residence. That pattern is confirmed by the results for the region, which are quite comparable to those reported for Delaware. Certainly, this finding is not unexpected given that renters tend to be younger and have lower incomes, both

Figure 3-10
Percent of Persons without Health Insurance
by Home Ownership and Area

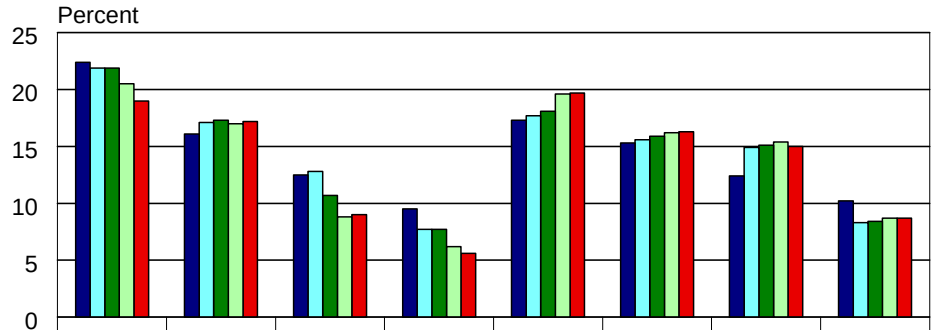


	D:Own/Buying	D:Rent	R:Own/Buying	R:Rent
1994-1996	11.4	23.9	9.7	20.4
1995-1997	11.5	23	9.8	21.5
1996-1998	11.4	21.3	9.6	22.6
1997-1999	11.6	19.2	10.2	23.4
1998-2000	11.7	16.8	10.2	22.9

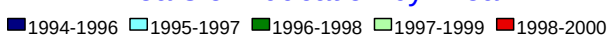


Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Figure 3-11
Percent of Persons without Health Insurance
by Years of Education and Area



	D:11-	D:12	D:13	D:16+	R:11-	R:12	R:13	R:16+
1994-1996	22.4	16.1	12.5	9.5	17.3	15.3	12.4	10.2
1995-1997	21.9	17.1	12.8	7.7	17.7	15.6	14.9	8.3
1996-1998	21.9	17.3	10.7	7.7	18.1	15.9	15.1	8.4
1997-1999	20.5	17	8.8	6.2	19.6	16.2	15.4	8.7
1998-2000	19	17.2	9	5.6	19.7	16.3	15	8.7



Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1993-2000

factors that are correlated with higher risk. They are also less likely to have the assets to continue their insurance privately if there is an interruption in coverage.

The final figure in this section, Figure 3-11 above, relates the educational level of the respondent and their health insurance status. Education could have two significant effects on health insurance coverage. First, it is possible that more educated people are better able to understand the advantages and disadvantages of health coverage and therefore, make better decisions. More likely, however, education is having an indirect effect with higher education being correlated with higher incomes and better jobs/benefits.

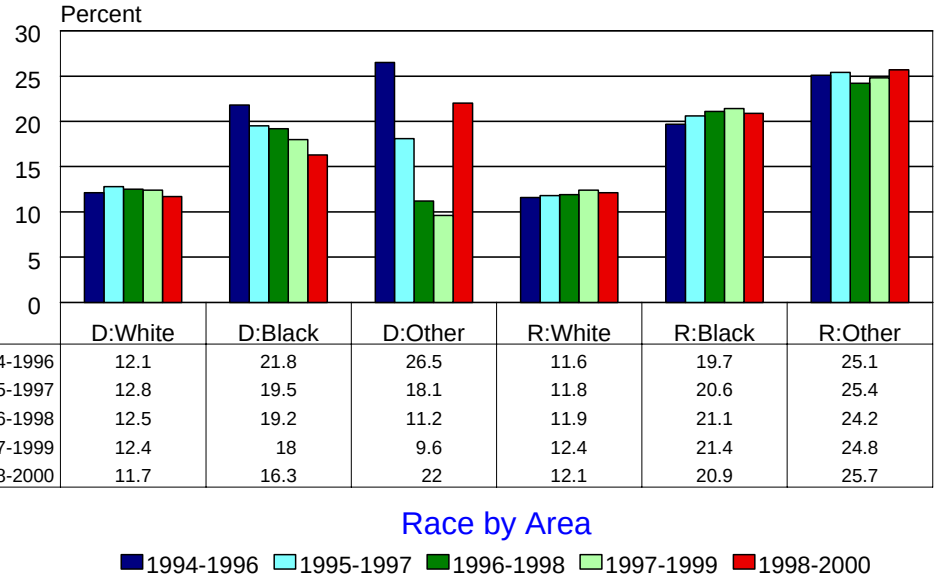
Coverage rates increase significantly as educational level increases. Predictably, those without a high school diploma are the most at risk of being without health insurance. It appears that the most disadvantaged group fares about the same in Delaware as in the region. The uninsured rate falls by 2% for a high school diploma, another 8% for post high school education and finally 3% for those completing college.

Race and Hispanic Origin

Health insurance coverage or lack thereof within sub-groups of the general population is shown in Figure 3-12 below to illustrate the impact of all the underlying contributing variables which determine who has health insurance coverage and who does not. Most of the research in this area suggests that there are significant differences, but do not report any divergence in cultural or risk-taking characteristics that would explain those differences. Thus, the differences are the result of other variables, which themselves differ within segments of the population.

There are significant differences between the three racial groups. Those respondents who classify themselves as black have nearly a 40% higher risk of being without health insurance coverage as those that report being white. However, the historical trend has been decreasing for African-Americans. The “other” category includes primarily Native Americans, Asians, those of mixed race, and those who do not find any of the categories listed to be appropriate. Overall, these rates throughout are consistent between Delaware and the larger region.

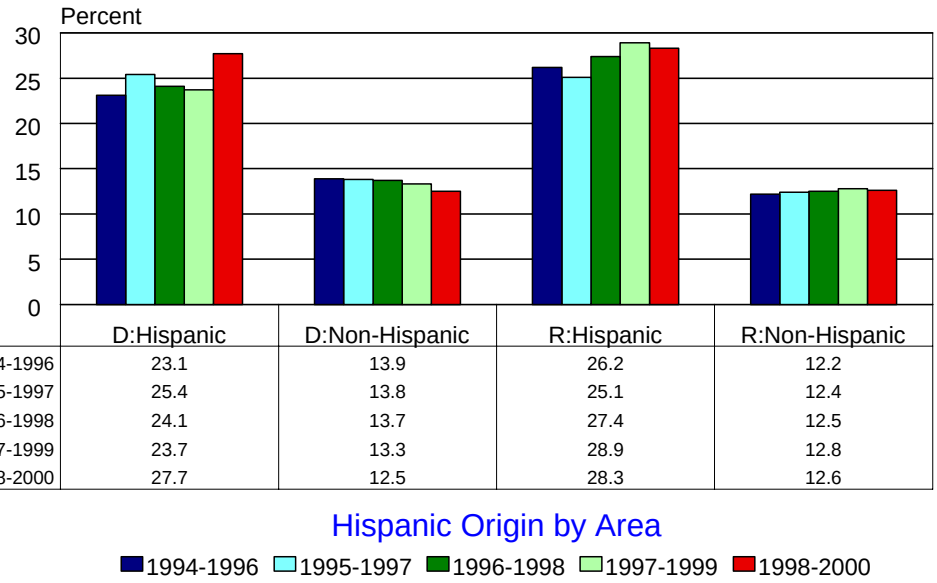
Figure 3-12
Percent of Persons without Health Insurance
by Race and Area



	D:White	D:Black	D:Other	R:White	R:Black	R:Other
1994-1996	12.1	21.8	26.5	11.6	19.7	25.1
1995-1997	12.8	19.5	18.1	11.8	20.6	25.4
1996-1998	12.5	19.2	11.2	11.9	21.1	24.2
1997-1999	12.4	18	9.6	12.4	21.4	24.8
1998-2000	11.7	16.3	22	12.1	20.9	25.7

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1993-2000

Figure 3-13
Percent of Persons without Health Insurance
by Hispanic Origin and Area



	D:Hispanic	D:Non-Hispanic	R:Hispanic	R:Non-Hispanic
1994-1996	23.1	13.9	26.2	12.2
1995-1997	25.4	13.8	25.1	12.4
1996-1998	24.1	13.7	27.4	12.5
1997-1999	23.7	13.3	28.9	12.8
1998-2000	27.7	12.5	28.3	12.6

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

The results for Hispanic respondents are shown in Figure 3-13, above. The percentages within Delaware are quite volatile because of the small sample size, but on average during the period, slightly less than 28% of those respondents who classify themselves as being of Hispanic origin are without health insurance coverage. This rate is more than double that for non-Hispanics. In 2000, just more than 10% of all the uninsured are estimated to be Hispanic. The regional results are similar to those found in Delaware.

Observations

Those lacking health care coverage in Delaware are a diverse group. This is summarized by the list below:

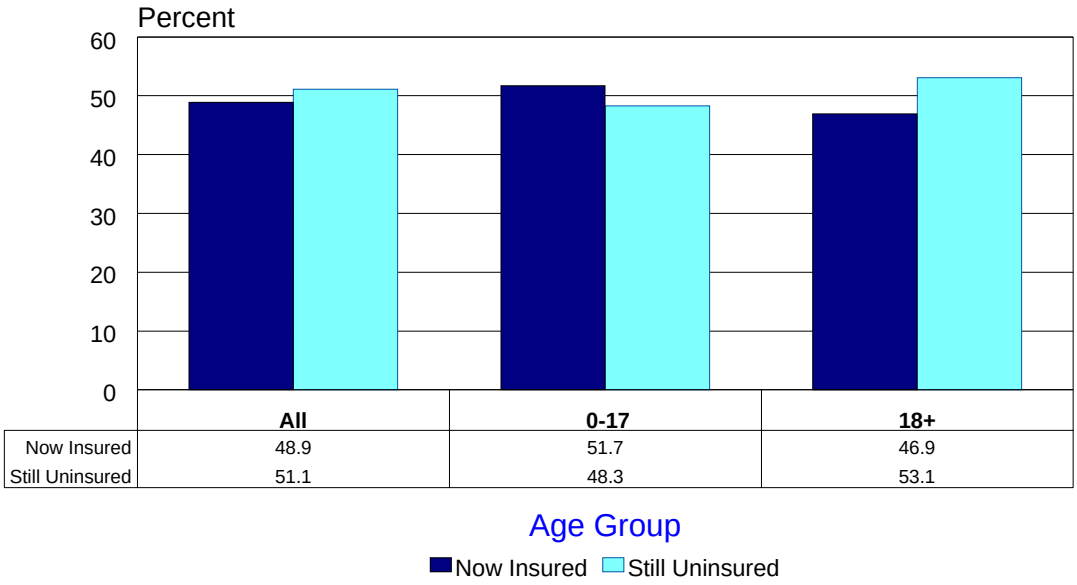
Figure 4-1
Who are the 99,000 Uninsured?

- **74% are over the age of 17**
- **53% are male**
- **68% are white**
- **10% are Hispanic**
- **66% own or are buying their home**
- **15% live alone**
- **80% are above the poverty line**
- **30% have household incomes over $50,000**
- **69% of the adults are single**
- **69% of the adults are working**
- **6% are self-employed**

This list illustrates both the complexity of the task and the need to use targeted strategies. Since 26% of the uninsured are children (which is down significantly since last years report), efforts to increase the coverage of Medicaid, the CHIP program, and the clinics offered by the A. I. DuPont Institute are likely to be effective. There are, however, still likely to be children who may never qualify under Medicaid because their parents are above the income limits and yet may still experience periodic unemployment. It is this population that the CHIP program is designed to help. The effectiveness of the program in covering children will depend significantly on the actions taken by the parent(s) of those children.

Since 69% of the uninsured adults are working at least part-time, legislative initiatives that encourage employer offered health coverage will have some effect. It's not clear at this point in time if any plan can help the low wage earner or part-time employee, since the cost of the insurance might represent a huge increase in labor costs. The working poor, in particular those in the 1.0-1.5 category of poverty, are of particular concern.

Figure 4-2
Percent of Persons who Moved from Uninsured to Insured Status by Age Group



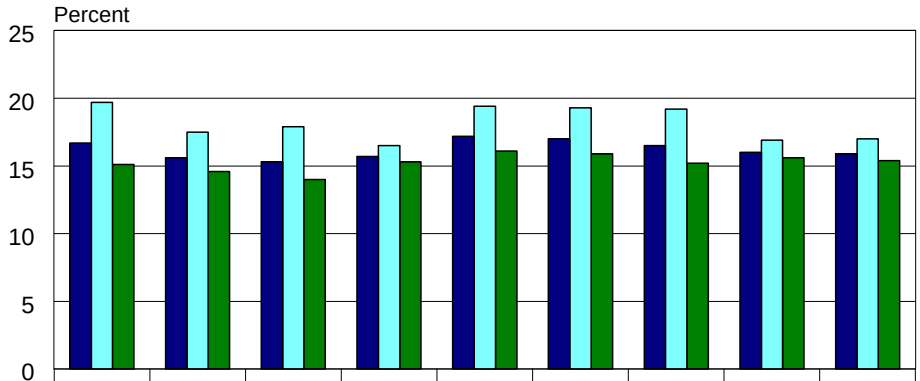
	All	0-17	18+
Now Insured	48.9	51.7	46.9
Still Uninsured	51.1	48.3	53.1

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1994-2000

Dealing with the uninsured is not an easy task because people are continually joining and leaving the ranks of the uninsured (see Figure 4-2, above). Nearly half of those that are uninsured this year (48.9%) will have insurance next year. That proportion is higher for adults than for children.

The problem is not only a question of different rates of movement in and out of the uninsured status. It is also spatially different within the state (see Figures 4-3 and 4-4, below). This may require the execution of very different strategies.

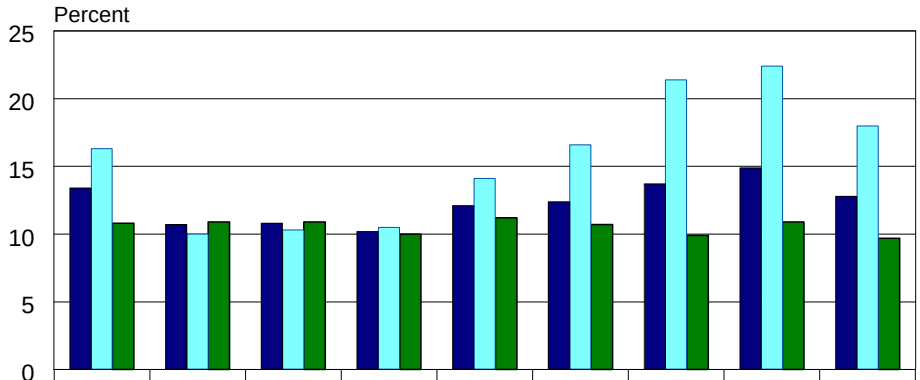
Figure 4-3
Percent of Persons 18-64 Without Health Insurance
by Area



	1992	1993	1994	1995	1996	1997	1998	1999	2000
Delaware	16.7	15.6	15.3	15.7	17.2	17	16.5	16	15.9
Kent+Sussex	19.7	17.5	17.9	16.5	19.4	19.3	19.2	16.9	17
New Castle	15.1	14.6	14	15.3	16.1	15.9	15.2	15.6	15.4

Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1990-2000

Figure 4-4
Percent of Persons 0-17 Without Health Insurance
by Area



	1992	1993	1994	1995	1996	1997	1998	1999	2000
Delaware	13.4	10.7	10.8	10.2	12.1	12.4	13.7	14.9	12.8
Kent+Sussex	16.3	10	10.3	10.5	14.1	16.6	21.4	22.4	18
New Castle	10.8	10.9	10.9	10	11.2	10.7	9.9	10.9	9.7

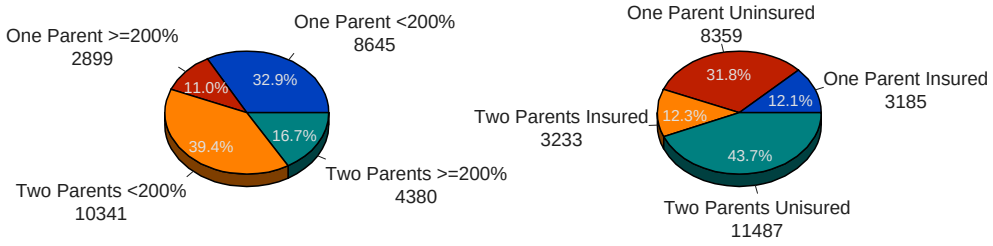
Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1990-2000

First of all, the information provided for the 18-64 year old age group excludes dependents and Medicare recipients. This core group of adults is reasonably stable over the past eight years. Even the differences between the counties are reasonably consistent.

In contrast, the pattern with dependents age 0-17 shown in Figure 4-4 above is strikingly different. While the rates in New Castle County appear stable, those in the combined Kent/Sussex region increased dramatically from 1995 to 1999 and then fell sharply. This is consistent with the implementation of the CHIP program and outreach efforts in lower Delaware. Age and/or geography specific programs are clearly warranted

Overall, Delaware seems to be doing better than the region in keeping the percentage of uninsured down. However, the longer-term demographics of the population and the labor market suggest that this will probably be a continuing challenge. In addition the focus on the CHIP program coupled with identification of Medicaid eligible children is likely to reap significant benefits. It is also clear that there will need to be continued focus on the problems in Kent and Sussex counties if this problem is to be controlled.

Figure 4-5
Persons 0-17 Without Health Insurance
by Family Type, Poverty Status and Parental Insurance

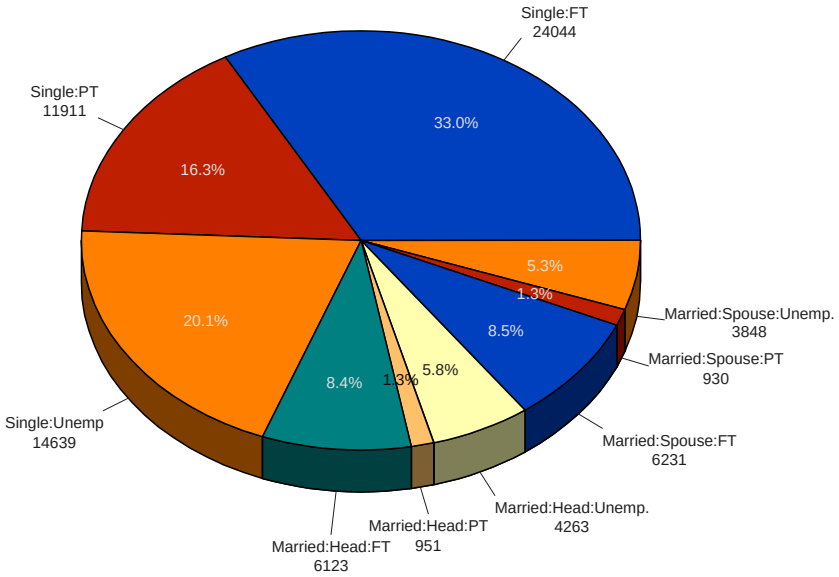


Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1998-2000

Finally, one other useful way of looking at this problem is to divide the uninsured into independent groups, i.e. they do not overlap. There are approximately 26,000 persons under the age of 18 who are uninsured (see Figure 4-5, above). Of the 26,000, some 11,500 can be found in single parent families with 14,500 being in two parent households. Of the 11,500, about 2,900

are above 200% of the poverty level and thus are not currently eligible for CHIP. Of those same 11,500, approximately 8,400 live with parents who also do not have insurance.

Figure 4-6
Persons 18-64 Without Health Insurance
by Marital Status, Household Relationship, and Employment



Source: Center for Applied Demography and Survey Research, University of Delaware
US Bureau of Census, Current Population Survey, March 1998-2000

In Figure 4-6, above the 73,000 uninsured adults are displayed by marital status, employment status and household relationship. Almost 70% of the uninsured population is single and they are almost equally split between full-time employment where they might possibility get access to health insurance and an employment status where access to health insurance through an employer is realistically remote. In fact, one could reasonably conclude that only half of the lack of health insurance problem with adults can be approached through employers and that is an outside limit.