

# **Health Insurance Coverage Among Maine Residents**

The Results  
of a  
Household Survey  
2002

Institute for Health Policy

May 2003





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2002

A report prepared by  
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Institute for Health Policy

May 2003



With survey results from  
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The views and opinions expressed in this report are the authors' and should not be attributed to collaborating organizations, funders, or the University of Southern Maine.



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## EXECUTIVE SUMMARY

This study presents findings from a random survey of Maine residents undertaken to estimate the numbers of individuals without health insurance or with inadequate insurance. The survey was carried out between October and December, 2002. Telephone interviews were completed with 3,536 individuals representing both children and adults. This survey is part of a broad-based state planning effort to develop strategies for extending health coverage to the uninsured in Maine. Towards this end, the survey gathered information on the employment and demographic characteristics of uninsured residents and information on the financial burden borne by people who have insurance.

### Key survey findings include:

- **One in eight non-elderly residents in Maine – about 136,000 people – are uninsured. Seventeen percent of non-elderly Maine residents – about 189,000 people – spent part of last year uninsured.**

Low-income workers and their families – those above the federal poverty level but below 200 percent of the poverty level – are the least likely to have health coverage. One-third of Maine's population in this income group spent part of last year uninsured. Only four percent of Maine's uninsured are out of the labor force.

- **Place and type of employment strongly affect the opportunities Maine residents have for obtaining health coverage.**

The self-employed and persons working in businesses with 10 or fewer workers have the lowest rates of health insurance coverage, with 27 percent of the self-employed being uninsured, and 31 percent of workers in the smallest businesses uninsured.

Part-time workers are twice as likely, and those in seasonal or temporary jobs almost three times as likely, to lack coverage compared to full-time workers.

But the problem of uninsurance is not limited to workers in these situations. Almost one in five of Maine's uninsured residents works for a business larger than 50 employees. Thirty percent of the uninsured work full-time and 63 percent are working in permanent, as opposed to temporary or seasonal jobs.

About one-fifth of the uninsured in Maine are eligible for health benefits through their employer, but seventy-five percent of these individuals cannot afford the premium costs.

- **Many Maine residents who have health insurance have insufficient coverage to protect themselves from major financial hardship. In addition, premium costs take a substantial portion of household income for many Mainers.**

Thirty-eight percent of Maine's insured population pays more than 5 percent of their total household income toward health insurance premiums. One in twenty pays more than 20 percent.

People who have to buy non-group coverage are particularly hard hit by the cost of premiums. Half pay over \$4,000 a year for coverage. The median deductible – required out-of-pocket spending before benefits apply – is over \$4,000.

Twenty-two percent of elderly Mainers enrolled in the Medicare program lack supplemental coverage and are vulnerable to financial hardship from medical costs. The median annual income for this group is \$17,000.

- **The uninsured use fewer health care services and delay care when ill.**

Uninsured adults report delaying care when needed at three times the rate of insured adults. Forty-two percent of families with uninsured children report delaying needed care for their children due to costs. This rate is seven times that seen in insured families.

- **Both insured and uninsured Maine residents report concern over health care costs. Willingness to participate in public programs that offer coverage is wide-spread.**

Three-quarters of insured Maine adults are worried about insurance price increases in the next year. Among those who purchase non-group policies, ninety-one percent express substantial concern.

Eighty-seven percent of Maine's uninsured say they would be willing to enroll in a publicly-sponsored health insurance program. Over ninety percent of those most vulnerable to uninsurance – low to moderate-income families – report that they would enroll themselves or their children in a public program if it were available to them.

The findings of this survey demonstrate the growing need and support for interventions designed to broaden access to health coverage for the currently uninsured and those vulnerable to losing coverage. They also highlight the need for strategies to stabilize and reduce health care costs. Respondents to this survey express strong concerns with rising health care costs and a strongly favorable reaction to concepts of publicly-sponsored new coverage options.

## I. PURPOSE

In July 2002, the State of Maine undertook an ambitious planning effort to reform and improve Maine's health care system supported with grant funds from the federal Health Resources and Services Administration (HRSA). The HRSA State Planning program was established in 2000 and funded by Congress in response to the high uninsured rates in the United States, and the interest of many state policymakers in addressing their citizens' health insurance coverage problems. Currently in its third year of funding, HRSA has provided support to planning efforts in 32 states. Maine is one of twelve states to receive financial support from HRSA during the current round of State Planning Grant funding.

Initially awarded to the Maine Department of Human Services, the Maine State Planning grant has, since January, 2003, been used to support the planning and policy development work of the Governor's Office of Health Policy and Finance (GOHPF). GOHPF is charged with leading the Maine state government health reform efforts to expand health coverage to all Maine citizens. Obtaining accurate information on the size and characteristics of the uninsured population is important for planning effectively.

In order to produce reliable estimates on the number of uninsured in Maine, the Department of Human Services, initially, and later the GOHPF contracted with the Muskie School to manage a statewide telephone survey of Maine households and to report on the results. The Muskie School contracted with Mathematica Policy Research, Inc. of Princeton, New Jersey to select the sample and to conduct the telephone interviewing. In addition to producing estimates on the number of uninsured Maine residents, the survey was designed to address several key questions about Maine's uninsured population:

- What are the characteristics or employment factors that place Maine residents at risk of being uninsured? How many of Maine's uninsured fall within different sociodemographic groups?
- What proportion of Maine residents has health insurance coverage through an employer, from an individually-purchased policy, or through a public program such as MaineCare?
- How many of Maine's uninsured would be eligible to purchase health insurance from their own or a family member's employer?
- What are the average premium and deductible costs for Maine residents who have private health insurance? How affordable are these costs as a proportion of family income?
- How many of Maine's senior citizens lack health insurance to supplement their Medicare coverage? How many lack a prescription drug benefit?

The survey's objective was to collect detailed data on the health insurance status, needs, and barriers facing Maine's citizens. In this way, Maine's policymakers will have access to accurate planning information as they consider strategies for reducing the state's health insurance coverage problems.



## II. METHODS

### *Survey Instrument*

The survey instrument is primarily based on a widely used survey that has been developed by staff at the State Health Access Data Assistance Center (SHADAC). SHADAC, a technical assistance center located within the University of Minnesota, is funded by the Robert Wood Johnson Foundation to provide support to states seeking to gather policy relevant information about health insurance coverage and access to health care. One of SHADAC's key activities has been to provide technical support and assistance to states, like Maine, that have received funding through HRSA's State Planning Grant Program.

The Coordinated State Coverage Survey (CSCS) is a household telephone survey used and modified by the state of Minnesota over the past 15 years to estimate the insurance status and health care access of that state's citizens. SHADAC has adapted this survey and made it available to other states at no charge in order to promote the collection of health insurance data that are comparable across states and over time. Through the combination of providing a field-tested survey instrument and these supportive materials, SHADAC has provided states with the opportunity to conduct quality household surveys quickly, at reduced cost.

Staff at the Muskie school made minor modifications to the CSCS in order to collect information on issues deemed to be of particular importance to Maine residents. Among these were questions designed to get at the degree of "underinsurance" in the state by asking residents with private coverage about their financial barriers to health care services. A copy of the survey instrument or particular survey questions can be obtained from the Muskie School.

### *Sampling*

The survey used a probability sample of Maine residents (including senior citizens, adults under age 65, and children) living in households with telephone service. Telephone numbers for the sample were selected using list-assisted Random-digit-dialing (RDD) techniques from a commercially available frame provided by Genesys Sampling. The sample frame was stratified geographically to assure adequate representation of urban and rural areas, but no oversampling was employed in selecting the numbers. The five sampling strata were the Portland, Bangor and Lewiston-Auburn metropolitan areas, non-metropolitan northern counties, and non-metropolitan southern counties.

Prior to interviewing, the sample was processed to eliminate a portion of nonworking and business and commercial numbers and to obtain addresses for published household numbers so that advance letters could be mailed. Telephone numbers were then released to be called by interviewers who used screening questions to eliminate vacation and seasonal homes<sup>1</sup>. Among eligible households, interviewers collected information about the age and health insurance coverage of all household members. Then, a single target person was randomly selected to complete the full survey (either directly or by proxy).

### *Survey Operations*

Interviewers from the Mathematica Policy Research, Inc. telephone facilities in Princeton, New Jersey and Columbia, Maryland completed a total of 3,536 RDD household interviews with an overall response rate of 61 percent (a solid response rate for telephone surveys). A total of 87 telephone

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<sup>1</sup> According to Census 2000 figures, approximately 20 percent of Maine's occupied housing units were classified as being for seasonal recreational or occasional use.

interviewers and survey operations center supervisors received training for the survey. Interviewers who had not previously worked on computer-assisted surveys attended an average of eight hours of training on general interviewing procedures and use of computer-assisted survey techniques, and all interviewers received eight hours of training specifically on the Maine survey. The average interview time was 9.7 minutes. A full description of the training, survey operations and calculation of response rates is included in Appendix A.

### ***Post Survey Weighting***

Following completion of the survey, statisticians at Mathematica Policy Research, Inc. developed weighting variables to allow the survey to be used to make estimates for the entire Maine community-dwelling population. These survey weights were produced in three stages, each of which included one or more steps. First, adjustments were made for differences between the sample and the Maine population that resulted from design and data collection operations such as differences in probability of selection, non-response and telephone service. Second, the survey respondents were stratified by different age, gender and race clusters and adjusted to match Maine's Census 2000 population totals. Finally, any weights found to be extremely large were trimmed to prevent a small number of respondents from representing disproportionately large segments of the Maine population. See Appendix A for a detailed description of how each of these three weighting states was completed.

### ***Analysis***

The survey responses were analyzed by the health research staff at the Muskie School and the findings from the survey make up the remainder of this report. Findings are organized in seven sections. The first two sections report on the number and characteristics of the uninsured, and the family and employment factors that are most strongly associated with not having coverage. The third section provides information on the costs born by people with health coverage. In the next two sections, Mainers report on the reasons they lack coverage and what lack of coverage has meant to them and their families in their ability to obtain needed health care services. Section six covers the experience of senior citizens regarding access to and barriers to health care.



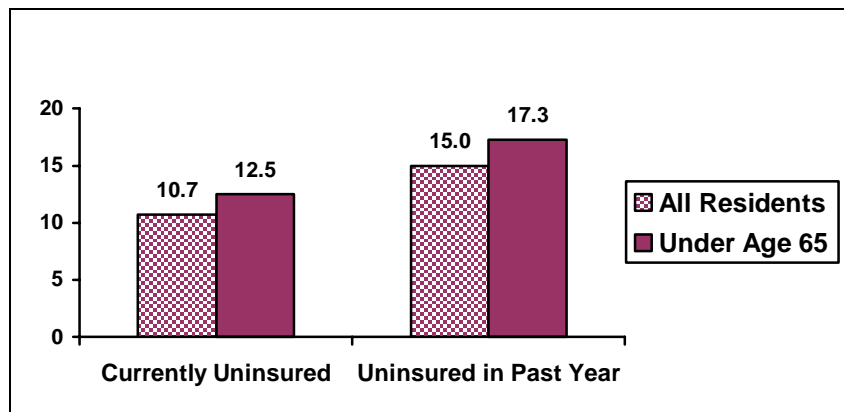
### III. FINDINGS

#### *Insurance Coverage and Estimates of the Uninsured*

Of Maine's approximately 1.27 million residents, an estimated 136,000 – nearly 13 percent of those under age 65 – lacked health insurance coverage at the time that they were surveyed. Including the elderly, the overall uninsured rate was about 11 percent. Because of the near universal coverage of adults aged 65 and older under Medicare, the descriptions of the uninsured that follow in this document include only children and adults under age 65.

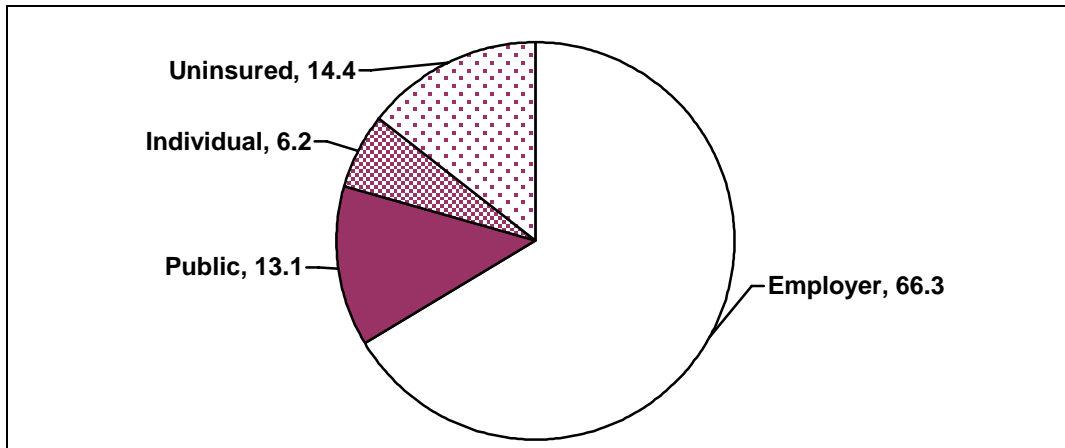
*189,000 Maine residents were uninsured at some time during the past year.*

**Figure 1: Percent of Maine Residents Uninsured**



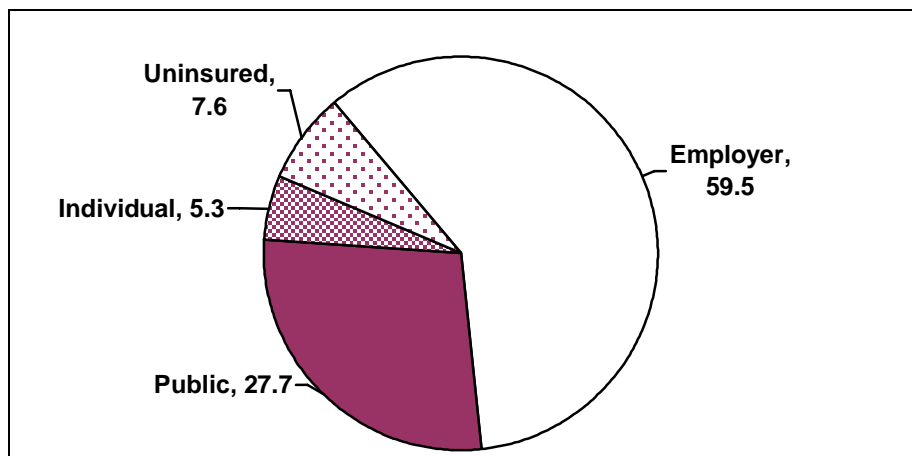
The number of uninsured increases to an estimated 189,000 when we include residents who had health insurance coverage at the time of the survey, but who had been uninsured during the previous 12 months. About 17 percent of Maine's non-elderly residents were uninsured at some time during the year prior to the survey.

**Figure 2: Type of Insurance Coverage at Time of Survey (Adults, 18-64)**



The type of insurance coverage among Maine residents differs between adults and children. Of Maine's estimated 790,000 adult residents under age 65, two-thirds had private, employer-based health insurance at the time of the survey (*Figure 2*). Combined with the 6.2 percent who were covered by an individually purchased health plan, this means that about 73 percent had some type of private coverage. About 13 percent of non-elderly adults had health insurance through Medicare or MaineCare, while 14 percent had no coverage of any kind and were uninsured at the time of the survey.

**Figure 3: Type of Insurance Coverage at Time of Survey (Children, 0-17)**



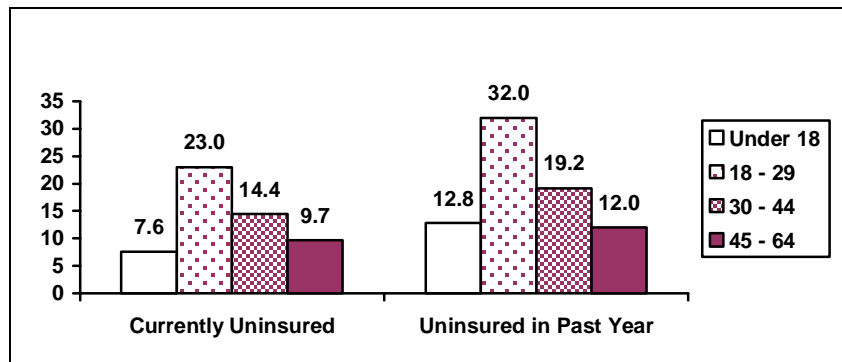
Maine children are less likely to have private health insurance than adults are (*Figure 3*). At the time of the survey, about 60 percent of children had employer-based coverage and 5 percent had coverage through an individually purchased health plan. Despite the lower rates of private coverage, Maine's children were about half as likely as adults under 65 to be uninsured (8 percent versus 14 percent for adults), so that only an estimated 23,000 of Maine's approximately 300,000 children lacked insurance at the time of the survey. This is because the lower rate of private coverage among Maine children is more than offset by higher rates of public program enrollment, with 28 percent having public coverage (primarily MaineCare) at the time of the survey.

### Factors Affecting Uninsured Rates

**Age:** Adults aged 18-29 are at the highest risk of being uninsured when compared to children or older, non-elderly adults (*Figure 4*). Nearly one in four Maine residents in their late teens and twenties were uninsured at the time of the survey, while about one in three had spent at least some time without health insurance during the year before the survey. These rates are about three times higher than for adults in the 45-65 age group (10 percent uninsured at the time of the survey, 12 percent in the past year).

*One-third of Maine residents aged 18-29 lacked insurance during the past year.*

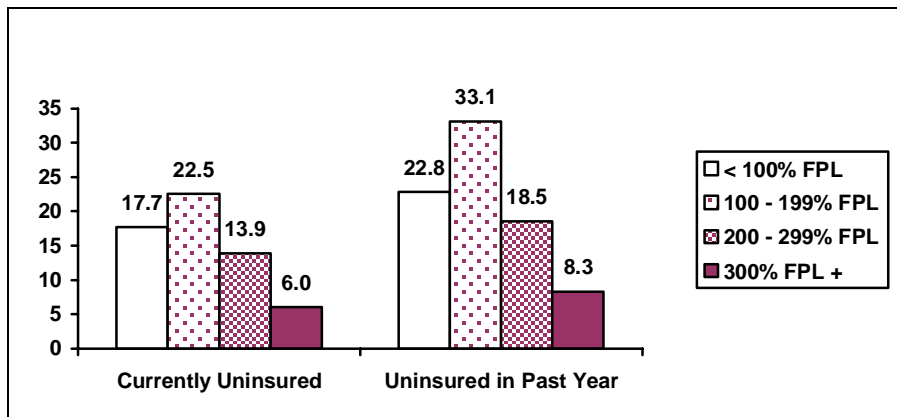
**Figure 4: Percent of Non-elderly Maine Residents Uninsured by Age**



**Family income:** Maine residents with family incomes between 100 percent and 199 percent of the federal poverty level (FPL), sometimes called the “near poor,” have the highest uninsured rates (*Figure 5*). Because of higher rates of public coverage, residents who live in poverty are somewhat less likely to be uninsured than the near poor. One-third of near poor Maine residents spent some time uninsured during the year before the survey, a rate four times that of individuals with incomes at or above 300 percent of poverty.

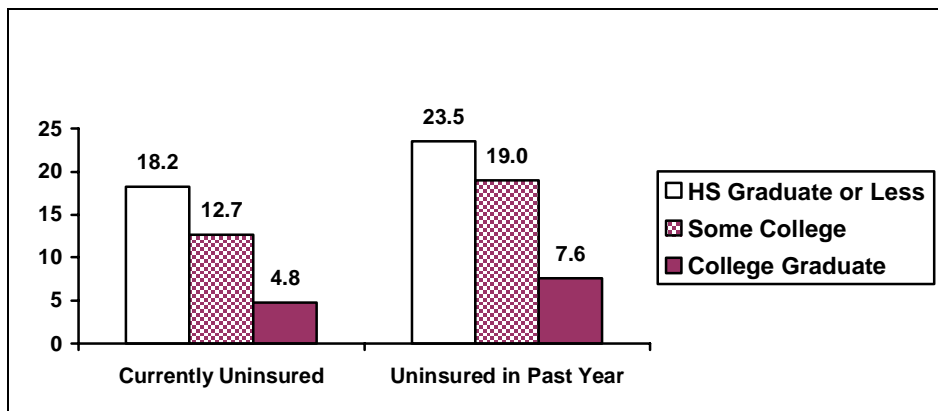
*Residents with incomes between 100% and 199% of the federal poverty level have the highest uninsured rates.*

**Figure 5: Percent of Non-elderly Maine Residents Uninsured by Income (Ages 0-64)**



**Education:** Perhaps because of its relationship to family income, an individual’s educational status has a strong effect on whether or not s/he will be uninsured (*Figure 6*). Maine residents who had a high school diploma or less (or whose parents did) were three times as likely to have lacked health insurance at some time during the year compared to those who held a college degree (24 percent versus 8 percent)

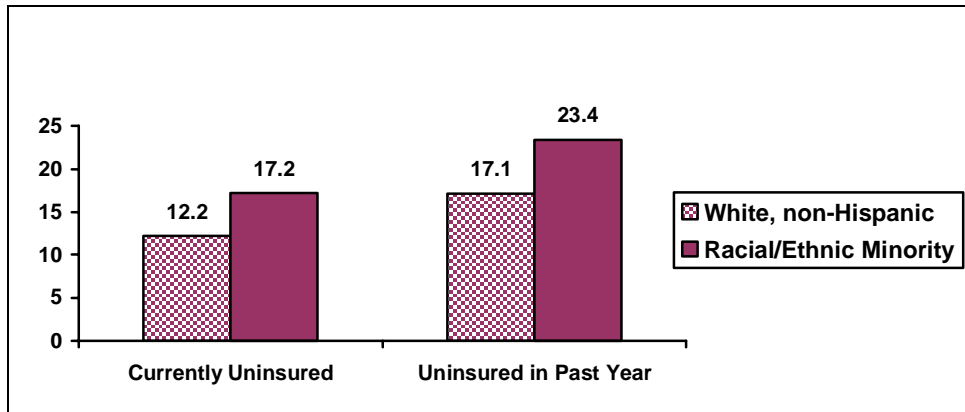
**Figure 6: Percent of Non-elderly Maine Residents Uninsured by Education**



NOTE: Includes children based on head-of-household education

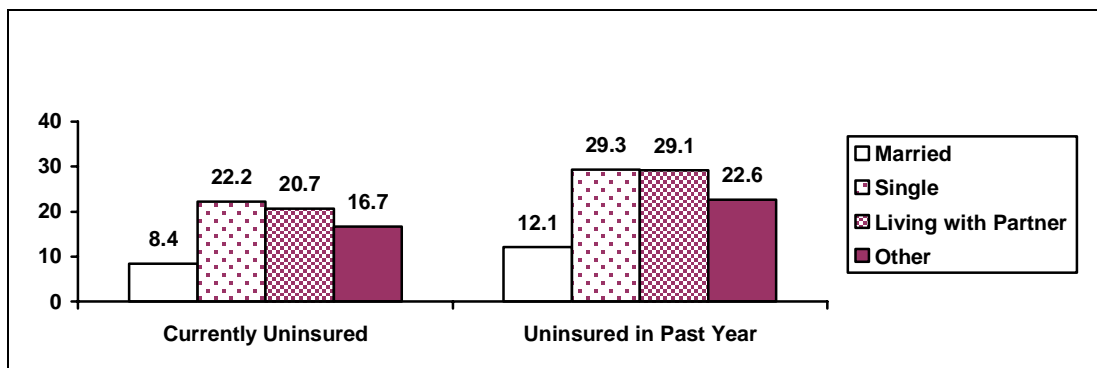
**Race and Ethnicity:** Although Maine’s minority population is not large (an estimated 3.4 percent of the non-elderly), being a member of a racial or ethnic minority places an individual at heightened risk of being uninsured (*Figure 7*). Residents who belong to a racial or ethnic minority group are about 40 percent more likely than white, non-Hispanic residents to be uninsured at the time of the survey or in the prior 12 months.

**Figure 7: Percent of Non-elderly Maine Residents Uninsured by Minority Status**



**Marital Status:** Maine residents are less likely to be uninsured if they are married or, in the case of children, live in a family where the head-of-household is married (*Figure 8*). Only 8 percent of Maine residents in married families were uninsured at the time of the survey. Being single, or living with a domestic partner, increases the risk of being uninsured. Nearly one-third of Maine residents in these categories lacked insurance at some time in the past year.

**Figure 8: Percent of Non-elderly Maine Adults Uninsured by Marital Status (18-64)**

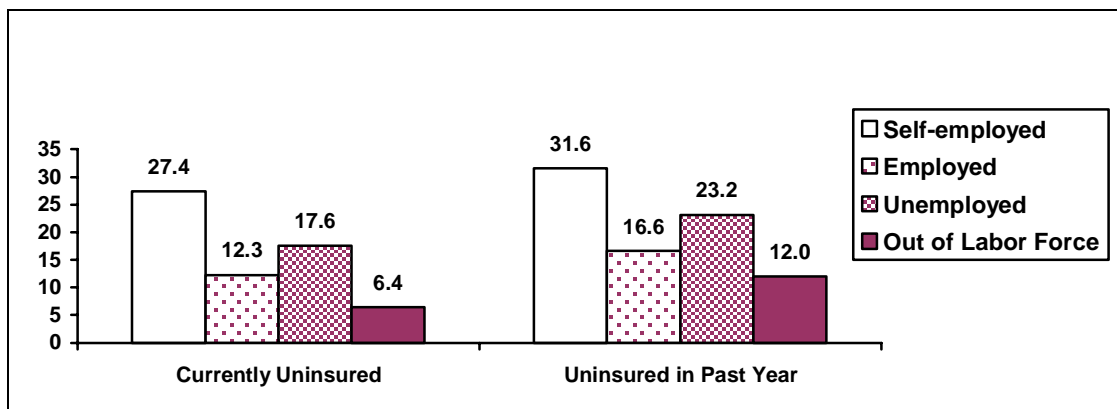


NOTE: “Other” includes Separated, Divorced and Widowed Children included based on head-of-household marital status.

**Employment Status:** Maine residents who work for themselves are at highest risk of being uninsured (*Figure 9*). Twenty-seven percent of self-employed residents were uninsured at the time of the survey and 32 percent went without insurance at some time during the prior year. Individuals who are out of the labor force have the lowest uninsured rates, presumably because they have higher rates of public insurance coverage such as MaineCare. Those who were employed when surveyed had uninsured rates that were about the same as the Maine population overall.

*Part-time Maine workers are about twice as likely to be uninsured as full-time Maine workers are.*

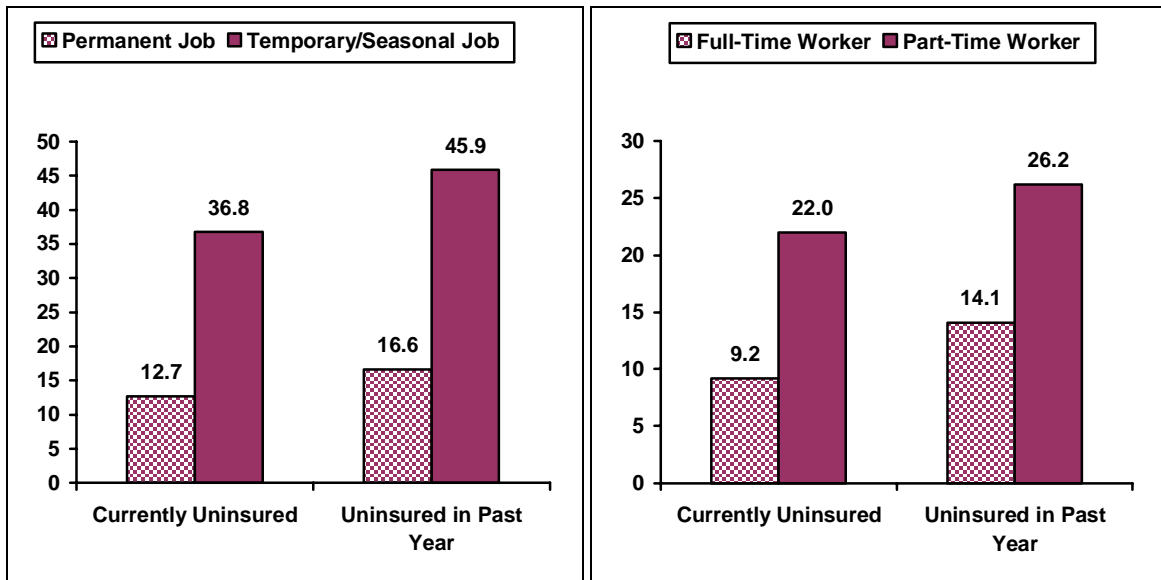
**Figure 9: Percent of Non-elderly Maine Adults Uninsured by Employment Status (18-64)**



Part-time workers are about twice as likely to be uninsured as full-time workers are (*Figure 10*). More than one-fifth of Maine employees who work less than 40 hours per week were uninsured at the time of the survey. This rate increases to 26 percent when those who were uninsured at some time during the year are included. In contrast, only nine percent of full-time workers lacked health insurance at the time of the survey, and 14 percent had been uninsured during the prior year.

The seasonal nature of many Maine industries may contribute to the number of uninsured Maine residents. Maine workers are nearly three times as likely to be uninsured if they work at a temporary or seasonal job, compared to those who have permanent jobs. Almost half of those employed at a temporary or seasonal job were without health insurance at some point during the year prior to the survey, compared to only 17 percent working in a permanent job.

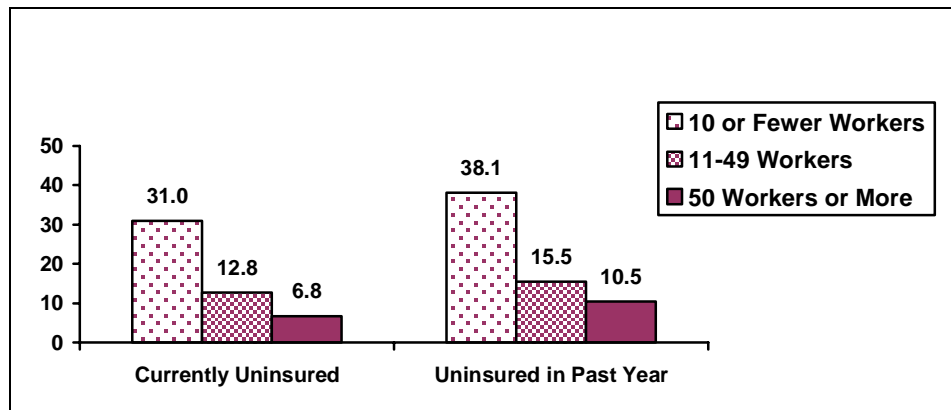
**Figure 10: Percent of Non-elderly Maine Adults Uninsured by Full-time, Part-time, or Seasonal Work Status**



NOTE: Excludes self-employed.

Being employed by a small business places Maine workers at high risk of being uninsured (Figure 11). Nearly one-third of those working for a business of 10 or less were uninsured at the time of the survey compared to only 7 percent in businesses of 50 or more. Thirty-eight percent of workers in businesses of 10 or less were uninsured during the year prior to the survey.

**Figure 11: Percent of Maine Workers Uninsured by Employer Size (Adults 18-64)**



**Which Factors Are the Most Strongly Associated with Lacking Insurance?** The information presented earlier in this chapter illustrates the workplace and family characteristics that make it more likely that a Maine resident is uninsured. The analysis presented below ranks the relative impact of these different factors and identifies the situations that present the most powerful barriers to health coverage.

Table 1 presents findings from a multivariate analysis that shows the relative contribution of each risk factor, when all these factors are considered together. The analysis takes, as a point of comparison, an individual most likely to have health insurance coverage. Then it shows, if you changed one factor about that individual’s situation, how much his or her chances of being uninsured would be increased. For example, a wage earner who works in a large business is highly likely to have insurance. If nothing about this person changes (income, age, education, etc.) except place of employment, and that wage earner moves to a business of 10 or fewer workers, the likelihood that he or she will be uninsured is increased almost six-fold.

**Table 1: The Contribution of Various Family Characteristics to the Odds that a Family or Individual Will be Uninsured – Results of a Multivariate Analysis**

<b>Individuals With Highest Chance of Having Health Insurance</b>	<b>Characteristic that May Increase Risk of Uninsurance</b>	<b>Increased Odds of Not Having Insurance</b>
<b>Adults age 45-64</b>	Age 18-30	3.7
	Age 31-44	1.8
<b>High Income (greater than 300% of the federal poverty level)</b>	Low Income (200-300% FPL)	2.6
	Near Poor (100-200% FPL)	5.3
	Poor (Below federal poverty line)	3.8
<b>Post-secondary education</b>	High school education	1.9
	Less than high school education	2.1
<b>Married, 2 adult family</b>	Single	2.2
	Divorced or Widowed	2.1
<b>Working in business larger than 50</b>	Work in business size 1-10	5.7
<b>Excellent health</b>	Fair to Poor health	2.4

This analysis tells us that the two most powerful “drivers” among the dynamics that contribute to barriers to coverage, are income and work for a small business. If nothing else about an individual changed, but her income dropped from high or middle income, to near poor, her chances of being uninsured would increase 5-fold. A person who has less than a high school education, is twice as likely to be uninsured as an individual who is alike in every respect except that he has post-secondary education. A person in fair to poor health is about two and a half times more likely to be uninsured than a person in excellent health, all else being equal. In this case, we don’t know whether poor health makes it more difficult to obtain insurance or whether lack of insurance contributes to poor health. Most likely, both of these dynamics are in play. (See Appendix B for full representation of the Logit model used for this analysis.)



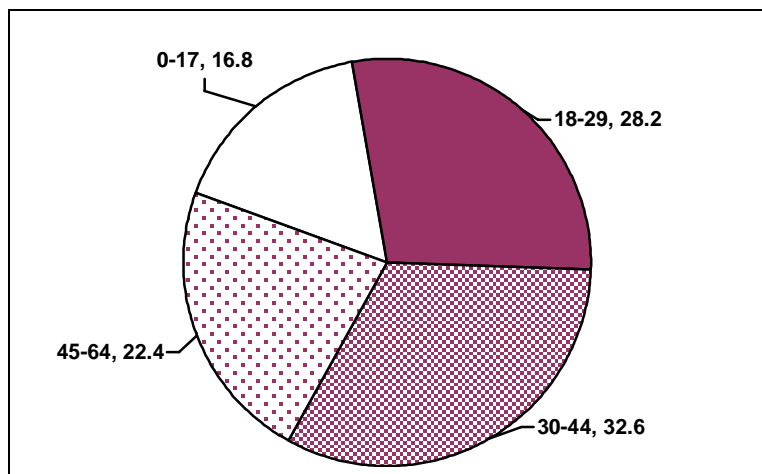
Each of the characteristics tested in this analysis powerfully increases the risk of being uninsured, independent of other demographic and economic characteristics. The fact that frequently, individuals are characterized by many of these factors simultaneously (lower education and lower income are frequently associated, for example) compounds the difficulty for many of the uninsured in finding and maintaining insurance coverage. The complexity of the problem and the many factors that contribute, point to the need for multi-faceted strategies to address the issue. The particular potency of income and place of business also suggests the need to prioritize strategies that address the needs of small business and low-wage workers.

*Low family income and working for a small business are the two most powerful contributors to the difficulty in finding and keeping health insurance coverage.*

### ***How is the Uninsured Population Different from the Rest of Maine’s Population?***

In addition to the risk of being uninsured for members of different socioeconomic and employment groups, it is important to get a clear picture of who are Maine’s uninsured and how they differ from the overall Maine population. This section presents a snapshot of the characteristics of those who lacked health insurance coverage at the time of the survey.

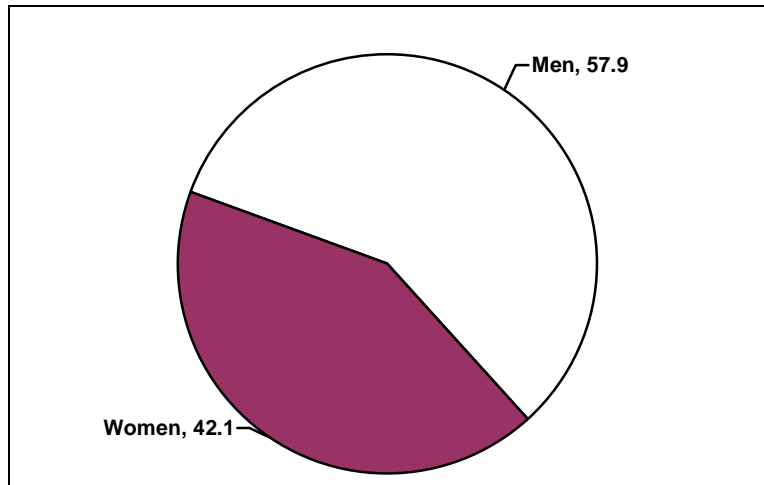
**Figure 12: Age Distribution of Maine’s Uninsured**



Even though about 28 percent of Maine residents are children, they make up only 17 percent of Maine’s uninsured. Adults aged 18 through 44 are overrepresented among the uninsured, comprising about 61 percent of the total uninsured. Pre-retirees (aged 45-64) make up the remaining 22 percent of the uninsured although they represent about 29 percent of Maine’s population overall.

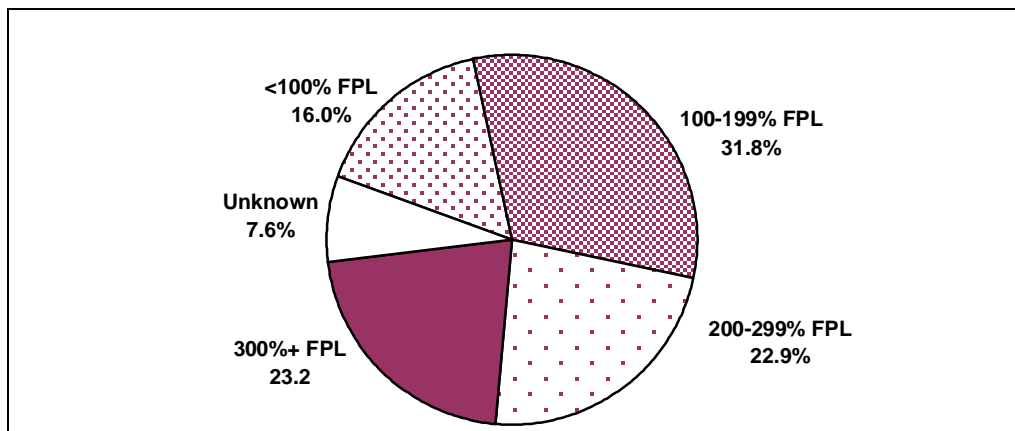
Among adults, men comprise roughly half of Maine’s entire non-elderly population (49 percent). However, Maine’s men are quite overrepresented among the uninsured so that 58 percent of those without health insurance coverage at the time of the survey were male (*Figure 13*).

**Figure 13: Gender Distribution of Maine's Uninsured (Adults 18-64)**



Because being near-poor places Maine residents at high risk of being uninsured, individuals with family income between one and two times the federal poverty level make up almost a third of the uninsured, even though they represent only 17 percent of Maine's population (*Figure 14*). However, in recent years, being uninsured has increasingly become a problem of higher income groups. Nearly one-fourth of Maine's uninsured had incomes three times the federal poverty level or greater (at least \$55,200 or more for a family of four).

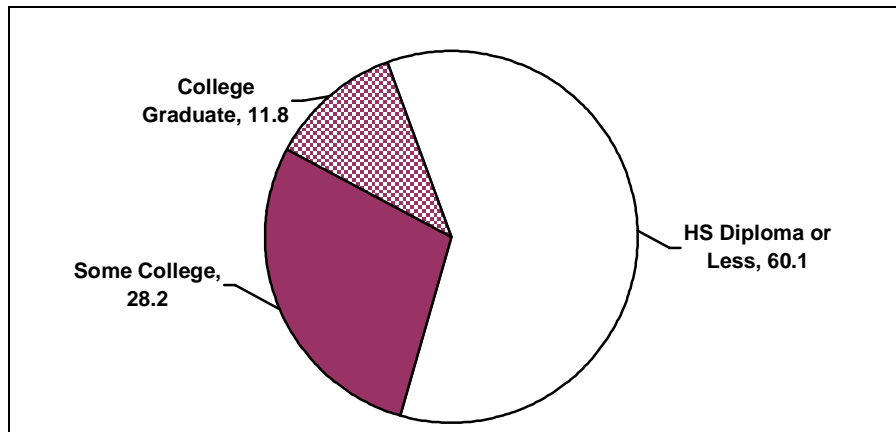
**Figure 14: Income Distribution of Maine's Uninsured**



As noted on page 10, having an educational attainment of high school or less significantly increases the risk of being uninsured. Consequently, 60 percent of the uninsured have not attended college (or in the case of children, live in families where the head of household has not attended college) compared to 41 percent of Maine’s population overall (Figure 15).

*More than 75% of Maine’s uninsured have family incomes below \$55,200 for a family of four.*

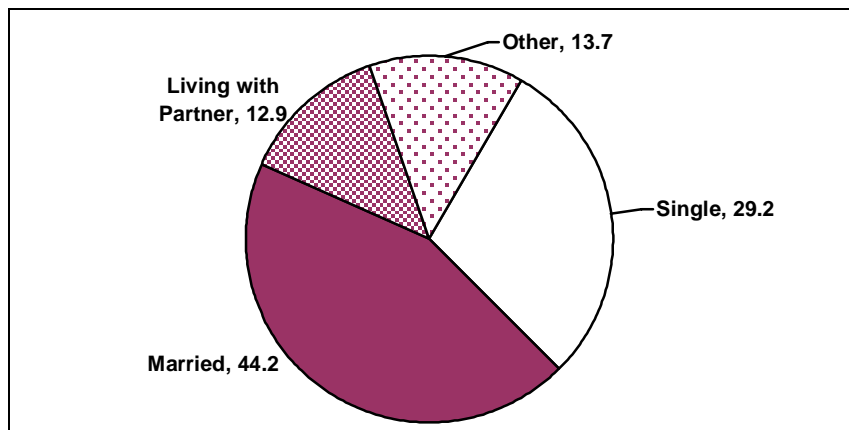
**Figure 15: Education Distribution of Maine’s Uninsured**



*NOTE: Includes children based on education of head of household*

Although at lowest risk of being uninsured, members of married families comprise nearly half of the uninsured (44 percent) (Figure 16). This is because two-thirds of all non-elderly households in Maine are headed by married couples. In contrast, individuals living in households headed by non-married domestic partners represent only 8 percent of Maine’s population, but are 13 percent of the State’s uninsured. Similarly, Maine residents living in families head by a single adult make up 16 percent of the population but 29 percent of the uninsured.

**Figure 16: Marital Status Distribution of Maine’s Uninsured**



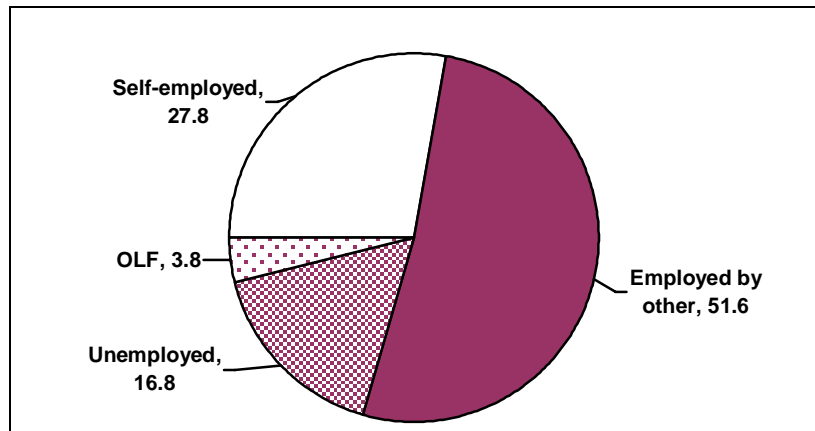
*NOTE: Includes children based on marital status of head of household*

Slightly more than half of Maine’s uninsured work for someone else (or, in the case of children have a parent who does) (*Figure 17*). People who are self-employed make up 28 percent of Maine’s uninsured but only 12 percent of Maine’s total population. About one-fifth of Maine’s uninsured is unemployed or out of the labor force altogether. Each of these three groups (working, self-employed, and not working) represent a sizeable segment of Maine uninsured population, yet each will likely respond differently to different policy strategies for increasing health insurance coverage. Consequently, it will be important for policy makers to take each segment of Maine’s population into account when designing health insurance expansions.

*28% of Maine’s uninsured are self-employed or have a self-employed parent.*

*Two-thirds of Maine’s working uninsured are full-time workers.*

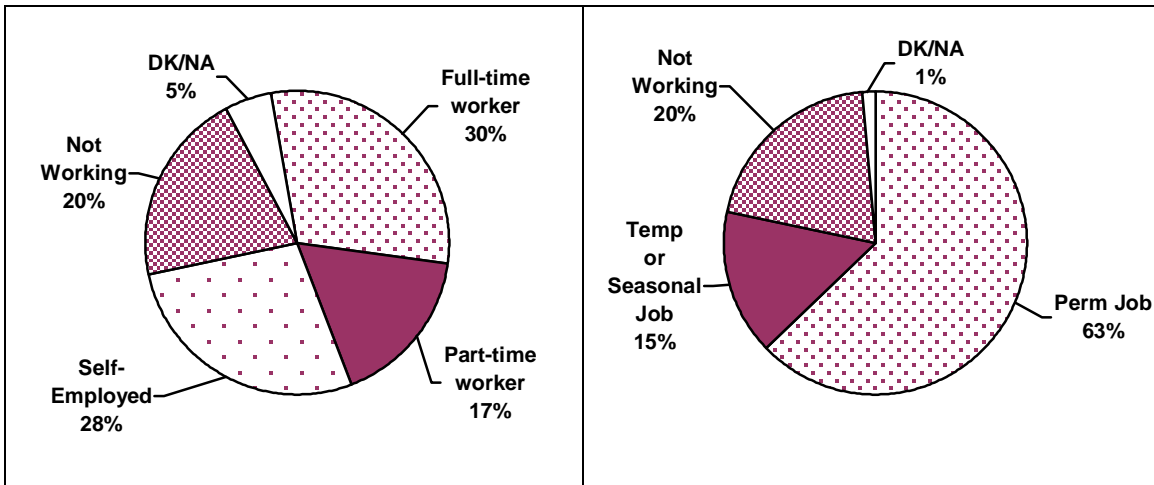
**Figure 17: Employment Status Distribution of Maine’s Uninsured**



*NOTE: Includes children based on employment status of head of household*

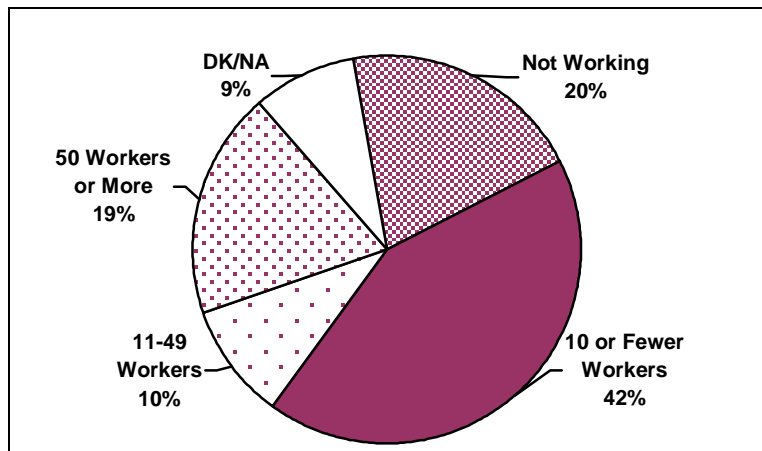
Although being a part-time worker puts an individual at greater risk of being uninsured, one-third of Maine’s uninsured are full-time workers or the children of full-time workers, while nearly another third are self-employed (*Figure 18*). Uninsured Maine residents are also disproportionately temporary or seasonal workers. At the time of the survey 6 percent of Maine’s population held a temporary or seasonal job while 15 percent of the uninsured were employed in these circumstances. It is important to note that the survey was conducted in October through December and that estimates of Maine’s seasonal workforce may differ for other times of year.

**Figure 18: Employment Characteristic Distributions of Maine's Uninsured**



Although 41 percent of Maine's population works for an organization or business with 50 or more employees (or, in the case of children, has a parent who does) this workforce accounts for only 19 percent of the uninsured (*Figure 19*). Twenty-nine percent of Maine residents work for a business with less than 50 employees, compared to 52 percent of the uninsured. Approximately one-fifth of all workers are employed at firms with 10 or fewer employees (19 percent), however, this group represents 42 percent of Maine's uninsured.

**Figure 19: Employer Size Distribution of Maine's Uninsured**



*NOTE: Includes self-employed.*

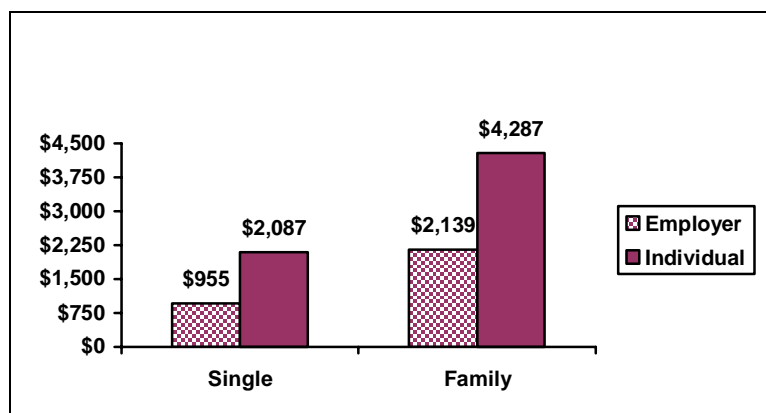
Children included based on head-of-household's employment characteristics.

### Costs and Nature of Private Health Insurance Coverage

An estimated 789,000 non-elderly Maine residents had private health insurance coverage at the time of the survey, including individual policies purchased by a consumer directly from an insurance company. About 92 percent of those with private health insurance got their coverage through their own or a family member's employer, while the remaining 8 percent (roughly 65,000 residents) had a self-purchased plan.

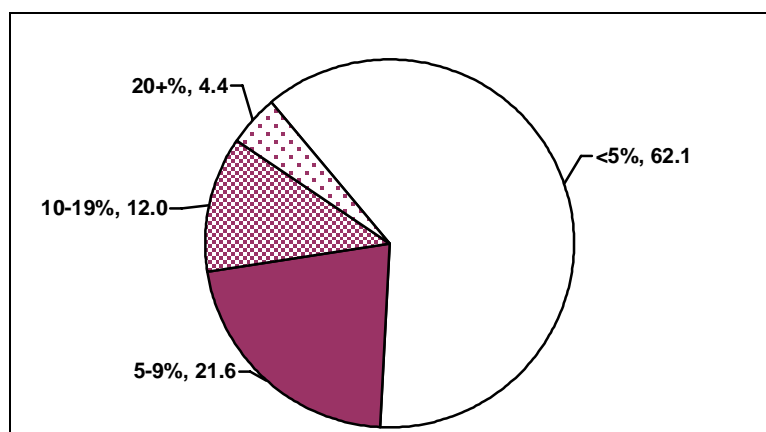
As one would expect, the median out-of-pocket annual premium costs for Maine residents with private health insurance are higher for those who purchase health insurance individually than those with employer-based coverage (*Figure 20*). For both single person and family coverage, residents getting coverage through an employer pay about half the annual premium of those who purchase health insurance directly.

**Figure 20: Median Out-of-pocket Premium Costs by Plan Type**



More than 60 percent of those with private health insurance coverage spent less than five percent of their family income on health insurance premiums (*Figure 21*). However, about one-sixth of Maine residents with private health insurance pay more than 10 percent of their family income for it.

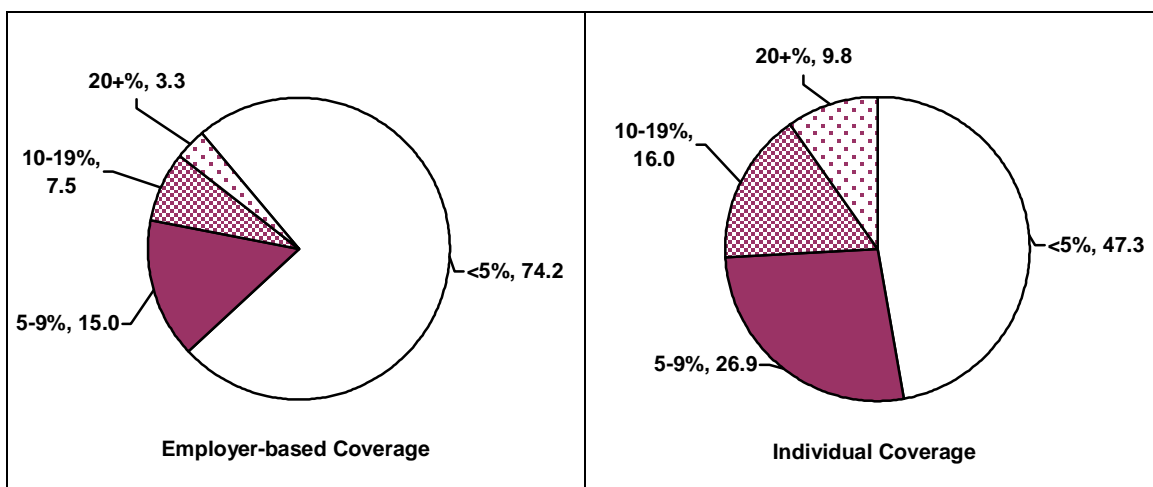
**Figure 21: Percent of Household Income Spent on Insurance Premiums (Ages 0-64)**



The proportion of family income spent on private health insurance differs dramatically between employer-based and non-group policies. Among those with single person policies, three out of four in employer benefit plans spend less than five percent of their income on premiums. By contrast, more than half of single policy holders who purchase non-group policies pay over 5 percent of their income on premiums, and one in ten spends at least one-fifth of his entire family income for that coverage.

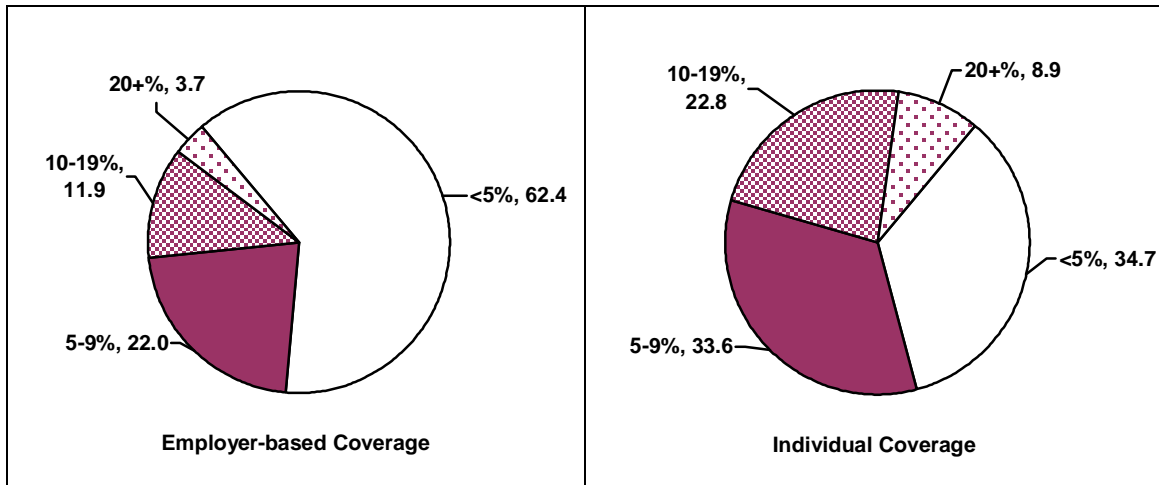
*10% of Maine residents with a self-purchased single person policy spend more than one-fifth of their income on premiums.*

**Figure 22: Percent of Family Income Spent on Premiums by Plan Type (Singles Policies)**



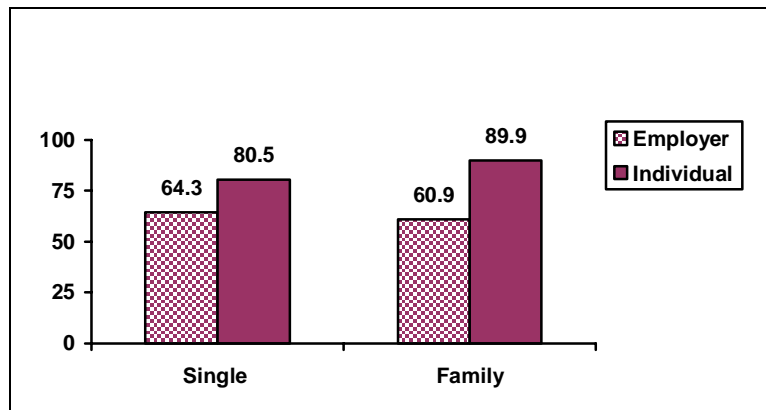
The difference that coverage through an employer makes to the proportion of family income that goes to premiums is particularly pronounced for family policies (*Figure 23*). Only one-third of those with individually-purchased non-group family plans pay less than five percent of their income for the coverage, compared to nearly two-thirds of those covered by a family plan purchased through an employer. Another third of Maine residents with self-purchased family coverage spend 10 percent or more of their income on premiums, a proportion about twice that of residents with employer-based family coverage. Families spending 10 percent or more of their family income on health insurance have, on average, incomes of around \$35,000, and half earn less than this amount. For these families, dedicating 10 percent of income on health coverage is a significant financial hardship.

**Figure 23: Percent of Family Income Spent on Premiums by Plan Type (Family Policies)**



Most Maine residents who are covered by private health insurance plans have deductibles – amounts they must pay out-of-pocket annually before their health benefits begin. This is particularly true for residents covered through a self-purchased non-group policy compared to those with coverage from an employer. Approximately two-thirds of those with single or family coverage through an employer have a deductible. Eighty-one percent of those with individually purchased single person coverage, and 90 percent of those with family coverage, have a deductible (*Figure 24*).

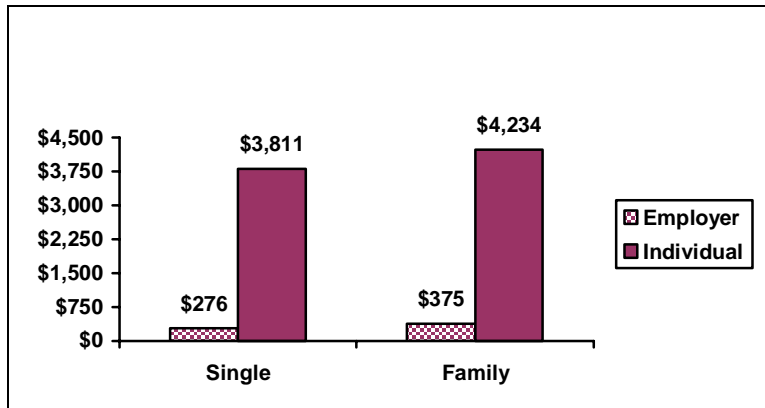
**Figure 24: Percent of Privately Insured Maine Residents with a Deductible by Plan Type**



The difference in the level of the deductible amounts between employer plans and non-group insurance is very substantial (*Figure 25*). The median deductible for an individually purchased plan is almost 14 times higher than for an employer-based plan (\$4,200 compared to \$375). The median deductible levels are equally disparate for single policies and family coverage.

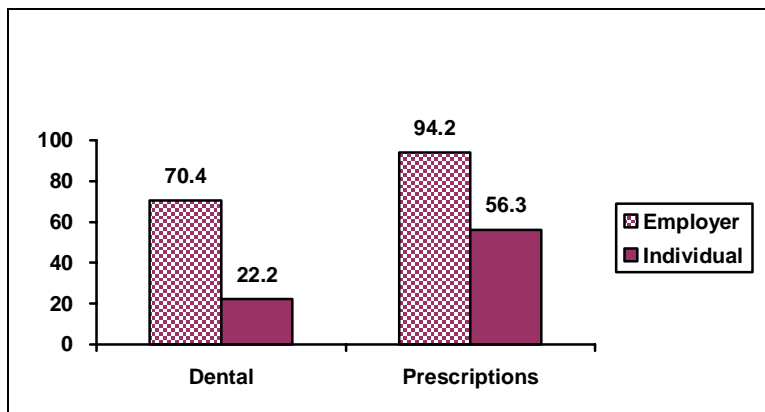


**Figure 25: Median Deductibles Paid by Maine Residents by Plan Type**



Maine residents with individually-purchased health insurance have higher premium and deductible costs and they also appear to have less comprehensive benefits than those with employer-based coverage. For example, only 22 percent of Maine residents with non-group coverage also have a dental benefit, compared to nearly three-fourths (70 percent) of those with employer-based health insurance (*Figure 26*). Fifty-six percent of the individually insured have coverage for prescription drugs, compared to nearly universal coverage (94 percent) among those with an employer based plan.

**Figure 26: Percent of Maine's Privately Insured with Dental and Prescription Drug Coverage by Plan Type**

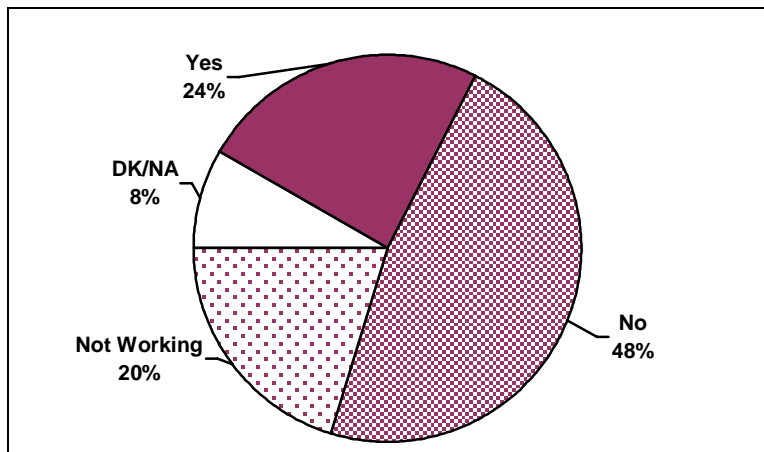


### *Access to and Attitudes about Health Insurance Coverage*

Interviewers asked those individuals who were uninsured at the time of the survey whether or not they worked for an employer who offered health insurance coverage to any of its workers or, in the case of children, whether or not their head of household did. Just under half of Maine's uninsured work for a business that does not offer health insurance coverage, including those who are self-employed and do not provide coverage to themselves or their workers. However, approximately one-fourth of the uninsured in Maine, about 34,000, work for employers who offer health insurance to at least some of their workers (*Figure 27*).

*About one-fourth of Maine's uninsured work for an employer who offers health insurance to at least some of its workers.*

**Figure 27: Employer Offers Health Insurance (Uninsured Non-elderly Maine Residents)**

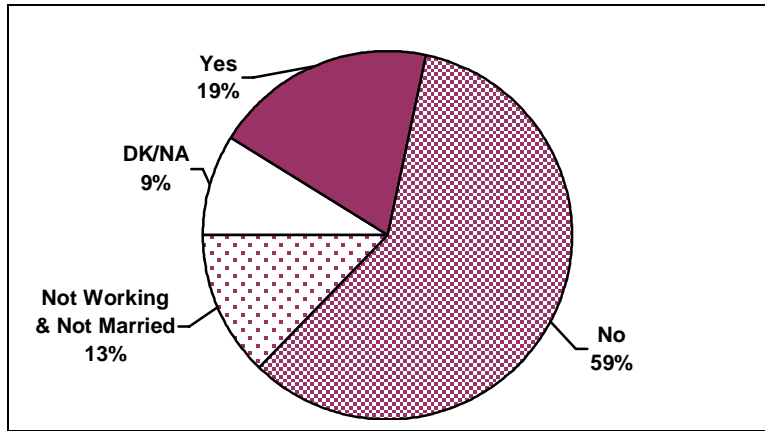


*NOTE: Includes children based on head of household's employer*

Even when an employer offers health insurance to some of its workers, individual employees may not be eligible for coverage because of the number of hours they work, the length of time with that employer, or another reason. Additionally, an employee may be eligible but choose not to enroll for a variety of reasons.

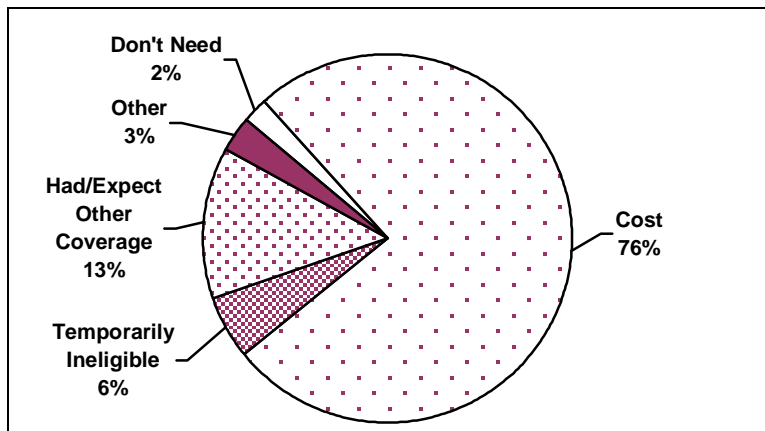
One-fifth of Maine's uninsured, approximately 27,000 individuals, are eligible for private coverage through their employer or a spouse or parent's employer (*Figure 28*).

**Figure 28: Eligible for Health Insurance through Spouse, Parent or Own Employer (Uninsured Non-elderly Maine Residents)**



The principal reason that a Maine resident who is eligible for employer-based coverage will remain uninsured is cost (*Figure 29*). Three-fourths of the uninsured eligible for health insurance through their own or family members' workplace who decline to enroll indicate that the expense of the coverage was the primary factor for the decision. Another 13 percent of respondents stated that they had held other health insurance, such as MaineCare, at the time they made the decision to decline employer-based coverage or they expected to get other health insurance coverage in the near future. About six percent had actually decided to enroll in the private plan available to them, but were temporarily uninsured as they waited to become eligible for this coverage (for example, because of enrollment waiting period or change in family structure such as marriage or divorce).

**Figure 29: Reason Not Enrolled in Employer-based Plan if Eligible (Uninsured Non-elderly Maine Residents)**



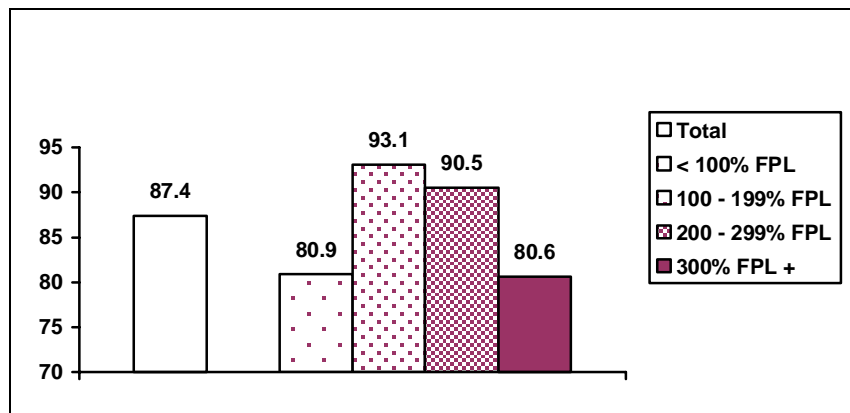
Small percentages those declining coverage (2 percent) believe they don't need coverage because they are rarely sick. Another three percent gave other reasons for not enrolling in available employer-based coverage and remaining uninsured, including concerns about the quality of the health plan and difficulties with the required paperwork.

*Three-fourths of Maine's uninsured that decline employer coverage do so because of cost.*

Eighty-seven percent of Maine's uninsured indicate that they would be willing to enroll in MaineCare or another public health insurance program if they were eligible (Figure 30). Acceptance of public health insurance differs somewhat by income, with those whose family income falls between 100 and 200 percent of the federal poverty (the "near poor") being the most willing to enroll. Ninety-three percent of the near poor state they would enroll themselves or their children in a public program, compared to 81 percent of those in poverty or those earning at or above three times the federal poverty level.

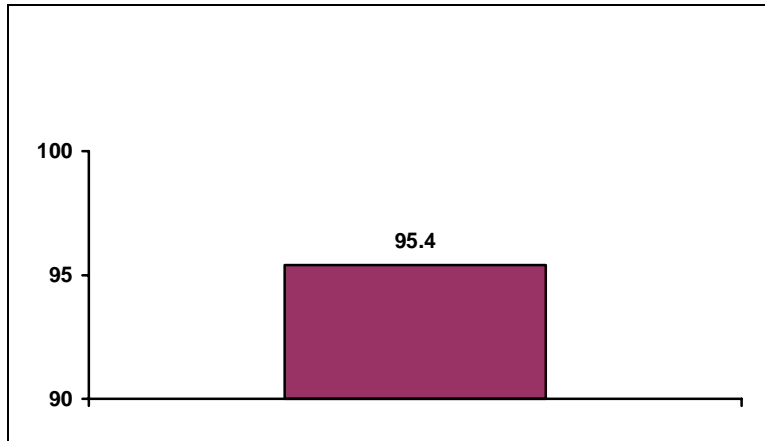
*Nearly 12,000 of Maine's uninsured children had family incomes within MaineCare eligibility guidelines.*

**Figure 30: Percent of Maine's Uninsured that Would Enroll in MaineCare or Other Public Program by Income (Ages 0-64)**



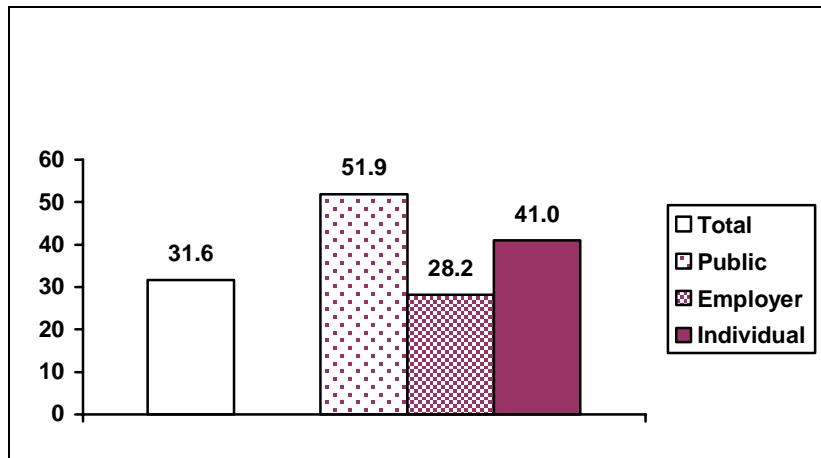
When only uninsured children are considered, the proportion of parents who would enroll their child in a public program is almost universal. Of Maine's uninsured children, 95 percent have a parent who would be willing to enroll them in MaineCare or other public program (Figure 31). Although the sample of children was not large enough to compare income groups, it is important to note that just over half of Maine's uninsured children (about 12,000 children) have incomes below 200 percent of poverty and consequently should be eligible for MaineCare through Medicaid or SCHIP.

**Figure 31: Percent of Maine's Uninsured Children Whose Parents Would Enroll Them in MaineCare or Other Public Program (Ages 0-17)**



Although the majority of Maine residents have some type of health insurance, many are concerned about whether or not they will be able to maintain their coverage (*Figure 32*). Nearly one-third (32 percent) of insured Maine adults report that they were somewhat or very concerned that about losing their health insurance in the next year. The proportion concerned about future coverage varies by insurance type; just over half (52 percent) of those with public coverage are concerned about losing their insurance compared to 41 percent with non-group insurance and 28 percent with employer-based coverage.

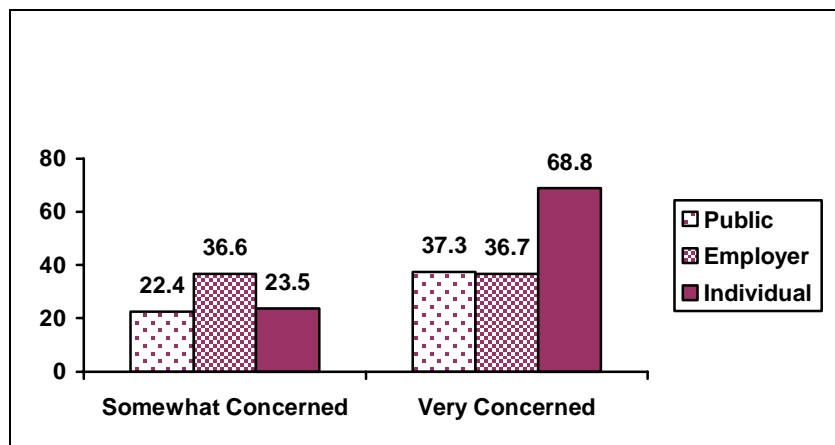
**Figure 32: Percent of Insured Maine Residents Who Are Concerned About Losing Coverage in the Next Year, by Coverage Type (Adults 18-64)**



The rising cost of health insurance coverage is of great concern to Maine residents (Figure 33). Three-fourths of non-elderly adults with insurance are worried about how much their coverage will cost in the next year. While 60 percent of Maine adults with public health insurance are concerned about how much they will have to pay in the next year, concern is particularly high for those with private health insurance, especially individual coverage. Ninety-one percent of those with individual health insurance are concerned about cost, and more than two-thirds are very much concerned.

*91% of non-elderly Maine adults who have individual insurance are concerned about next year's costs; 69% are very concerned.*

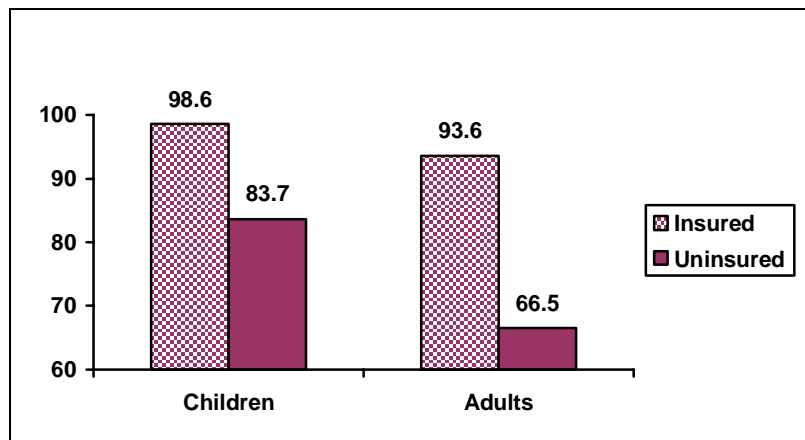
**Figure 33: Percent of Insured Maine Residents Who Are Concerned About What Their Insurance Will Cost in the Next Year, by Coverage Type (Adults 18-64)**



### Access to Health Care

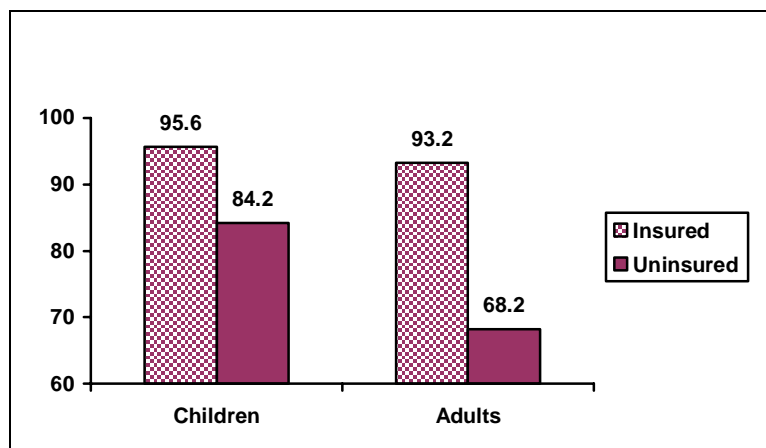
The overwhelming majority of non-elderly Maine residents (90 percent of adults and 97 percent of children) obtain their medical care from one regular provider, or usual source of care (USC). However, individuals are much less likely to have a regular provider if they are uninsured. For example, 84 percent of uninsured children in Maine have a usual source of care (USC) compared to 99 percent of those with health insurance coverage. Among adults, this difference is even more dramatic (67 versus 94 percent) (*Figure 34*).

**Figure 34: Percent of Maine Residents with a Usual Source of Health Care (USC) by Insurance Coverage**



Maine residents are generally confident that they can obtain health care services that they need for themselves or their children, although this differs by insurance coverage status (*Figure 35*). While 96 percent of Maine’s insured children have parents who are confident they can get them needed services, only 84 percent of uninsured children do. Among adults, 93 percent of those with insurance believe they can access services if they need them, compared to 68 percent of uninsured.

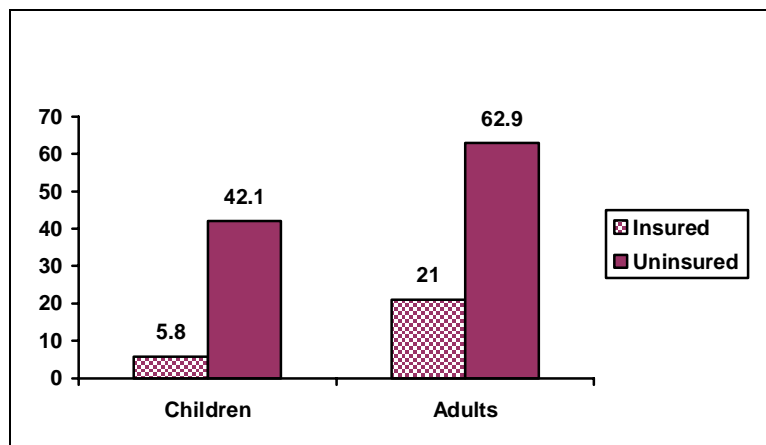
**Figure 35: Percent of Maine Residents Confident They Can Obtain Needed Health Care Services by Insurance Coverage**



Although most Maine residents believe they can get needed health services regardless of insurance status, about one-tenth of children (9 percent) and one-fourth of adults (27 percent) have had their health care delayed because of cost (*Figure 36*). As one would expect, whether or not an individual has coverage is linked to whether or not they delayed care in the year before the survey. Uninsured Maine children are seven times more likely to have a delay in obtaining health care than those with health insurance (42 percent versus 6 percent). Sixty-three percent of uninsured adults delayed seeking health care, compared to only 21 percent of those with health insurance.

*Uninsured Maine children are seven times more likely to have a delay in getting health care services because of cost.*

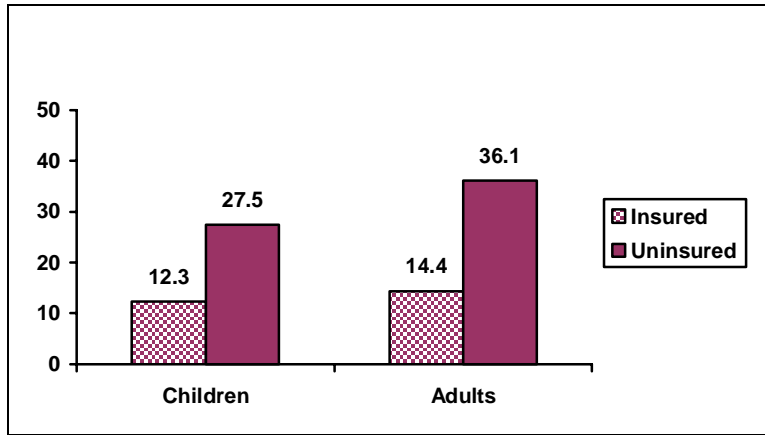
**Figure 36: Percent of Maine Residents Who Have Delayed Care Because of Cost by Insurance Coverage**



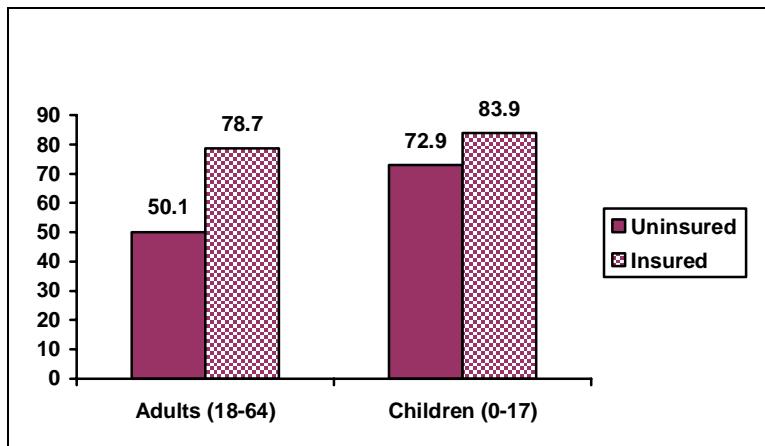
In the year prior to the survey, 18 percent of adults and 13 percent of children had health care services for which they or their family had trouble paying (*Figure 37*). More than a fourth of uninsured children (28 percent) got care that was difficult to pay for, compared to only 12 percent of children who had health insurance. Among adults, 36 percent of the uninsured and 14 percent of the insured had a problem paying for health care services. Although a greater risk for the uninsured, the fact that nearly one in seven insured individuals had trouble paying for care suggests that underinsurance may be a problem for a substantial minority of Maine residents.



**Figure 37: Percent of Maine Residents with Trouble Paying for Care by Insurance Coverage**

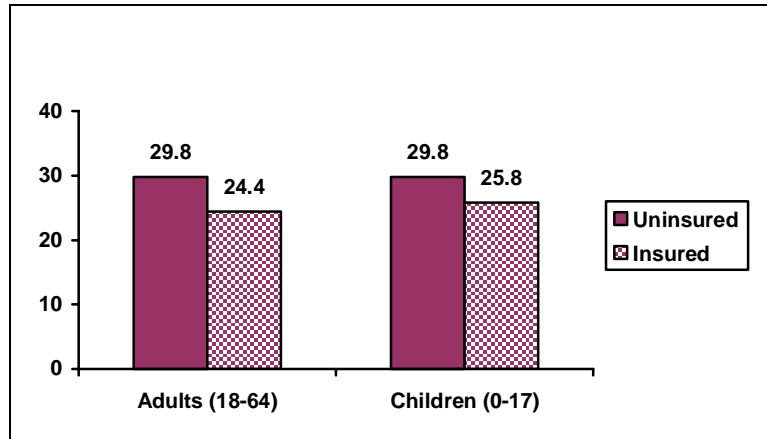


**Figure 38: Percent of Non-elderly Maine Residents with an Ambulatory Care Visit in Past Six Months by Insurance Status**



Being uninsured also appears to affect the chances that a Maine resident will receive health care services (Figure 38). For example, 79 percent of insured adults had obtained some type of ambulatory health care (excluding emergency room care) in the six months prior to the survey, compared to only half of uninsured adults. While children are generally more likely to have received ambulatory care services, those with health insurance coverage were about 15 percent more likely than those without to have received them in the previous six months.

**Figure 39: Percent of Non-elderly Maine Residents with an Emergency Room Visit in Past Year by Insurance Status**



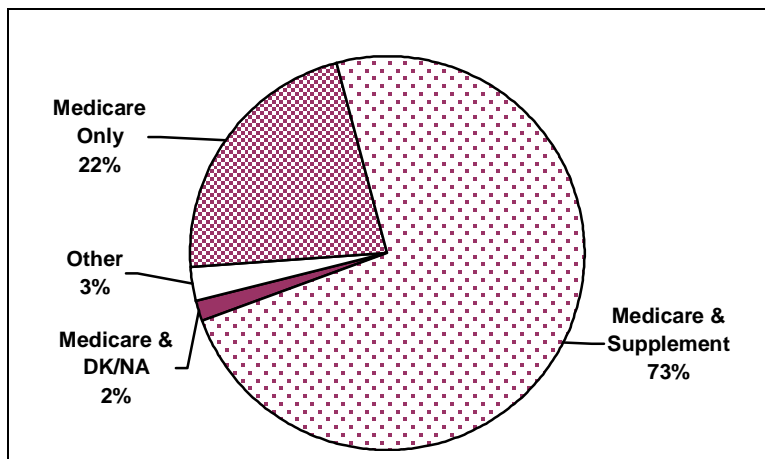
Although the uninsured are generally less likely to receive health care services, they are somewhat more likely to visit the emergency room than Maine residents with health insurance (*Figure 39*). Among both children and adults, 30 percent of those without health insurance had an emergency room visit in the year before the survey, compared to 24 percent and 26 percent of insured adults and children. This higher emergency room use may be related to the fact that uninsured adults and children are less likely to have a regular health care provider (USC) or to receive preventive care than those with health insurance coverage, and may be more likely to seek emergency services when they have an acute illness.

### Senior Citizens

According to the survey findings, all of Maine’s estimated 184,000 senior citizens have some type of health insurance, including near-universal Medicare coverage. Ninety-seven percent of Maine’s seniors have Medicare, while 3 percent obtain their primary health insurance coverage from another source. However, nearly one-fourth of Maine’s elderly residents (22 percent) lack any type of Medicare supplemental coverage and as a result may face high out-of-pocket costs for their health care (Figure 40). The median income of Medicare-covered families who lack supplemental coverage is \$17,000.

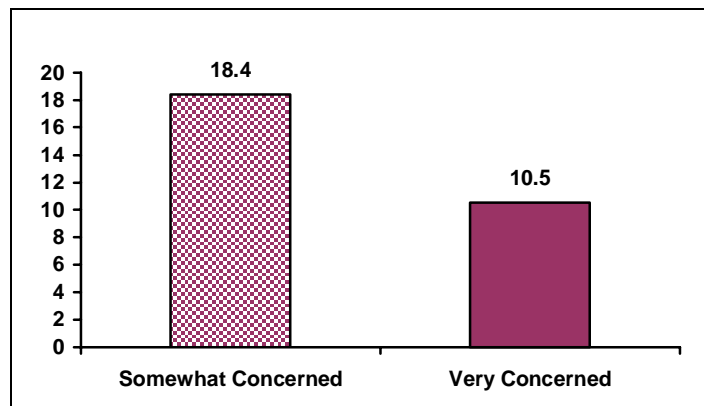
*29% of Maine seniors with private “Medigap” plans are concerned about losing their coverage in the next year.*

**Figure 40: Health Insurance Coverage of Maine’s Senior Citizens (Age 65+)**



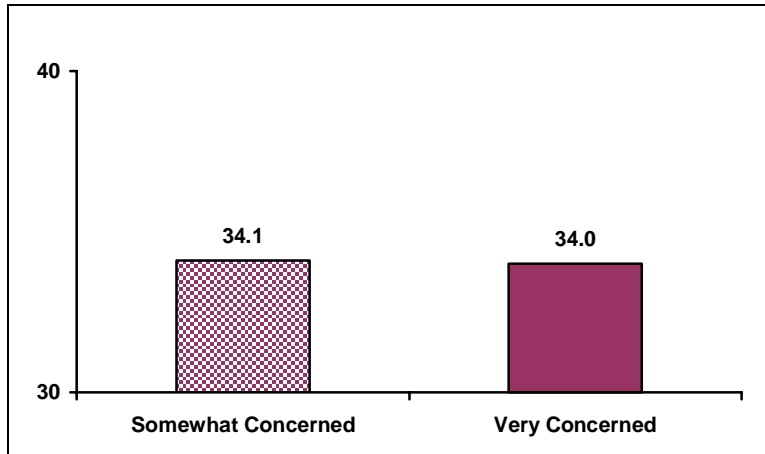
A significant minority of Maine’s elderly Medicare recipients who have private supplemental insurance (employer-based or individual “Medigap” plans) are concerned about losing their coverage (29 percent) (Figure 41). Eighteen percent are somewhat concerned about losing their supplemental coverage in the next year, while 11 percent report that they are very concerned about this.

**Figure 41: Percent of Maine Seniors Concerned About Loss of Medicare Supplemental Coverage (Age 65+)**



*\*Excludes those with supplemental coverage from MaineCare.*

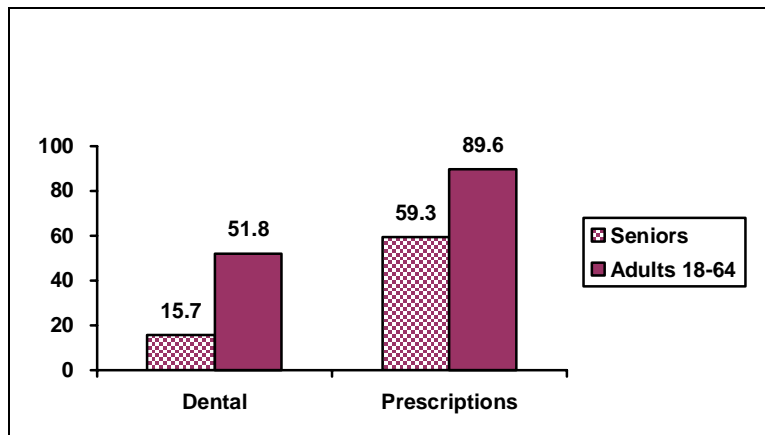
**Figure 42: Percent of Maine Seniors Concerned About Cost of Medicare Supplemental Coverage (Age 65+)**



*\*Excludes those with supplemental coverage from MaineCare.*

More than two-thirds of elderly Maine residents with private supplemental coverage are concerned about what they will have to pay for this coverage in the upcoming year (Figure 42). This group is equally split between those who are “very” and “somewhat” concerned about these costs (34 percent each).

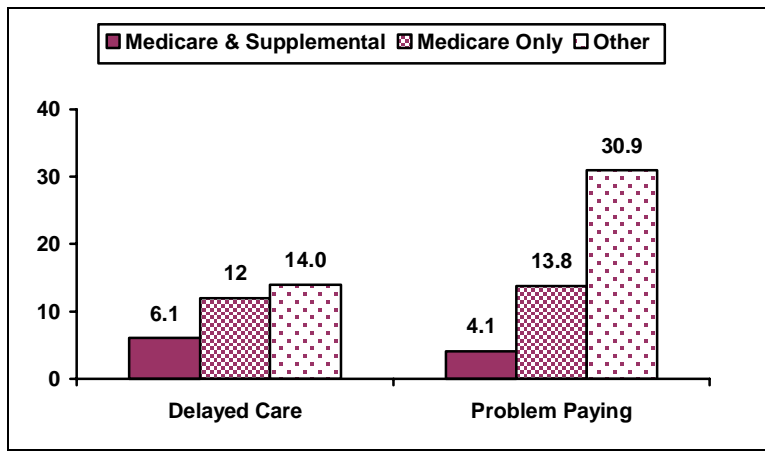
**Figure 43: Percent of Maine’s Seniors with Dental and Prescription Drug Coverage Compared to Younger Adults**



Although elderly Maine residents will likely have much greater needs for medical and dental care than younger adults, they are less likely to have coverage for dental care or prescription medications. Only 16 percent of Maine’s seniors have insurance coverage that pays for dental care, compared to over half of other Maine adults. Senior citizens are the age group most likely to take routine prescription medication (often for multiple conditions) however, only 60 percent have health insurance that pays for prescription drugs versus 90 percent of adults under age 65 (Figure 43).

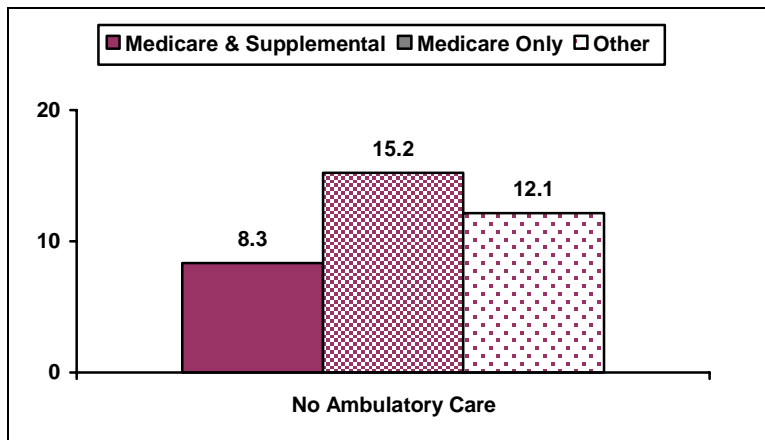
Most of Maine’s elderly residents report no difficulty with delaying health care or paying for the care they receive. However, Medicare beneficiaries without supplemental insurance are twice as likely to delay care because of cost as those who have another source of coverage (12 versus 6 percent) (Figure 44). In addition, those with only Medicare are more than three times as likely to have a problem affording their health care services than those with supplemental insurance (14 percent compared to 4 percent). Elderly Maine residents with their primary coverage from a plan other than Medicare report the greatest difficulties with care delays and service payment.

**Figure 44: Percent of Maine Seniors Who Have Delayed or Had a Problem Paying for Care by Insurance Coverage Type**



Elderly Medicare beneficiaries without supplemental coverage are also less likely to have obtained any ambulatory care services in the six months before the survey. Fifteen percent of Maine seniors with only Medicare coverage went without ambulatory care, compared to only 8 percent of those with an additional type of health insurance.

**Figure 45: Percent of Maine Seniors Without Any Ambulatory Care in Past Six Months by Insurance Coverage Type**





## IV. CONCLUSION

### *Major Gaps in Insurance Coverage Has Become an Intractable Problem Over the Past Two Decades*

One in eight non-elderly residents in Maine – 136,000 people – are without health insurance coverage on any given day. Seventeen percent – one in six – or 189,000 went without coverage at least part of the last year.

As in the rest of the country, the difficulty in maintaining health insurance coverage across the population has been an intractable problem over the past 20 years. In 1986, the last year Maine did a statewide, household survey to measure the extent of the problem, the uninsured rate among adults was 13 percent (children were not included in this survey).<sup>2</sup> Now, 23 percent of young adults (below age 30) and 14 percent of those between the ages of 30 and 44 are uninsured.

Children have fared somewhat better than adults, particularly over the past five years, because of the greater availability of public coverage options. In 1997, when the Maine Department of Human services sponsored a survey of health coverage among children in Maine, the uninsured rates ranged from a low of 9 percent for children under age 5, to a high of 13.4 percent for children between ages 18 and 23.<sup>3</sup> In 1998, Maine's SCHIP program – CubCare – expanded coverage for children in low and moderate income families. In 2002, the uninsured rate for children of all ages was 7.6 percent.

Coverage rates, according to national survey data, tend to rise slightly during times of high employment and drop more dramatically during economic recessions. With each cycle, the rebound in health benefits never quite makes it back to prior coverage levels. Thus, nationally, the population without insurance has risen from 36 million to 43 million over the past 10 years.<sup>4</sup> During this same period, the availability of and enrollment in public insurance programs – Medicaid, the State Children's Health Insurance Program, and some state-funded initiatives – has expanded substantially. The increase in public coverage has been more than offset by declines in employer-based private coverage, however.

### *Maine's Economy Poses Significant Challenges to Expanding and Sustaining Health Coverage*

Much of the decline in private health insurance coverage is related to the strain associated with rising health care costs. Costs have risen dramatically both nationally and in Maine in the past five years. Maine ranks 32<sup>nd</sup> among states in median income, but 11<sup>th</sup> in average per capita health care costs.<sup>5</sup> In Maine, as in other areas of the country, most of the uninsured (three-quarters) are in low and "near-poor" income categories. However, the financial strain imposed by the upward creep in health and insurance costs is reflected in the fact that, now, almost a quarter of the uninsured have incomes more than 3 times the federal poverty level (above \$55,200 for a family of four).

The high number of small business and seasonal jobs in Maine contributes to the difficulty of maintaining high levels of private coverage. Thirty-eight percent of employees of very small businesses (10 or fewer workers) in Maine were uninsured at least part of the last year, compared to about 10 percent of workers in

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<sup>2</sup> Coburn, Kilbreth, et al., 1986. *Health Insurance Coverage in Maine: The problem, Its Effects and Potential Solutions*. Human Services Development Institute, University of Southern Maine.

<sup>3</sup> Kilbreth and Agger. 1998. *Health Insurance Coverage Among Maine's Children: The Results of a Household Survey 1997*. Institute for Health Policy, Muskie School of Public Service, University of Southern Maine.

<sup>4</sup> Congressional Budget Office, 2003. *How Many People Lack Health Insurance and For How Long?*

<sup>5</sup> Kaiser Family Foundation State Health Facts On-line. <http://www.statehealthfacts.kff.org> (Accessed May 5, 2003).

large businesses (more than 50 workers). Because Maine has so many small businesses, this means that workers and their families in businesses of fewer than 50 make up more than half of uninsured Maine residents. Forty-two percent of Maine's uninsured are associated with firms with 10 or fewer employees. Fifteen percent of the uninsured are working in temporary or seasonal jobs, and 17 percent work part-time.

Even among businesses that have health benefit plans, cost constraints can create barriers to coverage. One fifth of Maine's uninsured – about 27,000 people, are eligible for coverage through their employer or a spouse's employer benefit plan. Three quarters of these eligible individuals indicate that they remain uninsured because they cannot afford the premium costs. Only 2 percent decline the offer of insurance coverage, believing they do not need coverage because they are rarely sick.

### ***Under-insurance is also a problem***

Even with insurance, health care costs can put individuals and families at risk of major financial hardship or cause them to delay seeking needed medical care.

Thirty-eight percent of the insured pay more than 5 percent of their household income on health insurance premiums (not including what they pay for deductibles, copayments, or non-covered services). Almost 5 percent of the insured population pays more than 20 percent of household income on insurance premiums.

Expense of coverage is particularly problematic for those who have to purchase their own coverage. The median annual premium cost reported for family coverage by those who buy non-group policies was \$4,287. Required out of pocket spending for this group, even with coverage, is very high. The median deductible for non-group coverage for a family was \$4,234. This means that half the *insured* families who had to purchase their own coverage in Maine in 2002, had to spend more than \$8,500 out of pocket before realizing any benefits from their health insurance policy.

National experts who have studied the question, define being under-insured as having a one percent chance or greater of incurring medical expenses that exceed 10 percent of family income.<sup>6</sup> The combination of deductibles above \$3,000 (found most prominently in non-group health insurance policies) and premiums that absorb more than 5 percent of a family's budget, puts a large number of insured Maine families in the under-insured category.

Another group vulnerable to financial hardship despite insurance coverage is the population with Medicare coverage and no supplemental coverage. Twenty-two percent of Maine's elderly residents lack supplemental coverage. Half of those without supplemental coverage have annual incomes below \$17,000. Because of the rising cost of supplemental policies, a third of those who currently have "Medigap" policies are concerned about losing coverage.

Forty percent of Maine seniors lack coverage for prescription drugs – a cost that can reach catastrophic proportions for individuals with certain chronic illnesses who are living on a fixed budget.

### ***The Consequences of Coverage Gaps***

Not having adequate health insurance has a definite impact on self-reported access to and use of health care services.

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<sup>6</sup> Farley, P., "Who Are the Underinsured," National Center for Health Services Research, 1984.



Although most Mainers are generally confident they can obtain health care services when they need them, the uninsured are far more likely to perceive barriers. While the absolute numbers are small, the uninsured are four times more likely than the insured to report that they are not confident they can get medical services when needed.

Forty-two percent of families with uninsured children reported delaying needed care for their children because of health care costs. This is a rate seven times that seen in insured families. Sixty-three percent of uninsured adults reported delaying needed care due to cost – a rate 3 times that of insured adults.

The fact that over 20 percent of *insured* adults – one in five – also report delaying needed care is an indication of the cost barriers that can remain even for those with coverage. These financial pressures probably are a reflection of high deductibles or uncovered services.

This reported hesitancy in seeking needed care is seen in the different rate of use of health care services by the insured and uninsured. For example, 79 percent of the insured adults interviewed had received ambulatory care in the six months prior to the survey, compared to 50 percent of the uninsured. Among children, the visit rate is higher for both insured and uninsured, but the uninsured children reported a use rate 15 percent lower than the insured children.

More than a fourth of the families with uninsured children report that they had difficulty paying for the health care services their children received. Among adults, 36 percent of the uninsured and 14 percent of the insured had problems paying for health care services.

### ***There is Public Support for Interventions to Expand Access***

According to survey respondents, Maine's residents are worried about current cost and coverage trends and open to public policy solutions. About a third of *insured* Maine adults report that they are concerned about the possibility of losing health coverage in the next year. Three-quarters of the non-elderly insured worry about price increases over the next year. Ninety-one percent of those who purchase non-group policies worry about next year's premium cost.

Survey respondents voiced a broad-based openness to expanded public solutions to the health coverage problems. Eighty-seven percent of Maine's uninsured say they would be willing to enroll in a publicly-sponsored health insurance program. Over ninety percent of those hardest hit by current coverage dynamics – the working poor between 100 percent of the federal poverty level and 300 percent of the federal poverty level – say they would enroll themselves or their children in a public program if it were available to them. Of Maine's children, 95 percent have parents who would be willing to enroll in MaineCare or another public program offering, regardless of income.

Surveys such as this offer a more complete picture of the nature of insurance coverage problems in Maine. The results can inform public and private decisionmaking by suggesting target populations and coverage strategies. The findings of this survey demonstrate the growing need and support for interventions designed to broaden access to health coverage for the currently uninsured and those vulnerable to losing coverage. They also highlight the need for strategies to stabilize and reduce health care costs. The parameters of the access problem are large, the impact of lack of insurance on health service use and health status is significant, and the concern of the public – insured and uninsured – with rising health care costs is clearly expressed.



# Appendix A

**Excerpted From:**

**Household Survey:  
Maine State Health  
Planning Grant**

*Documentation of Survey  
Methods*

*March 18, 2003*

*Deborah Bukoski  
Karen CyBulski  
John Hall*

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**MATHEMATICA**  
Policy Research, Inc.

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## **I. SAMPLE DESIGN**

The sample used for the survey was a probability sample of Maine residents (including both adults and children) living in households with telephone service. The initial sample was one of telephone numbers selected using list-assisted Random-digit-dialing (RDD) techniques from a commercially available frame provided by Genesys Sampling Systems (List-assisted RDD sampling is described in Lepkowski, 1988.) The sample frame was stratified geographically to assure adequate representation of urban and rural areas, but no oversampling was employed in selecting the numbers.

Sampled telephone numbers were processed prior to interviewing to eliminate a portion of nonworking and nonhousehold numbers and to obtain addresses for published household numbers so that advance letters could be mailed. Telephone numbers were then released to be called by interviewers. When households were identified they were screened to eliminate vacation and seasonal homes<sup>1</sup>. A household informant provided information about the age and health insurance coverage of all household members. A single target person was then randomly selected, and additional information was collected about the target person (either directly or by proxy).

### **A. TARGET POPULATION AND FRAME**

The target population included all non-institutionalized residents of the state of Maine, including children. The sampling frame employed was the Genesys Sampling System list-assisted RDD frame. To develop a sampling frame for a state or group of counties, Genesys first assigns each area-code/exchange combination to a unique county.<sup>2</sup> Assignment is based on the addresses of published telephone numbers; a published number is one that appears in a regular (“white pages”) telephone company directory. An exchange is assigned to the county by the plurality of such addresses. Even though this procedure can lead to occasional missassignment of numbers (assigning a household’s telephone number to the wrong county), the misclassification rate is usually less than 1 percent. Within each set of area-code/exchange

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<sup>1</sup> According to Census 2000 figures, approximately 20 percent of Maine’s occupied housing units were classified as being for seasonal recreational or occasional use.

<sup>2</sup> In the 10-digit telephone numbering system used in the U.S. (XXX-YYY-ZZZZ), the first three digits (XXX) are referred to as the area code and the next three (YYY) as the exchange.

combinations, Genesys defines “working banks” from which to sample telephone numbers. A working bank is defined as a set of 100 consecutive telephone numbers (XXX-YYY-ZZ00 to XXX-YYY-ZZ99) in which one or more numbers are published residential numbers. The Genesys system uses random selection within equal size zones to select equal-probability RDD samples within each stratum (Marketing Systems Group, 1994 and 2000).

Since the survey was conducted by telephone, persons in the target population who live in households with no telephone service were excluded. The 2000 Census estimates that 1.3 percent of Maine households do not have a telephone available. The 2001 Current Population Survey estimates that 1.2 percent of households do not have a telephone available and that 2.1 percent of households do not have a working telephone in the unit. While the latter definition is thought to correspond more closely to whether a household can be reached in an RDD survey, the exclusion in either case is relatively small.

## **B. STRATIFICATION, SAMPLE SIZE, AND ALLOCATION**

The survey aimed to complete 3,000 interviews, divided across the following five geographic strata:

1. Bangor metropolitan area (NECMA)—Penobscot County
2. Lewiston-Auburn metropolitan area (NECMA)—Androscoggin County
3. Portland metropolitan area (NECMA)—Cumberland County
4. Nonmetropolitan north—Franklin, Somerset, Piscataquis, Aroostook and Washington Counties
5. Nonmetropolitan south—Hancock, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Waldo, and York Counties.

Table 1 shows the estimated and actual distribution of completed interviews by strata.

TABLE 1

EXPECTED AND ACTUAL DISTRIBUTION OF SAMPLE BY STRATUM

Strata (Geographic Areas)	Estimated Households (x1000)	Percent of Households	Proportional Allocation	
			Expected Completes	Actual Completes
Bangor NECMA	62.8	10.24%	362	410
Lewiston-Auburn NECMA	43.0	7.01%	248	300
Portland NECMA	121.1	19.76%	699	707
Non-Metropolitan North	109.2	17.81%	631	619
Non-Metropolitan South	276.9	45.17%	1,596	1,500
<b>Total</b>	<b>613.0</b>	<b>100.00%</b>	<b>3,536</b>	<b>3,536</b>

**C. SAMPLE SELECTION AND PROCESSING**

Prior to the beginning of the survey MPR generated 15,000 telephone numbers—more than we estimated would be needed even under pessimistic assumptions. These numbers were sorted into 30 random replicates. Where possible, MPR obtained addresses associated with each number, by appending addresses to published telephone numbers that have addresses in the directory, and mailed out an advance letter. Genesys ID plus was used to identify nonworking and nonhousehold telephone numbers. The Genesys-ID Plus process checks the sample against lists of published numbers. Published business numbers are eliminated and published household numbers retained. Genesys then dials the remaining (not published) numbers to determine whether they are nonworking. Genesys uses an automated dialer to first check for the tone that precedes a recorded message stating that the number dialed is not in service (termed an intercept message). If no tone is detected, the Genesys-ID Plus procedures allow up to two rings; if someone answers the call, a Genesys employee conducts a brief screen to determine if the number is a household. Calls are made only between the hours of 9:00 a.m. and 5:00 p.m. local time. Of the 15,000 numbers processed by ID plus 6,244 were eliminated as nonhousehold or nonworking and 8,756 returned for possible calling.

The initial sample release comprised 5,848 numbers (the first 20 replicates). Although MPR initially planned only two releases of sample using 80 percent of the total sample (returned from Genesys ID plus), an unusually high cooperation rate coupled with revised estimates of the

household hit rate indicated more sample should be released. A total of 8,756 telephone numbers were released during the course of the data collection period.

#### **D. SCREENING AND SELECTION WITHIN HOUSEHOLDS**

The sample design targeted households that are (1) located in Maine and (2) permanent residences, i.e., not seasonal or vacation homes. For the purposes of this study, the term “household” excludes institutions such as nursing homes, hospitals, and the like. We used a two-stage screening process. Screening was designed, first, to identify a residential household. Once we determined that we had reached a household, we asked whether the household was a “vacation, seasonal home, or only occasionally occupied by your household?” If the respondent answered, “yes” to this question, the household was considered ineligible for the survey. Once study eligibility was established, we relied on a household informant to roster the household (by age and gender) and to provide basic demographic and health insurance information about each member. The CATI program then randomly selected a “target” individual by age and gender. At this point interviewers asked to speak directly with the “target” or, in the event that the “target” was under age 18, interviewers asked to speak with someone knowledgeable about “target’s” health care and insurance. In either event, interviewers were instructed to speak with the “best designated respondent” in the household. In this respect, a proxy was allowed to answer questions on behalf of an adult “target.”

#### **II. INSTRUMENTATION**

The survey instrument was adapted from one developed by the State Health Access Data Assistance Center (SHADAC) at the University of Minnesota. In collaboration with staff from the University of Southern Maine, a number of Maine-specific questions were added to the instrument and question wording was altered, where necessary, to accurately reference state-specific programs or policies. The survey included two parts—a detailed screener for collecting information on all members of the household and an additional section asking more detailed questions about health status, demographic characteristics, current health insurance, access to and utilization of health care services, and attitudinal measures about health care and health insurance.

The CATI instrument was designed to enumerate households, and obtain household and person-level interview data. The adult most knowledgeable about the household’s health care was asked to complete the interview for all household members. All interviews were conducted

in English; only 16 interviews were not completed because of a language barrier or other obstacle to communication.

Advance letters were sent to selected households with published addresses approximately 10 days before initial contact was made. The letter was signed by Dora Anne Mills, M.D., M.P.H., and Director of the Maine Bureau of Health. The letter, addressed simply to “Maine Resident” described the purpose and sponsorship of the study, confidentiality, data collection procedures, and provided a toll-free number for respondents to call with questions or concerns. This letter was mailed to 57 percent of the sample and also was provided upon request to respondents who wanted more information about the study. Initial cooperation rates were 2.5 times higher for households that received an advance letter. See Figure 1 for a copy of the advance letter used with this survey.

### **III. RESPONSE RATES**

From our Princeton, New Jersey and our Columbia, Maryland telephone facilities, we completed a total of 3,536 RDD household interviews with an overall response rate of 60.57 percent. The average interview time was 9.7 minutes. A total of 15,000 telephone numbers were generated and processed by Genesys ID plus. 6,244 were determined by ID plus to be nonworking or nonhousehold numbers; the remaining 8,756 were called over the course of the survey. 5,629 households were identified of which 3,746 were screened, and 3,631 were found to be eligible. An interview was completed in 3,536 of the eligible households.

The overall response rate is 60.57 percent. The response rate is calculated (conforming to AAPOR and CASRO standards) as the product of three component rates:

- The resolvability rate (proportion of the sample where it was determined whether a telephone number was a household number or not)
- The screening completion rate (proportion of identified households that answered the screening questions)
- The interview rate (proportion of those screened eligible households where an interview was completed).

Table 2 shows the response rate and its components overall and by stratum.



## Figure 1: Advance Letter

Dear Maine Resident:

As you may know, Maine is one of several states taking the lead in finding ways to make health care more affordable and easier to obtain. Maine recently received a federal grant to help our efforts to improve access to affordable health care. Part of this grant includes a random telephone survey of Maine residents. I wanted to let you know that your household has been selected to be part of this very important survey. Your responses will be used to determine how many Maine people are covered by insurance and how many are getting the health care they need.

We have hired Mathematica, an independent research company, to conduct the survey. An interviewer from Mathematica will be calling you soon to complete the survey. The interviewer will ask you questions over the telephone about yourself, other people living in your household, health insurance coverage, and your use of health care. If you are not at home, the interviewer will leave a message and a toll free number for you to call to complete the survey. The survey can be done at your convenience and should take about 15 minutes of your time. The interviewer will answer any questions you may have about the survey. *The interviewer will not try to sell you anything or ask for a donation.*

Your participation is voluntary. Of course, all of the information you provide will be kept strictly confidential. Your name will not be associated with your answers, and your answers will be combined with thousands of others. Only overall findings will be presented.

If you have any questions about the study, will not be home to receive Mathematica's call, or would like to schedule an interview, please call Mickey Edwards, toll free, at 1-800-385-8262.

I sincerely hope that you will take part in this important survey if contacted. Thank you in advance for participating in this important survey to help Mainers afford health care.

Sincerely,



Dora Anne Mills, M.D., M.P.H.  
Director, Maine Bureau of Health

TABLE 2

RESPONSE RATES AND COMPONENTS BY STRATUM  
(See Chapter II.B for Definition of Strata)

RESOLVED		1		2		3		4		5		Total	
STRATUM	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	Pct.
NO	81	4.98%	69	6.72%	220	7.66%	161	4.76%	450	7.39%	981	6.54%	
YES*	1547	95.02%	958	93.28%	2652	92.34%	3222	95.24%	5640	92.61%	14019	93.46%	
TOTAL*	1628	100.00%	1027	100.00%	2872	100.00%	3383	100.00%	6090	100.00%	15000	100.00%	
<b>COMPLETED SCREENER</b>													
STRATUM	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	Total
NO	188	30.47%	136	29.96%	425	36.29%	274	29.62%	860	34.93%	1883	33.45%	
YES	429	69.53%	318	70.04%	746	63.71%	651	70.38%	1602	65.07%	3746	66.55%	
TOTAL**	617	100.00%	454	100.00%	1171	100.00%	925	100.00%	2462	100.00%	5629	100.00%	
<b>COMPLETED INTERVIEW</b>													
STRATUM	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	Total
NO	11	2.61%	13	4.15%	15	2.08%	14	2.21%	42	2.72%	95	2.62%	
YES	410	97.39%	300	95.85%	707	97.92%	619	97.79%	1500	97.28%	3536	97.38%	
TOTAL***	421	100.00%	313	100.00%	722	100.00%	633	100.00%	1542	100.00%	3631	100.00%	
<b>RESPONSE RATES****</b>													
		64.34%		62.62%		57.60%		65.55%		58.62%			60.57%
<b>HOUSEHOLDS</b>													
STRATUM	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	Total
NO	930	60.12%	504	52.61%	1481	55.84%	2297	71.29%	3178	56.35%	8390	59.85%	
YES	617	39.88%	454	47.39%	1171	44.16%	925	28.71%	2462	43.65%	5629	40.15%	
TOTAL	1547	100.00%	958	100.00%	2652	100.00%	3222	100.00%	5640	100.00%	14019	100.00%	
<b>ELIGIBLE</b>													
STRATUM	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	number	Pct.	Total
NO	8	1.86%	5	1.57%	24	3.22%	18	2.76%	60	3.75%	115	3.07%	
YES	421	98.14%	313	98.43%	722	96.78%	633	97.24%	1542	96.25%	3631	96.93%	
TOTAL	429	100.00%	318	100.00%	746	100.00%	651	100.00%	1602	100.00%	3746	100.00%	

\* Total includes all numbers selected. Yes category includes those determined by Genesys ID plus to be nonworking or nonhousehold numbers.

\*\* Total includes those that were determined to be household numbers.

\*\*\* Total includes those who completed the screener and were found to be eligible.

\*\*\*\* The Response Rate is the product of the Percent Determined, Percent Completed Screener and Percent Completed Interview.

## **IV: WEIGHTING**

This section presents the procedures used to weight the survey data and discusses issues regarding making estimates with the weighted data. The weights for the survey data help assure that the sample distribution reflects that of the study population. Unweighted data from sample surveys can differ in their characteristics from the study population because, different probabilities of selection within households, differential non-response among subgroups of the population and omission of some segments of the population (e.g., those without telephone service) from the sampling frame. Because of these differences, the use of unweighted data can result in biased sample estimates. Sample weights reduce, if not eliminate the potential for bias.

### **A. WEIGHTS**

Weights for this survey were produced in three stages, each of which included one or more steps: (1) adjustments for disproportionality resulting from design and data collection operations—differences in probability of selection, non-response and telephone service; (2) post-stratification to Census 2000 population totals; and (3) trimming to reduce the impact of extremely large weights.

The first stage produced an initial weight that is the product of five factors: (1) the inverse of the telephone number's probability of selection, (2) the inverse of the household level response rate (computed within the sampling strata), (3) the inverse of a the target person's within-household probability of selection, (4) an adjustment for multiple telephone lines in households, and (5) an adjustment for interruptions in telephone service. The factors were computed in this order because the first two are calculated using the entire sample, while the last three require interview data and so are computed only for completed cases. They can be grouped differently however, by the purpose they serve. The first, third and fourth factors restore proportionality to the sample introduced by differential sampling rates—persons with higher probabilities of selection are over represented in the sample compared to those with lower probabilities of selection. A person living alone would have a greater chance of being sampled than would a person in a household with three others. The fourth factor recognizes that households with multiple telephone lines for residential use have a greater chance of being selected for a RDD survey.

The response rate factor adjusts for disproportionality that can be introduced if different groups in the population respond at different rates. It was computed separately by sample strata, which were defined based on region and urbanicity.

The fifth factor, an adjustment for interruption in telephone service, attempts to address a sampling frame coverage issue: telephone surveys exclude households that have no telephone service during the field period and underrepresent those that have service only part of the time. Households that reported a significant interruption in telephone service during the last 12 months had their weights increased in proportion to the length of interruption.

The second stage in weighting employed post-stratification adjustments to statewide 2000 Census totals. Such adjustments are used because the steps described above do not always correct for all sources of disproportionate representation of groups in the sample. For example, women may still be over-or-underrepresented, as may certain groups defined by age or ethnicity. Post-stratification adjustment cells were defined based on nine age categories, sex and whether White, non-Hispanic. Where cells were small (generally fewer than 25 respondents), they were collapsed so that 24 cells were employed—18 for the White, non-Hispanic group and 6 for others. Table 3 shows the post –stratification cells employed.

TABLE 3

CELLS USED IN POST STRATIFICATION ADJUSTMENT

- 1 White, not Hispanic, Male age 0-9
- 2 White, not Hispanic, Male age 10-17
- 3 White, not Hispanic, Male age 18-24
- 4 White, not Hispanic, Male age 25-34
- 5 White, not Hispanic, Male age 35-44
- 6 White, not Hispanic, Male age 45-54
- 7 White, not Hispanic, Male age 55-64
- 8 White, not Hispanic, Male age 65-74
- 9 White, not Hispanic, Male age 75+
- 10 Others, Male age 0-24
- 11 Others, Male age 25-54
- 12 Others, Male age 55+
- 13 White, not Hispanic, Female age 0-9
- 14 White, not Hispanic, Female age 10-17
- 15 White, not Hispanic, Female age 18-24
- 16 White, not Hispanic, Female age 25-34
- 17 White, not Hispanic, Female age 35-44
- 18 White, not Hispanic, Female age 45-54
- 19 White, not Hispanic, Female age 55-64
- 20 White, not Hispanic, Female age 65-74
- 21 White, not Hispanic, Female age 75+
- 22 Others, Female age 0-24
- 23 Others, Female age 25-54
- 24 Others, Female age 55+

After post-stratification, we examined the distribution of the weights, because extremely large weights can increase sampling error and can also give a few cases undue influence on the sample estimates. The values of two weights were trimmed (set to an arbitrary lower value) and the values of the non-trimmed weights were increased so that the weighted total was unaffected. The trimming used in this survey did not appear to have an appreciable impact on sampling error (based on an examination of the variance of the weights), but the trimmed cases could have had an undue influence on sample estimates, with the potential being greater for estimates regarding subgroups.

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# **Appendix B**

## **Logistic Regression for the Likelihood of Being Uninsured at Any Time in the Prior Year**





**APPENDIX B: LOGISTIC REGRESSION FOR THE LIKELIHOOD OF BEING UNINSURED AT ANY TIME IN THE PRIOR YEAR**

	Logit Model			
	Beta Coefficient	SE Beta	Odds Ratio	p- value
Intercept	-4.353	2.67	--	< .0001
Age				
45 – 64 <sup>a</sup>	--	--	1.00	--
30 – 44	0.616	0.19	1.85	.001
18 – 29	1.295	0.24	3.65	< .0001
0 – 17	-0.144	0.24	0.87	.546
Family Income				
300% of FPL or More <sup>a</sup>	--	--	1.00	--
200 – 299% FPL	0.951	0.19	2.59	< .0001
100 – 199% FPL	1.675	0.20	5.34	< .0001
Below 100% FPL	1.325	0.27	3.76	< .0001
Education				
Some College or More <sup>a</sup>	--	--	1.00	--
High School	0.633	.21	1.88	.0022
Less than High School	0.719	.19	2.05	.0002
Marital Status				
Married <sup>a</sup>	--	--	1.00	--
Single	0.807	0.20	2.24	< .0001
Living with a Partner	0.722	0.27	2.06	.0076
Divorced, Widowed	0.739	0.21	2.09	.0005
Health Status				
Excellent <sup>a</sup>	--	--	1.00	--
Very Good/Good	0.086	0.18	1.09	.6247
Fair/Poor	0.056	0.25	2.36	.0007
Employer Size				
50 Employees or More <sup>a</sup>	--	--	1.00	--
11 – 49 Employees	0.166	0.22	1.18	.4593
1 – 10 Employees	1.733	0.17	5.66	< .0001

<sup>a</sup>Referent







EDMUND S. MUSKIE SCHOOL OF PUBLIC SERVICE educates leaders, informs public policy, and broadens civic participation. The School links scholarship with practice to improve the lives of people of all ages, in every county of Maine, and in every state in the nation.

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