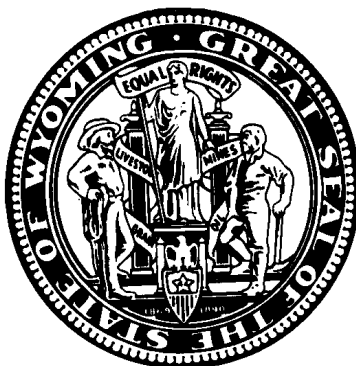


State of Wyoming



Department of Health

Health Care Access in Wyoming Results from the 2003 Wyoming Behavioral Risk Factor Surveillance System

Brent D. Sherard, M.D., M.P.H., Interim Director

March 2005

State of Wyoming Department of Health

Health Care Access in Wyoming

Results from the 2003 Wyoming Behavioral Risk Factor Surveillance System

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For more information about the Behavioral Risk Factor Surveillance System (BRFSS),
visit the CDC website at www.cdc.gov/brfss.

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Executive Summary

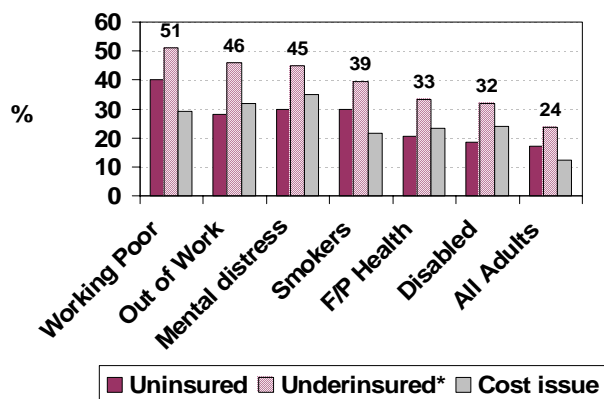
The 2003 Wyoming Behavioral Risk Factor Surveillance System (BRFSS) questionnaire included three measures related to access to health care: health insurance coverage, having one or more personal doctors, and if there was a time in the past year when they needed to see a doctor but couldn't because of the cost. An additional measure was created for "underinsurance", defined as persons without health insurance, or having insurance but doing without needed care in the past year because of the cost. This report discusses these four measures of health care access, population subgroups with specific health care access issues, and the effect of health care access on utilization of preventive health services.

A total of 4,004 randomly selected non-institutionalized adults 18 years and older were surveyed by telephone in the Wyoming BRFSS during 2003. Results were adjusted for different probabilities of selection and further adjusted to represent the adult population in Wyoming by age and gender. In addition to standard demographic groups, analysis included adults with ongoing health problems, those at risk of chronic disease, veterans, and a new category of "working poor" which was defined as those who were employed for wages and reported household incomes less than \$25,000. This latter group included 10.1% of all Wyoming adults.

Overall, 17.1% of respondents, or an estimated 65,000 Wyoming adults, were uninsured, 23.9% did not have a regular physician, one eighth (12.5%) reported that cost prevented them from seeing a doctor for needed health care in the past year, and 23.6% were underinsured. Over one third (38.0%) of all Wyoming adults reported at least one of the three separate health access issues.

Groups that appeared to have poor access to health care included the working poor, the out of work, smokers, persons reporting 14 or more days of poor mental health (frequent mental distress), those in fair or poor health, and the disabled. (See Figure below).

Health Access by Group 2003 WY BRFSS



*Uninsured or insured and unable to see doctor in past year due to cost

Other highlights of the findings:

- All four measures were significantly higher (worse) for adults aged 18-64 years when compared with adults age 65 and older.
- The working poor were even more likely than those who were out of work to report being uninsured. Ten percent of the working poor reported all three barriers to health care: no insurance, no personal physician, and they were unable to see a doctor in the past year because of the cost.
- Poorer access to health care was reported by non-whites, those with lower incomes or less education, unmarried persons, and younger persons.
- Adults in the Northern and Central Regions were less likely to be insured and more likely to be underinsured than those in the Southern Regions.
- The chosen health care access measures were highly associated with each other. For example, the uninsured were less likely to have a personal doctor and more likely to report that cost prevented them from seeing a doctor for needed care.
- Access to health care, as defined by these measures, had significant effects on the utilization of preventive health services such as colorectal cancer screening, mammography, Pap tests, and cholesterol screening. Lowest utilization rates were consistently found among the uninsured or adults without a personal doctor.
- Wyoming rates for lack of health insurance have been steady for the past several years but are generally worse than the US in general, especially for employed adults younger than age 65.

Key findings are summarized in the table below.

Summary of Results
Wyoming BRFSS 2003

	All Adults	Ages 18-64	Ages 65+	Working Poor
	Percent (CI*)	Percent (CI*)	Percent (CI*)	Percent (CI*)
Uninsured	17.1 (15.7-18.6)	19.9 (18.3-21.6)	2.6 (1.6-4.2)	40 (34.2-46.1)
No MD	23.9 (22.4-25.5)	26.8 (25.0-28.7)	9.6 (7.6-12.0)	38 (32.2-44.3)
Cost issue	12.5 (11.3-13.7)	14.2 (12.9-15.7)	3.4 (2.2-5.3)	29 (24.2-35.3)
Any of above	38.0 (36.3-39.7)	42.6 (40.6-44.6)	14.6 (12.1-17.6)	66 (60.1-71.3)
Underinsured	23.6 (22.1-25.2)	27.0 (25.2-28.9)	5.9 (4.3-8.2)	51 (44.9-57.0)
*CI: Confidence interval: 95% confidence interval, which defines the range of values within which the true population prevalence rate would be expected to fall in 95 out of 100 samples taken from the population. Results for working poor rounded to whole number because n <500.				

These results indicate that access to health care is a significant problem for many Wyoming adults, especially the working poor, and is highly associated with utilization of health care services. Other groups of special concern because of poor health access or the likely need for ongoing health care services include adults in fair or poor health, those with frequent mental distress, and the disabled. In the absence of universal health insurance, recognition of these issues and identifying those at highest risk is a first step toward improvement.

I. Introduction

Health care access is at least partially dependent on such issues as health insurance, having a personal doctor and a usual source of care. The Behavioral Model¹ suggests that people tend to use health care services as a function of 1) predisposing factors such as demographic characteristics and health beliefs, 2) enabling factors, such as health insurance, and 3) perceived need for services. In cases where there are few options available, such as hospitalization, perceived need for the service is usually the best predictor of the use of services. For services that are not seen as absolutely necessary, such as preventive health services, predisposing and enabling factors may become more important.² The model thus implies that improved access to health care will result in greater utilization of health care services, especially preventive services such as cancer screenings.

In November 2000, the U.S. Department of Health and Human Services released *Healthy People 2010*³ (HP2010), the latest in a series of nationwide initiatives to promote healthy communities and healthy people. *HP 2010* identified over 450 objectives in 28 focus areas to measure improvement in health behaviors, health status, and health care. The very first focus area addressed in the document is Access to Quality Health Services, recognizing the importance of health care access in the achievement of the overall HP2010 goals of increasing quality and years of healthy life and eliminating health disparities. Several objectives are addressed in this focus area, some of which relate directly to public health issues. Objective 1.1 is to increase the proportion of persons with health insurance. This is a key measure of health access because access to health services, as noted above, is very dependent upon insurance.

A second potential barrier to receipt of health care services is addressed by Objective 1.5: Increase the proportion of persons with a primary care provider. A regular health care provider can recommend and monitor receipt of age and gender appropriate clinical preventive services, and provide continuity of care. Certain vulnerable populations such as the disabled, chronically ill, and those with mental health issues may benefit from having health care providers that can address their special health needs.

Healthy People 2010 acknowledges that having health insurance is no guarantee that health care will be accessible or affordable. Co-pays, deductibles, and lack of coverage for certain specific services may create barriers to health care access for persons that have health insurance. Insurance that covers major medical and hospital expenses may not cover preventive health services, smoking cessation, or counseling about risk factors, for example. These issues are addressed in Objective 1.6: Reduce the proportion of families that experience difficulties or delays in obtaining health care or do not receive needed care for one or more family members. While there are other Objectives and additional issues involved in health access, these three Objectives address those issues that have the clearest relation to public health among the general population.

The Behavioral Risk Factor Surveillance System (BRFSS) collects data from randomly selected non-institutionalized adults age 18 and older, through monthly telephone surveys. All 50 states currently conduct the survey, with the collaboration and support of the federal Centers for Disease Control and Prevention (CDC). Data on several measures of access to care are routinely collected, including health insurance status, having a personal doctor, a usual source of care, and whether or not there was a time in the past year when the respondent needed to see a doctor but couldn't because of the cost. Many of these issues are quite complex, and may be very different for persons age 65 and older, most of whom are on Medicare. Even persons with Medicare coverage may have health access issues because of deductibles and the need for co-payments.

This report will discuss some of the factors related to health care access for Wyoming adults. It begins with a section on various measures of health care access that were included in the BRFSS survey in all states in 2003. In addition, the report includes results for questions about the use of preventive health services, which are likely to be affected by health care access issues. There is also a section for special populations that may have unique issues in regard to health care access, including adults with disabilities, those with certain chronic diseases, those at risk of developing chronic disease, the out of work, and veterans. A new demographic group termed "working poor" is also included in this report, defined as those who are employed (not self-employed) and report household incomes less than \$25,000.

II. Methods

In 2003, Wyoming conducted 4,004 Behavioral Risk Factor Surveillance System (BRFSS) telephone surveys, using the established BRFSS protocol. Following data collection, the results were adjusted by the CDC to account for different probabilities of selection, and further adjusted to be representative of the total adult population of Wyoming by age and gender. Demographic tables for all ages, ages 18-64, and ages 65 and older are included in Supplemental Tables S1-S2, on pages 32 and 33.

Prevalence estimates and 95% confidence intervals (CI) were determined with Stata version 8, which takes into account the complex sample design of the BRFSS. The *95% confidence interval*, or margin of error, defines the range of values within which the true population prevalence rate would be expected to fall in 95 out of 100 samples taken from the population. Respondents with missing values were excluded from analysis of that variable, unless otherwise noted. With the exception of overweight and income measures, this usually had little effect on the results. Confidence intervals are presented in the Supplemental Tables S-3 through S-17 on pages 34-48 of the report. Comparisons such as “more likely” or “higher than” in the text indicate these results were statistically significant based on Chi square tests of association, as noted in the Supplemental Tables with P values <0.05.

All estimates obtained from survey data are subject to errors from several sources. Measurement error may occur from survey inconsistencies, such as different interviewers reading a question in a slightly different manner. Data entry errors are also possible, although methods are in place to minimize such errors. Non-response error is introduced when respondents refuse to answer, and recall error occurs when their memory of past events is inaccurate. There is also potential error involved in self-reporting information that the respondent may recognize as socially undesirable, such as smoking. Studies have shown that errors in self-reporting height and weight do exist on surveys such as the BRFSS, with women tending to under-report their weight, and men to overestimate their height.⁴ While these types of errors cannot easily be measured for a particular survey, the sampling error, which results because only a fraction of the target population answers the questions, can be estimated. The confidence interval, described above, estimates sampling error and provides an indication of the precision of the survey results.

Another limitation is that these data are from a phone survey, and thus the homeless, persons in households without phones (or with only cell phones), and certain disabled persons are not represented. In Wyoming, the rate of phone coverage is about 96% and generally is not a problem overall. Phone coverage may be an issue for deriving accurate estimates among lower income persons, certain demographic groups, or when the item of interest is likely to be much higher among those with no phones (such as lack of health insurance). College students living in dormitories, incarcerated persons, and adults in nursing homes are also not included in the sample. Declining response rates for telephone surveys are another concern. BRFSS response rates in general have declined from about 70% ten years ago to about 50% or less in recent years.

III. Results

A. Issues and Measures Affecting Access to Health Care

1. Health Insurance

Measure: Respondents were asked “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?”

Persons who said no were considered to be uninsured. See Pages 39, 41, and 43, Tables S-8, S-10, and S-12 for results.

Findings:

- Because of the impact of Medicare, there were major differences between respondents younger than 65 and those 65 and older (Figure 1). For that reason, most results in this section will be considered separately for these two age groups, which also differed in their demographics as shown in Table S-2 on page 33.
- One in every five adults (19.9%) ages 18-64 were uninsured, while only 2.6% of those 65 and older lacked insurance (17.1% for all adults).
- In addition to age, health insurance status was associated with household income (Figure 2), educational attainment, employment, race/ethnicity, and region of the state.
- Highest rates of being uninsured were among 18-64 year olds without a high school diploma (46%), 18-64 year olds with less than \$25,000 household income (36.5%), 18-64 year old Hispanics (31%) and those of “other” race/ethnicities (31%), 18-64 year olds who were out of work (31%), unmarried 18-64 year olds (31.9%), and all 18-24 year olds (30%; Figure 1).
- Rates were similar for men and women and among counties with different population densities.
- Adults of all ages and those 18-64 living in the Northern and Central Regions were more likely to be uninsured than those in the Southern Regions. See page 32 for regional definitions.
- All rates of uninsurance for adults 65 and older (n=804) were 6.5% or less, and only household income and education showed significant associations. Highest rates were among older adults with less than a high school education, while no trend was apparent for household income (Figure 2).

Figure 1.

Health Insurance by Age 2003 WY BRFSS

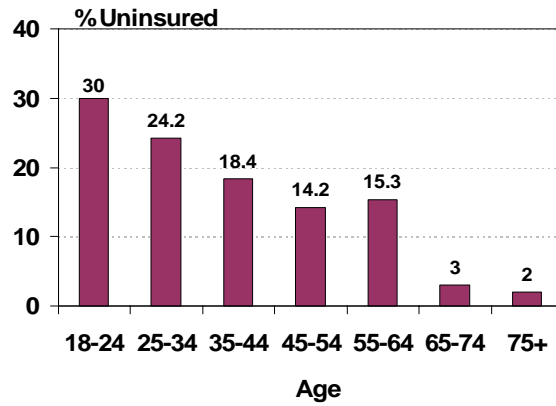
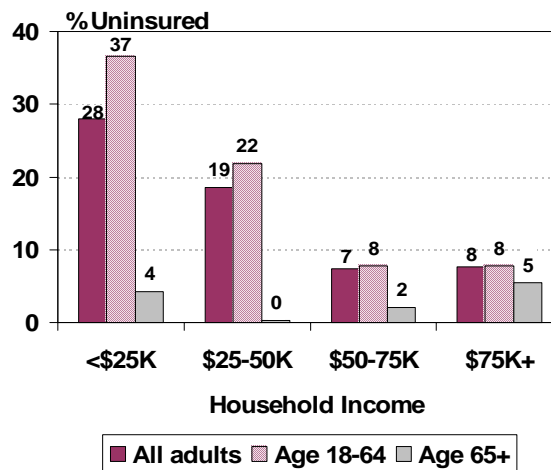


Figure 2.

Health Insurance by Income 2003 WY BRFSS



2. Having a Personal Doctor

Measure: Respondents were asked “Do you have one person you think of as your personal doctor or health care provider? If not, they were asked if there was “more than one or is there no person who you think of?” Persons who had one or more than one were grouped together, and only those who reported “no person” are reported as not having a personal doctor. See Pages 39, 41, and 43, Tables S-8, S-10, and S-12 for results.

Findings:

- Nearly one fourth (23.9%) of all Wyoming respondents reported they did not have a personal doctor. Among 18-64 year olds, 26.8% had no doctor, and for those age 65 and older, only 9.6% reported not having a personal doctor (Figure 3).
- Highest rates of not having a personal doctor were reported for students (43%), ages 18-24 (39%), ages 25-34 (36.5%; Figure 4), those 18-64 without a high school diploma (38%), 18-64 year olds with household incomes less than \$25,000 (36.0%), unmarried 18-64 year olds (35.3%), and men younger than 65 (34.2%; Figure 3).
- Among adults age 65 and older, only gender was significantly associated with having a personal doctor, with older men less likely than women to have a doctor (13% vs. 7.1% respectively reporting not having one; Figure 3).
- Race/ethnicity was not associated with this measure for adults ages 18-64, and only weakly associated among adults of all ages. Among all adults, 33% of Hispanics did not have a personal doctor compared with 23.5% of non-Hispanic whites.
- There were no regional or population density variations for having a personal doctor among Wyoming adults.

Figure 3.

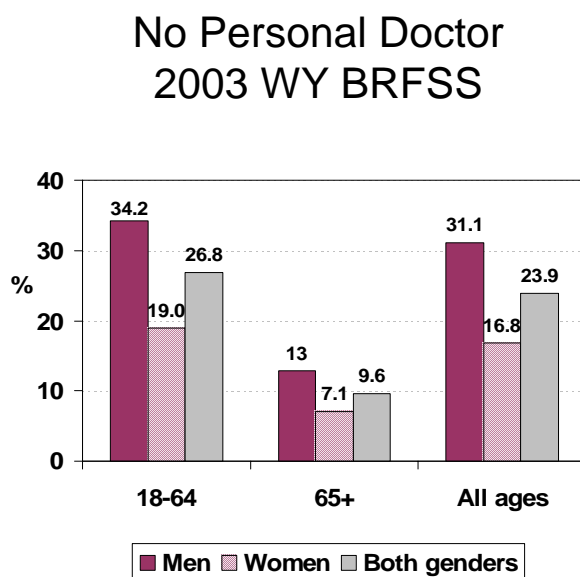
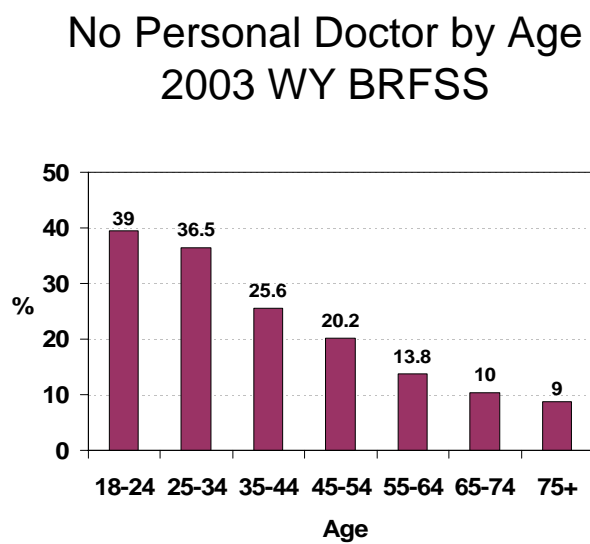


Figure 4.



3. Inability to Get Needed Health Care

Measure: Respondents were asked if there “was a time in the past 12 months when you needed to see a doctor but could not because of the cost?” Persons who said yes are reported as “unable to get needed care” or sometimes reported as having a “cost issue”. See Pages 39, 41, and 43, Tables S-8, S-10, and S-12 for results.

Findings:

- One in every eight Wyoming respondents (12.5%) reported there was time in the past 12 months when they needed to see a doctor but could not because of the cost. Among 18-64 year olds, 14.2% had a cost issue, and among adults age 65 and older, only 3.4% reported they were unable to get needed care (Figure 5).
- Highest rates for this measure were reported among adults 18-64 years of age who were out of work (35%), did not finish high school (33%), or reported household income less than \$25,000 (30.8%), and the out of work among all adults (32%).
- Other groups that were more likely to report cost issues related to health access included persons of “other” race (22% for all adults), women (15.7%), younger persons (16-18.2% for the three youngest age groups), and unmarried adults (16.4%).
- Among adults age 65 and older, only education was associated with this measure; those without a high school diploma (11%) were much more likely to report the inability to get needed care than the other groups (1%-5%).
- Groups that were least likely to report having a cost issue related to health care included adults age 75 and older (2%) and all adults with household incomes of \$75,000 or more (2.5%; Figure 6).
- This measure was not related to population density or region of the state.

Figure 5.

Unable to Get Needed Care 2003 WY BRFSS

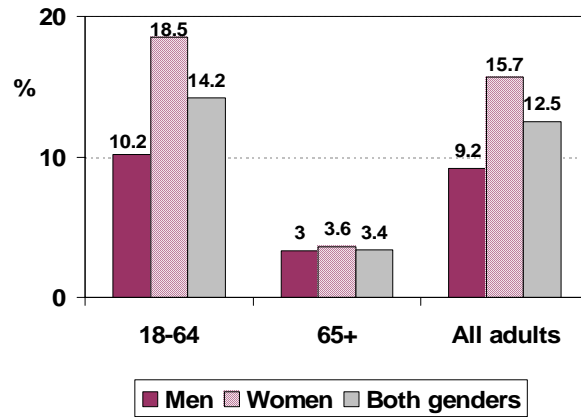
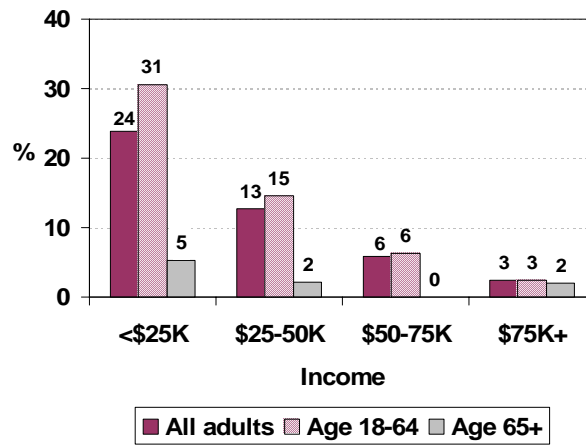


Figure 6.

Unable to Get Needed Care by Household Income 2003 WY BRFSS



4. Underinsurance

Measure: Persons who had no health insurance, or had health insurance but reported that there was a time in the past year when they were unable to get needed care because of the cost, were considered to be *underinsured*. Thus the underinsured included all of the uninsured and usually some fraction of those with insurance. See Pages 40, 42, and 44, Tables S-9, S-11, and S-13 for results.

Findings:

- Nearly one in four (23.6%) of all Wyoming adults and 27.0% of adults ages 18-64 were underinsured. As for the other measures of access to care, underinsurance rates decreased with increasing age group (Figure 7) from a high of 38% for 18-24 year olds to 5.9% for adults age 65 and older.
- Highest rates of underinsurance were among adults without a high school diploma (61% for adults ages 18-64 and 47.2% for all Wyoming adults; Figure 8), and the out of work (51% for ages 18-64 and 46% among all adults).
- Adults with household income <\$25,000 were also more likely to report being underinsured than other adults (49.9% for ages 18-64 and 39.2% for all adults with household income <\$25,000).
- Unmarried persons were more likely to be underinsured than married persons (22.4% vs. 18.3% respectively for adults 18 and older).
- Compared with non-Hispanic white adults ages 18 and older, those of other race/ethnicities were more likely to be underinsured (21.9% for non-Hispanic whites, 37% for Hispanics, and 40% for “other” races).
- Regional differences in underinsurance were also apparent, with rates ranging from 20.4% in the Southeast Region to 27.2% in the Central Region. See page 32 for regional definitions.
- Among all adults there were no differences in underinsurance for men and women but women 18-64 had slightly higher rates than men ages 18-64. (28.9% vs. 25.2% respectively).
- Among adults ages 65 and older, only education and income showed significant differences in underinsurance rates and only education showed a trend, with 17% of adults ages 65 and older who did not finish high school reporting underinsurance compared with 1% of those ages 65 and older with college degrees (Figure 8).

Figure 7.

Underinsurance by Age 2003 WY BRFSS

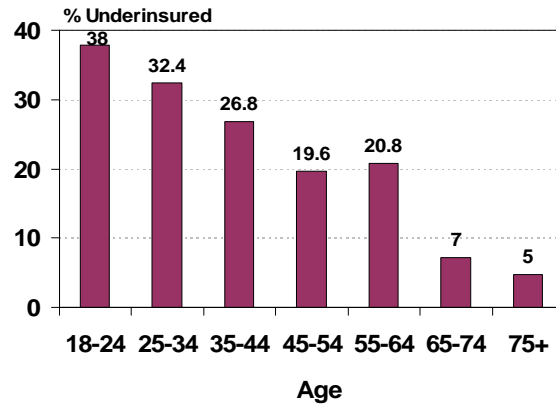
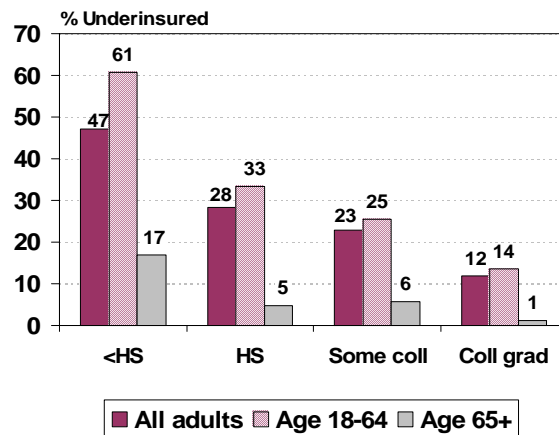


Figure 8.

Underinsurance and Education 2003 WY BRFSS



5. Associations between Access Measures

The four measures of health access were highly associated with each other, as shown by shaded cells in Table 2. Underinsurance was associated with insurance and inability to get needed care (cost issue) because of the way the measure was defined.

Table 2
Associations between Health Care Access Measures

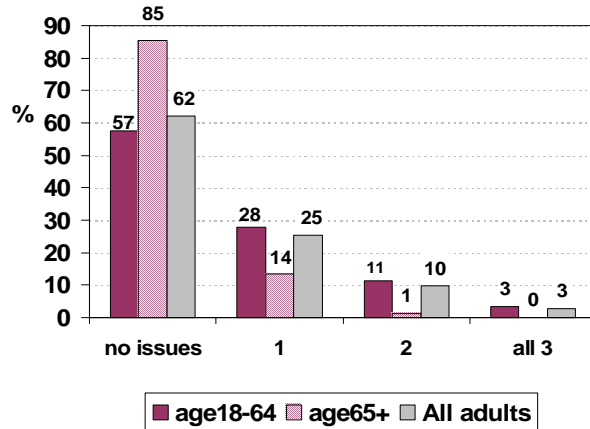
Of those in this group:	Prevalence of this measure			
	Uninsured	Does not have an MD	Cost issue	Under-insured
All adults	17.1	23.9	12.5	23.6
Uninsured				
Yes		46.2	35.2	100
No		19.2	7.9	7.9
Personal MD				
Yes	12.0		10.8	18.6
No	33.1		17.8	39.3
Cost issue				
Yes	47.9	34.2		100
No	12.6	22.4		12.6
Underinsured				
Yes	72.3	39.7	53.2	
No	0	18.9	0	

Guide to reading table: Select a measure from the left hand column and compare those with the measure (yes), to those without the measure (no). Example: 100.0% of uninsured persons were underinsured (by definition), compared with 7.9% of those who were not uninsured. Measures that were associated ($p < 0.05$) are indicated by shading.

In addition to measuring the association between the different health access measures, analysis was also done to determine the number of health access issues each respondent reported. Lack of health insurance, no personal doctor, and being unable to get needed care in the past year were included in this measure, which ranged from zero to three. Overall, 62.0% of Wyoming adults reported none of these issues, while one fourth reported one, 10% reported two, and 3% reported all three. Looking at this another way, 38.0% of all Wyoming adults reported at least one of the health care access issues addressed in this report. This measure was highly associated with age group and income as shown in Figures 9 and 10. No one age 65 and over reported all three health access issues and only 1% reported two. See Pages 40, 42, and 44, Table S-9, S-11, and S-13 for results.

Figure 9.

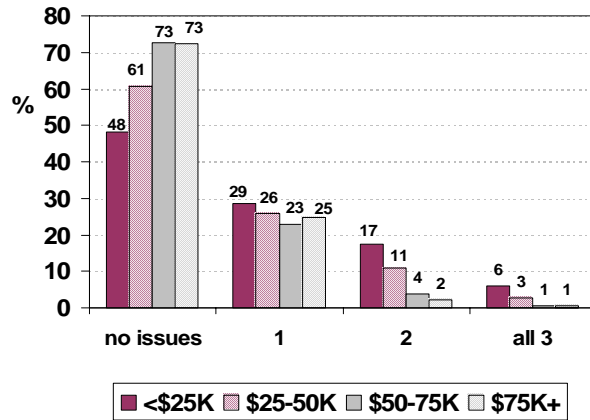
Multiple Health Access Issues* 2003 WY BRFSS



* Issues are: No insurance, no personal MD, and a cost issue in past year

Figure 10.

Multiple Health Access Issues* 2003 WY BRFSS



* Issues are: No insurance, no personal MD, and a cost issue in past year

B. Special Populations

A number of subgroups are of special concern because they may have ongoing need for health care, or they may be at especially high risk of poor health access. In some cases, the subgroups may not report poorer access to health care than others, but any inadequacies can have potentially harmful consequences because of the need for health care. Selected groups are discussed in this section. See Tables S-3 – S-7 on pages 34-38 for more information about these populations, and Tables S-14 - S-15 on pages 45-46 for results for this section.

1. Working Poor

Working poor were defined as persons who were employed (not including self-employed) and reported household income of less than \$25,000. One in every ten Wyoming adults fell in this category, representing an estimated 38,000 persons.

Findings:

- Health care access measures for the working poor in Wyoming were consistently among the worst rates for any subgroups examined.
- Four in every ten of the working poor were without health insurance, a rate more than 2.5 times the rate for those who were not working poor (40% vs. 14.6% respectively; see Figure 11 for working poor).
- Over one third of the working poor (38%) did not have a personal doctor (Figure 11).
- Over one fourth (29%) of the working poor were unable to get needed care in the past year and half (51%) were considered to be underinsured, a rate nearly 2.5 times the rate for those not among the working poor (Figure 12 for working poor).
- Working poor adults in Wyoming were even more likely than the out-of-work to be uninsured and to report not having a personal doctor (Figure 11).
- Rates for underinsurance and inability to get care were similar for the two groups, and much worse than for all adults (Figure 12).
- One in every ten of the working poor reported all three health access issues; no insurance, no personal doctor, and they were unable to get needed care in the past year because of the cost. Nearly two thirds (66%) of the working poor reported at least one issue with health care access.
- Nearly one fourth of all uninsured Wyoming adults (23.4%) were working poor.

Figure 11.

Working Poor and Health Access 2003 WY BRFSS

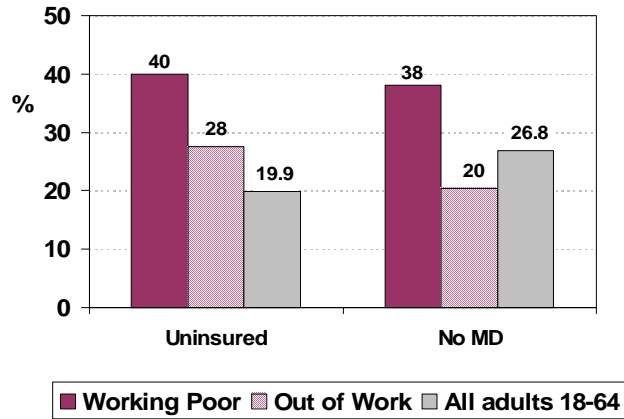
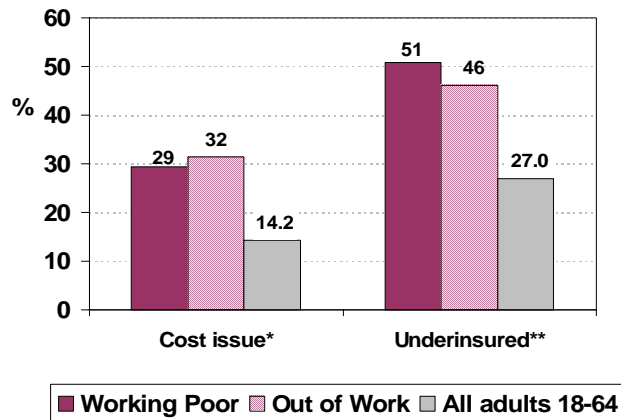


Figure 12.

Working Poor and Health Access 2003 WY BRFSS



*Unable to see doctor in past year due to cost; ** Uninsured or insured and unable to get needed care in the past year.

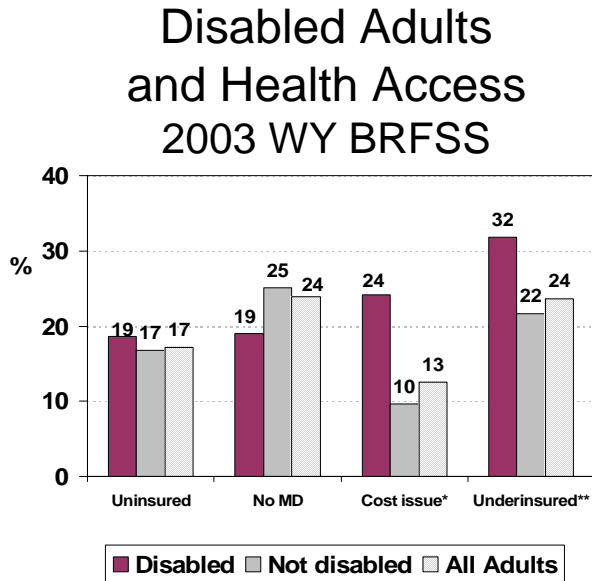
2. Adults with Ongoing Health Problems

Adults with ongoing health problems included those who reported fair or poor health, disability (limited in any way in any activities because of physical, mental, or emotional problems), diabetes, asthma, arthritis, or high blood pressure for which they were taking medication. Health access was considered to be particularly important for persons in any of these groups, as these conditions are likely to require continuing monitoring and/or medication, which might result in considerable long term cost. Prevalence rates of these health problems among Wyoming adults were 5.8% for diabetes, 7.5% for asthma, 12.3% for fair or poor health, 16.9% for adults on high blood pressure medication (of all adults, not just those with high blood pressure), 18.9% for being disabled, and 28.5% for arthritis.

Findings:

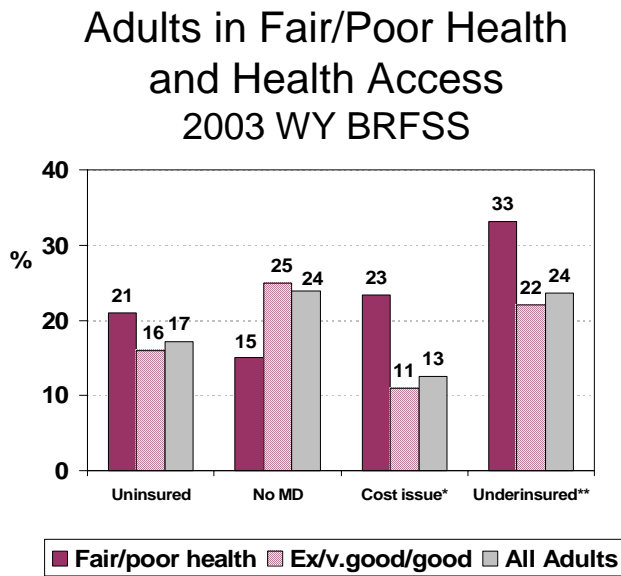
- Wyoming adults with ongoing health problems were generally more likely to report they had a personal doctor than those without the condition.
- Wyoming adults who were disabled were more likely than the non-disabled to report being unable to get needed care (24.1% vs. 9.7% for non-disabled) and to be underinsured (31.8% of the disabled vs. 21.6% for non-disabled; Figure 13). Insurance rates were similar for both groups and non-disabled adults were more likely to not have a regular doctor.
- Similar results were found for fair or poor health status; adults reporting fair or poor health were more likely than those in better health to be uninsured (20.5% vs. 16.4% for those in excellent, very good, or good health), unable to get needed care (23.4% vs. 10.9%) and to be underinsured (33.2% vs. 22.0%). Adults in fair or poor health were more likely to have a regular doctor (Figure 14).
- Adults with asthma were more likely to report cost issues than those without asthma (17% vs. 12.0% respectively).
- No other findings indicated that adults with these health problems had poorer access to health in Wyoming than those who did not have the problems.
- Although these findings don't represent significant differences, 19.0% of the disabled, 15.2% of those in fair or poor health, 13.7% of those with arthritis, 17% of those with asthma, 9% with diabetes, and 5.8% taking medication for their high blood pressure reported they did not have a personal doctor. Similar results were found for being unable to get needed care.

Figure 13.



* Unable to see doctor in past year due to cost; ** Uninsured or insured and unable to see doctor in past year due to cost.

Figure 14.



* Unable to see doctor in past year due to cost; ** Uninsured or insured and unable to see doctor in past year due to cost.

3. Adults at Risk of Chronic Disease: Multiple Risk Factors

Although it is not possible to identify all adults at risk of chronic disease from a survey such as the BRFSS, certain modifiable risks factors have been identified that increase the risk for diseases such as cardiovascular disease (CVD) or cancer. Modifiable risk factors for CVD include smoking, high blood pressure, high cholesterol, overweight or obesity (body mass index or BMI ≥ 25), diabetes, and physical inactivity.⁵ There is less general agreement on cancer risk factors, but these can include tobacco use (cigarettes, smokeless tobacco, cigars, pipes, or bidis), overweight or obesity, poor nutrition (eating fruits and vegetables fewer than five times per day), heavy alcohol use (> 1 drink/day for women or >2 per day for men), physical inactivity (not meeting recommendations for vigorous or moderate activity), and recent sunburn.⁶ In this report, persons were considered to be at risk of chronic disease if they reported three or more of the six listed CVD risk factors (reported by 26.8% of all respondents) or three or more of these six cancer risk factors (54.4% of respondents). Smoking and obesity are addressed separately in the next section, while diabetes and high blood pressure were addressed in the previous section.

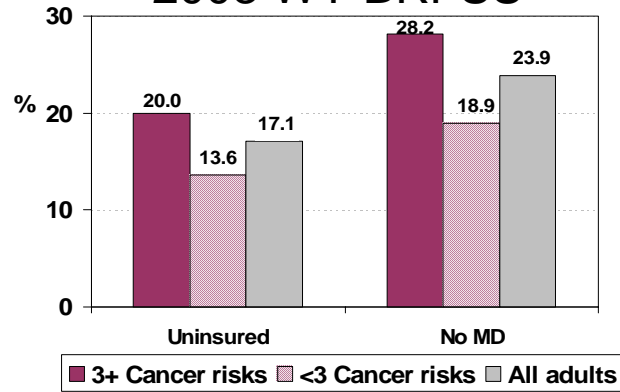
Findings:

- With few exceptions, Wyoming adults at risk for chronic disease appeared to be no better or worse off than adults not at risk for chronic disease in terms of access to health care.
- The only group at risk for chronic disease that was significantly less likely to report being insured was those with 3 or more cancer risk factors (20.0% uninsured vs. 13.6% for those with less than 3 cancer risk factors; Figure 15).
- Adults with 3 or more cancer risk factors were also more likely to report not having a personal doctor (28.2% vs. 18.9% with less than 3 cancer risks; Figure 15).
- Wyoming adults with 3 or more cancer risk factors were more likely than those with fewer than 3 risk factors to report the inability to get needed care (14.9% vs. 9.5%) and be underinsured (27.6% vs. 18.8%; Figure 16).
- Persons with 3 or more CVD risk factors were *less* likely than those with fewer than 3 risks to report not having a personal doctor (17.9% vs. 26.1% respectively); i.e. they were more likely to have a personal physician.

Figure 15.

Adults with Risk Factors and Health Access

2003 WY BRFSS

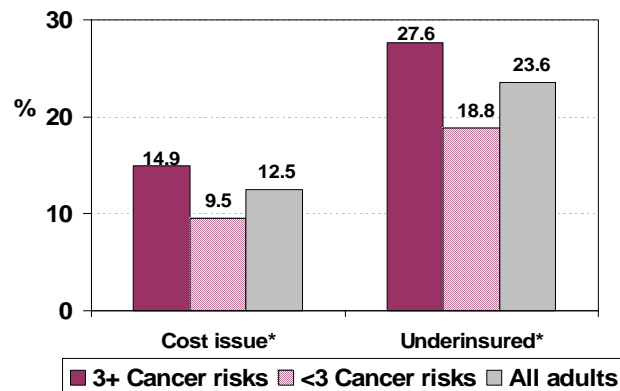


* Cancer risks are tobacco use, heavy drinking, overweight or obese, not meeting recommendations for exercise, eating fruits and vegetables <5X/day, and sunburn in past year

Figure 16.

Adults with Risk Factors and Health Access

2003 WY BRFSS



* Cancer risks are tobacco use, heavy drinking, overweight or obese, not meeting recommendations for exercise, eating fruits and vegetables <5X/day, and sunburn in past year

4. Adults at Risk of Chronic Disease: Smokers and the Obese

Smoking and obesity (BMI \geq 30) are considered separately because each is associated with both CVD and cancer and also with other chronic conditions such as asthma, arthritis, and disability. Smoking cessation and weight control can also be affected by access to health care and insurance coverage. Even those with health insurance may not have coverage for smoking cessation programs or materials or for special diets, nutrition counseling, or other weight loss methods. One in every four Wyoming adults were current smokers (24.6%) and one in five (20.1%) were obese.

Findings:

- Compared with non-smokers, current smokers were over twice as likely to be uninsured (29.7% vs. 12.9%) and more likely to report not having a personal doctor (32.1% vs. 21.3%; Figure 17).
- Smokers were also twice as likely as non-smokers to report being unable to get needed care (21.6% vs. 9.5%), and to be underinsured (39.3% vs. 18.4%; Figure 18).
- Comparing smokers who quit one day in the past year with those who did not, rates of insurance, underinsurance, and inability to get needed care were statistically similar for both groups. Among smokers who quit a day or more in the past year because they were trying to quit, one third (33.4%) were uninsured.
- Compared to those who didn't, smokers who quit one day or more in the past year were more likely to report having a personal doctor (72 vs. 64%).
- The obese were *less* likely than the non-obese to report not having a doctor (20.3% vs. 25.0% respectively (Figure 17) and were equally likely to be uninsured.
- The obese were more likely than the non-obese to have had a cost issue and be underinsured (Figure 18).
- Most demographic groups had obesity rates near 20%, with exceptions being 10% for students, 14% for those of other race/ethnicities, and 29% for Hispanics.
- Smoking rates ranged from 10.5% among college graduates to 44% among those without a high school diploma. Smoking was also high among the out of work (41%) and those of other race/ethnicities (42%).

Figure 17.

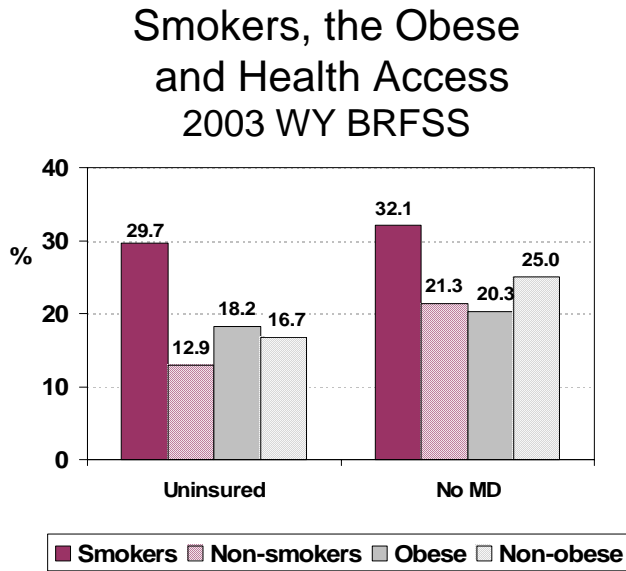
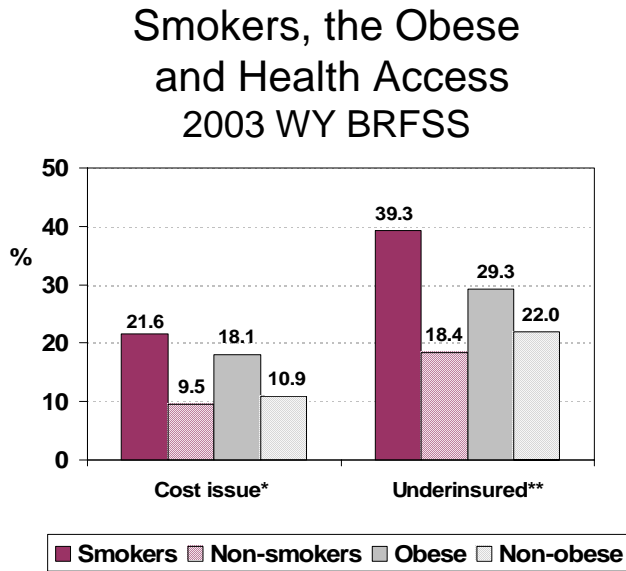


Figure 18.



* Unable to see doctor in past year due to cost; ** Uninsured or insured with a cost issue

5. Adults Reporting Frequent Mental Distress

All respondents were asked “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? Those who reported 14 or more days in the past month when their mental health was not good were considered to have frequent mental distress (FMD). One in eleven respondents, or 9.1%, reported frequent mental distress. In some cases, adults with FMD were compared with adults who reported that their general health was fair or poor, which encompassed physical and mental health.

Findings:

- Compared with Wyoming adults with fewer than 14 days of poor mental health, adults who reported FMD were nearly twice as likely to be uninsured (30% vs. 15.8%), three times as likely to have a cost issue (35% vs. 10.1%), and over twice as likely to be underinsured (45% vs. 21.3%).
- Adults reporting FMD were also more likely to be uninsured than adults in fair or poor general health (30% vs. 20.5% respectively; Figure 19).
- Rates of not having a regular physician were similar for those reporting FMD and those with fewer than 14 days of poor mental health, although they were worse than the rates for those in fair or poor health (24% vs. 15.2% for those in fair or poor health; Figure 19).
- Adults reporting FMD were even more likely than those in fair or poor health to report being unable to get needed care (35% vs. 23.4% for those in fair or poor health) and to be underinsured (45% vs. 33.2% respectively; Figure 20).
- Rates for inability to get needed care (35%) and for underinsurance (45%) for adults with FMD were among the worst of any groups examined, being similar to, or higher than rates for the working poor and the out of work .

Figure 19.

Adults with Frequent Mental Distress (FMD) and Health Access 2003 WY BRFSS

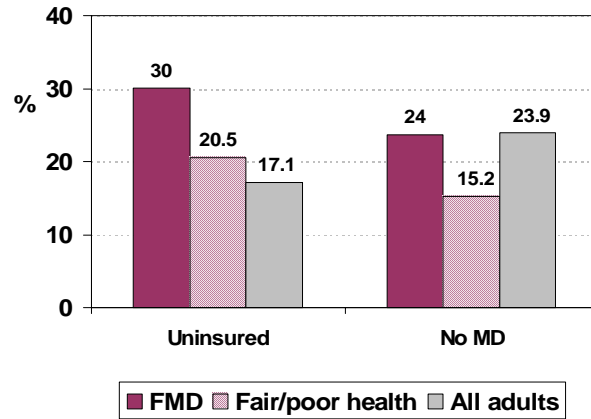
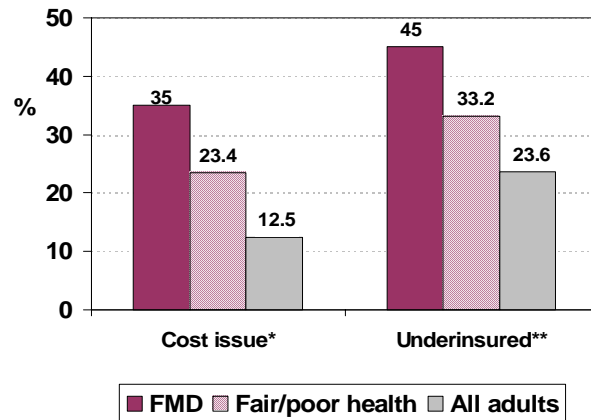


Figure 20.

Adults with Frequent Mental Distress (FMD) and Health Access 2003 WY BRFSS



* Unable to get needed care in past year due to cost; **uninsured or insured with a cost issue

6. Veterans

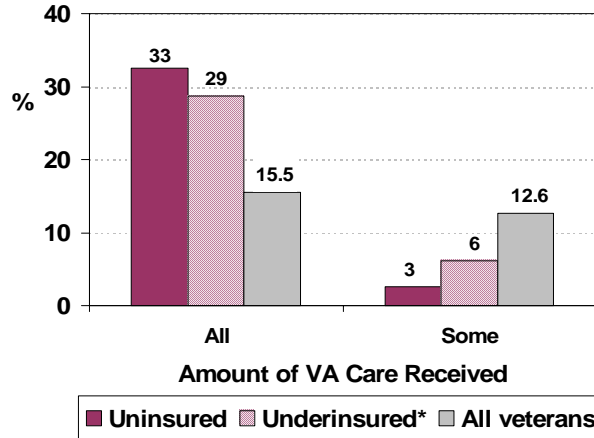
Veterans were considered as a special population because they are eligible for health care through a separate health care system that includes Veteran's Hospitals. The 2003 BRFSS included core questions about respondents' military service in the United States Armed Forces, either in the regular military or in a National Guard or Reserve unit. All respondents were asked: "Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit?" All 605 of those who said yes, including 31 respondents who were currently serving in the military, were considered veterans. Overall, 14.7% of all respondents were veterans, including 27.8% of men and 1.7% of women. Veterans who were no longer on active duty (n=574) were asked if they had used Veterans Administration (VA) facilities for all, some, or none of their health care in the past 12 months.

Findings:

- Veterans appear to have good access to health care when compared with other Wyoming adults.
- Rates of uninsurance (10.3%), inability to get needed care (8.2%), and underinsurance (15.8%) for veterans were among the lowest rates reported for any group in Wyoming.
- Veterans and non-veterans were equally likely to have a personal doctor.
- Over one fourth (28.1%) of all veterans not currently serving in the military reported receiving some or all of their health care in a VA facility in the past year. This included 15.5% who received all their health care and 12.6% who received some of their health care at VA facilities. This represents about 7.5% of all Wyoming men receiving some or all of their health care at these facilities
- Uninsured and underinsured veterans were much more likely than those with adequate insurance to report receiving health care from VA facilities (Figure 21).
- Older veterans were more likely than those younger than age 65 to receive any health care from VA facilities in the past year (Figure 22).

Figure 21.

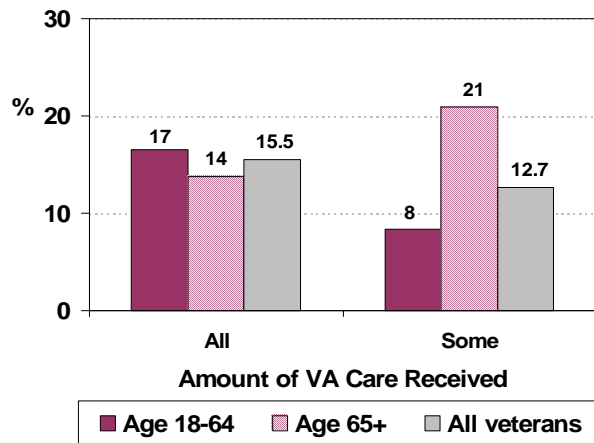
Veterans Use of VA Facilities and Health Access 2003 WY BRFSS



* Uninsured or insured and unable to see doctor in past year due to cost

Figure 22.

Veterans Use of VA Facilities by Age Group 2003 WY BRFSS



C. Trends and Comparisons

The percentage of Wyoming adults who reported they didn't have health insurance increased from 13.6% in 1994 to 18.9% in 1997, but has remained steady at about 17% since that time (Figure 23). Results for four different age groups are shown in Figure 24 and indicate that much of that early fluctuation is apparently due to increases in the 18-34 and 35-49 year old groups. Rates for all four age groups were higher in 2002 and 2003 than they were in 1994, although the sample size was smaller in the early years.

In 2003 the percentage of uninsured adults ranged from 6.9% in Minnesota to 26.7% in Texas, with a median for all 50 states and the District of Columbia of 13.7% (Figure 25). The rate of 17.1% for Wyoming placed it 15th highest among the 50 states and the District of Columbia. Among adults age 18-64, uninsurance rates were generally higher than for all adults, and ranged from 8.1% to 30.6%, with a US median of 16.2%. Wyoming was again 15th highest of the 51 states. Looking only at those less than 65 years of age who are employed, Wyoming's rate of 16.9% placed it 9th highest among the 51 states, whose rates ranged from 5.9%-23.9%. The median for all states for this measure was 12.5%.

Figure 23.

No Health Insurance Trend WY BRFSS 1994-2003

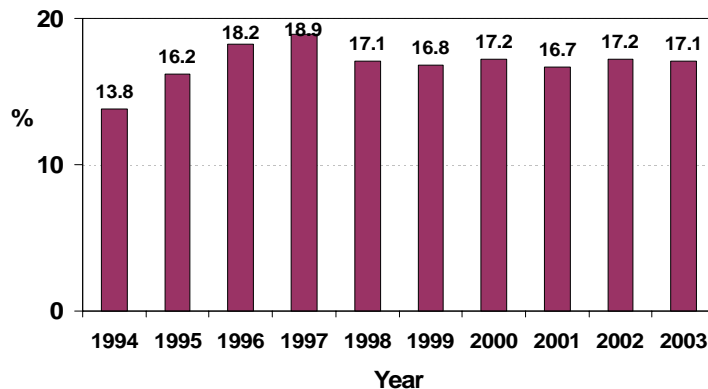


Figure 24.

Adults with No Health Insurance By Age Group WY BRFSS 1994-2003

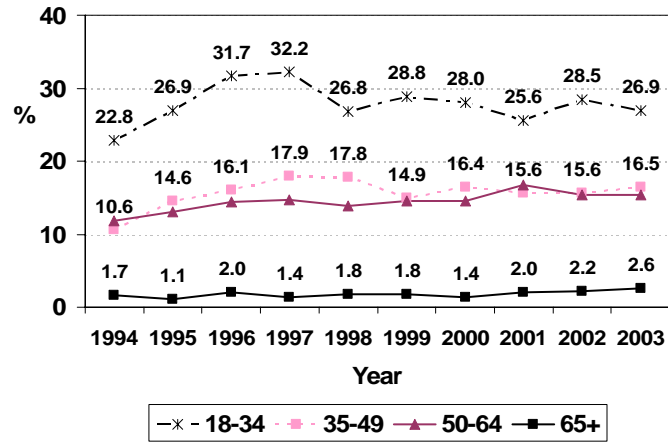
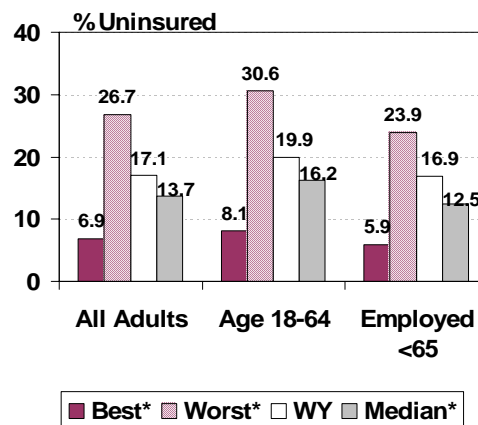


Figure 25.

Health Insurance Rates Compared 2003 BRFSS



*Median, best, and worst are among 50 states and the District of Columbia.

D. Utilization of Preventive Health Services

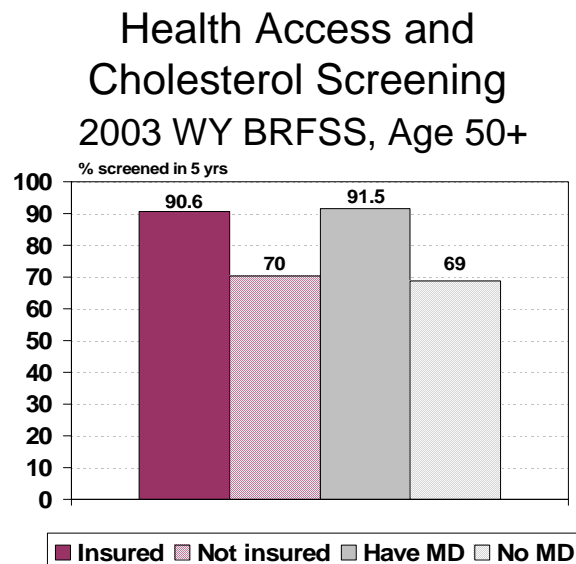
1. Cholesterol Screening

The BRFSS measures the receipt of a number of preventive health services among different age and gender groups. Receipt of a cholesterol screening within the past 5 years among respondents age 50 and older is one of the preventive health services related to a Healthy People 2010 Objective.³

Findings:

- A majority of Wyoming adults age 50 and older (88.5%) reported having their cholesterol tested within the past 5 years.
- The working poor (77.5%), uninsured (70.4%; Figure 26), underinsured (75.1%), those who reported being unable to get needed care in the past year (80.0%), and the less educated (85.5% of those without a high school diploma and 84.8% of those who only finished high school), and those ages 50-59 (85.5%) had relatively low rates of screening.
- Highest rates were among those with a personal doctor (91.5%) and lowest rates among those without one (68.6%; Figure 26).

Figure 26.



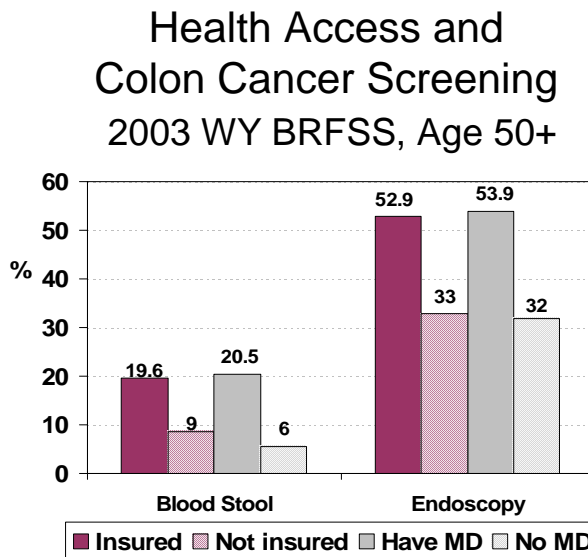
2. Colorectal Cancer Screening

Respondents age 50 and older were asked a module on colorectal cancer screening which included blood stool testing and either sigmoidoscopy or colonoscopy, which will be referred to as endoscopy. Measures used were a blood stool test within 2 years and endoscopy ever in lifetime.

Findings:

- Just over half (50.9%) of Wyoming respondents age 50 and older reported ever having endoscopy, and 18.5% reported a blood stool test in the past 2 years.
- Both measures were highly associated with all four health access measures. For example (Figure 27), older adults with health insurance were twice as likely as the uninsured to have a recent blood stool test (19.6% vs. 8.6%) and those with a personal doctor were over three times as likely as those without one to report recent blood stool testing (20.5% vs. 5.5%).
- Respondents age 50-59 were among the least likely to report colon cancer screening, while older respondents in counties with the highest population density were among the most likely to report each test (21.9% for blood stool and 60.3% for endoscopy).

Figure 27.



Blood stool test in 2 years, and ever had endoscopy (sigmoidoscopy or colonoscopy).

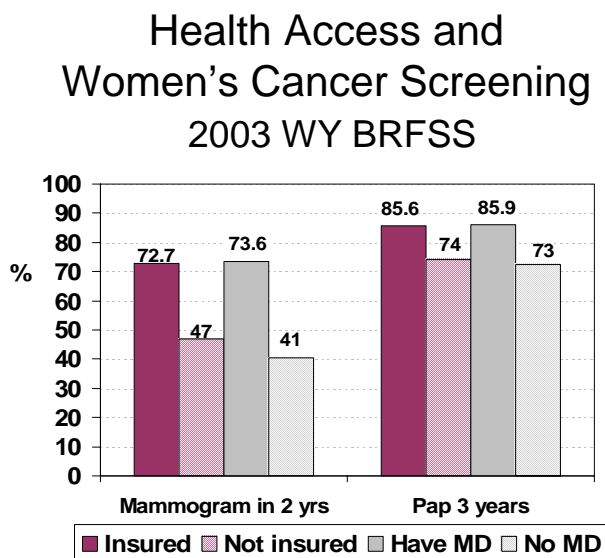
3. Breast and Cervical Cancer Screening

The measure used for breast cancer screening was women age 40 and older who had a mammogram in the past 2 years. Pap testing was only measured among women who had not had a hysterectomy, and those who had the test within the past three years were considered to have had cervical cancer screening.

Findings:

- Over two-thirds (69.6%) of women age 40 and older reported having a mammogram within the past 2 years and 83.2% of women age 18 and older with an intact cervix reported having a Pap test within the past 3 years.
- As was the case for cholesterol and colorectal screening, receipt of each women's cancer screen was highly associated with health access measures. Women with health insurance, those with a personal doctor, those without a cost issue, and those not underinsured were most likely to have had each cancer screen (Figure 28).
- College graduates were also among the sub-groups with high rates of reported breast and cervical cancer screening, with rates for college graduates (76.4% for mammography and 88.4% for Pap) even higher than for insured women.
- Highest rates of Pap testing were among women ages 25-34 years (92.7%).

Figure 28.



Mammogram is for women age 40 and older; Pap is for women age 18 and older who have not had a hysterectomy.

IV. Summary and Conclusions

Health care access was measured by three separate measures – lack of health insurance, no personal doctor, and being unable to get needed health care in the past year due to cost – and one measure, termed underinsurance, which combined lack of insurance with being insured and unable to get needed care. According to the results from the 2003 BRFSS for these measures, health access is a significant problem for certain segments of the Wyoming adult population. These groups include the working poor, the out of work, adults in low income households, unmarried adults, young adults, minorities, smokers, those with frequent mental distress, the disabled, and adults in fair or poor health. Over half all uninsured adults in Wyoming were employed and nearly one fourth (23.4%) were working poor. Adults ages 65 and older and veterans of the armed services tend to have relatively good access to health care. In general, measures of access to health care in Wyoming are worse than the median BRFSS values for all states. Trends in health insurance rates have been steady for the past eight years in Wyoming.

While it is not possible to determine from the BRFSS data all the implications of poorer access to health care, certain results are clear. Wyoming adults who lacked insurance and/or a personal doctor were much less likely than those with insurance or a regular physician to receive preventive health services such as recommended cholesterol testing or cancer screening. In most cases, the effects of having insurance or a personal doctor were similar, either doubling the rate or raising the absolute prevalence of the preventive service 20 percentage points (e.g. from 70% to 90%). Because the three separate measures of health care access were found to be related, many people had more than one health access issue; over one third (38.0%) of all Wyoming adults reported one or more issues with health access, including 14.6% of adults age 65 and older and 42.6% of those age 18-64. Overall, 2.8% of all Wyoming adults reported all three barriers to health access, but this rate was 10% among the working poor, 10% for those with frequent mental distress, 5.9% for adults in households with income less than \$25,000, 5.6% among smokers, and 5.1% among the disabled. No one age 65 and older reported all three health access issues.

Improving access to health care will not be easy. In the absence of a federal program to provide universal health care for all Americans, many states have taken matters into their own hands. A study in 1998 found that few state policies actually succeeded in increasing insurance coverage.⁷ And while some state programs may improve access to physicians, improvements in receipt of preventive health services don't always follow.⁸ The results reported here for adults ages 65 and older, almost all of whom are on Medicare, suggest that federal programs may be more effective.

Wyoming can use the information in this report to raise awareness of sub-populations that may have health access issues. Such groups may be assisted by targeted campaigns to improve access to federal and state programs such as Medicaid and the Breast and Cervical Cancer Early Detection Program. Any improvement in access to health care for adults 18-64 will require comprehensive efforts by a broad spectrum of society, including physicians, health care facilities, third party payers, legislators, and public health professionals.

Supplemental Table S-1
Demographics of Sample

Wyoming BRFSS 2003, Adults aged 18 and older

	Unweighted Respondents		Weighted Population	Unweighted Respondents		Weighted Population	
	N	%	%*	N	%	%*	
Total	4,004	100	100				
Sex							
Male	1,657	41.4	50.0				
Female	2,347	58.6	50.0				
Race/Ethnicity							
White	3,626	91.4	90.2				
Hispanic	173	4.4	5.3				
Other	170	4.3	4.5				
Age							
18-24	286	7.2	14.7				
25-34	560	14.1	15.7				
35-44	712	17.9	18.8				
45-54	942	23.7	20.8				
55-64	674	16.9	13.6				
65-74	471	11.8	8.5				
75+	333	8.4	7.9				
Income							
<\$15,000	382	9.5	8.8				
\$15K-\$24,999	658	16.4	15.8				
\$25K-\$49,999	1,301	32.5	33.2				
\$50K-\$74,999	701	17.5	18.1				
\$75,000+	588	14.7	14.9				
Unknown	374	9.3	9.2				
				Education			
				<HS grad	276	6.9	7.5
				HS grad	1,310	32.8	33.8
				Some coll.	1,303	32.6	33.0
				College grad	1,109	27.7	25.8
				Population density**			
				Ctys >50K	1,179	30.2	30.4
				Ctys 10K-50K	1,562	40.0	40.7
				Ctys <10,000	1,166	29.8	28.9
				Marital status			
				Married	2,382	59.6	64.9
				Not married	1,615	40.4	35.1
				Employment			
				Employed	2,568	64.3	66.0
				Out of work	288	7.2	6.7
				Homemaker	336	8.4	8.2
				Student	106	2.7	4.9
				Retired	699	17.5	14.2
				Region***			
				Southeast	1,060	26.6	27.6
				Southwest	745	18.7	19.2
				Northwest	586	14.7	13.7
				Northeast	665	16.7	16.7
				Central	926	23.3	22.8

*WY population, approximate, from weighted data.

** Population density definitions:

Ctys >50K: Laramie and Natrona counties.

10K-50K: Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Ctys <10,000: All other Wyoming counties.

*** Regional definitions:

Southeast: Albany, Goshen, Laramie, Platte.

Southwest: Carbon, Lincoln, Sweetwater, Sublette, Uinta.

Northwest: Big Horn, Hot Springs, Park, Teton, Washakie.

Northeast: Campbell, Crook, Johnson, Sheridan, Weston.

Central: Converse, Fremont, Natrona, Niobrara.

Totals may not add to 100% (or 4,004) due to rounding (or missing values).

Table S-2.
Demographics of Sample, Ages 18-64 and ages 65+
Wyoming BRFSS 2003

	Age 18-64			Age 65+			P value for difference
	N	Unweighted %	Weighted %	N	Unweighted %	Weighted %	
Sex							
Male	1,349	42.5	51.3	301	37.4	43.8	0.0006
Female	1,825	57.5	48.7	503	62.6	56.2	
Total	3,174			804			
Race/Ethnicity							
White	2,864	90.9	89.7	739	93.0	92.4	0.076
Hispanic	151	4.8	5.7	22	2.8	3.4	
Other	136	4.3	4.6	34	4.3	4.2	
Education							
<HS grad	167	5.3	6.3	109	13.6	13.8	<0.0001
HS grad	1,006	31.7	33.3	299	37.3	36.5	
Some coll.	1,071	33.8	34.1	224	28.0	27.5	
College grad	929	29.3	26.4	169	21.1	22.2	
Income							
<\$25,000	689	23.4	23.2	343	51.4	47.7	<0.0001
\$25K-\$49,999	1,072	36.3	36.6	226	33.9	36.5	
\$50K-\$74,999	650	22.0	22.1	51	7.7	8.5	
\$75,000+	539	18.3	18.1	47	7.1	7.3	
Marital status							
Married	1,988	62.7	66.0	383	47.7	59.4	0.0013
Not married	1,182	37.3	34.0	420	52.3	40.6	
Employment							
Employed	2,426	76.5	75.7	129	16.1	16.4	<0.0001
Out of work	244	7.7	7.0	42	5.3	5.3	
Homemaker	260	8.2	8.0	76	9.5	9.5	
Student	104	3.3	5.9	2	0.3	0.3	
Retired	137	4.3	3.4	551	68.9	68.5	
Region							
Southeast	843	26.7	27.9	211	26.4	26.5	0.0137
Southwest	623	19.7	20.0	119	14.9	15.6	
Northwest	465	14.7	13.5	118	14.8	14.5	
Northeast	530	16.8	16.8	130	16.3	16.2	
Central	696	22.1	21.8	221	27.7	27.2	
Population density							
Ctys >50K**	913	29.5	30.1	254	32.5	31.5	<0.0001
Ctys 10K-50K	1,308	42.2	42.6	246	31.5	31.2	
Ctys <10,000	879	28.4	27.3	281	36.0	37.3	

*WY population, approximate, from weighted data. ** Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Totals may not add to 100% (or 4,004) due to rounding (or missing values).

**Table S-3
Special Populations by Demographics
WY BRFSS 2003, all adults 18+**

	N	Disabled*		Fair/poor health		Asthma	
		%	95% CI	%	95% CI	%	95% CI
Total	4,004	18.9	17.6-20.3	12.3	11.3-13.5	7.5	6.6-8.5
Sex							
Male	1,657	17.6	15.7-19.7	11.6	10.1-13.4	5.6	4.6-7.0
Female	2,347	20.2	18.5-22.0	13.1	11.7-14.6	9.3	8.0-10.8
P value			0.061		0.207		<0.0001
Race/Ethnicity							
White	3,626	19.0	17.6-20.4	12.1	10.9-13.3	7.4	6.5-8.4
Hispanic	173	16	10.6-22.4	15	9.9-21.3	8	4.0-14.1
Other	170	22	16.1-29.3	18	12.3-24.5	8	4.2-13.7
P value			0.366		0.099		0.991
Age (years)							
18-34	846	9.8	7.8-12.2	5.8	4.2-8.0	7.4	5.6-9.6
35-49	1,196	18.9	16.6-21.4	9.1	7.4-11.1	6.4	5.0-8.1
50-64	1,132	22.4	19.8-25.2	15.4	13.2-17.9	7.3	5.8-9.1
65+	804	31.0	27.6-34.6	26.1	23.0-29.6	9.8	7.7-12.3
P value			<0.0001		<0.0001		0.126
Education							
<HS grad	276	27	21.6-33.1	28	22.1-33.6	8	5.0-13.2
HS grad	1,310	18.1	15.9-20.4	14.8	12.8-17.0	7.9	6.4-9.8
Some coll.	1,303	19.2	17.0-21.7	11.1	9.3-13.0	7.0	5.6-8.6
College grad	1,109	17.4	15.1-20.0	6.6	5.2-8.4	7.3	5.7-9.3
P value			0.007		<0.0001		0.823
Employment							
Employed	2,568	13.5	12.1-15.1	7.1	6.1-8.3	6.5	5.5-7.7
Out of work	288	62	55.3-68.8	46	39.3-52.4	13	9.1-17.9
Homemaker	336	17	13.5-21.8	12	8.7-16.6	7	4.6-11.9
Student	106	6	2.9-12.8	4	1.8-10.4	9	4.6-15.9
Retired	699	28.3	24.8-32.0	23.8	20.6-27.4	9.1	7.1-11.6
P value			<0.0001		<0.0001		0.018
Region							
Southeast	1,060	17.6	15.2-20.3	11.5	9.7-13.7	8.3	6.6-10.3
Southwest	745	19.1	16.3-22.4	11.8	9.5-14.6	7.4	5.6-9.6
Northwest	586	19.1	16.0-22.7	12.9	10.1-16.3	6.7	4.8-9.3
Northeast	665	15.9	13.2-19.1	14.3	11.5-17.7	7.8	5.8-10.4
Central	926	22.6	19.7-25.8	11.8	9.88-14.2	7.1	5.3-9.4
P value			0.025		0.540		0.838
Population density							
Ctys >50K**	1,179	21.0	18.5-23.7	11.1	9.4-13.0	7.6	6.0-9.6
Ctys 10K-50K	1,562	18.0	16.0-20.2	11.8	10.1-13.7	7.8	6.4-9.4
Ctys <10,000	1,166	17.8	15.6-20.2	14.4	12.3-16.8	7.1	5.6-8.9
P value			0.124		0.056		0.827

* Limited in any way in any activities because of physical, mental, or emotional problems.

** Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Percents are rounded to whole numbers if n<500.

**Table S-4
Special Populations by Demographics
WY BRFSS 2003, all adults 18+**

	N	Arthritis		Diabetes		On HBP Medication*	
		%	95% CI	%	95% CI	%	95% CI
Total	4,004	28.5	27.0-30.0	5.8	5.1-6.6	16.9	15.8-18.2
Sex							
Male	1,657	26.6	24.4-28.9	6.2	5.1-7.4	16.3	14.6-18.1
Female	2,347	30.4	28.4-32.4	5.5	4.6-6.5	17.6	16.1-19.3
P value			0.017		0.369		0.270
Race/Ethnicity							
White	3,626	28.7	27.1-30.3	5.5	4.8-6.4	17.1	15.9-18.4
Hispanic	173	18	12.6-25.0	8	4.2-12.9	13	8.6-19.7
Other	170	37	28.8-45.0	10	6.1-15.1	16	11.7-22.5
P value			0.002		0.069		0.395
Age (years)							
18-34	846	9.8	7.7-12.3	0.8	0.4-1.7	0.8	0.3-1.8
35-49	1,196	22.6	20.0-25.3	4.1	3.0-5.7	9.5	7.9-11.5
50-64	1,132	40.2	37.1-43.3	9.3	7.6-11.3	26.4	23.7-29.3
65+	804	57.5	53.7-61.2	13.4	11.0-16.1	46.8	43.0-50.6
P value			<0.0001		<0.0001		<0.0001
Education							
<HS grad	276	37	30.9-43.5	10	6.8-14.5	25	20.1-31.1
HS grad	1,310	31.1	28.4-33.9	5.8	4.7-7.2	18.9	16.8-21.2
Some coll.	1,303	27.5	25.9-30.2	6.1	4.8-7.7	13.1	11.4-15.0
College grad	1,109	23.9	21.2-26.7	4.3	3.3-5.8	16.5	14.3-18.9
P value			0.0001		0.007		<0.0001
Employment							
Employed	2,568	22.6	20.9-24.4	3.4	2.7-4.2	11.4	10.2-12.8
Out of work	288	45	38.6-51.8	16	12.1-21.6	25	19.6-30.2
Homemaker	336	27	22.3-32.3	7	4.3-9.9	16	12.6-20.5
Student	106	8	3.8-17.3	1	0.2-3.9	1	0.3-3.0
Retired	699	55.8	51.8-59.8	13.1	10.7-16.0	45.3	41.3-49.3
P value			<0.0001		<0.0001		<0.0001
Region							
Southeast	1,060	28.3	25.5-31.4	5.9	4.6-7.6	16.5	14.3-18.9
Southwest	745	26.5	23.3-30.0	5.8	4.2-7.8	17.5	14.8-20.5
Northwest	586	29.6	25.8-33.8	6.3	4.5-8.7	19.1	16.0-22.7
Northeast	665	30.9	27.1-34.9	6.1	4.5-8.2	14.5	11.9-17.5
Central	926	27.8	24.8-31.1	5.3	4.0-7.0	17.4	15.0-20.0
P value			0.511		0.943		0.313
Population density							
Ctys >50K**	1,179	27.1	24.5-29.9	5.6	4.3-7.1	16.8	14.7-19.1
Ctys 10K-50K	1,562	26.9	24.6-29.5	5.2	4.2-6.4	13.8	12.1-15.6
Ctys <10,000	1,166	32.2	29.4-35.2	7.2	5.7-9.0	21.5	19.1-24.1
P value			0.011		0.097		<0.0001

* Persons with high blood pressure (HBP) and taking HBP medication, as a percentage of all adults in Wyoming.

** Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Percents are rounded to whole numbers if n<500.

**Table S-5
Special Populations by Demographics
WY BRFSS 2003, all adults 18+**

		3 or more CVD Risks*		3 or more Cancer Risks**	
	N	%	95% CI	%	95% CI
Total	4,004	26.8	25.3-28.3	54.4	52.6-56.1
Sex					
Male	1,657	29.8	27.5-32.3	64.8	62.1-67.3
Female	2,347	23.8	21.9-25.7	44.1	41.8-46.3
P value			0.0001		<0.0001
Race/Ethnicity					
White	3,626	26.4	24.8-28.0	54.2	52.3-56.0
Hispanic	173	30	22.5-37.9	58	49.8-66.3
Other	170	33	25.5-41.7	55	46.5-63.4
P value			0.201		0.616
Age (years)					
18-34	846	10.7	8.5-13.4	61.3	57.4-64.9
35-49	1,196	24.6	22.0-27.4	58.9	55.8-61.9
50-64	1,132	38.9	35.8-42.1	53.0	50.0-56.1
65+	804	43.6	39.9-47.4	36.3	32.7-40.1
P value			<0.0001		<0.0001
Education					
<HS grad	276	34	28.3-40.8	58	51.2-64.7
HS grad	1,310	30.6	27.9-33.5	60.9	57.9-63.8
Some coll.	1,303	24.1	21.7-26.8	54.0	50.8-57.1
College grad	1,109	23.1	20.5-25.9	45.6	42.3-48.8
P value			<0.0001		<0.0001
Employment					
Employed	2,568	23.3	21.5-25.2	58.2	56.1-60.4
Out of work	288	42	35.9-48.9	61	53.9-66.8
Homemaker	336	22	17.4-27.1	39	33.4-45.2
Student	106	6	2.4-12.1	56	44.9-66.9
Retired	699	46.1	42.1-50.1	42.0	38.0-46.0
P value			<0.0001		<0.0001
Region					
Southeast	1,060	25.8	23.0-28.9	54.0	50.5-57.4
Southwest	745	27.8	24.4-31.5	57.2	53.1-61.1
Northwest	586	25.1	21.5-29.1	47.0	42.5-51.6
Northeast	665	30.3	26.5-34.5	58.2	53.9-62.3
Central	926	25.9	23.0-29.1	54.4	50.7-58.0
P value			0.267		0.007
Population density					
Ctys >50K***	1,179	26.4	23.7-29.3	56.1	52.9-59.3
Ctys 10K-50K	1,562	25.3	23.0-27.8	53.2	50.4-56.1
Ctys <10,000	1,166	29.2	26.4-32.1	53.6	50.4-56.8
P value			0.129		0.378

* Smoking, high blood pressure, high cholesterol, diabetes, overweight or obese, and not meeting recommendation for exercise. ** Any tobacco use, overweight or obese, eats fruits and vegetables < 5 times/day, sunburn in past year, heavy drinking, and not meeting recommendation for exercise.

*** Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Percents are rounded to whole numbers if n<500.

**Table S-6
Special Populations by Demographics
WY BRFSS 2003, all adults 18+**

	N	Current Smoking		Obese (BMI ≥ 30)	
		%	95% CI	%	95% CI
Total	4,004	24.6	23.1-26.2	20.1	18.7-21.6
Sex					
Male	1,657	25.1	22.8-27.6	21.3	19.2-23.6
Female	2,347	24.1	22.2-26.2	18.8	17.1-20.6
P value			0.552		0.074
Race/Ethnicity					
White	3,626	23.4	21.8-25.0	19.9	18.4-21.4
Hispanic	173	30	22.6-38.9	29	21.9-37.9
Other	170	42	33.9-51.3	14	9.8-20.8
P value			<0.0001		0.006
Age (years)					
18-34	846	31.2	27.7-34.9	16.1	13.5-19.1
35-49	1,196	26.9	24.3-29.8	22.3	19.7-25.0
50-64	1,132	21.4	18.9-24.2	22.5	19.9-25.3
65+	804	12.8	10.5-15.6	20.4	17.5-23.7
P value			<0.0001		0.002
Education					
<HS grad	276	44	36.7-50.8	23	17.6-28.7
HS grad	1,310	31.1	28.3-34.1	21.3	18.8-23.9
Some coll.	1,303	24.8	22.2-27.6	19.5	17.1-22.0
College grad	1,109	10.5	8.7-12.7	18.8	16.4-21.5
P value			<0.0001		0.407
Employment					
Employed	2,568	26.2	24.2-28.2	20.1	18.4-22.0
Out of work	288	41	34.7-48.1	26	20.7-32.0
Homemaker	336	21	15.9-26.8	21	16.7-27.1
Student	106	17	10.9-25.8	10	5.5-17.8
Retired	699	14.6	12.0-17.6	19.9	16.9-23.4
P value			<0.0001		0.012
Region					
Southeast	1,060	24.4	21.4-27.6	19.9	17.2-22.9
Southwest	745	22.2	19.0-25.7	22.8	19.6-26.3
Northwest	586	19.8	16.3-23.8	17.4	14.2-21.0
Northeast	665	28.9	24.9-33.1	21.2	17.8-25.1
Central	926	26.8	23.6-30.3	18.9	16.2-21.9
P value			0.0095		0.215
Population density					
Ctys >50K*	1,179	28.6	25.6-31.8	20.4	17.8-23.2
Ctys 10K-50K	1,562	23.3	20.9-25.8	19.6	17.5-21.9
Ctys <10,000	1,166	21.7	19.2-24.5	20.7	18.2-23.4
P value			0.0021		0.802

* Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Percents are rounded to whole numbers if n<500.

**Table S-7
Special Populations by Demographics
WY BRFSS 2003, all adults 18+**

	N	Working Poor*		FMD**		Veteran	
		%	95% CI	%	95% CI	%	95% CI
Total	4,004	10.1	9.0-11.3	9.1	8.1-10.1	15.7	14.5-17.0
Sex							
Male	1,657	8.2	6.7-10.0	6.4	5.2-7.9	29.6	27.3-32.0
Female	2,347	12.0	10.5-13.7	11.7	10.3-13.3	1.9	1.4-2.6
P value			0.002		<0.0001		<0.0001
Race/Ethnicity							
White	3,626	9.1	8.0-10.4	9.0	8.0-10.1	15.7	14.4-17.0
Hispanic	173	16	10.4-23.8	7	4.0-12.2	13	8.4-19.1
Other	170	19	12.8-27.5	13	8.6-19.9	20	13.5-27.8
P value			0.0003		0.159		0.300
Age (years)							
18-34	846	16.6	14.0-19.7	9.4	7.5-11.7	6.4	4.8-8.6
35-49	1,196	8.4	6.7-10.4	10.0	8.3-12.0	9.7	8.0-11.8
50-64	1,132	7.3	5.8-9.2	9.9	8.1-12.0	24.9	22.1-28.0
65+	804	4.1	2.6-6.4	5.5	4.1-7.4	30.8	27.3-34.4
P value			<0.0001		0.016		<0.0001
Education							
<HS grad	276	17	12.0-23.8	10	6.7-14.9	15	10.8-19.9
HS grad	1,310	11.7	9.7-14.1	11.9	10.0-14.1	15.3	13.2-17.6
Some coll.	1,303	10.3	8.5-12.4	9.1	7.6-11.0	15.1	13.0-17.5
College grad	1,109	6.0	4.4-8.1	5.1	3.9-6.6	17.2	14.9-19.7
P value			<0.0001		<0.0001		0.587
Employment							
Employed	2,568	14.9	13.3-16.6	8.2	7.0-9.5	14.6	13.1-16.2
Out of work	288	0		24	18.5-29.4	15	10.8-21.0
Homemaker	336	0		12	9.1-16.9	1	0.5-3.7
Student	106	0		6	2.7-12.4	3	1.3-6.4
Retired	699	0		5.6	4.1-7.8	33.6	29.9-37.6
P value			<0.0001		<0.0001		<0.0001
Region							
Southeast	1,060	9.5	7.5-12.0	7.5	5.9-9.4	20.0	17.5-22.9
Southwest	745	6.0	4.3-8.3	8.6	6.6-11.1	14.2	11.7-17.0
Northwest	586	10.7	8.0-14.2	8.7	6.6-11.6	12.5	9.8-15.7
Northeast	665	9.9	7.4-13.2	10.7	8.3-13.8	15.4	12.5-19.0
Central	926	13.9	11.3-16.9	10.4	8.3-12.8	14.1	11.7-16.8
P value			0.001		0.190		0.001
Population density							
Ctys >50K***	1,179	10.3	8.3-12.6	9.2	7.5-11.3	19.9	17.4-22.6
Ctys 10K-50K	1,562	10.6	8.8-12.7	9.2	7.7-11.0	12.2	10.5-14.1
Ctys <10,000	1,166	9.0	7.2-11.1	8.2	6.6-10.1	16.0	13.8-18.4
P value			0.497		0.661		<0.0001

* Employed and income <\$25,000. ** 14+ days of poor mental health in past month (frequent mental distress)

***Laramie and Natrona counties; 10K-50K = Albany, Campbell, Fremont, Sheridan, Sweetwater, Teton, and Uinta counties.

Percents are rounded to whole numbers if n<500.

Table S-8
Health Access Group 1 Measures
Wyoming BRFSS, 2003, All Adults
N=4,004

	Uninsured		Does not have a personal doctor		Unable to get needed care	
	%	95% CI	%	95% CI	%	95% CI
Total	17.1	15.7-18.6	23.9	22.4-25.5	12.5	11.3-13.7
Sex						
Male	17.6	15.5-20.0	31.1	28.6-33.7	9.2	7.7-10.9
Female	16.6	14.9-18.4	16.8	15.1-18.6	15.7	14.1-17.6
P-value		0.481		<0.0001		<0.0001
Race/Ethnicity						
White	15.8	14.4-17.3	23.5	21.9-25.2	11.8	10.6-13.0
Hispanic	30	22.2-38.4	33	24.5-41.6	16	10.4-23.1
Other	27	19.8-35.9	20	13.7-28.2	22	15.5-30.1
P-value		<0.0001		0.047		0.003
Employment status						
Employed	16.6	14.7-18.6	27.1	24.9-29.4	11.4	9.9-13.1
Self-employed	25.5	21.4-30.2	24.3	20.3-28.8	14.0	11.1-17.5
Out of work	28	21.8-34.4	20	15.1-27.0	32	25.7-38.0
Homemaker	19	14.7-25.1	20	14.8-25.6	16	11.8-21.7
Student	21	13.8-31.2	43	32.6-54.2	12	7.0-19.4
Retired	4.0	2.7-5.9	9.1	7.0-11.7	4.1	2.7-6.0
P-value		<0.0001		<0.0001		<0.0001
Household income						
<\$25,000	28.0	24.8-31.5	29.1	25.7-32.8	23.9	20.9-27.1
\$25K-\$49,999	18.6	16.2-21.2	24.4	21.8-27.3	12.7	10.8-15.0
\$50K-\$74,999	7.4	5.2-10.4	19.6	16.4-23.2	5.9	4.2-8.2
\$75,000+	7.7	5.3-11.0	20.6	17.1-24.6	2.5	1.4-4.4
P-value		<0.0001		0.0004		<0.0001
Education						
< High School	34	27.4-41.4	30	23.0-37.0	26	20.3-33.2
High School grad	22.0	19.4-24.8	25.1	22.4-27.9	14.3	12.2-16.6
Some college	15.9	13.7-18.3	23.5	20.8-26.5	12.3	10.4-14.4
College grad	7.6	6.0-9.6	21.2	18.5-24.1	6.5	5.0-8.3
P-value		<0.0001		0.080		<0.0001
Marital status						
Married	12.1	10.7-13.7	20.5	18.7-22.4	10.4	9.1-11.8
Not married	26.4	23.6-29.4	30.2	27.3-33.3	16.4	14.3-18.8
P-value		<0.0001		<0.0001		<0.0001
Population density						
Ctys>50,000	17.9	15.3-20.8	23.7	20.7-26.8	11.6	9.6-14.0
Ctys 10K-50K	16.1	14.0-18.4	25.9	23.4-28.5	12.2	10.5-14.2
Ctys <10,000	17.2	14.8-20.0	21.0	18.4-23.9	13.2	11.1-15.6
P-value		0.568		0.052		0.608
Region						
Southeast	14.2	11.7-17.0	23.1	20.1-26.5	11.2	9.1-13.6
Southwest	13.8	11.2-16.9	21.9	18.7-25.4	12.3	9.9-15.3
Northwest	19.2	15.7-23.3	23.2	19.3-27.5	11.4	9.0-14.5
Northeast	20.1	16.5-24.2	26.9	23.0-31.2	11.8	9.2-14.9
Central	20.4	17.4-23.7	25.3	22.0-28.8	15.2	12.6-18.2
P-value		0.002		0.347		0.153

Percents are rounded to whole numbers if n<500.

Table S-9
Health Access Group 2 Measures
Wyoming BRFSS, 2003, All Adults
N=4,004

	Any of Group 1 measures		All 3 Group 1 measures		Underinsured	
	%	95% CI	%	95% CI	%	95% CI
Total	38.0	36.2-39.7	2.8	2.2-3.5	23.6	22.1-25.2
Sex						
Male	41.9	39.2-44.6	2.8	2.0-3.9	22.5	20.1-25.0
Female	34.1	32.9-36.4	2.8	2.0-3.8	24.7	22.7-26.8
P-value		<0.0001		0.962		0.169
Race/Ethnicity						
White	36.5	34.7-38.3	2.8	2.2-3.5	21.9	20.3-23.5
Hispanic	53	44.2-61.3	4	1.5-9.4	37	29.3-46.3
Other	49	40.5-57.8	2	0.6-4.7	40	31.5-48.9
P-value		<0.0001		0.540		<0.0001
Employment status						
Employed	39.0	36.6-41.4	3.3	2.4-4.4	21.9	19.8-24.1
Self-employed	34.4	39.6-49.3	2.8	1.8-4.6	30.4	26.0-35.2
Out of work	54	46.9-60.3	5	2.6-8.4	46	39.5-53.0
Homemaker	39	33.4-45.4	2	0.6-6.1	30	24.8-36.6
Student	52	40.8-63.2	3	1.3-7.99	29	20.0-39.2
Retired	15.1	12.4-18.2	0.4	0.1-1.8	7.4	5.5-9.8
P-value		<0.0001		0.031		<0.0001
Household income						
<\$25,000	51.9	48.2-55.5	5.9	4.4-7.8	39.2	35.6-42.8
\$25K-\$49,999	39.4	36.4-42.4	2.7	1.8-4.2	25.5	22.8-28.3
\$50K-\$74,999	27.4	23.8-31.4	0.6	0.2-1.6	11.8	9.2-15.2
\$75,000+	27.5	23.5-31.9	0.6	0.1-3.0	9.0	6.5-12.4
P-value		<0.0001		<0.0001		<0.0001
Education						
< High School	56	49.2-62.7	6	3.4-11.4	47	40.2-54.3
High School grad	41.8	38.8-44.9	3.8	2.7-5.3	28.3	25.5-31.3
Some college	37.6	34.5-40.7	1.9	1.2-3.0	22.8	20.3-25.6
College grad	28.3	25.4-31.5	1.7	1.0-2.8	11.8	9.8-14.2
P-value		<0.0001		0.0006		<0.0001
Marital status						
Married	32.5	30.5-34.6	1.9	1.3-2.8	18.3	16.7-20.1
Not married	48.1	45.0-51.2	4.4	3.3-5.9	22.4	30.4-36.5
P-value		<0.0001		0.0003		<0.0001
Population density						
Ctys>50,000	37.2	34.0-40.6	2.4	1.6-3.7	23.8	20.9-26.9
Ctys 10K-50K	38.3	35.5-41.1	3.1	2.3-4.4	22.6	20.3-25.2
Ctys <10,000	37.7	34.6-40.9	2.5	1.6-4.1	24.2	21.5-27.2
P-value		0.882		0.589		0.704
Region						
Southeast	34.7	31.3-38.2	2.5	1.6-3.8	20.4	17.5-23.5
Southwest	36.9	33.1-40.9	2.0	1.0-3.8	21.1	17.9-24.7
Northwest	38.5	34.1-43.1	2.2	1.2-3.9	25.1	21.3-29.4
Northeast	40.8	36.5-45.2	3.1	1.7-5.4	25.7	21.8-30.0
Central	40.8	37.2-44.6	4.2	2.8-6.2	27.2	23.9-30.7
P-value		0.088		0.179		0.015

Percents are rounded to whole numbers if n<500.

Table S-10
Health Access Group 1 Measures
Wyoming BRFSS, 2003, Adults 18-64
N=3,169

	Uninsured		Does not have a personal doctor		Unable to get needed care	
	%	95% CI	%	95% CI	%	95% CI
Total	19.9	18.3-21.6	26.8	25.0-28.7	14.2	12.9-15.7
Sex						
Male	20.0	17.6-22.7	34.2	31.3-37.1	10.2	8.5-12.1
Female	19.8	17.8-22.0	19.0	17.0-21.2	18.5	16.5-20.7
P-value		0.890		<0.0001		<0.0001
Age						
18-24	30	24.3-35.9	39	33.4-45.8	16	12.1-21.0
25-34	24.2	20.4-28.5	36.5	32.1-41.0	16.8	13.7-20.4
35-44	18.4	15.5-21.7	25.6	22.2-29.3	18.2	15.3-21.6
45-54	14.2	11.9-17.0	20.2	17.5-23.1	9.8	8.0-12.0
55-64	15.3	12.6-18.5	13.8	11.2-16.8	10.6	8.4-13.4
P-value		<0.0001		<0.0001		0.0001
Race/Ethnicity						
White	18.6	17.0-20.4	26.3	24.5-28.3	13.6	12.2-15.1
Hispanic	31	22.9-40.4	36	27.1-45.6	16	10.5-23.6
Other	31	22.7-41.1	23	15.5-32.1	24	17.1-33.7
P-value		0.0001		0.061		0.008
Employment status						
Employed	18.9	17.1-20.8	27.1	25.1-29.2	12.2	10.7-13.7
Retired	11	6.6-18.2	12	6.8-18.8	11	6.7-18.5
Out of work	31	24.4-38.5	23	17.1-30.6	35	28.1-41.8
Other	22	17.6-27.8	31	25.0-36.9	16	12.0-20.7
P-value		0.0003		0.007		<0.0001
Household income						
<\$25,000	36.5	32.3-40.9	36.0	31.5-40.6	30.8	26.9-35.0
\$25K-\$49,999	21.9	19.1-24.9	27.2	24.2-30.5	14.6	12.4-17.2
\$50K-\$74,999	7.8	5.5-10.9	20.4	17.0-24.2	6.3	4.5-8.8
\$75,000+	7.9	5.4-11.4	21.4	17.7-25.6	2.5	1.4-4.6
P-value		<0.0001		<0.0001		<0.0001
Education						
< High School	46	37.6-55.5	38	29.5-47.6	33	25.0-41.7
High School grad	26.0	22.9-29.3	28.5	25.3-31.8	17.0	14.5-19.7
Some college	18.2	15.7-21.0	25.6	22.6-28.9	13.4	11.4-15.8
College grad	8.5	6.6-10.9	23.5	20.5-26.8	7.5	5.8-9.6
P-value		<0.0001		0.005		<0.0001
Marital status						
Married	13.8	12.2-15.6	22.4	20.4-24.5	11.5	10.1-13.2
Not married	31.9	28.6-35.5	35.3	31.8-38.9	19.5	16.9-22.5
P-value		<0.0001		<0.0001		<0.0001
Population density						
Ctys>50,000	20.9	17.8-24.3	27.2	23.8-30.9	13.8	11.3-16.6
Ctys 10K-50K	18.0	15.6-20.6	28.3	25.6-31.3	13.2	11.3-15.4
Ctys <10,000	21.2	18.2-24.6	23.5	20.4-27.0	16.0	13.4-18.9
P-value		0.199		0.109		0.276

Percents are rounded to whole numbers if n<500.

Table S-11
Health Access Group 2 Measures
Wyoming BRFSS, 2003, Adults 18-64
N=3,169

	Any of Group 1 measures		All 3 Group 1 measures		Underinsured	
	%	95% CI	%	95% CI	%	95% CI
Total	42.6	40.6-44.6	3.3	2.7-4.2	27.0	25.2-28.9
Sex						
Male	45.9	42.9-49.0	3.3	2.4-4.6	25.2	22.5-28.0
Female	39.1	36.6-41.6	3.4	2.5-4.6	28.9	26.6-31.4
P-value		0.0007		0.893		0.0455
Age						
18-24	56	50.0-62.6	5	2.9-8.1	38	32.0-44.3
25-34	53.8	49.3-58.3	3.2	1.9-5.4	32.4	28.2-36.8
35-44	41.5	37.6-45.3	4.8	3.2-7.1	26.8	23.4-30.5
45-54	33.7	30.5-37.1	2.0	1.2-3.4	19.6	17.0-22.6
55-64	30.1	26.4-34.0	1.8	1.0-3.3	20.8	17.7-24.4
P-value		<0.0001		0.014		<0.0001
Race/Ethnicity						
White	41.1	39.0-43.2	3.3	2.6-4.2	25.3	23.5-27.2
Hispanic	55	46.2-64.1	4	1.6-10.4	38	29.6-47.6
Other	55	45.1-64.1	2	0.7-5.5	45	35.4-54.7
P-value		0.0004		0.595		<0.0001
Employment status						
Employed	40.9	38.7-43.1	3.3	2.6-4.3	24.1	22.2-26.2
Retired	27	20.0-36.0	2	0.5-8.4	19	13.1-27.3
Out of work	59	51.6-65.9	5	3.0-9.6	51	43.4-58.1
Other	47	41.3-53.6	3	1.3-5.7	33	27.2-38.7
P-value		<0.0001		0.416		<0.0001
Household income						
<\$25,000	64.0	59.5-68.2	8.1	6.1-10.7	49.9	45.3-54.4
\$25K-\$49,999	44.5	41.1-47.9	3.2	2.1-5.0	29.6	26.5-32.9
\$50K-\$74,999	28.6	24.8-32.8	0.6	0.2-1.7	12.5	9.7-16.1
\$75,000+	28.4	24.3-33.0	0.7	0.1-3.2	9.2	6.5-12.7
P-value		<0.0001		<0.0001		<0.0001
Education						
< High School	70	61.9-77.1	9	4.9-16.2	61	52.0-68.7
High School grad	48.0	44.5-51.5	4.6	3.2-6.4	33.3	30.0-36.8
Some college	41.0	37.6-44.5	2.2	1.4-3.4	25.4	22.5-28.5
College grad	31.5	28.2-35.0	1.9	1.1-3.3	13.4	11.0-16.0
P-value		<0.0001		<0.0001		<0.0001
Marital status						
Married	35.6	33.3-37.9	2.3	1.6-3.3	20.4	18.5-22.5
Not married	56.3	52.7-59.9	5.4	4.1-7.2	39.9	36.4-43.6
P-value		<0.0001		0.0001		<0.0001
Population density						
Ctys>50,000	42.7	39.0-46.5	2.9	1.9-4.4	27.7	24.3-31.3
Ctys 10K-50K	41.5	38.4-44.6	3.6	2.6-5.0	24.7	22.0-27.5
Ctys <10,000	43.6	40.0-47.4	3.2	2.0-5.2	29.3	26.0-32.9
P-value		0.676		0.768		0.109

Percents are rounded to whole numbers if n<500.

Table S-12
Health Access Group 1 Measures
Wyoming BRFSS, 2003, Adults Age 65+
N=804

	Uninsured		Does not have a personal doctor		Unable to get needed care	
	%	95% CI	%	95% CI	%	95% CI
Total	2.6	1.6-4.2	9.6	7.6-12.0	3.4	2.2-5.3
Sex						
Male	3	1.6-5.8	13	9.4-17.3	3	1.7-6.1
Female	2.2	1.1-4.7	7.1	5.1-9.9	3.6	2.0-6.3
P-value		0.526		0.0101		0.856
Age						
65-74	3	1.4-5.2	10	7.8-13.7	5	2.9-7.1
75+	2	1.1-5.2	9	6.0-12.6	2	0.8-5.8
P-value		0.821		0.476		0.176
Employment status						
Employed	3	0.8-10.7	13	7.7-20.0	6	2.2-15.3
Retired	2.3	1.3-4.1	8.6	6.4-11.5	2.1	1.1-4.0
Out of work	3	0.7-11.8	3	0.4-16.7	9	3.6-20.7
Other	4	0.9-16.0	13	6.6-22.3	5	2.2-5.2
P-value		0.835		0.207		0.054
Household income						
<\$25,000	4	2.4-7.8	11	7.8-14.8	5	3.0-9.2
\$25K-\$49,999	<1	0-2.3	9	5.5-13.5	2	0.8-5.5
\$50K-\$74,999	2	0.3-12.6	8	2.9-21.6	0	
\$75,000+	5	1.3-19.9	10	4.3-22.6	2	0.3-12.9
P-value		0.034		0.869		0.123
Education						
< High School	7	2.9-14.1	10	5.0-17.8	11	5.3-21.4
High School grad	3	1.6-6.8	9	6.4-13.2	2	0.7-3.6
Some college	1	0.3-5.1	11	7.3-16.2	5	2.3-8.7
College grad	1	0.1-4.4	7	3.8-12.3	1	0.1-2.4
P-value		0.034		0.651		<0.0001
Marital status						
Married	3	1.3-5.3	10	7.1-13.4	4	2.1-6.8
Not married	3	1.4-4.8	9	6.6-12.2	3	1.7-5.1
P-value		0.977		0.720		0.546
Population density						
Ctys>50,000	4	1.8-7.1	7	4.3-10.3	2	0.6-4.6
Ctys 10K-50K	3	0.9-6.9	9	5.7-13.3	5	2.2-9.8
Ctys <10,000	2	1.6-4.3	12	7.9-16.3	3	1.6-6.0
P-value		0.536		0.181		0.233

Percents are rounded to whole numbers if n<500.

Table S-13
Health Access Group 2 Measures
Wyoming BRFSS, 2003, Adults Age 65+
N=804

	Any of Group 1 measures		All 3 Group 1 measures		Underinsured	
	%	95% CI	%	95% CI	%	95% CI
Total	14.6	12.1-17.6	0		5.9	4.3-8.2
Sex						
Male	18	13.6-22.7	0		6	3.8-9.6
Female	12.2	9.2-16.0	0		5.8	3.7-9.1
P-value		0.052				0.909
Age						
65-74	16	12.6-19.8	0		7	4.8-10.2
75+	13	9.6-18.0	0		5	2.6-8.5
P-value		0.363				0.258
Employment status						
Employed	21	13.8-30.7	0		9	4.1-18.6
Retired	12.0	9.3-15.4	0		4.3	2.8-6.6
Out of work	14	6.3-26.9	0		11	4.7-22.9
Other	19	11.3-30.6	0		9	3.9-19.6
P-value		0.063				0.113
Household income						
<\$25,000	18	14.0-23.5	0		9	6.2-14.0
\$25K-\$49,999	11	7.2-16.1	0		3	1.0-5.8
\$50K-\$74,999	10	4.1-23.5	0		2	0.3-12.6
\$75,000+	16	7.5-29.9	0		7	2.3-21.3
P-value		0.135	0			0.011
Education			0			
< High School	25	16.4-35.8	0		17	9.9-27.7
High School grad	13	9.2-17.4	0		5	2.6-8.3
Some college	16	11.1-21.7	0		6	3.2-10.5
College grad	8	4.8-13.9	0		1	0.4-4.1
P-value		0.005				<0.0001
Marital status						
Married	15	11.8-19.8	0		6	4.1-9.9
Not married	13	10.1-16.8	0		5	3.4-8.0
P-value		0.382				0.535
Population density						
Ctys>50,000	11	7.6-15.6	0		5	2.9-9.0
Ctys 10K-50K	15	10.6-21.5	0		7	4.0-12.9
Ctys <10,000	16	11.4-20.9	0		5	2.7-8.2
P-value		0.321				0.508

Percents are rounded to whole numbers if n<500.

Table S-14
Health Insurance and Personal Doctor
Wyoming BRFSS, 2003, Special Populations

	N	Wtd %	Uninsured		Does not have a personal doctor	
			%	95% CI	%	95% CI
Disability status						
Disabled	830	18.9	18.6	15.6-22.0	19.0	16.1-22.4
Not disabled	3,152	81.1	16.7	15.2-18.4	25.1	23.4-27.0
Health						
Fair/poor	553	12.3	20.5	16.7-24.9	15.2	11.7-19.5
Ex/v. good/good	3,440	87.7	16.4	14.9-17.9	24.9	23.3-26.7
Chronic Disease						
Asthma						
Yes	312	7.5	14	9.8-19.2	17	12.2-22.7
No	3,674	92.5	17.3	15.8-18.8	24.4	22.8-26.1
Arthritis						
Yes	1,284	28.5	11.8	9.9-14.0	13.7	11.6-16.0
No	2,701	71.5	19.1	17.4-21.0	28.0	26.0-30.1
Diabetes						
Yes	266	5.8	13	8.8-17.9	9	5.3-13.6
No	3,732	94.2	17.3	15.9-18.9	24.9	23.3-26.6
On HBP Meds						
Yes	792	16.9	8.7	6.7-11.2	5.8	4.2-7.9
No	3,205	83.1	18.8	17.3-20.5	27.7	25.9-29.5
Risk Factors						
CVD risk factors*						
3 or more	1,157	26.8	13.9	11.6-16.6	17.9	15.4-20.7
<3	2,847	73.2	18.3	16.6-20.0	26.1	24.2-28.1
Cancer risks**						
3 or more	2,079	54.4	20.0	18.0-22.2	28.2	25.9-30.5
<3	1,925	45.6	13.6	11.9-15.6	18.9	16.8-21.1
Current smoking						
Yes	932	24.6	29.7	11.6-14.4	32.1	28.6-35.7
No	3,062	75.4	12.9	9.8-19.2	21.3	19.6-23.1
Obesity status						
Obese	804	20.1	18.2	15.2-21.7	20.3	17.1-23.9
Not obese	3,076	79.9	16.7	15.2-18.4	25.0	23.2-26.8
Working poor†						
Yes	371	10.1	40	34.2-46.1	38	32.2-44.3
No	3,256	89.9	14.6	13.1-16.1	22.5	20.8-24.3
Frequent mental distress††						
Yes	377	9.1	30	24.8-36.0	24	18.8-29.4
No	3,564	90.9	15.8	14.3-17.3	24.1	22.5-25.9
Veteran						
Yes	574	14.7	10.3	7.6-13.8	22.7	19.2-26.7
No	3,380	85.3	17.9	16.4-19.5	24.0	22.3-25.8

*Current smoking, high blood pressure, high cholesterol, diabetes, being overweight or obese, and not meeting recommendation for physical activity

** Current tobacco use, heavy drinking, sunburn in the past year, eating fruits and vegetables < five times a day, being overweight or obese, and not meeting recommendation for physical activity

† Employed persons who report household income <\$25,000.

†† 14 or more days of poor mental health in past month.

Shading indicates P<0.05 only for associations where risk group has poorer access

Percents are rounded to whole numbers if n<500.

Table S-15
Health Insurance and Underinsurance
Wyoming BRFSS, 2003, Special Populations

	N	Wtd %	Unable to get needed care		Underinsured	
			%	95% CI	%	95% CI
Disability status						
Disabled	830	18.9	24.1	20.9-27.7	31.8	28.3-35.7
Not disabled	3,152	81.1	9.7	8.6-11.0	21.6	19.9-23.4
Health						
Fair/poor	553	12.3	23.4	19.7-27.5	33.2	28.8-37.9
Ex/v. good/good	3,440	87.7	10.9	9.7-12.2	22.0	20.4-23.7
Chronic Disease						
Asthma						
Yes	312	7.5	17	12.7-23.1	26	20.3-32.2
No	3,674	92.5	12.0	10.8-13.3	23.3	21.7-24.9
Arthritis						
Yes	1,284	28.5	12.9	10.9-15.2	19.6	17.2-22.3
No	2,701	71.5	12.2	10.8-13.7	25.0	23.1-27.0
Diabetes						
Yes	266	5.8	14	10.0-20.0	20	15.3-26.3
No	3,732	94.2	12.3	11.2-13.6	23.8	22.2-25.4
On HBP Meds						
Yes	792	16.9	6.9	5.2-9.2	13.2	10.7-16.1
No	3,205	83.1	13.6	12.3-15.1	25.7	24.0-27.6
Risk Factors						
CVD risk factors*						
3 or more	1,157	26.8	13.5	11.4-15.9	22.2	19.5-25.2
<3	2,847	73.2	12.1	10.7-13.6	24.1	22.3-26.0
Cancer risks**						
3 or more	2,079	54.4	14.9	13.2-16.8	27.6	25.3-29.9
<3	1,925	45.6	9.5	8.1-11.2	18.8	16.8-21.0
Current smoking						
Yes	932	24.6	21.6	18.7-24.8	39.3	35.6-43.0
No	3,062	75.4	9.5	8.3-10.7	18.4	16.8-20.1
Obesity status						
Obese	804	20.1	18.1	15.2-21.4	29.3	25.7-33.1
Not obese	3,076	79.9	10.9	9.7-12.2	22.0	20.3-23.8
Working poor†						
Yes	371	10.1	29	24.2-35.3	51	44.9-57.0
No	3,256	89.9	10.8	9.6-12.0	20.6	19.0-22.4
Frequent mental distress††						
Yes	377	9.1	35	29.6-40.8	45	39.4-51.0
No	3,564	90.9	10.1	9.0-11.3	21.3	19.8-23.0
Veteran						
Yes	574	14.7	8.2	6.0-11.2	15.8	12.5-19.7
No	3,380	85.3	13.1	11.9-14.5	24.6	22.9-26.3

*Current smoking, high blood pressure, high cholesterol, diabetes, being overweight or obese, and not meeting recommendation for physical activity

** Current tobacco use, heavy drinking, sunburn in the past year, eating fruits and vegetables < five times a day, being overweight or obese, and not meeting recommendation for physical activity

† Employed persons who report household income <\$25,000.

†† 14 or more days of poor mental health in past month.

Shading indicates P<0.05 only for associations where risk group has poorer access

Percents are rounded to whole numbers if n<500.

Table S-16
Utilization of Preventive Services
Cholesterol Screening and Colorectal Cancer Screening
Wyoming BRFSS, 2003, Adults age 50+

	Cholesterol test in 5 years		Blood Stool test in 2 years		Ever had sigmoidoscopy /colonoscopy	
	Percent	95% CI	Percent	95% CI	Percent	95% CI
Total	88.5	86.8-90.0	18.5	16.6-20.4	50.9	48.5-53.4
Sex						
Male	88.2	85.5-90.5	16.5	13.8-19.5	50.9	47.1-54.6
Female	88.7	86.5-90.6	20.3	17.8-23.0	51.0	47.8-54.2
P-value	0.747		0.054		0.946	
Age						
50-59	85.5	82.6-88.0	14.3	11.9-17.2	40.2	36.6-44.0
60-69	91.2	88.2-93.5	23.3	19.6-27.5	53.5	48.9-58.0
70+	91	87.4-93.0	20	16.7-24.1	65	60.1-69.1
P-value	0.004		<0.001		<0.001	
Education						
< High School	86	78.7-90.4	17	11.3-24.2	44	36.1-52.8
High School grad	84.8	81.3-87.7	16.2	13.3-19.7	52.2	47.9-56.4
Some college	90.0	86.9-92.5	17.8	14.5-21.6	49.2	44.6-53.7
College grad	91.9	89.1-94.0	22.3	18.8-26.3	53.4	48.9-57.9
P-value	0.002		0.088		0.216	
Population density						
Ctys>50,000	88.9	85.6-91.6	21.9	18.3-26.0	60.3	55.7-64.6
Ctys 10K-50K	89.3	86.4-91.6	17.4	14.5-20.8	48.1	44.0-52.3
Ctys <10,000	87.0	83.7-89.6	15.8	13.0-19.0	45.2	41.1-49.5
P-value	0.464		0.037		<0.001	
Working poor						
Yes	78	66.9-85.4	9	4.7-16.5	43	32.5-53.9
No	88.9	87.1-90.5	18.8	16.8-21.1	51.6	48.9-54.3
P-value	0.002		0.015		0.128	
Insurance status						
Insured	90.6	89.0-92.0	19.6	17.6-21.8	52.9	50.3-55.5
Uninsured	70	62.5-77.2	9	5.2-14.0	33	25.5-41.3
P-value	<0.0001		0.001		<0.001	
Personal doctor						
Yes	91.5	89.9-92.9	20.5	18.4-22.7	53.9	51.3-56.5
No	69	61.9-74.5	6	3.3-9.0	32	26.0-38.3
P-value	<0.0001		<0.0001		<0.0001	
Cost issue past yr.						
No	89.3	87.6-90.8	19.1	17.1-21.2	51.9	49.4-54.5
Yes	80	72.0-86.2	12	7.1-18.3	40	31.6-48.9
P-value	0.002		0.035		0.011	
Underinsured						
No	91.0	89.3-92.5	19.8	17.8-22.1	53.3	50.7-56.0
Yes	75	68.9-80.4	11	7.7-15.8	38	31.3-44.3
P-value	<0.0001		0.002		<0.0001	

Percents are rounded to whole numbers if n<500.

Table S-17
Breast & Cervical Cancer Screening
Wyoming BRFSS, 2003 Adults 18+

	Mammogram in 2 years, age 40+		Pap in 3 years, intact cervix	
	Percent	95% CI	Percent	95% CI
Total	69.6	67.0-72.0	83.2	81.0-85.3
Age				
18-24	---	----	86	78.5-91.0
25-34	---	----	93	88.6-95.4
35-49 (40-49)	60	54.9-64.4	85	81.1-88.6
50-64	77	73.7-80.7	84	79.2-87.3
65+	72	67.0-75.8	60	52.1-66.4
P-value	<0.0001		<0.0001	
Education				
< HS	64	53.2-73.8	71	57.2-81.8
HS grad	68.4	64.0-72.6	79.2	74.7-83.1
Some college	67	62.0-70.8	85	81.3-87.9
College grad	76	71.7-80.5	88	84.5-91.5
P-value	0.009		0.0008	
Working poor				
Yes	63	53.2-72.3	75	66.1-82.6
No	69.4	66.6-72.1	84.6	82.2-86.8
P value	0.217		0.014	
Population density				
Ctys>50,000	74	68.9-77.7	83	79.0-86.9
Ctys 10K-50K	70.5	66.5-74.3	84.9	81.4-87.8
Ctys <10,000	64	58.8-68.3	80	75.4-84.3
P-value	0.009		0.227	
Insurance status				
Insured	72.7	70.1-75.1	85.6	83.3-87.6
Uninsured	47	38.8-55.4	74	67.4-79.8
P-value	<0.0001		0.0001	
Personal doctor				
Yes	73.6	71.0-76.0	85.9	83.5-88.0
No	41	32.9-48.6	73	66.1-78.0
P-value	<0.0001		<0.0001	
Cost issue past yr.				
No	71.7	69.1-74.2	84.5	82.1-86.5
Yes	54	45.2-62.1	77	69.9-83.3
P-value	<0.0001		0.0275	
Underinsured				
No	73.5	70.8-76.0	86.0	83.6-88.0
Yes	53	46.5-59.7	77	71.0-81.2
P-value	<0.0001		0.0002	

Percents are rounded to whole numbers if n<500.

V. References

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