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## Determinants of Primary Medical Care Use among Urban American Indians

TIMOTHY L. TAYLOR

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Over the last twenty-five years, there has been a significant migration of American Indian people from reservations and rural areas to cities. The 1980 census reported that almost two-thirds of the 1.5 million persons identifying themselves as Indians live off reservations, tribal trust lands, or other Indian lands. Fifty-four percent of the total United States American Indian population lived in metropolitan areas.<sup>1</sup>

In 1976, the United States Congress passed Public Law 94-437, the Indian Health Care Improvement Act, in part due to their recognition that urban American Indians were a population group that continued to lag behind others in access to primary health care. Access, Congress found, was severely curtailed by a lack of knowledge or understanding of available medical services in most urban areas, and a lack of income or health insurance to pay for medical care. Thirty-seven urban Indian primary medical and dental clinics have been established as a result of this legislation. These programs offer a variety of social services, and may appropriately be characterized as "human services organizations." However, only 32 percent of the reported urban program encounters (approximately 55,000 encounters) in 1984 were medical, while 27 percent were health related (health education, nutrition, etc.), and 31 percent represented other community service contacts.<sup>2</sup>

Little is known about the use of medical care services by urban

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American Indians. Information about the quantity and type of health care utilized, according to population characteristics, is conspicuously unavailable. This fact is treated bluntly in a recent publication of the Office of Technology Assessment (OTA) entitled *Indian Health Care*:

There is little information on the health status of urban Indians, despite the fact that they are estimated to constitute about 50 percent of the total Indian population. IHS (Indian Health Service) does not collect diagnostic patient care information from urban programs, and does not analyze or publish vital statistics or population characteristics for urban Indians except when these data are included with national level data on reservation states.<sup>3</sup>

The Indian Health Service, or IHS (an agency of the United States Public Health Service, PHS), whose purpose is to deliver medical care services to most Indian people, does not provide direct medical care services to a large proportion of American Indians residing in urban areas.

The study reported here was conducted at the Oklahoma City Urban Indian Health Clinic. Oklahoma City is one of the original sites selected for an urban Indian clinic, and has the third largest concentration of American Indian residents in the United States, numbering 24,752. (Only Los Angeles, with 48,120, and Tulsa, Oklahoma, with 38,489, are larger.) The purpose of the study was to explore the determinants of medical care utilization among urban American Indians through the application of commonly used linear models to a set of urban Indian health, demographic, and economic information. A description of health problems and overall clinic use, combined with similar information gathered from the Wichita, Kansas Urban Indian Clinic, has been compared to United States population health problem and primary medical care use data and reported elsewhere.<sup>4</sup>

Because the clinic was a "free" clinic (patients were not charged for clinic services), enabling characteristics of clinic users, such as income and health insurance, were perceived to be weak or unimportant determinants of clinic use. However, the relative importance of predisposing characteristics, such as age, sex, tribe, marital status, and education, as determinants of clinic use was of special interest.

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## METHODS

In 1983–84, a survey of medical records was conducted at the Oklahoma City Urban Indian Health Clinic. At that time, the clinic maintained approximately 10,000 individual medical records. A sampling frame was developed that included the medical record number of each adult patient (18 years of age and older) who had at least one patient care visit during calendar year 1982. The size of the sampling frame was 3,626 medical records. Five hundred medical records were randomly selected. Each patient whose medical record was selected became, in effect, a study group member.

Nine items of information were gathered for each study group member in three areas: clinic use and health condition information, predisposing information, and enabling information. The clinic use and health condition information included number of patient care visits (physician visits) per patient and per health condition or reason for visit, and health condition or reason for visit for each study group member. The predisposing information included age, sex, tribe, marital status, and education. The enabling information included annual income and health insurance.

Each item of information, except patient care visits and health condition or reason for visit, was derived from the patient registration form of each study group member. Patient care visit and health condition information were collected by reviewing the medical record notes of each study group member.

The governing body of the clinic granted permission for the survey, and staff provided generous assistance. Throughout the survey, strict adherence to mutually agreed upon measures to insure confidentiality were followed.

Levels of each of the eight independent variables were specified as follows:

- Sex: Female, Male
- Marital Status: Married, Unmarried
- Tribe: Eastern Tribes (e.g., Cherokee, Creek, Choctaw)  
Plains Tribes (e.g., Kiowa, Comanche, Cheyenne)
- Education: High School  
Less than High School

Health Insurance: Uninsured, Insured  
Health Condition: Acute Health Problems  
Chronic Health Problems  
Age: 18–24 Years  
25–44 Years  
45–64 Years  
65–74 Years  
75 Years and Older  
Income: Less than \$10,000  
\$10,000–\$19,999  
\$20,000 or More

For purposes of the regression analysis, a principal diagnosis or reason for visit was identified for each study group member. One hundred diagnoses or reasons for visit were identified for the study group. Approximately one-third of the study group had more than one diagnosis or reason for visit, accounting for 434 patient care visits more than the total number of visits by the study group per principal diagnosis or reason for visit.

“Dummy” variable regression analysis was used to process the data. Patient care visits was used as the dependent variable. In addition, since the dependent variable, number of visits, is usually a skewed variable, and may not always be appropriate for regression analysis, methods to address the skewness issue were reviewed. One way to deal with this issue is to run the regression analyses on a dependent variable formed by taking the log of the visit variable. This was the method selected for empirical analysis.

## RESULTS

The mean age and mean annual individual income of the study group were 36.5 years and \$5,103, respectively. The median income of the study group was \$3,870. During the study period 1,420 patient care visits were attributed to study group members. The average number of annual visits per study group member was 2.84.

The tribal affiliation of each study group member was placed in one of two geographic groups. These groups were Eastern tribes and Plains tribes. For example, the Eastern tribes predom-

inantly included members of the so-called five civilized tribes—Cherokee, Choctaw, Chickasaw, Creek, and Seminole. Representatives of the Plains tribes included the Kiowa, Comanche, Sioux, and Cheyenne. The purpose for including “tribe” in the regression equations was based on the general observation that Eastern tribes such as the Cherokee have had much longer and sustained contact with Europeans and Americans than the Plains tribes have. Therefore, it was thought that Eastern tribes might not only have more knowledge of Western health care and delivery systems, but they might also be more willing to utilize Western health services. However, tribe was not indicated as a significant determinant variable in any application of the regression procedure. Throughout the empirical analyses, the regression coefficients for the Eastern tribes category was negative, indicating greater utilization by study group members representing Plains tribes.

The results of a “dummy variable” regression analysis are presented in Table 1. The equation was significant, and the coefficient of determination ( $R^2=0.35$ ) was satisfactory and fairly large for this type of research. This is especially true in light of the fact that it is uncertain to what extent the users of the Oklahoma City Urban Indian Clinic also utilize the health services of other clinics or providers. While it is true that there may be other important determinant variables, such as additional sources of health care, that might improve the fit of the model, long-time clinic administrators are of the opinion that the Oklahoma City Indian clinic is the only source of health care for the vast majority of its patients. They base their opinion on the poor economic condition of clinic users, and the fact that urban Indian people seeking health care at other urban, public health clinics are frequently referred to the Oklahoma City Indian clinic.

As anticipated, health problem or reason for visit was the most significant determinant variable in the model ( $p=0.0001$ ). Other significant determinant variables included age or, more precisely, the age group 65–74 years ( $p=0.0539$ ), and sex ( $p=0.0268$ ).

The regression was then performed by taking the log of the dependent variable to see if there might be any improvement in the model. The equation was significant; there was improvement in the coefficient of determination ( $R^2=0.38$ ), and additional independent variables were indicated as significant. (See Table 2.) Because of these improvements in the model, additional models

**TABLE 1**  
**Regression Results Including Categorical Data Levels**  
**(Dependent Variable: Patient Care Visits)**

Variable	Coefficient	Standard Error	Significant Level
Intercept	5.40	0.69	0.0001
Health Problem			
Acute	-3.76	0.31	0.0001
Chronic	0.00		
Age Group			
18-24 Yrs.	-0.44	0.67	0.5141
25-44 Yrs.	-0.49	0.65	0.4482
45-64 Yrs.	-0.17	0.65	0.7875
65-74 Yrs.	1.52	0.78	0.0539
75 Yrs. & Older	0.00		
Sex			
Females	0.55	0.25	0.0268
Males	0.00		
Tribe			
East	-0.17	0.23	0.4677
West	0.00		
Marital Status			
Married	0.11	0.23	0.6090
Unmarried	0.00		
Income Level			
Less than \$10,000	0.00		
\$10,000-19,999	-0.22	0.32	0.4992
\$20,000 or More	-0.98	0.98	0.3145
Education			
High School	0.29	0.25	0.2440
Less than High School	0.00		
Insurance			
Insured	0.37	0.29	0.2904
Uninsured	0.00		

N=500 F=21.94 PR>F=0.0001 R<sup>2</sup>0.35

**TABLE 2**  
**Regression Results Including Categorical Data Levels**  
**(Dependent Variable: Log of Number of Patient Care Visits)**

Variable	Coefficient	Standard Error	Significant Level
Intercept	1.11	0.21	0.0001
Health Problem			
Acute	-1.02	0.07	0.0001
Chronic	0.00		
Age Group			
18-24 Yrs.	0.07	0.17	0.6707
25-44 Yrs.	0.03	0.16	0.8422
45-64 Yrs.	0.11	0.16	0.4706
65-74 Yrs.	0.43	0.19	0.0280
75 Yrs. & Older	0.00		
Sex			
Females	0.27	0.06	0.0001
Males	0.00		
Tribe			
East	-0.05	0.06	0.3558
West	0.00		
Marital Status			
Married	0.09	0.05	0.0919
Unmarried	0.00		
Income Level			
Less than \$10,000	0.00		
\$10,000-19,999	0.01	0.08	0.8641
\$20,000 or More	-0.21	0.24	0.3792
Education			
High School	0.02	0.06	0.6519
Less than High School	0.00		
Insurance			
Insured	0.12	0.07	0.0976
Uninsured	0.00		

N=500 F=25.50 PR>F=0.0001 R<sup>2</sup>=0.38



based on significant independent variables were run by taking the log of the dependent variable.

The levels of independent variables that have coefficients of 0.0000 are the reference categories of the variable, and may be used as a basis for comparison among the levels of the categorical variables. For example, in Table 1, chronic health problem is the reference category for the variable "health problem." For every patient care visit for a chronic health problem by study group members, there were 3.76 fewer visits for an acute health problem. Since the statistical analyses presented in this report are based on log values of the dependent variable, regression results, including reference category information, based on numeric values of the dependent variable are presented as an appendix (Tables 6, 7, and 8).

Health problem or reason for visit was the most significant determinant variable in all models. The particularly high significance of health problems as an important determinant of clinic use was anticipated. Almost 30 percent of the study group had chronic health problems, primarily diabetes and hypertension, and averaged over five annual patient care visits. The rest of the study group averaged almost two patient care visits for acute health problems such as upper respiratory infection and other "reasons for visit" such as prenatal care, physical examination, and contraception.

In addition to health problem ( $p=0.0001$ ), other significant determinant variables were sex ( $p=0.0001$ ), marital status ( $p=0.0919$ ), insurance ( $p=0.0976$ ), and the age group 65 to 74 years ( $p=0.0280$ ).

If we apply the regression procedure according to sex, we find the coefficient of determination slightly smaller for females ( $R^2=0.31$ ). However, for males there is a large improvement ( $R^2=0.54$ ). The average number of annual visits to the clinic was 2.9 for females and 2.7 for males.

Aside from health problem ( $p=0.0001$ ), the only significant variable in the model for females was marital status ( $p=0.0276$ ). For males, in addition to health problem ( $p=0.0001$ ), other significant determinant variables were insurance ( $p=0.0475$ ), and the age group 65 to 74 years ( $p=0.0445$ ). (See Table 3.)

The application of the regression procedure by insurance slightly reduced the  $R^2$  (coefficient of determination) for study

**TABLE 3**  
**Regression Results by Sex (Dependent Variable:**  
**Log of Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Females	Males	Females	Males	Females	Males
Intercept	1.45	1.01	0.21	0.30	0.0001	0.0010
Health Problem						
Acute	-0.94	-0.10	0.10	0.13	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	-0.07	0.26	0.21	0.28	0.7420	0.3492
25-44 Yrs.	-0.12	0.26	0.21	0.27	0.5689	0.3282
45-64 Yrs.	-0.03	0.34	0.20	0.29	0.8915	0.2297
65-74 Yrs.	0.27	0.67	0.26	0.33	0.3016	0.0445
75 Yrs. & Older	0.00	0.00				
Tribe						
Eastern	-0.04	-0.08	0.07	0.09	0.5527	0.3679
Plains	0.00	0.00				
Marital Status						
Married	0.16	-0.10	0.07	0.09	0.0276	0.2954
Unmarried	0.00	0.00				
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	-0.05	0.14	0.11	0.11	0.6319	0.2168
20,000 or More	-0.24	-0.23	0.46	0.27	0.6063	0.4040
Education						
High School	0.02	0.01	0.08	0.10	0.7449	0.9208
<High School	0.00	0.00				
Insurance						
Insured	0.06	0.22	0.09	0.11	0.5088	0.0475
Uninsured	0.00	0.00				

Females N = 339 F = 13.70 PR > F = 0.0001 R<sup>2</sup> = 0.31  
Males N = 161 F = 15.93 PR > F = 0.0001 R<sup>2</sup> = 0.54

group members with no health insurance ( $R^2=0.37$ ), and improved it for insured study group members ( $R^2=0.43$ ). Three hundred fifty-two members of the study group had no health insurance, and they averaged 2.5 annual visits to the clinic.

Along with health problem ( $p=0.0001$ ) and sex ( $p=0.0001$ ), marital status ( $p=0.0017$ ) was also indicated as an important determinant variable for this segment of the study group. The regression coefficient for the married category of the variable marital status was positive (0.55), which indicated that for every patient care visit by an uninsured, unmarried study group member, there were 0.55 more visits by uninsured, married study group members.

Among the 148 insured study group members, who averaged 3.7 annual visits to the clinic, sex was not a significant determinant variable, as it was in all other models ( $p=0.5415$ ). Health problem remains highly significant ( $p=0.0001$ ). Marital status is not significant in this model ( $p=0.1290$ ). In addition, among the insured segment of the study group, income, especially the income category, \$20,000 or more, is indicated as an important determinant of clinic use. (See Table 4.)

The regression procedure applied by marital status produced an  $R^2$  of 0.36 for the married segment of the study group. Health problem ( $p=0.0001$ ) and sex ( $p=0.0004$ ) were the only significant variables in this model. For the unmarried segment of the study group, the regression procedure produced an  $R^2$  of 0.44. Along with health problem ( $p=0.0001$ ), sex ( $p=0.0548$ ), and insurance ( $p=0.0129$ ), the age group 65 to 74 years was also significant ( $p=0.0038$ ). (See Table 5.)

## DISCUSSION

Numerous previous studies have employed a variety of regression analysis forms to investigate the determinants of health care use.<sup>5, 6, 7, 8</sup> To a large extent these and other studies have established and verified the importance and relative importance of health-related, sociodemographic, and economic population characteristics to our understanding of the utilization of health care services.

Although the statistical analysis of this study was applied to a unique subpopulation of Americans who retain much of their

**TABLE 4**  
**Regression Results by Insurance (Dependent Variable:**  
**Log of Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Uninsured	Insured	Uninsured	Insured	Uninsured	Insured
Intercept	0.65	1.66	0.35	0.25	0.0639	0.0001
Health Problem						
Acute	-0.94	-1.11	0.09	0.14	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	0.38	-0.09	0.35	0.25	0.2709	0.7255
25-44 Yrs.	0.30	0.08	0.34	0.22	0.3848	0.7075
45-64 Yrs.	0.36	0.19	0.35	0.22	0.3051	0.3763
65-74 Yrs.	1.35	0.21	0.46	0.24	0.0033	0.3836
75 Yrs. & Older	0.00	0.00				
Sex						
Females	0.33	0.07	0.07	0.12	0.0001	0.5415
Males	0.00	0.00				
Tribe						
Eastern Plains	-0.04	-0.15	0.06	0.13	0.5203	0.2394
Plains	0.00	0.00				
Marital Status						
Married	0.20	-0.18	0.06	0.11	0.0017	0.1290
Unmarried	0.00	0.00				
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	0.06	-0.12	0.10	0.13	0.5487	0.3843
20,000 or More	0.34	-0.68	0.42	0.33	0.4236	0.0446
Education						
High School	0.02	0.07	0.07	0.14	0.7621	0.6193
< High School	0.00	0.00				

Uninsured N=352 F=18.27 PR>F=0.0001 R<sup>2</sup>=0.37  
 Insured N=148 F= 9.58 PR>F=0.0001 R<sup>2</sup>=0.43

**TABLE 5**  
**Regression Results by Marital Status (Dependent Variable:**  
**Log of Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Unmarried	Married	Unmarried	Married	Unmarried	Married
Intercept	1.11	1.23	0.21	0.29	0.0001	0.0001
Health Problem						
Acute	-1.09	-0.99	0.11	0.10	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	0.16	0.01	0.20	0.30	0.4217	0.9689
25-44 Yrs.	0.04	0.04	0.20	0.28	0.8142	0.8891
45-64 Yrs.	0.11	0.14	0.19	0.28	0.5493	0.6152
65-74 Yrs.	0.68	0.12	0.23	0.35	0.0038	0.7321
75 Yrs. & Older	0.00	0.00				
Sex						
Females	0.16	0.34	0.08	0.09	0.0548	0.0004
Males	0.00	0.00				
Tribe						
Eastern Plains	-0.08	-0.03	0.07	0.09	0.2622	0.6837
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	0.03	0.001	0.11	0.12	0.7716	0.9884
20,000 or More	-0.45	-0.16	0.44	0.30	0.3055	0.5915
Education						
High School	0.12	-0.04	0.08	0.09	0.1500	0.6186
< High School	0.00	0.00				
Insurance						
Insured	0.26	0.009	0.10	0.10	0.0129	0.9250
Uninsured	0.00	0.00				

Unmarried N=254 F=17.31 PR>F=0.0001 R<sup>2</sup>=0.44  
 Married N=246 F=11.95 PR>F=0.0001 R<sup>2</sup>=0.36

cultural distinction, and who used the health services of a clinic that did not charge a fee or bill patients, overall findings are generally consistent with those established by previous work in the area. This is particularly evident in the importance of health problems/health needs, sex, and marital status.

At first glance, the importance of insurance as a determinant variable for clinic users at a free clinic may seem suspicious. However, it too becomes quite consistent with previous work when the study group is appropriately segmented. In general, male members of the urban American Indian population are more likely to be employed and thus more likely to have health insurance as a job benefit.<sup>9</sup> The empirical analysis of this study revealed insurance as a significant determinant variable among male clinic users, but not among female clinic users. Further, it is only among the insured that income is a significant determinant variable.

Other findings were unexpected, and some were more difficult to interpret. Overall, age was not indicated as an important determinant variable, except for the age group 65–74 years (an age group with highly prevalent chronic health problems). Income was significant only among the insured clinic users (less than 25 percent of the study group). This may be explained, in part, because only adults (18 years of age and older) were included in the study group, and the clinic was a free clinic. However, it is worth noting that as a general finding of the empirical analyses, age and income had opposite effects on clinic use. The analysis indicates that clinic use increases as age increases, while clinic use declines as income increases.

Another usually important determinant of health care utilization is education. This was not the case in any of the applications of the statistical procedure using the log transformation of the dependent variable. Over 60 percent of the study group had at least a high school education. This percentage is just slightly below that found in the total Indian population of Oklahoma City.<sup>10</sup> One of the important reasons Congress provided funding for the development of urban Indian clinics was the lack of knowledge or understanding of generally available health care services in most urban areas, on the part of many urban American Indians. Perhaps earning a high school diploma may not be a useful indicator of one's ability to gain knowledge of, and therefore to access, public health services. In any event, study group members with less

than a high school education averaged more annual visits to the clinic than did members with a high school education: 3.2 to 2.6.

In terms of the urban Indian clinic itself, the findings of the study have provided useful insights that contributed to tangible modifications in the organizational perspective of the clinic. For example, the clinic recognized that most of its resources are devoted to the provision of primary health care to segments of the urban Indian population most in need, such as impoverished young women, who use the clinic for prenatal care and contraception, and impoverished elders, who require maintenance for chronic health problems. The clinic has been clearly fulfilling its purpose. However, utilization by another segment of clinic users, the insured, who averaged more annual visits than the uninsured (3.7 to 2.5), encouraged the clinic to implement a full-fledged third-party billing system, and to prepare the clinic for JCAHO accreditation, so that it might be eligible to bill Medicare and Medicaid.

Today, the clinic estimates that 15 percent of its annual collections are from insured clinic users; through their use of clinic services, a modest but growing revenue is being collected to augment regular operational funding.

In recent months the clinic has begun a major fund-raising campaign to expand services and to provide them in a more appropriate and attractive setting. In addition, as an extension of the medical records survey just reported, a household health survey of the Oklahoma City American Indian population is being conducted with an emphasis on both inpatient and outpatient health care use and other sources of health care used by the urban Indian population. The findings from this survey will provide the clinic with additional and specific "market" information that will allow it to successfully carry out its original mission, and to expand its user population to include a greater mix of paying users. An important outcome of these activities will be less reliance on uncertain federal funding and visible movement toward a more self-sustaining and stable institution.

#### NOTES

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**TABLE 6**  
**Regression Results by Sex (Dependent Variable:**  
**Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Females	Males	Females	Males	Females	Males
Intercept	6.01	5.05	0.80	1.32	0.0001	0.0002
Health Problem						
Acute	-3.59	-3.89	0.39	0.57	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	-0.88	0.58	0.83	1.25	0.2917	0.6426
25-44 Yrs.	-1.06	0.71	0.81	1.20	0.1896	0.5533
45-64 Yrs.	-0.67	1.07	0.79	1.27	0.3977	0.4010
65-74 Yrs.	1.24	2.63	1.01	1.44	0.2215	0.0714
75 Yrs. & Older	0.30	0.00				
Tribe						
Eastern	0.02	-0.66	0.28	0.42	0.9289	0.1246
Plains	0.00	0.00				
Marital Status						
Married	0.48	-0.87	0.28	0.42	0.0842	0.0417
Unmarried	0.00	0.00				
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	-0.43	0.31	0.45	0.51	0.3305	0.5460
20,000 or More	-0.89	-1.09	1.78	1.20	0.6164	0.3647
Education						
High School	0.40	0.06	0.32	0.44	0.2054	0.8833
< High School	0.00	0.00				
Insurance						
Insured	0.24	0.64	0.37	0.49	0.5055	0.1939
Uninsured	0.00	0.00				

Females N=339 F=14.74 PR>F=0.0001 R<sup>2</sup>=0.33  
 Males N=161 F=10.28 PR>F=0.0001 R<sup>2</sup>=0.43

**TABLE 7**  
**Regression Results by Insurance (Dependent Variable:**  
**Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Uninsured	Insured	Uninsured	Insured	Uninsured	Insured
Intercept	2.99	7.26	1.25	1.17	0.0177	0.0001
Health Problem						
Acute	-9.36	-4.35	0.34	0.64	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	1.23	-0.87	1.25	1.16	0.3266	0.4517
25-44 Yrs.	1.07	-0.32	1.24	1.03	0.3874	0.7536
45-64 Yrs.	1.33	0.14	1.26	1.00	0.2929	0.8828
65-74 Yrs.	8.17	0.14	1.64	1.09	0.0001	0.8961
75 Yrs. & Older	0.00	0.00				
Sex						
Females	0.64	0.06	0.25	0.55	0.0128	0.9087
Males	0.00	0.00				
Tribe						
Eastern Plains	-0.08	-0.51	0.23	0.61	0.7202	0.3946
Plains	0.00	0.00				
Marital Status						
Married	0.55	-0.92	0.23	0.54	0.0180	0.0868
Unmarried	0.00	0.00				
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	-0.03	-0.80	0.92	0.63	0.3736	0.2062
20,000 or More	0.21	-2.39	1.51	1.52	0.8896	0.1197
Education						
High School	0.22	0.68	0.24	0.64	0.3616	0.2913
< High School	0.00	0.00				

Uninsured N = 352 F = 19.48 PR > F = 0.0001 R<sup>2</sup> = 0.38  
 Insured N = 148 F = 7.06 PR > F = 0.0001 R<sup>2</sup> = 0.36

**TABLE 8**  
**Regression Results by Marital Status (Dependent Variable:**  
**Number of Patient Care Visits)**

Variable	Coefficient		Standard Error		Significant Level	
	Unmarried	Married	Unmarried	Married	Unmarried	Married
Intercept	5.52	5.74	0.88	1.12	0.0001	0.0001
Health Problem						
Acute	-3.98	-3.68	0.48	0.40	0.0001	0.0001
Chronic	0.00	0.00				
Age Group						
18-24 Yrs.	-0.12	-0.90	0.86	1.12	0.8820	0.4224
25-44 Yrs.	-0.51	-0.71	0.84	1.07	0.5430	0.5069
45-64 Yrs.	-0.08	-0.39	0.82	1.07	0.9201	0.7169
65-74 Yrs.	3.51	-1.35	0.97	1.30	0.0004	0.3008
75 Yrs. & Older	0.00	0.00				
Sex						
Females	-0.02	0.94	0.35	0.36	0.9493	0.0094
Males	0.00	0.00				
Tribe						
Eastern	-0.26	-0.08	0.32	0.33	0.4131	0.8076
Plains	0.00	0.00				
Income Level						
< 10,000	0.00	0.00				
10,000-19,999	-0.04	-0.26	0.47	0.45	0.9195	0.5674
20,000 or More	-1.33	-1.02	1.83	1.13	0.4691	0.3687
Education						
High School	0.62	0.09	0.35	0.36	0.0744	0.8006
< High School	0.00	0.00				
Insurance						
Insured	0.67	0.12	0.43	0.38	0.1198	0.7521
Uninsured	0.00	0.00				

Unmarried N=254 F=15.69 PR>F=0.0001 R<sup>2</sup>=0.41

Married N=246 F=11.32 PR>F=0.0001 R<sup>2</sup>=0.34