IV. Health Care Utilization Barriers among Mexican Americans: Evidence from HHANES 1982–84

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Abstract: Data from the Hispanic Health and Nutrition Examination Survey (HHANES) conducted by the National Center for Health Statistics in 1982–1984 were analyzed to document the type of barriers encountered which prevented Mexican Americans from obtaining health care, the sociodemographic subgroups most vulnerable to such barriers, and to examine the combined effects of predisposing, enabling, and need characteristics on these barriers.

The findings suggest, in general, that low income groups, younger age groups, the less acculturated, those who lack health insurance coverage, those with functional limitations, and those in poorer perceived health status encounter more barriers than others, and are prevented by these barriers from obtaining health care for themselves. [*Am J Public Health* 1990; 80(Suppl):27–31.]

Introduction

Mexican Americans have been found to make less use of health care than White and Black non-Hispanics, Puerto Ricans, Cuban Americans and other Hispanics.[1,2] Previous research has identified various potential barriers which may impede Mexican Americans from obtaining medical care. These barriers include, but are not limited to, language and cultural differences, lack of transportation, geographic inaccessibility, financial constraints such as the cost of health care and limited health insurance coverage, and isolation from the mainstream culture.[3–9]

Several models have been proposed to examine the utilization of health services.[10–14] One of the most widely used models is a behavioral model developed by Andersen[14] and subsequently expanded by Andersen and Newman,[15] Aday and Andersen,[16] and Andersen, *et al.*[8] In its original formulation Andersen's model conceived of health care utilization as a consequence of three general factors: 1) predisposing characteristics such as age and gender; 2) enabling characteristics such as income and health insurance coverage; and 3) need characteristics such as health status. The components of this model were hypothesized to contribute independently to the understanding of differential utilization of health services. Need characteristics have been found to be more important in predicting utilization of health services than either predisposing or enabling characteristics.[17–19]

Mechanic,[17] Rundall,[18] and Wolinsky[19] have noted several problems with the model in its current form: the low amount of utilization variance explained by the model; the specification of the model in practice as additive, when in fact the model as stated by Andersen and colleagues suggests characteristics, over and above that explained by predisposing and enabling characteristics.

The approach taken in this paper uses a multivariate model based upon Andersen and colleagues' behavioral model of health care utilization.[7,8,14,16] This model focuses on utilization barriers using health care utilization as a control in order to examine variables related to encountering barriers and being prevented by these barriers from obtaining health care.

The over-riding rationale in the model's application to utilization barriers is that if predisposing, enabling, and need characteristics help explain the over- or underutilization of health care, these same constructs may help explain why some people encounter barriers and are thus prevented from utilizing health care services.

The purpose of the present study is three-fold: to document the type of barriers to health care reported by Mexican Americans; to determine which sociodemographic subgroups are most vulnerable to such barriers; and to examine the joint effects of predisposing, enabling, and need characteristics on the barriers to health care.

Methods

In the analyses presented in this paper, sampling weights were employed to arrive at reliable point estimates, and corrections for the clustering effect introduced by the complex sample design were accounted for when means and standard errors were computed by a method developed at the National Center for Health Statistics[20] and documented in this issue of the Journal.[21] The current analyses focus on 3,935 Mexican Americans ages 20–74 years who were eligible for inclusion based on their having self-identified themselves as either Mexican, Mexican American, or Chicano.

In keeping with Andersen's multivariate framework, the present study includes predisposing, enabling, and need characteristics. Table 1 displays each of the variables under these constructs differentiated by gender and age group as well as the percentage of persons who reported encountering barriers and the percentage of persons who reported having had a physician visit within the past year.

Dependent Variables

Persons interviewed in the Hispanic Health and Nutrition Examination Survey (HHANES) were asked if they encountered a barrier when they last attempted to utilize health care (from a list of 13 possible barriers, Table 2). If they reported encountering a barrier, they were further asked if this barrier actually prevented them from receiving health care.

The two major dependent variables of interest therefore were the extent to which respondents encountered utilization barriers and whether or not these barriers prevented them from obtaining care for themselves. Utilization of a physician within the past year was used as a control variable when each of the dependent variables was examined. Barriers which prevented care from being received were dichotomized as "prevented" and "not prevented" from obtaining health care. Utilization barriers encountered is a continuous variable derived by dividing the sum of those barriers the respondent reported encountering by the total possible number of barriers reported. Not all persons could report en-

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TABLE 1—Sociodemographic and Health Utilization Related Variables by Gender and Age Group

Characteristics	Ages 20–30		Ages 31–45		Ages 46–74	
	Male (N = 628)	Female (N = 696)	Male (N = 553)	Female (N = 646)	Male (N = 616)	Female (N = 796)
Predisposing						
Mean age	24.8	24.9	36.6	36.9	56.9	57.1
Mean Aculturation	2.6	2.7	2.6	2.6	2.4	2.3
% Married	60.1	65.2	85.9	73.9	84.5	63.8
% US born	59.3	65.7	59.6	62.3	64.4	67.3
Enabling						
Mean income	15.8	15.1	17.5	15.9	15.1	13.4
Mean education	10.6	10.3	9.9	9.5	7.3	6.7
% In poverty	23.7	30.1	19.6	29.6	27.4	36.5
% Employed	92.3	52.4	95.6	54.9	65.8	34.8
% Speak english	61.5	65.3	63.4	64.6	55.6	52.9
% Have regular source of care	55.9	77.6	68.6	82.9	78.1	86.0
Type of Insurance:						
% Not covered	43.8	38.1	29.6	31.6	26.5	33.2
% Private	54.1	53.4	66.9	58.8	47.5	41.3
% Medicare	.3	.8	1.0	1.3	18.0	13.2
% Medicaid	1.3	6.9	.8	6.6	6.2	10.4
% Other public	.4	.9	1.7	1.8	1.8	1.9
Need						
% Impaired	43.3	4.4	4.6	8.2	17.6	18.9
Perceived health:						
% Poor	2.1	2.2	2.9	4.0	11.5	15.0
% Fair	22.4	24.5	23.3	32.8	35.4	39.8
% Good	37.0	38.9	36.4	32.9	31.6	28.8
% Very good	20.2	18.9	21.1	17.7	13.9	10.4
% Excellent	18.2	15.5	16.3	12.6	7.6	6.0
Outcome						
Mean % barriers	7.0	8.8	5.4	7.4	4.2	7.5
% Last physician visit <1 year ago	51.0	80.0	56.8	72.2	63.2	76.7

TABLE 2—Rank Order of Specific Barrier Items, Mexican Americans (N = 3935)

Barriers Encountered Which Impeded Care	Persons Reported Encountering Barrier(s)		Persons Encountered Barrier(s) Reported Care Prevented*
	N	%	%
Cost of health care	706	18.0	82.3
Had to wait too long in the office or clinic	376	9.5	58.9
Had to wait too long to get an appointment	365	9.3	67.0
Would lose pay from work (applicable only to those who work)	337	8.6	72.7
The hours were inconvenient	307	7.8	70.3
Care was not available when needed	256	6.5	74.0
Did not know where to go	228	5.8	75.0
Did not have transportation	224	5.7	74.2
Had no confidence in the staff	168	4.3	62.9
Needed someone to take care of your children (applicable only to those with children)	132	4.2	78.3
Staff did not speak Spanish	155	3.9	62.8
Staff was disrespectful	109	2.8	53.2
There were no Hispanic staff members	91	2.3	65.6

*The percent reported for prevented barriers is derived from those persons who acknowledged an encountered barrier. For example, 82.3 percent of those who encountered cost as a barrier said it actually prevented them from obtaining care for themselves.

countering all 13 barriers. Persons who were employed and had children could report all 13 possible barriers. Persons who either were not employed or did not have children could only report 12 possible barriers. Persons who were unemployed and had no children could only legitimately report 11 of the possible 13 barriers on the list.

Results

Sixty-seven percent of the Mexican American sample did not report encountering any barriers while approximately 33 percent of the sample reported encountering one or more barriers when last attempting to obtain health care. Among those who reported encountering barriers to health care, 73 percent reported that the barrier(s) were serious enough to actually prevent them from obtaining health care on that occasion.

The encountered and prevented barrier items were rank-ordered by the percent of respondents who reported each item (Table 2). The five most commonly encountered barriers reflect dimensions of availability and accessibility of health care. For example, cost of health care was the most frequently encountered barrier among Mexican Americans, followed by having to wait too long at the doctor's office or clinic, waiting too long to get an appointment to be seen, inconvenient clinic or office hours, and losing income as a result of having to be away from work to obtain health care.

The five barriers which were most frequently reported as actually preventing Mexican Americans from obtaining health care were somewhat different. While cost of health care was the most frequently reported, needing someone to take care of their children while they obtained health care was the second most cited barrier which prevented them from obtaining health care, followed by not having transportation

to get to the source of health care, and losing pay from work while obtaining care.

In general, relatively few Mexican Americans reported encountering barriers which reflect the cultural and linguistic aspects of health care (e.g. no Spanish-speaking staff members, no Hispanic staff members, staff being disrespectful). The data seem to suggest that cost, availability, and accessibility constraints were more important than cultural constraints as measured by the HHANES.

Bivariate Associations

Predisposing Characteristics—The relationships between selected predisposing characteristics and utilization barriers were examined so as to identify sociodemographic subgroups within the Mexican American population who were most vulnerable to encountering barriers to health care. Results revealed that Mexican Americans who are younger in age, female, less acculturated, and foreign born were more likely to be prevented from obtaining health care than others.

Enabling Characteristics—Overall, the enabling characteristics examined showed a consistent and significant association with utilization barriers. Persons with low incomes or low educational levels, Spanish-speakers, those with incomes below the poverty level, the unemployed, the uninsured, and those without a regular source of care reported utilizing health care services less frequently and were more likely to encounter barriers to obtaining health care. These variables were interrelated: e.g. the unemployed have lower incomes and probably have less insurance coverage than the employed. The predisposing and enabling characteristics suggest that a significant proportion of those who can least afford health care and who are least equipped to deal with the American health care system were prevented from using health care services.

Need Characteristics—Both need characteristics examined (perceived health status and functional impairment) were found to be positively associated with encountering barriers and thus being prevented from obtaining health care. Obviously, persons in poor health and those with functional impairments have greater opportunity to encounter barriers to care due to their greater need for care and greater utilization of health services. Nonetheless, Mexican Americans with greater health needs reported encountering more barriers.

Multivariate Analyses

To assess the combined effects of predisposing, enabling, and need characteristics, separate multivariate analyses were performed with utilization barriers encountered and prevented as the dependent variables, respectively, controlling for time since last physician visit. All independent variables were entered simultaneously into each multivariate model. Therefore, the coefficients reported in Tables 3 an 4 estimate the relationship of each independent variable on the dependent variable, while simultaneously taking into account all other independent variables.

The control variable, time since last physician utilization, was dichotomized as "0" meaning less than one year and"1" meaning greater than one year. Barriers which were reported to have prevented a person from obtaining care were dichotomized as "0" meaning no barriers and "1" meaning one or more barriers were reported. Design effects were

TABLE 3—Results of Multiple Regression for Dependent Variable: Percent Barriers Encountered by Age and Gender

	Visited Physician within Last Year				Visited Physician One Year or More Ago			
	Males		Females		Males		Females	
Variables	b	SE	b	SE	b	SE	b	SE
Ages 20 to 30								
Acculturation	.0098	.013	.0033	.008	−.0034	.013	−.0146	.017
Marital status	−.0067	.003	.0023	.003	−.0048	.003	.0037	.007
Income	−.0019	.001	−.0032	.001	.0001	.001	−.0062	.002
Education	.0015	.003	.0004	.003	−.0000	.003	.0024	.007
Have regular source of care	−.0265	.018	−.0439	.018	.0050	.018	−.0258	.004
Type of insurance	−.0166	.019	.0045	.008	−.0358	.021	.0215	.025
Impaired	.0200	.053	.0210	.031	.0307	.059	.0007	.085
Perceived health	−.0365	.010	−.0169	.007	−.0165	.010	.0024	.008
Ages 31 to 45								
Acculturation	−.0065	.011	−.0129	.010	.0144	.010	.0105	.014
Marital status	.0117	.006	.0040	.005	.0088	.006	−.0046	.006
Income	−.0014	.001	−.0010	.001	−.0034	.002	−.0034	.002
Education	−.0018	.003	−.0010	.003	.0039	.002	−.0017	.004
Have regular source of care	−.0004	.022	.0240	.024	−.0304	.017	−.0196	.023
Type of insurance	−.0191	.013	−.0055	.009	.0019	.014	.0032	.015
Impaired	.0063	.041	.0068	.025	.0184	.047	−.0186	.069
Perceived health	−.0031	.010	−.0178	.007	−.0196	.010	−.0214	.013
Ages 46 and Older								
Acculturation	−.0044	.007	−.0196	.008	−.0139	.008	.0077	.015
Marital status	−.0062	.005	−.0009	.004	−.0012	.006	.0291	.007
Income	.0009	.009	−.0019	.001	.0003	.001	.0023	.002
Education	−.0036	.002	−.0006	.002	.0005	.002	−.0086	.003
Have regular source of care	−.0407	.019	.0154	.024	.0207	.014	−.0079	.024
Type of insurance	−.0106	.007	−.0222	.006	−.0137	.008	−.0117	.013
Impaired	.0302	.015	.0922	.016	.0215	.027	.0366	.034
Perceived health	−.0052	.006	−.0106	.007	−.0078	.006	−.0206	.014

TABLE 4—Multiple Logistic Regression Coefficients Estimating the Effect of Predisposing, Enabling, and Need Characteristics on Barriers Prevented Care Those Reporting They Visited the Physician within the Last Year (0 to 11 Months) (N = 793)

Variables	Regression Coefficient	S.E.	Odds Ratio	(Confidence Intervals)
Those Reporting Visit to Physician within the Last Year (N = 793)				
Age	−.0076	.008	.98	(.95, 1.02)
Gender (1 = Male, 2 = Female)	.1220	.167	1.32	(.62, 2.81)
Marital status (1 = married, 2 = not married)	−.0595	.043	.87	(.72, 1.06)
Annual income	−.0457	.013	.90	(.85, .95)
Education level	.0083	.027	1.02	(.90, 1.15)
Acculturation level	−.0792	.098	.92	(.45, 1.30)
Perceived health status	−.1462	.082	.71	(.49, 1.03)
Impairments (1 = yes, 2 = no)	.5828	.309	3.82	(.84, 15.43)
Type of insurance	−.1555	.096	.70	(.45, 1.08)
Regular source of care (1 = yes, 2 = no)	−.3400	.235	.46	(.16, 1.32)
Those Reporting Visit to Physician Longer than One Year Ago (N = 304)				
Age	−.0413	.014	.91	(.85, .97)
Gender (1 = Male, 2 = Female)	.5262	.311	3.36	(.83, 13.66)
Marital status (1 = married, 2 = not married)	.1298	.084	1.35	(.92, 1.97)
Annual income	−.0178	.024	.96	(.86, 1.07)
Education level	−.0498	.048	.89	(.88, .90)
Acculturation level	.1014	.173	1.26	(.58, 2.76)
Perceived health status	−.3404	.150	.46	(.23, .90)
Impairments (1 = Yes, 2 = No)	.3500	.663	2.24	(.11, 44.61)
Type of insurance	−.0999	.207	.80	(.31, 2.02)
Regular source of care (1 = yes, 2 = no)	−.1249	.320	1.33	(.31, 5.65)

Original sample size is 1109 because only those who reported encountering a barrier are included. Controlling for visit greater than one year and listwise deletion of missing variables reduces the N to 304.
Standard errors adjusted when design effect >1.

computed using SESUDAAN, which incorporates the Taylor Approximation Method. Standard errors were then adjusted when design effects were greater than one.

Utilization Barriers Encountered as Dependent Variable—Regressions were run separately for each age-gender group using utilization of health services in the past year as a control variable (see Table 3).

Among persons who have visited a physician within the past year, the strongest variable associated with encountering barriers among Mexican American men ages 20–45 years was marital status, with married men encountering more barriers to health care. Among Mexican American men ages 46–74 years, those with less years of formal education, those with no regular source of care, and those with functional impairments encountered more barriers than others. For Mexican American women ages 20–45 years, poorer perceived health status, low income, and not having a regular source of care were associated with encountering barriers when seeking care. Among Mexican American women 46–74 years of age, the less acculturated, the uninsured, and those with functional impairments encountered more barriers than others.

For Mexican American men ages 20–30 years who have not visited a physician for one year or more, lack of health insurance coverage and poorer perceived health status were associated with encountering barriers. There were no associations of consequence for Mexican American men 31 years of age and older. For Mexican American women ages 20–30 years, those with no health insurance coverage and those in poorer perceived health status encountered more barriers than others. Among Mexican American women ages 31–45 years, those with low incomes and those in poorer perceived health status encountered more barriers; for Mexican American women ages 46–74 years, being married and having less years of education were associated with encountering barriers when seeking health care.

Barriers Which Prevented Health Care as Dependent Variable—Multiple logistic regression analysis was the method of choice employed to examine the contributions of the predisposing, enabling, and need variables because of the skewed distribution and dichotomy of the dependent variable. Utilization of health services in the past year was again used as a control variable. Table 4 displays the results of this analysis which included only persons who reported encountering a utilization barrier.

Results indicated that, among Mexican Americans who saw a physician within the past year, those with lower incomes and those with functional impairments were more likely to be prevented from obtaining care than others. Among Mexican Americans who had not visited a physician within the past year, younger persons, women, and those in poorer perceived health status were more likely than others to have been prevented from obtaining health care.

Discussion

Findings from the HHANES revealed that approximately one-third of the adult Mexican American population had reported barriers to obtaining health care during their most recent medical encounter. These barriers to receiving health care were significant in that three-fourths of the time the barriers encountered were sufficient to prevent persons from obtaining the medical care they sought.

Analyses revealed that Mexican Americans with low educational levels and low incomes are experiencing more problems than other Mexican Americans in accessing health care. Spanish-speaking, foreign-born, and less acculturated Mexican Americans were found to be the most likely to be prevented from obtaining the care they sought.

A significant minority of the adult Mexican American population reported encountering barriers which prevented them from accessing medical care. Almost one in five adult

Mexican Americans reported the cost of medical care was a barrier to their receiving care. The concern over the cost of health care among Mexican Americans would appear to be warranted, given that they have the highest rate of being uninsured for medical expenses in the country.[2] A smaller proportion of the adult Mexican American population reported problems accessing medical care due to the lack of health care services during nonworking hours (e.g. losing pay from work, hours of operation were inconvenient, care was not available when needed). Occupational analyses were not performed; however, it may be that access to medical care is more dependent upon the availability of expanded hours of operation among health providers due to the greater propensity of Mexican Americans to be employed in hourly-paid service occupations.

Given the shortage of minority and multilingual health providers in the United States, it was encouraging to find that fewer Mexican Americans reported cultural or linguistic barriers to care (e.g., no Spanish-speaking staff, no Hispanic staff, disrespectful staff). This finding was unexpected given the body of research which has suggested that the exclusion of Spanish-speaking and/or Hispanic staff members is a primary reason for underutilization of health services among Mexican Americans.[4,6,22-24] This finding does not refute the probable importance of cultural and linguistic aspects of medical care but rather may signify that among Mexican Americans the cost, availability and accessibility constraints may be more important in determining utilization of health services than the cultural and linguistic constraints (as measured in the HHANES). It is possible that accessibility and availability of care (cost, geographic location, hours of operation, etc.) are most closely related to utilization of services while cultural and linguistic aspects of care relate more to satisfaction with care, compliance with treatment, continuation in treatment, etc.

It is unfortunate that Mexican Americans with the highest need for health care (poor perceived health status and functional limitations) tended to report the highest rates of encountering barriers which prevented them from obtaining the needed care. Also, approximately 6 percent of the adult Mexican American population reported not knowing where to go for health services or having a way to get there. Health providers and agencies seeking to increase access to medical care among Mexican Americans can assist by focusing on service delivery aspects (e.g., cost of care, providing convenient hours for the community they serve, decreased waiting time, etc.) and outreach aspects (educational and transportation) to reach those individuals who may not know where to go for care. It is possible that such efforts would increase access to care for all ethnic/racial groups.

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