The Effect of Hispanic Ethnicity and Acculturation on Health Care Utilization

INTRODUCTION

The objective of this study is to use the behavioral model of health care utilization developed by Andersen and colleagues to identify the correlates and predictors of health care utilization for Hispanics in the United States. Many studies have investigated the predictors of individuals' decisions to use health care services. The focus of these studies, however, has primarily been on the health care utilization of non-Hispanic Whites and, to a lesser extent, non-Hispanic Blacks. In the United States, the Hispanic population is among the fastest growing of all communities. Despite this fact, Hispanics remain unremittingly underserved by the health care system (Carter-Pokras and Woo 1999).

This study strives to make three necessary contributions to the study of health care access and utilization. First, unlike previous research that focuses almost exclusively on health care issues for non-Hispanic Whites and Blacks, I will dedicate my attention to the understudied population of Hispanics in the United States and focus on health utilization differences among multiple Hispanic ethnicities (Mexican, Mexican-American, Cuban, Puerto Rican, Dominican and Central and South American). Second, this research will better inform the behavioral model of health care utilization by incorporating concepts derived from acculturation theory, making the model both stronger in general and more applicable to the Hispanic population in the United States. Third, the modified behavioral model will be tested as the original model was designed to be tested, as a true path model. This will allow me to examine not only the direct effects of the model components on health care utilization, but also to reveal the indirect and interactive effects that have largely been ignored in previous research.

THEORETICAL FOUNDATIONS

The Behavioral Model of Health Care Utilization

Andersen and Newman (1973) developed a theoretical framework for understanding utilization of health services. This framework emphasizes the importance of characteristics of the health services delivery system, changes in medical technology and social norms relating to the definition and treatment of illness, and the individual determinants of health care utilization.

This model was initially designed to understand why people use health care services, to define equitable access to health care services, and to aid in the development of policies to promote equitable health care access. The model was designed to both predict and explain health care utilization. The model is designed to be fundamentally non-normative regarding utilization – that is, it's intention is not to understand "appropriate" levels of health care use, but instead to identify conditions that either make possible or hinder utilization (Andersen 1995). Nevertheless, in practice the model is most often used to determine proper amounts of health care utilization. Differential access to health care services among ethnic groups is habitually deemed socially unacceptable, justifying the allocation of resources for the creation and application of programs designed to improve the health care access of minorities (Andersen et al. 1981).

The portion of the model most often referred to as the behavioral model assumes that a progression of individual characteristics explains the type or volume of health services a person uses. These characteristics correspond to three conceptually distinct categories: (1) characteristics that predispose individuals to use or not use health services, (2), factors that

enable or impede health service use, and (3) the need for health services as indexed by symptoms or other illness indicators.

Acculturation Theory

According to Redfield et al. (1936), acculturation can be defined in the following terms:

> Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups … under this definition acculturation is to be distinguished from culture change, of which it is but one aspect, and assimilation, which is at times a phase of acculturation. It is also to be differentiated from diffusion, which while occurring in all instances of acculturation, is not only a phenomena which frequently takes place without the occurrence of the types of contact between peoples specified in the definition above, but also constitutes only one aspect of the process of acculturation.

In the simplest terms, acculturation is the multifaceted process of adjusting to a host culture and taking on the values, beliefs and behaviors of that culture (Dana 1996). Based on this definition, acculturation consists of four basic features: nature, course, level, and measurement (Berry 1980). Each of these four components will now be addressed in greater detail.

Nature: As stated in the definition, acculturation requires the interaction of at least two different cultural groups where one group is shaped or changed as a result of the interaction. In theory, change can occur for any or all of the groups involved in the interaction. In reality, one group dominates the other and contributes more to the flow of cultural change. This domination suggests that acculturative change may be difficult, reactive, and conflictual (Berry 1980).

Course: There is a characteristic three-phase course of acculturation. The first phase is physical or symbolic contact between groups, where the nature, purpose, duration and

permanence of the contact directly affect acculturation. The second phase is conflict, which takes place if one group shows resistance to change. The final phase is adaptation, which refers to the variety of decisions made by all groups to minimize or stabilize conflict (Berry 1980).

Level: Acculturation has most often been treated as a group phenomenon. The original formulations of the concept, however, included the idea of the individual, and referred to individual personality factors. Therefore, acculturation should be treated as a two-level measurement – that of the group and that of the individual.

Measurement: There is a great deal of confusion surrounding the measurement of acculturation (Berry 1980). Acculturation has typically been measured by a set of various proxies. The ability to speak English is perhaps the most frequently used and most robust acculturation measure (Marks et al. 1987). Other commonly accepted measures of acculturation are length of residence in the U.S., generation status, proportion of the respondent's life lived in the U.S. or age at arrival (Arcia et al. 2001).

Several studies have examined the role acculturation plays in access to health care for Hispanics. Among Mexican Americans, those with low levels of acculturation are less likely to seek outpatient care, even when need is considered (Wells et al. 1989). The health care system in the United States is complex and intimidating to those who do not speak English (Goldsmith 1993). Language barriers are an important reason why many Hispanics do not have health insurance. Information and materials on health insurance are often not provided in Spanish, and Hispanics who speak Spanish only or Spanish primarily may be missing insurance opportunities (Perry, Kannel and Castillo 2000). Additionally, Hispanics attempting to use the health care system can feel powerless because of the language barrier and this

powerlessness affects their ability to gather information and formulate an appropriate health plan (Juarbe 1995). A large percentage of Spanish-speaking Hispanics (43%) as well as English-speaking Hispanics (26%) report having problems understanding and communicating with their doctors, compared to only 16% of Whites who face this same issue (Doty and Ives 2002). Not surprisingly, there is a significant, positive relationship between length of residence in the U.S. and the ability to speak English (Arcia et al. 2001). Recently immigrated Hispanics are significantly less likely to receive timely health care than both native-born Hispanics and immigrants who have been in the U.S. for a longer duration of time, net of socioeconomic characteristics (LeClere, Jensen and Biddlecom 1994).

HISPANICS, HEALTH, AND HEALTH CARE

Demographic Profile

The Hispanic population more than doubled in size from 1980 to 2000. In the year 2000, about 1 out of every 8 people living in the United States was of Hispanic origin, resulting in approximately 32.8 million Hispanics in the total population (Therrien and Ramirez 2000). In fact, Hispanics currently make up the second largest racial/ethnic group in the United States (Doty and Ives 2002). Among the Hispanic population, the majority is of Mexican (66.1%) origin with the remaining population being Central and South American (14.5%), Puerto Rican (9.0%), other Hispanic (6.4%) and Cuban (4.0%). Hispanics are much younger, on average, than non-Hispanic Whites. Almost 36 percent of Hispanics in the U.S. are under age 18, compared to only 23.5 percent of non-Hispanic Whites.

The Hispanic population in the U.S. is a young one without question. Along with the rest of the population, however, Hispanics are going through the demographic imperative of aging. It is important to note that, while the proportion of White non-Hispanics aged 65 and

older decreased throughout the 1990s, the proportion of Hispanics age 65 and older, both domestic and foreign born, increased over that same period (Sudha and Mutran 2001). Overall, the population over the age of 65 in the U.S. is projected to increase by 93 percent over the next three decades. The elderly Hispanic population, however, is projected to increase by 555 percent over that same period. In 1990, it was estimated that about 13 percent of the 32 million elderly residents in the U.S. were racial and ethnic minorities. By 2030, that number is expected to climb to 25 percent, and there will be an estimated 12.5 million elderly Hispanics in the U.S. by 2050 (Angel and Hogan 1994). There is also significant growth among the oldest-old population. Hispanics aged 85 and older tripled in number between 1980 and 1995 and are projected to increase to 1 million by 2030 and 3.2 million by 2050 (Siegel 1999). Alarmingly, compared to the aging population as a whole, elderly Hispanics are more likely to live in poor conditions, are more likely to have long-term care needs from ADL limitations and are less likely to utilize health care services (Williams 1991).

Heath Care Utilization

Hispanics in general, and Mexican Americans in particular, have the lowest levels of health care service utilization in the United States (Estrada, Trevino and Ray 1990; Guendelman and Schwalbe 1986; Trevino et al. 1991). Some previous studies identified potential reasons why Hispanics do not seek health care as often as non-Hispanic Whites. Hispanics are significantly more likely than other groups to be without health insurance (Andersen et al. 1981). A recent nationally representative study found that 35% of Hispanics (compared to 12% of Whites) do not currently have insurance, and another 11% (compared to 8% of Whites) are presently insured, but were without insurance during the past the year

(Doty and Ives 2002). In fact, from 1987 to 1998, the number of uninsured Hispanics doubled to reach a total of 11.2 million, which is one-fourth of all uninsured Americans (Quinn 2000).

Research has found that Hispanics do want health insurance, but meeting basic needs and securing a job, with or without health coverage, are higher priorities. Many uninsured Hispanics say that they work for employers who do not offer health insurance, or that they themselves were not eligible for coverage because they did not hold management or full-time positions (Perry, Kannel and Castillo 2000). When their employers offer them health insurance, Hispanic workers participate at about the same rate as other workers (Quinn 2000). When they have health insurance, poor Hispanics use the health care services that are available to them (Trevino et al. 1996).

Being without health insurance makes it highly unlikely that an individual will visit a health care facility. Almost half of all Hispanics who are uninsured have not visited the doctor, received a prescription for medicine, or completed recommended medical tests within the past year. Two-thirds of Hispanics without insurance had to deal with collection agencies or an inability to pay their medical bills within the past year (Quinn 2000). Insurance coverage varies among the Hispanic subgroups, with Puerto Ricans and Cubans almost twice as likely to have insurance as Mexican, Central, and South Americans (Trevino et al. 1991; Valdez et al. 1993). Hispanics in the U.S. are also disadvantaged socioeconomically compared to non-Hispanic Whites. In fact, there is a large gap between the levels of education of Hispanics and those of the non-Hispanic White majority (Ginzberg 1991). More than two in five Hispanics have not graduated from high school, which is much lower than the 88.4 percent high school graduation rate for non-Hispanic Whites (Therrien and Ramirez 2000). Half of the Hispanics with a family income below the poverty level are not insured under

public coverage or safety net insurance (Quinn 2000). In addition to being less educated, Hispanics are also more likely to be unemployed, to work in service occupations, and to earn less than non-Hispanic Whites (Therrien and Ramirez 2000). Over one quarter of Hispanics live in poverty and for these people buying health insurance is not a realistic option (Hartman and Reyes, 1994).

Within-Group Differentials

Despite the fact that Hispanics suffer from lower levels of education, occupational prestige, and income than do non-Hispanics, they have a lower age-adjusted mortality rate than non-Hispanic Blacks, and, in some cases, than non-Hispanic Whites. The causes of death among Hispanics is also similar to the causes of death of non-Hispanics, with heart disease, cancer, strokes, and accidents being among the top killers (Iannotta 2002). Self-reported health, however, indicates that Hispanics in the United States see themselves to be in worse health than do non-Hispanics. Puerto Ricans, Cuban Americans, and Mexican Americans are all more likely to self-report being in "fair" or "poor" health than are non-Hispanics of any race (Kington and Nickens 2001; Ren and Amick 1996).

Important within-group differences in cause of death exist among Hispanics of different ethnic origins. Cuban Americans have the most in common with non-Hispanic Whites, sharing heart disease, cancer, stroke, and chronic obstructive pulmonary disease as leading causes of death. Puerto Ricans, however, have the most in common with non-Hispanic Blacks, sharing 9 out of the top 10 causes of death. Liver disease is a leading cause of death for both Mexican Americans and Puerto Ricans, but not for any other group, suggesting vulnerability in these groups. Puerto Ricans are unique from other Hispanic groups in having HIV/AIDS as the third leading cause of death. Only non-Hispanic Blacks also have

HIV/AIDS in their top ten. Finally, Mexican Americans are the only group to have conditions originating in the perinatal period and congenital defects as leading causes of death (Iannotta 2002).

Within-group disparities are also seen when examining morbidity data. Overall, Cuban Americans and Mexican Americans experience about the same rates of morbidity as non-Hispanic Whites, while Puerto Ricans experience worse rates of morbidity than non-Hispanic Blacks. For example, 17 percent of Puerto Ricans experience functional limitations, which is higher than the rate of non-Hispanic Blacks. Mexican and Cuban Americans, conversely, have lower rates of functional limitation than non-Hispanic Whites. A notable exception in the pattern of Hispanics faring better than other groups, however, is the case of diabetes. Both Mexican Americans and Puerto Ricans have twice the rate of the disease compared to non-Hispanic Whites (Iannotta 2002).

HYPOTHESES

The aim of the present research is threefold. First, to bring to life important information on an understudied population. Second, to better inform the behavioral model by including indicators of acculturation. Third, to better test the model by examining the direct, indirect, and interactive effects of the model components. Is it that we want to know who does or does not utilize health care, or, in reality, do we wish to discover among those in need, who does or does not utilize health care? In other words, perhaps we need to look beyond the direct and indirect effects of predisposing and enabling factors on utilization, and shift our focus to how these factors interact with need in order to predict health service utilization. The behavioral model of health care utilization is most often tested using a series of multiple regression models where only the additive effects of the independent variables are examined.

This means that the effect of one independent variable is the same for all values of the other independent variables. However, it is possible that the magnitude of the effect of one independent variable is a function of the values of one or more other independent variables. This calls for the consideration of a multiplicative effect, or a statistical interaction. The research is directed by the following hypotheses:

H(1): Predisposing factors have a direct effect on both the incidence and volume of health services utilization.

H(2): Predisposing factors have indirect effects on both the incidence and volume of health services utilization through both enabling factors and need factors.

H(3): Enabling factors have a direct effect on both the incidence and volume of health services utilization.

H(4): Enabling factors have indirect effects on both the incidence and volume of health services utilization through need factors.

H(5): Need factors have a direct effect on both the incidence and volume of health services utilization.

H(6): Select predisposing factors will interact with need factors in predicting both the incidence and volume of health services utilization.

H(7): Select enabling factors will interact with need factors in predicting both the incidence and volume of health services utilization.

DATA AND METHODS

The data for this study are taken from the 2000 National Health Interview Survey. The National Health Interview Survey (NHIS) is a cross-sectional household interview survey. Sampling and interviewing are continuous throughout each year. The sampling plan follows a

multistage area probability design that allows for representative sampling of households. The first stage consists of a sample of 358 primary sampling units (PSU's) drawn from approximately 1,900 geographically defined PSU's that cover all 50 States and the District of Columbia. Within a PSU, area segments (containing an expected 8 or 12 addresses) and permit area segments (covering geographical areas containing housing units built after the 1990 census) are assigned. Both Black persons and Hispanic persons are over-sampled.

The households selected for interview in the NHIS are a probability sample representative of the target population. The annual response rate of NHIS is greater than 90 percent of the eligible households in the sample. For the Family Core component of the Basic Module, all adult members of the household 17 years of age and over who are at home at the time of the interview are invited to participate and to respond for themselves. For children and those adults not at home during the interview, information is provided by a knowledgeable adult proxy residing in the household. For the Sample Adult questionnaire, one adult per family is randomly selected; this individual responds for him/herself to the questions in this section. Only the sample adult file (N=32,374) is used for this study. Once all non-Hispanics are removed, the final sample size is 5,377 individuals.

Structural equation modeling (SEM) will be the key mode of analysis used in this study. SEM is a set of statistical procedures that allow an array of relationships between one or more continuous or discrete independent variables (IVs) and one or more continuous or discrete dependent variables (DVs) to be examined. A particular form of SEM, path analysis, will be used in this study. Path diagrams allow the researcher to outline the model (the hypothesized set of relationships) and therefore clarify the expected relationships among variables. When the phenomena of interest are complex and multidimensional, as they are

here, SEM is the only analysis that allows complete and simultaneous tests of all the relationships (Ullman 2001).

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