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Health Communication Resources for Uninsured and Insured Hispanics

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There are increasing numbers of medically uninsured populations in the United States today. Despite rising concerns with the health status of the uninsured, a dearth of information exists about their health seeking and health communication behaviors. Because Hispanics experience elevated risks of being medically uninsured, and have less access to health care services and health information resources, it is imperative that health communicators understand ways to reach this population. This study investigates Hispanics' connections to various media and interpersonal resources for health information and explores the extent to which the uninsured and the insured differ in terms of their health communication choices, and health seeking behaviors. Results from a survey of 737 Hispanics in Los Angeles show that ethnically targeted television and interpersonal communication networks were the preferred sources of health information. The uninsured and insured populations differed significantly in the ways that they access health care and seek health information, including the use of online health information. Implications of the findings are discussed for understanding health knowledge gaps and the design of mediated health communication campaigns to reach the medically vulnerable and Hispanic populations.

Michael is a marketing coordinator for a nonprofit organization that aims to help residents of Los Angeles obtain health information and assistance. His organization has recently introduced a telephone help line service and new Web pages on the Internet. His manager has asked him to design a health communications campaign to inform residents of various targeted communities of these new services. The director of the organization suggested using the Internet to disseminate health-related information, as there is "a need to keep up with the times" and appear socially relevant to funding agencies. Although Michael has interacted with various Hispanic populations for the past 3 years, he "does not have a clue about" what media the residents of his target communities use in their everyday lives. After some brainstorming with his colleagues and a consideration of the limited budget, Michael decides to run some print advertisements in the *Los Angeles Times* and television advertisements on Spanish language channels 22 and 54.

The above vignette is drawn from fieldwork interviews among health communicators working to reach Hispanic residents in Los Angeles. It describes the orientation and actions of an outreach coordinator who has been tasked with the urgent and challenging duty of disseminating health-related information to underserved urban residents. Although the urban poor communities are important targets of health communication interventions, health practitioners are often unaware of their health information seeking and problem solving behaviors, and consequently model information services that are limited to highly educated elites (Dervin & Greenberg, 1972). Little research has explored the media relations and communication behaviors of immigrant minorities (Hudson & Watts, 1996; Mcgrory, 1999). Yet this knowledge is imperative for understanding how to reach the large number of newer immigrants and minority population groups who need access to health information and services. Understanding the media use of Hispanic immigrants for health information is important for health communicators like Michael, because the current crisis in the health care system and lack of health insurance in the United States is adversely affecting many Hispanic immigrants. It is projected that immigration will contribute to an increase in the U.S. population from 288 million to more than 400 million in the next 50 years (Betancur & Gills, 2000). In particular, the Hispanic population is emerging

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as the largest ethnic population in the United State. and California (Engstrom, 2000) and is projected to account for 32 million out of 72 million persons added to the nation over the next 25 years (Suro & Passel, 2003).

There are large and persisting gaps in access to health services and medical information, especially among the growing low-income and minority ethnic populations in the United States today (Carrillo, Trevino, Betancourt, & Coustasse, 2001). About one in seven Americans are without health coverage (The Kaiser Family Foundation, 2003) and the ranks of the uninsured have steadily risen from 40 million in 2000 to 45 million in 2004 (Carmen, Procter, & Lee, 2005). Of all racial/ethnic groups, low-income Latinos are the least likely to have health insurance and the most likely to encounter difficulties accessing health care (Ku & Waidmann, 2003; Manos et al., 2001). They also face multiple constraints in accessing medical information and health care for themselves and their families (Brice, 2000; Los Angeles County Department of Health, 2000).

The consequences of being uninsured have been found to be significantly associated with health status and health care seeking behaviors. A review of over 130 studies concerned with the impact of insurance coverage on health concluded that 25% of uninsured adults are more likely to die prematurely from heart disease, cancer, car accidents, or HIV than their insured counterparts (Institute of Medicine, 2004). Results of the review also estimated that 18,300 Americans age 25 to 64 died in 2000 due to lack of health insurance. Given the growing presence of Hispanics and the uninsured in America, their health communication behaviors and accessibility to health care information require research attention. Since Hispanics are considered high risk and yet are less likely to take part routinely in the health care system and have less access to health care, it is important for health communicators to find ways of understanding this population. This research investigates Hispanics' connections to various media and interpersonal resources for health information and explores the extent to which the uninsured and the insured differ in terms of their health information seeking and health care behaviors.

COMMUNICATION ECOLOGY AND HEALTH INFORMATION GAPS

Various ecological perspectives in health communication research highlight the importance of embedding individuals' information seeking behaviors and health outcomes within the context of their daily social conditions and cultural environments (Cheong, Wilkin, & Ball-Rokeach, 2004; Norton, McLeroy, Burdine, Felix, & Dorsey, 2002; Sallis & Owen, 2002). For example, the communication infrastructure perspective highlights the importance of diagnosing the role and importance of people's everyday media connections within their geographic and ethnic communities (Ball-Rokeach, Kim, & Matei, 2001). People develop their own communication systems or ecologies whereby they establish connections to other people and to media for purposes of understanding, orientation, and play (Ball-Rokeach, 1985). The breadth of one's communication ecology encompasses mediated and nonmediated resources; this includes interpersonal resources such as family and friends; traditional media such as newspapers, leaflets, and magazines; and newer electronic media, such as the Internet, for accessing health information.

Past communication research explains why media use should be studied in the context of multiple media to assess their relative importance (Altheide, 1997; Perse, Ferguson, & McLeod, 1994). For example, Internet use should be studied in the context of older media (Flanagan & Metzger, 2001). An ecological approach to investigating the spectrum of health communication resources can provide health agencies with a detailed map, pointing out which ways of communicating play the most important roles in the lives of minority ethnic populations, and therefore which communication modes afford health agencies the most cost-effective way of reaching these populations. These findings may be especially important when understanding health communication behaviors during situations of high threat in the health care environ, including an absence of health insurance and difficulties in obtaining medical care. Prior research in crisis communication has shown that people tend to connect to multiple sources of information (Cohen, Ball-Rokeach, Jung, & Kim, 2003) and may even connect to more than one medium simultaneously, narrowing the variance between mass media content and interpersonal communication (Carey, 2003). Research in the information systems of the urban poor showed that they relied on their interpersonal social networks for survival and favored television use instead of print media for information seeking in their daily lives (Agada, 1999; Chatman, 1985; Greenberg & Dervin, 1970). Furthermore, a consideration of an ecology of health communicative options is important, especially for minority ethnic populations, who may prefer to connect to ethnically targeted media rather than to mainstream media sources for health information.

Prior studies indicate that different ethnic groups rely on unique methods to access health-related information. For example, a study conducted among Californians found that non-Hispanic Whites relied mainly on doctors, newspapers, and printed materials, whereas Hispanics mostly utilized television, followed by printed materials and newspapers, for their health information (Kar, Alcalay, & Alex, 2001). Hispanics have been found to rely on family and friendship networks as their main source of health information (Hudson & Watts, 1996) and prefer interpersonal connections with their therapists, service providers, and institutions in their health interactions (Gloria & Peregoy, 1996).

In addition to mainstream mass media sources and interpersonal sources, ethnically targeted media may also form part of Hispanics' communication ecology. Entertainment education in health communication research has highlighted the value of soap operas or telenovelas, broadcast via Spanish-language television (Singhal, Cody, Rogers, & Sabido, 2003). Developments in journalism show that ethnic newspapers are becoming more influential among the growing immigrant communities nationwide, especially in urban cities such as Los Angeles and New York (Lehrer, 2002). Yet the majority of health communication research does not examine the role and importance of Spanish-language television, radio, and newspapers in Hispanics' everyday lives.

Recently, the Internet has become an important source of health information for an increasing number of Americans, contending with other media sources in one's health communication ecology. In an October 2002 survey conducted by Pew Internet and American Life research, Horrigan and Rainie (2002) found that Internet users are about as likely to say that they will turn to the Internet for information the next time they need health or medical information as they are to contact a medical professional. In another survey, Fox & Fallows (2003) found that Hispanic Internet users are less likely than White Internet users to be online health seekers, but the differences between them diminish after taking into account income and education levels. In a study on Californians and their Internet use behaviors, Fox (2003) found that about three fourths of English-speaking, Hispanic Internet users have searched for health information online, a proportion slightly lower than the average number of Californian online health information seekers (83%). Most recently, Fox (2005) noted a slight increase in the number of health Internet users to about 95 million American adults. Results found that certain groups, including women, Internet users younger than 65, and college graduates were more likely to have sought health information online.

To date, the growth in the Internet and other Web-enabled applications has opened up new pathways for health communications to disseminate health information and tailor health messages to specific target audiences (Owen, Fotheringham, & Marcus, 2002). Yet, the Internet in health care and projections of future growth in e-health have tended to focus on the demands of consumers with the "3 Cs": cash, college education, and computers (Mittman & Cain, 2001). Consequently, there is a rising concern with the disjuncture between the efficacies of Web-based applications versus the realities of disparities in peoples' health Internet use (Cheong & Wilkin, 2005; Dickerson et al., 2004). Moreover, little research has focused on exploring the role of the Internet in the lives of new immigrant and minority ethnic populations, especially researching immigrants from non-English speaking, non-European backgrounds (Gans, 2000).

In light of the need to understand Hispanics' communication behaviors to best reach them with health resources, the following research questions are posed to understand Hispanics' health communication ecology:

RQ1A: In what ways do Hispanics obtain their medical care?

RQ1B: How do Hispanics search for health information?

HEALTH INSURANCE STATUS AND HEALTH INFORMATION DISPARITIES

As discussed above, despite the rising attention to the uninsured in America, little is known about their health communication behaviors and associated heath knowledge gaps. Health informational disparities may be magnified in cases of ethnic minority and immigrant communities where many are without health insurance and lack the knowledge of effective health problem solving behaviors. For example, the introductory vignette mentioned how an organization in Los Angeles launched a new online health information service. In light of the growing popularity of the Internet for health communication campaigns, many Hispanic immigrants may consequently face twin barriers in their health information seeking behaviors due to their lack of knowledge about health care services as well as lack of knowledge of how to access health information and services online.

The knowledge gap hypothesis posits that as the flow of information on a given topic into a community increases, people ofhigher socioeconomic status are in a better position to take advantage of the information compared to others, thus potentially leading to differential knowledge among social groups (Tichenor, Donohue, & Olien, 1970; Viswanath & Finnegan, 1996). Past research suggests that the choice of communication channels can play a significant role in contributing or reducing knowledge gaps (Robinson, 1972; Tichenor et al., 1970) because those with higher social wealth tend to use print media, whereas those of lower socioeconomic status tend to depend more on television (Eveland & Scheufele, 2000; Viswanath & Finnegan, 1996). Given that people do seek health information and learn about health from various sources, studying Hispanics' health communication ecologies may add to the understanding of the knowledge gap between the insured and uninsured. Furthermore, classic media studies have questioned whether a "culture of poverty" exists with regard to mass media use, and it has been proposed that some types of vulnerabilities, such as low socioeconomic status, are likely to influence media use (Greenberg & Dervin, 1970). However, a paucity of research exists on the ways in which sociodemographic factors and health insurance status interact and influence health information seeking behaviors. It may be expected that the poorer, uninsured populations

lag behind in health information access and face constraints in gaining access to certain types of health information, especially to health information available on newer media like the Internet. Therefore, the second research question explores whether there are different connections to health communication resources between medically uninsured and insured Hispanics.

RQ2: Does health insurance affect Hispanics' health communication choices, including utilization of online health information?

METHOD

Data

Results reported here are based on telephone interview data collected between December 2002 and February 2003 as part of the Metamorphosis project at the University of Southern California. This is a project on community building and communications technologies funded by the First 5 Healthy Families and Children First Commission of Los Angeles and the Annenberg Center for Communication. Los Angeles is the second-largest city in the United States and continues to be the major gateway city for new Hispanic immigrants, making it an important social laboratory to examine the health communication behaviors of Hispanics.

The sample was drawn from two predominantly Hispanic communities, in accordance with the project sponsors' intention to understand Hispanic parents with children and with the project's past research methodology of sampling ethnic communities in their geographic neighborhoods, given the ethnically segregated landscape of Los Angeles (Matei, Ball-Rokeach, Wilson, Gibbs, & Gutierrez Hoyt, 2001). The study areas were composed of two predominantly Hispanic neighborhoods that share similar sociodemographic characteristics and that are located within 10 miles south of downtown Los Angeles. The first area, Pico Union, is a 1.7 square mile area located southwest of downtown Los Angeles, with a population of 146,560 persons (U.S. Census, 2000). Pico-Union serves as the portal for Central American and Mexican immigrants, and is a transitory place for younger sojourning immigrants (Allen & Turner, 1997). Two thirds of the residents in Pico Union are born outside of the United States (U.S. Census, 2000). The area is economically depressed and its residents comprise the poorest in Los Angeles, with an annual median household income of $20,220, less than half of Los Angeles County's median household income (U.S. Census, 2000). The low incidence of health insurance coverage (49%) is consistent with a high rate of unemployment, as well as with the residents being mainly domestic and garment workers (Allen & Turner, 1997). The second study area, the Southeast community, is part of SPA (service planning area) 7, one of eight such areas so identified by Los Angeles County and the Los Angeles Department of Public Health. The study area covers the contiguous 11.6 square mile areas of Huntington Park, South Gate, and Cudahy. The total population of the area is 181,931 persons, and more than 90% of the Southeast area is Hispanic, with more than 50% of the residents being first-generation immigrants (U.S. Census Bureau, 2000). Less than 40% of the population has completed high school, and about 20% of the families have household incomes below the national poverty level (U.S. Census, 2000).

In cooperation with the project's major funding sponsor, respondents in the study areas for the random digit dialing telephone interview (first adult contacted) were screened for their Hispanic ethnicity and their caregiver status. Thus, the sampling frame consisted of only Hispanics and included a proportion (44%) of caregivers and parents with at least one child age five or under, which is 17% higher than the average in the city of Los Angeles (U.S. Census, 2000). The response rate to the survey was 48%, conservatively calculated by dividing the number of completed interviews by the number of theoretically eligible phone numbers within the parameters of the sampling frame. Surveys were conducted in Spanish and English, and administered in the respondents' preferred language by trained bilingual interviewers from a well-respected commercial research organization. Interviewers made up to eight callbacks to contact respondents who did not initially answer. Two surveys were incomplete with regard to respondents' health insurance status and were subsequently deleted from the analysis, leaving a total sample of 737 respondents.

Measures

The survey instrument contained questions on media use, sources of health information, and health insurance status. Health insurance coverage was measured by a self-reported item, similar to extant research that examined health insurance. Health information access was measured by asking the respondents, "What are the most important ways that you get medical, and health information for yourself and your family?" The options were a range of interpersonal and media choices, including contacting health care providers, television, radio, newspaper, Internet, and leaflets and pamphlets. To further understand the specific media resources that are utilized, participants who sought health information from the television, radio, and newspapers were asked to clarify whether they used mainstream English resources and/or local Spanish media for health information. For example, if television was chosen as a medium for health communication, participants were asked, "When you watch TV to get medical and health information, is it more often 'major English commercial channels'; or 'other television or cable channels that target your area or that

are produced for your ethnic group?" For health behaviors, respondents were asked if they had a regular place for health care and how easily they could obtain medical help (measured on a 4-point scale from "very easy" to "very difficult"), as well as to list the places that they visit for health care. Demographic characteristics were indicated by age, gender, employment, education, and household income.

Data Analysis

Chi-square tests of proportion were used at the bivariate level to explore the differences between the uninsured and insured respondents. Multivariate logistic regression analysis was used to predict the sources of health information from education, income, gender, age, employment, immigrant, and health insurance status. All statistical analyses were performed using SPSS 11.5 and employed a .05 level of significance.

RESULTS

Descriptive Statistics

Table 1 summarizes characteristics of the insured and uninsured subsamples along eight dimensions: gender, age, education, income, immigrant generation, employment status, language preferences, and health care behaviors. On the whole, respondents in the Pico Union and Southeast Hispanic communities shared similar sociodemographic variables and health information seeking and health care behaviors.

Of the total 737 respondents, 315 were male and 422 female. Both populations had a similar proportion of male and female respondents, with a slightly higher percentage of respondents being females. Respondents ranged in age from 18 to 91 with a median age of 35. Both populations consisted of relatively younger residents, with the majority of residents below 45 years of age. With regard to socioeconomic status, the majority of the respondents reported having a low household income and little formal education. Both populations reported a low educational attainment, with the bulk of the respondents without a college degree. More than three fourths of the respondents in the two communities reported an annual household income below $35,000. The total population consisted of primarily first- and second-generation immigrants. More than half of respondents in both the Pico Union and Southeast areas (57%) reported being first-generation immigrants (i.e., born in this country, but their parents were not), whereas about one third were second-generation immigrants (31%). About 12% were recent immigrants, classified by the U.S. Census Bureau as those who have come to the United States in the past 10 years. Less than half of the respondents were full-time employees. When given a choice, the majority of respondents in both areas chose to respond to the survey in Spanish. The preferred languages spoken at home include Spanish and both English and Spanish. It is notable that very few respondents speak English only or prefer the English language as a mode of communication. The linguistic preference, low education level, and low literacy level for the English language has implications for residents' media connection patterns and their health communication ecologies that will be discussed later.

Health Insurance and Health Care Access

Approximately half of the respondents (49%) reported being without health insurance coverage. Compared to the insured, the uninsured immigrants in the sample were more likely to be less educated, younger, have a lower household income, and first-generation immigrants. As summarized in Table 1, more than half of the uninsured sample reported an annual household income of less than $20,000, and about 43% of them have had less than or equal to an eighth-grade education. About 40% of the uninsured sample is under full-time employment.

With regard to the ways in which Hispanics obtain medical care, the uninsured and insured differed in their health care access and health care behaviors. Compared to Hispanics with health insurance, uninsured Hispanics were less likely to have a regular source of health care and less likely to visit a physician for health care, as indicated in prior studies on the medically vulnerable and uninsured (Broyles, McAuley, & Baird-Holmes, 1999; Trevino, Moyer, Valdez, & Stroup-Benham, 1991). As shown in Table 1, about three fourths of the uninsured said they experienced difficulties in obtaining health care and more than one fourth of the uninsured respondents reported that they do not have a regular place for health care. A larger proportion of the uninsured population compared to the insured visited community and county clinics for their health care. About 10% of the uninsured reported using hospital emergency rooms as a way of getting medical care for themselves.

Communication Resources for Health Information

Findings showed that Hispanic respondents in Pico Union and the Southeast had similar communication ecologies and utilized similar resources for their health information. As presented in Table 2, the largest proportion of respondents identified television (40%), followed by interpersonal communication with family and friends (27%) and health professionals and providers (20%) as their health communication resources. Among the types of television, newspaper, and radio, results showed that more Hispanics utilized ethnically targeted media. In particular, ethnically targeted television was utilized by about 28% of the population. Printed materials, including newspapers, books, magazines, and pamphlets, were used by fewer than 15% of the respondents.

TABLE 1
Characteristics of Respondents and Comparisons Between the Insured and Uninsured

	Pico Union % (N=300)	*Southeast % (N=437)*	*Overall % (N=737)*	*Insured % (N=375)*	*Uninsured % (N=362)*
Gender					
Male	43.0	42.6	42.7	41.9	43.6
Female	57.0	57.4	57.3	58.1	56.4
Age					
18–24 years	15.0	13.3	14.0	13.1	14.9
25–34 years	31.3	33.9	32.8	29.1	36.7
35–44 years	29.3	35.9	33.2	34.7	31.8
45 years and above	24.3	16.9	19.9	23.2	16.6
Education					
Eighth grade or less	43.7	29.0	34.9	27.2	42.8
Some high school	16.0	19.5	17.8	17.3	18.2
High school graduate	20.3	26.9	24.7	26.9	22.4
Some college	13.3	16.9	15.2	18.1	12.2
College graduate and above	6.7	8.1	7.4	10	4.5
Household income					
Less than $20,000	60.4	40.5	44.1	33.9	54.7
$20,000–$35,000	22.7	33.2	35.4	34.2	36.7
$35,000–$45,000	8.8	13.8	10.7	15.2	6.1
$45,000–$60,000	3.3	6.0	4.5	7.2	1.7
More than $60,000	4.8	6.6	5.3	9.6	0.9
Immigration generation					
First-generation	61.8	56.2	58.5	55.7	61.3
Second-generation	30.9	30.8	30.9	32.8	29.0
Employment status					
Full time employer	43.3	39.4	41.0	42.7	39.2
Language of interview					
English	13.3	18.1	16.1	23.2	8.8
Spanish	86.7	81.9	83.9	76.8	91.2
Language spoken at home					
English	3.0	3.2	3.4	4.3	1.9
Spanish	46.7	40.5	43.0	33.9	52.3
Both English and Spanish	49.7	56.1	53.5	61.3	45.3
Have a regular place for health care					
Yes	77.8	84.3	80.2	90.7	69.3
No	22.2	15.7	17.9	8.5	27.6
Ease of obtaining health care					
Very easy	18.9	21.6	20.6	5.5	5.5
Somewhat easy	27.6	30.6	28.4	18.5	18.5
Somewhat difficult	28.3	29.6	28.8	38.1	38.1
Very difficult	25.3	18.1	20.1	34.5	34.5
Ways of getting medical care (multiple answers accepted)					
Doctor's office	36.0	50.0	44.7	60.6	23.1
Alternative medicine	—	0.5	0.3	0.6	—
County clinic	25.9	12.9	17.8	8.8	29.9
Community clinic	16.2	21.4	19.5	13.5	27.5
Hospital–outpatient	3.9	3.3	3.6	5.9	0.4
Hospital–emergency room	6.6	6.0	6.3	3.2	10.4
Pharmacy	3.5	0.8	1.5	0.6	3.6

In addition, fewer than 10% of the respondents utilized the Internet for obtaining health care information.

Health Communication Resources for the Uninsured and Insured

Results showed several significant differences in the ways in which uninsured and insured immigrants obtained their health information. A higher proportion of the uninsured compared to the insured reported utilizing television, radio, newspaper, leaflets, and informal interpersonal sources for health information. In contrast, a greater proportion of the insured preferred communicating with formal health care providers and using the Internet for health information. As summarized in Table 2, the proportion of uninsured respondents who utilized television as a health information resource was significantly higher than the proportion of insured respondents. The proportion of uninsured respondents who utilized the Internet as a health information resource was significantly lower than the proportion of

TABLE 2
Proportion of Uninsured and Insured Hispanics' Utilization of Communication Resources for Health Information

Health Resources	*Total*	*Uninsured*	*Insured*	χ^2
Television	.38	.44	.34	7.43**
Mainstream English	.83	.06	.11	7.10**
Local Spanish	.28	.33	.22	10.1**
Radio	.10	.12	.08	3.65
Mainstream English	.01	.01	.01	.44
Local Spanish	.07	.10	.05	5.92*
Newspaper	.13	.14	.11	1.34
Mainstream English	.02	.01	.04	4.56*
Local Spanish	.07	.10	.05	6.11*
Leaflets	.09	.07	.11	3.65
Books/magazines	.12	.11	.14	1.95
Internet	.11	.06	.16	15.64**
Interpersonal informal (friends/family)	.27	.30	.25	1.87
Interpersonal formal (health care provider)	.20	.17	.23	3.81

Note. $N = 737$.
$^{*}p < .05$, $^{**}p < .01$.

insured respondents. Further analyses of the type of television, newspaper, and radio sources utilized for health information show that a significantly higher proportion of uninsured respondents chose ethnically targeted Spanish television, radio, and newspapers for health information. In comparison, the insured were more likely to utilize mainstream television and English newspapers for health information.

Health Insurance Status, Health Communication, and Health Internet Use

To further examine the relationship between health communication resources, including the Internet, and health insurance coverage, logistic regression analyses were conducted regressing the top two communication resources (ethnically targeted television and informal interpersonal connections) and health Internet use on sociodemographic covariates and health insurance coverage. The pairwise associations between the three health communication resources are slightly negatively correlated. The correlation coefficient between ethnically targeted television and the Internet is –.13, and between ethnically targeted television and interpersonal connections is –.11. The correlation coefficient between the Internet and interpersonal connection is –.02. Regression results of the three models are presented in Table 3.

Results showed varying influences of sociodemographic and health insurance status on ethnically targeted television, informal interpersonal networks, and Internet use as health communication resources. Findings showed that health insurance status (being uninsured), immigrant status (first-generation), and income (lower socioeconomic status) were significantly associated with the use of ethnically targeted television for health information. In particular, findings revealed that compared to their insured counterparts, the uninsured were four times more likely to use ethnically targeted television for their health information. Results from the second regression model showed that gender and recency of immigration were significant factors for connections to informal interpersonal networks for health informa-

TABLE 3
Logistic Regression Predicting Television, Interpersonal, and Internet Use for Health Communication

	Health Communication Source											
	Ethnically-Targeted Television				*Interpersonal Informal*				*Internet*			
Individual Characteristics	*β*	*SE β*	*Wald*	*OR*	*β*	*SE β*	*Wald*	*OR*	*β*	*SE β*	*Wald*	*OR*
Gender												
Male	.21	.18	1.34	1.23	−.81	.19	18.64**	.45	.18	.26	.50	1.20
Education												
High School& above	−.20	.18	1.26	.82	−.01	.18	.00	.99	1.9	.36	27.73**	6.69
Age												
18–34 years	−.25	.18	1.84	.78	−.02	.18	.01	.98	.43	.27	2.52	1.54
Employment												
Full time employee	.18	.18	.97	1.19	.02	.18	.02	1.02	.28	.26	1.18	1.33
Income												
More than $35,000	−.66	.27	6.09*	.52	−.03	.24	.02	.97	.39	.28	1.95	1.48
Immigrant												
First generation	.41	.19	5.11*	1.54	.05	.19	.06	1.05	−.55	.28	3.91*	.58
Recent immigrant	.10	.27	.13	1.10	.80	.25	10.28**	2.24	.64	.22	8.69	1.90
Health insurance												
Insured	−.36	.18	4.03*	.70	−.19	.18	1.10	.83	.60	.29	4.44*	1.82
R^2	0.7***				.06***				.23***			

Note. N = 737. β = standard coefficient; SE β = standard error of β coeffcient; Wald = Wald statistic, OR = odds ratio.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

tion. A significantly higher proportion of females and recent immigrants relied on informal interpersonal networks of family and friends for their health information. With regard to the Internet, results showed that the younger, insured, and second-generation immigrants were more likely to include the Internet in their health communication ecology, and the model explained 23% of the variance in health Internet use. Education was the greatest predictor of online health information use, as indicated by prior research (e.g., Dickerson et al., 2004; Fox & Fallows, 2003).

DISCUSSION

Contributions and Recommendations

In order to understand differential patterns of health communication among uninsured and insured Hispanics, this study examined connections to a range of communication resources for health information among a sample of Hispanics in Los Angeles. Survey results showed that the uninsured are less likely to have a regular place for health care, more likely to experience difficulties in obtaining health care, and more likely to have a lower income and education than the insured. These results parallel other studies on community health that highlight inequalities in the distribution of health resources among the medically vulnerable, including the poor and uninsured (Broyles et al., 1999). Results of this study also showed that significant differences existed between the uninsured and insured in their choice of media for health information. Analyses showed that a significantly larger proportion of the uninsured chose ethnically targeted Spanish television, radio, and newspapers as their sources for health information, whereas more insured Hispanics used mainstream English media resources and the Internet. Since past research has shown how the choice of communication channels may play a key role in contributing to knowledge gaps (e.g., Eveland & Scheufele, 2000; Robinson, 1972; Tichenor et al., 1970; Viswanath & Finnegan, 1996), results here add to the understanding of the health knowledge gap between the insured and uninsured.

Findings of the study also indicated that first-generation Hispanic immigrants are more likely to use ethnically targeted television and interpersonal communication sources as opposed to print materials and the Internet for their health information. This may be partly explained by their lower income, education, and literacy rate, as well as preference for the Spanish language as a medium of communication. Thus, results here suggest that ethnically targeted media and interpersonal networks should be deployed as key health communication resources for health information dissemination to reach Hispanic immigrant communities. The emphasis on social relations in the Hispanic cultures, or *familialism*, may explain the importance of interpersonal communication and the strong influence of interpersonal relations on Hispanics' health behaviors and values (Kar et al., 2001). Many ecological public health intervention strategies also indicate the importance of incorporating interpersonal networks to disseminate health information (Alcalay, Alvardo, Balcazar, Newman, & Huerta, 1999; Ramirez, Villarreal, McAlister, Gallion, Suarez, & Gomez, 1999; Lalonde, Rabinowitz, Shefsky, & Washienko, 1997; Ramirez, Villarreal, McAllister, Valente, & Saba, 2001). Understanding the health communication profiles of the uninsured may help guide the communication choices of agencies trying to, for example, strategically disseminate information to reach the uninsured and recent immigrant Hispanics.

With regard to the Internet, regression results showed that those who are second-generation immigrants, better educated, younger, employed males and who have health insurance are more likely to utilize the Internet for health information. These differences in the usage of sources of health communication show that Hispanics are not a homogeneous group. Health care and health informational inequalities exist within the Hispanic population. Results on the low numbers of Internet users also suggest that health communicators need to be cognizant of multiple individual and social constraints that Hispanics face in connecting to the Internet and obtaining health information online.

Hence, taken together, results on health communication relationships here suggest that a "culture of poverty" exists with respect to health communication use, such that uninsured adults live in a subculture with a health communication ecology different from their insured counterparts (Chatman, 1985). These findings also illustrate how a newer communication resource, like the Internet, may worsen underlying social inequalities regarding health information, as predicted by the knowledge gap hypothesis. Results here suggest that channeling funds into Internet-based health campaigns may exacerbate the knowledge gap in health information between various minority ethnic communities, as well as within new-immigrant and first-generation immigrant populations.

Limitations and Future Research

It is acknowledged that several limitations of this study exist. First, this study examined data from a telephone survey that was performed via random-digit dialing among a sampling frame screened for ethnicity as well as caregiver status among residents in two predominantly Hispanic neighborhoods. As explained, the sample was recruited to have a sizable proportion of residents with at least one child 5 or under, to comply with the research sponsor's request. Consequently, the final sample in terms of families with children age 5 or under was 9% higher than average in the study areas and 17% higher than the national and Los Angeles County average of 26% (U.S. Census Bureau, 2000). Thus, results reported here highlight patterns

of inequalities in health communications and health care behaviors but are not fully generalizable to the larger Hispanic population in the country.

Second, there are advantages and limitations with regard to the telephone survey methodology. Telephone surveys have been utilized in many studies as a cost-effective method for data collection. A prior study analyzing the reliability of telephone surveys on Hispanics using census data demonstrated that telephone ownership patterns (85%) are high enough for telephone surveys to be a viable method for representative sampling of the U.S. Hispanic households across the five major Hispanic markets in Los Angeles, New York, Chicago, Miami, and San Antonio (Adams-Esquivel & Lang, 1987). A report by the California Public Utilities Commission showed that the telephone subscription penetration in California was 96.5% as of November 2003, 1.8% higher than the United States' average of 94.7%. More specifically for low-income households in California, defined as families of four with less than $27,800 in annual income, the telephone penetration rate has been over 90% since 2000, and was 93.1% as of March 2003 (California Public Utilities Commission, 2004). Therefore, given the high telephone penetration rates, telephone surveys are a feasible method for representative sampling of U.S. Hispanic households in Los Angeles. However, it must be noted that this methodology has its weaknesses, as it potentially excludes responses from recent immigrants who may not have a permanent place of residence, along with residential members of households who do not have telephone service or who use cell phones exclusively. Cross-sectional survey data also have limitations in terms of allowing direct causal relationships to be drawn in time between health status and actual media use. Future research efforts could include the employment of other research methodologies over time, for example in-depth ethnographic interviews and site visits among the uninsured and recent immigrants to provide microscopic insight to residents' daily media connections, including the integration process of newer media like the Internet into their everyday lives.

Third, the study did not examine the implications of documentation status of Hispanic immigrants on their health communication behaviors, as these data were not available. Past research on undocumented immigrants suggests that undocumented immigrants have distinct characteristics compared to their documented counterparts (Cornelius, 1982). For example, undocumented Hispanic immigrants tend to have less formal education, a lower English proficiency, and less access to health care (Berk, Schur, Chavez, & Frankel, 2000; Moore, 1986) and may consequently have stronger connections to ethnically targeted media and utilize informal interpersonal networks to obtain health information. Thus, legal status may potentially function as an additional or confounding factor leading to disparities in access to health information and health care. Admittedly, research on undocumented immigrants is rare due to the difficulty of ethically soliciting respondents' legal status and undocumented immigrants' desire to reduce interactions with others (Weintraub, 1984). Hence, it is suggested that future research on health communication among Hispanic immigrants endeavor to collect data and account for legal status to enable further investigation of the relationships between insurance status and media use.

Fourth, in this article the communication connections that constitute the research participants' communication ecologies included interpersonal networks, mainstream English media, ethnically targeted media, and the Internet. While this research attempted to examine a variety of communication modalities, it did not specifically investigate the use of micromedia, for example, T-shirts, caps, refrigerator magnets, mugs, and buttons, which may also serve important functions in health communication among underserved minority ethnic populations (Mayer et al., 2002). Future research could investigate a more comprehensive health communication ecology to find the most cost-effective methods of reaching target minority ethnic and urban poor populations.

CONCLUSION

In sum, this article began by introducing a real-world quandary faced by health communication practitioners and analysts. Marketing and outreach coordinators like Michael are part of the numerous public and private agencies that are seeking to reach minority ethnic populations with public health information. A major obstacle they face is that they do not have a detailed communication channel guide and lack an understanding of the established communication ecologies of their target populations. Newer electronic media are increasingly incorporated and utilized because they seem more familiar, accessible, and appealing to directors and outreach coordinators. Yet older and less sophisticated media may be the preferred mode of communication for some target populations if their communication does not typically flow in new or electronic media networks. This article empirically examined connections to a spectrum of health informational resources in order to understand and access a particularly hard-to-reach but burgeoning audience, uninsured Hispanic immigrants. Results demonstrate the benefits of understanding the interrelationships among different communication resources in peoples' communication ecology. An understanding of the complementary roles of local media and interpersonal networks may help paint a more comprehensive picture of Hispanics' communication and health information seeking behaviors and to reduce the knowledge gaps, especially in health information, between the insured and uninsured. Empirical findings of this research should caution against utopian visions of new technology and overselling the Internet for health campaigns, especially those targeting populations that include the uninsured and first-generation Hispanic immigrants.

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