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Amplifying the Health Literacy of Migrant Farmworkers

A Practitioner-Research Project
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Amplifying the Health Literacy of Migrant Farmworkers

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OVERVIEW

Introduction[1]

The aim of this study is to identify and describe some of the obstacles, especially those of a sociolinguistic nature, that stand between Hispanic communities in Nelson County, Virginia and appropriate health care so that these barriers might be addressed and minimized through the provision of *culturally sensitive* outreach services and health-literacy-related programming. The comments and information that were generated by study participants will help shed light on important aspects of the communities' *health cultures*, particularly with regard to their sociolinguistic and health literacy foundations, that influence the health care decision-making processes and behavior of the Hispanic communities in this rural area of Central Virginia. With the aid of Vygotsky's "zone of proximal development" framework, this study's findings are interpreted and recommendations for appropriate interventions are made.

National and Local Contexts

Health care providers, promoters, and educators in the U.S. who target Hispanic clients already face a variety of cultural and linguistic challenges (del Pinal 1996), and these challenges can be expected to multiply in view of the fact that the growth rate of the Hispanic population in the U.S. is seven times greater than the general population (U.S. Bureau of Census 1993). This growth is caused by high fertility rates and increased legal immigration, with a small percentage caused by illegal immigration (U.S. Bureau of Census 1992). To address these challenges health care providers are now encouraged to intervene with Hispanic clients and communities in ways that are increasingly being

[1] Tables and charts at end of document

referred to as "culturally sensitive" (National Coalition of Hispanic Health and Human services Organizations [COSSMHO] 1995; see also Caudle 1993).

In Central Virginia the Nelson County Rural Health Outreach Program (RHOP), an outreach component of the Blue Ridge Medical Center[2] (BRMC), targets, among others, Hispanic communities that encompass approximately 100 year-round or "settled out" seasonal farmworkers and another 100 peak apple season migrant farmworkers and family members who work and reside in Nelson County (population 12,800) from mid-August to early November. RHOP aims to serve the health and human-service needs of these distinct Hispanic communities by conducting regularly scheduled work- and camp-site "Health Depots" (primary care, screenings, and health education) and by offering transportation and bilingual support services principally at BRMC but also at other health care facilities in the area on an as needed basis. RHOP attempts to provide *culturally sensitive* health care services by acknowledging the impact of culture and language, by seeking to involve community representatives in the design and execution of health promotion and preventative programs, and by collaborating in partnership with other local institutions and community-based organizations. This study of the cultural and sociolinguistic barriers that obstruct the Hispanic communities' immediate access to health care is

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[2] Blue Ridge Medical Center (BRMC), located in rural Arrington, Virginia, Nelson County, is a community health center incorporated as a non-profit, 501(c)(3) organization. Nelson County is classified as a medically underserved area and health professional shortage area. BRMC's mission is to provide quality health care accessible to all people of Nelson and neighboring communities, and to improve their general health and well-being through prevention, education, and treatment. As an outreach component of BRMC, The Nelson County Rural Health Outreach Program (RHOP) provides primary and preventative services, called Health Depots, at diverse County locations. RHOP also offers a prescription medication assistance program, transportation services, Migrant Health Services, and School-based Health Care Services at all Nelson County schools. Co-author, Paul J. Longo, is a full-time health educator/staff anthropologist with RHOP.

the product of the partnership that exists between RHOP and the Nelson Regional Migrant Education Program (NRMEP).[3]

According to the National Center for Farmworker Health (NCFH 1996:1), although migrant and seasonal farmworkers work and live in the U.S., "their demographic patterns, socioeconomic conditions, life-style characteristics, and disease categories reflect agrarian third world conditions rather than those of the most powerful and affluent nation in the world." Their health problems include dermatitis and respiratory diseases due to contact with pesticides and insecticides; dehydration, heat stroke, and oral health problems due to the lack of safe and fluoridated water; urinary tract infections due to the absence of toilet facilities and associated with urinary retention, injuries stemming from agricultural work; substance abuse due to social isolation and job insecurity, as well as tuberculosis, diabetes, cancer, and HIV, conditions which pose a special problem for farmworkers who move frequently because they require careful monitoring and frequent treatment (see NCFH 1996, Morbidity and Mortality Weekly Report 1994, McCurdy 1997, Ramirez 1996, and Cangiano 1994). While these health problems have been found among adult migrant and seasonal farmworkers, their children are even more vulnerable (Huang 1993).

Since Hispanic seasonal and migrant farmworkers move continually and are often undocumented, the population is difficult to count. However, a 1990 study estimated that there were 1,661,875 migrant and seasonal farmworkers and family members in the U.S. (Migrant Health Program 1990). The majority are between 25 and 44 years old and have an average of 5.5 years of schooling

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[3] The Nelson Regional Migrant Education Program (NRMEP) is located within Nelson County Public Schools. NRMEP's coordinator is Verónica Donahue, co-author of this study.

(Slaughter & Associates 1991). They typically face an incomparable set of chronic barriers that prevent them from taking full advantage of K-12, Adult Education, and ESL educational opportunities available to them, and many are not literate in their native language, which is usually Spanish (Bartlett & Vargas 1991). In Virginia, according to the Virginia Employment Commission, the number of farmworkers and family members was estimated in 1996 at 14,000; however, the Migrant Enumeration Project, conducted in 1993 by the Migrant Legal Services, estimated 42,000 (Stallsmith 1996). Central Virginia annually plays host to approximately 500 to 550 single and married farmworkers plus family members, approximately half of whom (200 to 250), as mentioned above, reside and work in Nelson County during the *peak period* (harvesting time) of the apple-picking season, i.e., from late August through early November. About one half of these workers generally spend their winters, springs, and early summers living and working in Florida before traveling to Nelson County for the apple crop. The other half (i.e., approximately 100) reside and work in Nelson County on a year-round basis. The health-, education-, and social-service-related needs of these "settled-out" farmworkers constitute the focal point of this study. We expect that the findings will help us serve their needs and those of peak-season farmworkers and family members as well.

PROBLEM

This study identifies many of the barriers that obstruct Nelson County's Hispanic communities from immediate and appropriate access to health care, particularly those barriers associated with language usage and communicative competence. With the aim of dismantling these barriers and providing culturally sensitive health care, the authors initially set out on a collaborative research venture

to explore the *health cultures* of these Hispanic communities. The concept of health culture has been defined as "all the phenomena associated with the maintenance of well-being and problems of sickness with which people cope in traditional ways within their own social networks (Weidman 1975:313)." Since the concept of health culture encompasses both cognitive and social dimensions, we were originally interested in general questions regarding these communities' bio- and ethno-medical theories of disease etiology, prevention, diagnosis, treatment and cure as well as their perceptions of the structural and functional aspects of health-related social statuses and roles (see Fabrega 1975; also Kennedy & Olsson 1996, Baer 1996, and van Willigan 1986). However, because of time constraints, we decided to focus specifically on obstacles to health care involving language usage and communicative competence. Communicative or sociolinguistic competence refers to cultural knowledge that individuals possess or need to possess in order to use one or more languages in ways that are situationally appropriate and rhetorically effective (see Hymes' Introduction in Cazden, John, and Hymes 1972). Although RHOP and NMREP both provide occasional bilingual support services at medical encounters, and despite the fact that a small number of health care providers at BRMC are vaguely familiar with some Spanish vocabulary, we, as bilingual researchers/practitioners, decided to look beyond issues narrowly associated with the provision of Spanish and/or bilingual support services and to concentrate on the broader issue of *health literacy* in relation to individuals' English language proficiency. Health literacy has been defined as "the capacity of individuals to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which enhance health (National Health Education Standards: Achieving Health Literacy 1995)." Being ESL instructors also, we viewed the challenges faced by the Hispanic

communities in Nelson County in the context of seeking and verbally negotiating medical attention as an opportunity to deepen our understanding of the social realities that surround these communities so that appropriate ESL instructional interventions could be developed accordingly in order to complement already existing and projected bilingual and multi-sectorial interventions (see Drennon 1994 and in particular Fingeret & Cockley 1993).

Numerous studies have found language to be one of the principal barriers for Hispanics who need access to health care (see COSSMHO 1995, Solis, et al. 1990, and Estrada, 1982). These and other studies demonstrate that, for Hispanics in general and seasonal/migrant farmworkers in particular, language problems are generally associated with other barriers of equal or greater importance. For example, according to Schur & Albers (1996), monolingual Spanish speakers are more likely than others to be older, less educated, in poor health, uninsured, and in poverty. Furthermore, and this is particularly true of migrant farmworkers because of mobility, Spanish speakers are less likely than English-speaking Hispanics to have a "usual source of health care," i.e., a regularly frequented health care provider. Schur and Albers have found that Hispanic individuals with no "usual source of care" are least likely to have seen a doctor or to have had their blood pressure checked, while those individuals with a regular doctor report having the greatest access. Though language problems are certainly associated with barriers to health care, economic well-being and having a usual source of health care are as crucial. When health care, however, is provided at a reduced rate (e.g., on a sliding scale) or at no cost to the individual - as is the case at BRMC by virtue of the Center's status as a Community Health Center - an individual's communicative competence surfaces as the primary barrier to appropriate health care once the individual decides to procure "primary care" in place of or in addition

to other complementary or enthomedical alternatives (e.g., the so-called "folk remedies" as described by Gordon 1994).

Research Questions

This study sought to explore whether Hispanic individuals, once ill, had ever decided not to go to the doctor or had ever delayed going to the doctor. It also examined, using normative categories that reflect standard procedures for obtaining primary care in most US settings, whether individuals with less-than-native English-speaking competencies would judge certain situational components of the medical encounter as being more difficult to negotiate verbally than others. The situational categories included:

a. making appointments by phone;
b. making appointments in person;
c. registering and giving personal and insurance information;
d. talking with nurses;
e. talking with doctors; and
f. checking out and paying.

Also, the study sought to ascertain general suggestions furnished by Hispanic individuals regarding the procurement of what they judged to be appropriate medical attention.

SCOPE OF RESEARCH

Anthropological Perspective

The study assumes an anthropological perspective by presupposing that the so-called "targets" and "clients" of health and educational outreach initiatives, in this case the farmworkers themselves, possess relevant and purposeful knowledge, concerns, and "voices." Rather than forming a

"subculture," a concept that implies that one group is subordinate to another, the authors maintain that the farmworker communities constitute a "co-culture," an analytical perspective that makes it possible to view both health care providers and farmworkers as co-cultures in "parity" (Weidman 1975). Such a perspective places health care promoters and educators, to some extend, in the role of "cultural brokers" with the goal of "making community service programs more open and responsive to the needs of the community, and of improving the community's access to resources (van Willigan 1986:128)."

Several examples of health-related studies using research techniques and methodologies that attempt to access an insider's perspective for "cultural brokerage" purposes are worth noting. They include: the multidimensional health locus of control (MHCL) scales to measure health beliefs regarding farmworkers' and farmers' internally- or externally-anchored beliefs about work safety (Grieshop; et al. 1996); in-depth and focus group interviews to explore African-American farmers' understandings of occupational injuries (Arcury 1997); in-depth interviewing using unstructured and structured instruments for assessing health beliefs of African-American elders' health beliefs regarding hypertension (Schoenberg 1997); qualitative research methods to examine the health beliefs and knowledge about cancer and pesticides among Spanish-speaking farm laborers (Lantz, et al. 1994 as cited in Arcury 1997), and the use of in-depth interviews in health and mental health research to explore problems in lay understanding of professional mental health categories (Baer 1996).

Participants

Of the approximately 100 Mexican and Mexican-American farmworkers and family members who reside and work in Nelson County on a year-round basis, 36 individuals, 12 women and 24 men, directly participated in this study. Ages ranged from 13 to 60 years old with a mean age of 27.5.

Method

In the context of the authors' daily contact with the Hispanic communities of Nelson County as educators and practitioners, a systematic familiarity with key health care needs and issues was achieved through a process best described as participant/observation (Spradley 1980 and Agar 1980). This general comprehension of the health-care practices, sociolinguistic capabilities, and social-service needs of these communities, though verified and enhanced on an on-going basis by means of continual contact, gave rise to the research questions in this study. These questions, in turn, lead to the construction of the questionnaire used in this research project (See Appendix A). This questionnaire was administered in either an oral or written fashion by the authors depending upon the individual's capabilities and preferences. When the questionnaire was administered orally, the authors attempted as often as possible to record the responses either on the questionnaire or in a fieldnote journal. The authors originally constructed the questionnaire in English and then translated and modified it subsequently into Spanish. The Spanish version appeared on one side and the English version on the other.

Limitations

Though it was the intention of the authors to help non- or low-literacy respondents participate in the study by administering the questionnaire to them in an oral fashion, the written format of the research instrument, nevertheless, represented an initial obstacle to several study participants. Fortunately, the majority of the study participants were so accustomed to seeing the authors with one type of form or another (registration forms, in-take forms, patient satisfaction forms, and so forth) that the impact of yet another written document was minimized. However, one section of the questionnaire contained six

items that made use of a Likert Scale with three alternative responses: "no difficulty," "some difficulty," and "much difficulty." This format posed more problems, and the authors needed to explain its logistics in virtually every case, which served to frame the questionnaire in the context of a structured interview.

The questionnaires were administered from January through May 1997. Except for one occasion when the questionnaire was simultaneously administered orally to a group of six men, an event that took on the profile of a focus group because of the coordination and explanation required, all of the other questionnaires were administered on a one-to-one basis. 33 of the questionnaires were conducted in Spanish; 3 in a combination of English and Spanish.

Data Analysis and Interpretation

The responses of each questionnaire in their recorded language were entered into a data base in order that the raw data might be displayed more efficiently. Then, the authors reduced and coded the data and entered them into SPSS (data analysis software) in order to create simple frequency tables and to compute descriptive statistics.

During the data reduction and coding phase, the researchers/practitioners had to cluster similar responses into inclusive categories. For example, one of the open-ended questions asked: NAME THE FACTORS THAT HAVE PREVENTED YOU FROM GOING TO THE DOCTOR OR THAT HAVE DELAYED YOUR GOING TO THE DOCTOR? [¿QUÉ ES LO QUE LE HACE DECIDIR NO IR AL DOCTOR O ESPERARSE UNOS DÍAS ANTES DE IR AL DOCTOR?] The following sample of responses were all clustered into the same coded response category - *perceived lack of urgency* - because of their thematic similarities: (presented here exactly as they were written and subsequently translated thematically)

"sino calma el dolor o molestia" - if the pain or the problem doesn't go away

"me pongo bien solo" - I get better
"pues poque abeses pieso que es algo pasajero" - because sometimes I think it's something passing
"es pasajero nadamas" - it's only something passing
"Espero, por que pienso que nadamas son pasajeros los sintomas" - I hope, because I think the symptoms are only passing ones.
"I wait to see how I feel 1 - 2 days"
"se alivia solo" - it goes away by itself
"If I'm not sick too bad 2 - 3 days, sometimes no need to go, self prescribed over counter does it"
"Si no es muy grave la enfermedad" - if the illness isn't very serious

[Other responses were similarly grouped by the researchers/practitioners.]

RESULTS

The Hispanic farmworkers and family members whose health-care perceptions, sociolinguistic competencies, and related suggestions were surveyed provide outreach programmers with a valuable glimpse into the sociocultural realities within which they live and work. This information can help to design health, educational, and social service programming that is more culturally and linguistically appropriate for both the year-round Hispanic communities and the peak-season communities.

Perceived Barriers to Health Care

When asked: HAVE YOU EVER DECIDED NOT TO GO TO THE DOCTOR OR TO DELAY GOING TO THE DOCTOR WHEN YOU HAVE BEEN SICK? [CUANDO USTED SE HA ENFERMADO, ¿HA DECIDIDO ALGUNA VEZ NO IR AL DOCTOR, O ESPERARSE UNOS DÍAS ENFERMO ANTES DE IR AL DOCTOR?], almost two thirds of the people responding to this item (i.e., 21 people out of 32 with 4 missing responses; or 8 women and 13 men) indicated that, at one time or another, they have chosen not to go to the doctor or have decided to delay going to the doctor even when they were ill. Given the opportunity to follow up on this question, respondents were asked: NAME THE FACTORS THAT

PREVENTED YOU FROM GOING TO THE DOCTOR OR THAT HAVE DELAYED YOUR GOING TO THE DOCTOR. [¿QUÉ ES LO QUE LE HACE DECIDIR NO IR AL DOCTOR O ESPERARSE UNOS DÍAS ANTES DO IR AL DOCTOR?], 23 people responded with one or more contribution. As indicated above, the researchers/practitioners reduced and coded many of the responses. Accordingly, regarding the factors that prevented or delayed them from going to the doctor, respondents furnished a variety a responses that were subsequently clustered into the following five analytic categories with accompanying response percentages (See Exhibit 1 and Appendix B: Chart 1 for additional details.)

Exhibit 1
Barriers to Health Care

Analytic Category	Percentage
Perceived lack of urgency	0.48
Economic problems/lack of health insurance	0.22
Language problems	0.13
Timing problems/ scheduling conflicts	0.13
Cultural insensitivity	0.04

[One study participant furnished two responses and 12 were unable or chose not to respond.]

Sociolinguistic Competencies

Study participants were asked to indicate whether they experience difficulties verbally negotiating within certain situational components of the medical encounter. The question reads: ONCE YOU HAVE DECIDED TO GO TO THE DOCTOR, WHAT KINDS OF DIFFICULTIES DO YOU HAVE? RESPOND BY PUTTING AN X IN THE BOX THAT INDICATES HOW MUCH DIFFICULTY YOU HAVE IN EACH OF THE FOLLOWING SITUATIONS: [UNA VEZ QUE YA ESTÁ EN LA CLÍNICA, ¿QUÉ DIFICULTADES TIENE? PONGA LA LETRA "X" EN EL LUGAR QUE INDICA CUÁNTA DIFICULTAD HA TENIDO EN ESTAS

SITUACIONES;] The situational components included: a) making appointments by phone; b) making appointments in person; c) registering and giving personal and insurance information; d) talking with nurses; e) talking with doctors; and f) checking out and paying. The three-part Likert Scale (i.e., *no*, *some*, or *much difficulty*) was employed in this section. Since the authors were interested in identifying whether study participants encountered *any difficulty* in the above medical situations, the percentage of those responding to *some difficulty* was added to the percentage responding to *much difficulty*. These combined percentages, when ranked in order of decreasing difficulty and associated with their corresponding situational components, help to locate where the majority of those surveyed encounter communication difficulties (See Exhibit 2 and Appendix B: Chart 2):

Exhibit 2
Analysis of Sociolinguistic Competencies

Situational Component	Percentage	Average %
Talking with nurses	0.68	64.25%
Making appointments in person	0.64	
Making appointments by phone	0.64	
Talking with doctors	0.61	
Registering and giving personal and insurance information	0.46	38.5%
Checking out and paying	0.31	

Our analysis of the findings prompted us to arrange the six medical situations into two groups: the first group consisting of *talking with nurses*; *making appointments in person*; *making appointments by phone*; and *talking with doctors* and the second group consisting of the remaining two situations, namely, *checking out and paying* and *registering and giving personal information.*

An average percentage of 64.25% of study participants reported having difficulty in the first four situations: *talking with nurses* (68%); *making appointments in person* (64%); *making appointments by phone* (64%); and *talking with doctors* (61%). In contrast, an average percentage of only 38.5% indicated having difficulty with *checking out and paying* (31%) and *registering and giving personal information* (46%). For male/female breakdowns of the responses for all six situations, see Appendix C: Tables 2 - 7). These data suggest that almost two-thirds of those surveyed indicated that the first group of situations presented greater difficulties than did the second group of situations; while the remaining third reported that all six situations presented some if not much difficulty. These findings will be discussed in greater detail below using Vygotsky's ZPD framework.

General Suggestions

The questionnaire included a section in which study participants would have the opportunity to furnish specific suggestions that would in their view help to reduce communication difficulties that they had identified in the six medical situations listed above (See Appendix A). Then, in the final section they were asked: CAN YOU THINK OF AT LEAST TWO WAYS TO HELP YOU GET MEDICAL ATTENTION WHEN YOU NEED IT? ¿PUEDE ESCRIBIR DOS COSAS QUE LE AYUDARÍAN A RECIBIR ATENCIÓN MÉDICA MÁS RÁPIDO CUANDO LA NECESITA? However, study participants encountered so many logistical problems answering these sections that the researchers/practitioners decided to collapse them into one, hoping to gather as many general suggestions as possible for both. The following is a list of each suggestion with a response frequency of at least two:

Exhibit 3
General Suggestions

General Suggestion	No. of Responses
Provide bilingual staff	23
Expand hours of operation (evenings and weekends)	6
Simplify the forms to be filled out	3
Be more patient	2
Learn English	2
See patients more quickly	2

The remaining suggestions were each mentioned a single time: provide eye care; provide dental care; give clearer explanations; eliminate racism; provide emergency care; lower costs; have an indoor space in which children can play, and finally, treat poison ivy.

DISCUSSION

Study participants provided information that will help RHOP and perhaps other outreach initiatives in similar settings form a clearer picture of the communities being targeted and served so that appropriate interventions can be designed and implemented accordingly.

Exploring Health Culture(s)

As outlined above, almost half of the study participants who expressed a reason for not going to the doctor or for delaying going to the doctor once they have fallen ill furnished responses that were thematically organized under the analytic category "perceived lack of urgency." These particular responses, some of which were listed above, bear an important witness to underlying bio- and ethno-medical beliefs and values that constitute what Weidman refers to as "health culture (1975)." They are also reflective of associated economic, scheduling, and linguistic issues that also shape an individual's or

a community's health culture. There is a need for further and/or follow-up research in order to explore more thoroughly the sociocultural underpinnings of health-care avoidance or postponement.

Having already identified, however, this particular multifaceted barrier to health care, we are in a better position to craft appropriate health-promoting and prevention programming. We recommend the incorporation of semi-structured, small-group discussions - in Spanish and English - into the routine "health depots" that RHOP conducts so that questions related to "urgency" and health care can be addressed. Possible discussion topics might revolve around the following questions: What are the criteria used to determine when a "passing illness" becomes something "serious?" Are they cultural criteria? Biological? Economic? Linguistic? What are the health-related and economic consequences of waiting too long? By exploring these questions from a "cultural brokerage" perspective, i.e., a perspective that supports the assertion that health-care providers and health-care consumers interact as "co-cultures," we believe that both groups stand to gain insight into Nelson County's inclusive health culture. Health educators and promoters in outreach initiative are in a strategic position to maintain this perspective in order to mediate between health-care providers and health-care consumers. However, when the cultural differences between medical personnel and their non-medical clients - whose backgrounds are socioeconomically, ethnically, and linguistically diverse - come face to face in health care settings, and the provision and/or acquisition of appropriate health care is obstructed, another framework is required.

Using the ZPD Framework to Assess and Amplify Health Literacy

In an effort to call attention to the need for an alternative framework for examining and overcoming sociolinguistic barriers to health care, we propose the adaptation of a construct borrowed from comparative early childhood psychology called the "zone of proximal development" or ZPD (Vygotsky 1978). According to Russian psychologist, Lev Vygotsky, the ZPD constitutes "the distance between *actual development* level as determined by independent problem solving and *potential development* as determined through problem solving under adult guidance, or in collaboration with more capable peers (Ibid., 1978:86, our emphasis)." The ZPD was originally conceived to explain the learning or developmental interval between performance levels requiring interpersonal assistance and those requiring no assistance. In other words, as individuals gradually become competent enough to perform tasks and solve problems independently, they advance forward from what Vygotsky termed their "*potential* development level" to their "*actual* development level (1978)." For Vygotsky, learning and human development, in general, involve the actualization of potential development levels and the advancement from assisted performance to independent performance.

Vygotsky's ZPD framework is particularly useful for isolating what we propose to term an individual's "health literacy level," i.e., his or her actual or potential ability to obtain, interpret, and make use of health-related information in an effective manner in specific health-care settings. This can be particularly useful for individuals and communities obstructed from immediate and appropriate access to health care because of cultural and linguistic factors. The ZPD framework, when used in conjunction with such qualitative research techniques as semi-structured individual interviews or focus-groups, may aide in the assessment of individuals' health literacy and in the construction of culturally sensitive health-promotional and prevention interventions.

The first step in using the ZPD framework in the baseline assessment of individuals' health literacy levels would be to ask individuals to list the medical situations in which they feel they communicate with relative independence. To use this study's findings as an illustration, the majority of study participants reported that they communicated with relative independence in the *checking out and paying* and the *registering and giving personal information* situations. We would then conduct an informal sociolinguistic analysis of the language forms and communicative competencies associated with these situations (focusing on the syntactic, semantic, and pragmatic features of discourse). We would then interpret these language performance patterns and communicative competencies as qualitative indicators of individuals' *actual* health literacy levels in the context of these particular situations since they were enacted there, for the most part, independently—that is, with little if any assistance.

The second step would be to ask individuals to list medical situations for which they consider themselves ill-equipped to communicate without some form of interpersonal assistance. Again, using this study's findings as an illustration, the majority, approximately two thirds of those surveyed, indicated that four of the six situations presented "some or much difficulty:" *talking with nurses*; *making appointments in person*; *making appointments by phone*; and *talking with doctors*. We would then proceed informally to examine, as above, the sociolinguistic properties of the language forms used as well as the communicative competencies required in these situations - **recalling that in addition to the "difficulty" reportedly associated with these situations, the most often-cited general**

suggestion furnished was "provide bilingual staff."[4] We could then interpret these patterns, forms, and competencies as qualitative indicators of individuals' *potential* health literacy levels in the above-mentioned four situations since they were enacted with difficulty and in an awareness of the need for *bilingual staff* assistance.

Having a clearer idea of the language forms and competences required to communicate effectively and independently in targeted health-care or medical situations, the third and most challenging step would involve the construction and execution of health-promotional, ESL language activities that would provide the opportunities for individuals' to exercise and convert their current *potential* health literacy levels into emergent *actual* health literacy levels. We further recommend incorporating related dimensions of individuals' health cultures into the learning activities. An example of this would be activities that touch on issues of "perceived lack of urgency;" however, there are many others that reflect ethno- and/or bio-medical belief systems and values that might also be incorporated.

In Nelson County we now have a better idea of what kind of health literacy activities are needed. We plan to use the information generated by this research about the *actual* and *potential* literacy levels of the Hispanic communities that we serve in ways that will eventually amplify their health cultures as well as the health cultures of their care providers. This summer and fall we plan to develop and incorporate pilot versions of these sorts of educational activities at work-site and camp-site health depots serving Hispanic communities.

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[4] By focusing in this research project on issues related to English-language health literacy, we do not wish to suggest that bilingual support services (Spanish-English) are unnecessary or unimportant. What we are advocating is that, in addition to on-going and enhanced bilingual support services, special attention be given to the amplification of potential English-language health literacy levels.

BIBLIOGRAPHY

Arcury, T.

1997 "Occupational Injury Prevention Knowledge and Behavior of African-American Farmers." Human Organization. 56(2):167-173.

Baer, R.

1996 Health and Mental Health among Mexican American Migrants: Implications for Survey Research" Human Organization. 55(1):58-66.

Bartlett, K.J. and Vargas, F.O.

1991 "Literacy Education for Adult Migrant Farmworkers." ERIC Digest. National Clearinghouse on Literacy Education, Center for Applied Linguistics. Washington, D.C..

Cangiano, J.L.

1994 "Hypertention in Hispanic Americans." Cleveland Clinic Journal of Medicine. 61(5):345-350.

Caudle, P.

1993 "Providing Culturally Sensitive Health Care to Hispanic Clients." Nurse Practitioner.18(12): 40-51.

Cazden, C., V. John, and D. Hymes, eds.

1972 Functions of Language in the Classroom. New York: Teachers College Press.

del Pinal, J.H.

1996 "Hispanic Americans in the United States: Young, Dynamic and Diverse." Statistical Bulletin - Metropolitan Insurance Companies. 77(4):2-13.

Drennon, C.

1994 "Adult Literacy Practitioners as Researchers." ERIC Digest. National Clearinghouse for ESL Literacy Education, Center for Applied Linguistics, Washington, D.C.

Estrada, A., Rabow, J. and Watts, S.

1982 Alcohol Use among Hispanic Adolescents: A Preliminary Report." Hispanic Journal of Behavioral Science. 4:339-351.

Fabrega, H.

1975 "The Need for an Ethnomedical Science." Science. 189(9):968-975.

Fingeret, H. and Cockley, S.
1993 Teachers' Learning: An Evaluation of ABE Staff Development in Virginia. Dayton, VA: The Virginia Adult Educators Research Network. (EDRS No. ED 277 022).

Gordon, S.M.
1994 "Hispanic Cultural Health Beliefs and Folk Remedies." Journal of Holistic Nursing. 12(3):307-322.

Grieshop, J.I., Stiles, M.C., and Villanueva, N.
1996 "Prevention and Resiliency: A Cross Culturally View of Farmworkers' and Farmers' Beliefs about Work Safety." Human Organization. 55(1):25-32.

Huang, G.
1993 "Health Problems among Migrant Farmworkers' Children in the US." ERIC Digest. ERIC Clearinghouse on Rural Education and Small Schools, Charleston, West Virginia

Kennedy, J.C. and Olsson, K.
1996 "Health Care Seeking Behavior and Formal Integration: A Rural Mexican Case Study." Human Organization. 55(1):41-46.

Lantz, P.M., Dupuis, L., Reding, D., Krauska, M., and Lappe, K.
1990 "Injury among Male Migrant Farm Workers in South Carolina." Journal of Community Health. 15:297-305.

McCurdy, S.
1997 "Tuberculosis Among Agricultural Workers. "Streamline: The Migrant Health News Source. Migrant Clinicians Network, January/February.

Migrant Health Program
1990 "An Atlas of State Profiles which Estimate Number of Migrant and Seasonal Farmworkers and Members of their Families." Rockville, MD: U.S. Department of Health and Human Services.

Morbidity and Mortality Weekly Report
1994 "Occupational Pesticide Poisoning in Apple Orchards." 42(51&52):993-995.

National Center for Farmworker Health, Inc

1996 America's Farmworkers Home Page. [WWW document]. URL http://www.ncfh.org/index.html (visited 1997, May 26).

National Coalition of Hispanic Health and Human services Organizations [COSSMHO]
1995 "Meeting the Health Promotion Needs of Hispanic Communities." American Journal of Health Promotion. 9(4): 300-311.

National Health Education Standards: Achieving Health Literacy
1995 Joint Commission on National Health Education Standards. Washington, D.C.

Ramirez, A.G.
1996 "Hypertension in Hispanic Americans: Overview of the Population." Public Health Reports. 111 Suppl. 2:25-26.

Schoenberg, N.E.
1997 "A Convergence of Health Beliefs: An 'Ethnography of Adherence' of African-American Rural Elders with Hypertension." Human Organization. 56(2):174-181.

Schur, C.L and Albers, L.A.
1996 "Language, Sociodemographics, and health care of Hispanic adults." Journal of Health Care for the Poor and Underserved. 7(2):140-158.

Slaughter & Associates
1991 "The Education of Adult Migrant Farmworkers." Woodland Hills, CA: U.S. Department of Education.

Solis, J.M., Marks, G., Garcia, M. and Shelton, D.
1982 "Acculturation, Access to Care, and Use of Preventative Services by Hispanics: Findings from the HHANES 1982-84." American Journal of Public Health. 80(Supplement).

Stallsmith, P.
1996 Forgotten in the Fields. Richmond Times Dispatch. (Special) November 10, 1996.

U.S. Bureau of Census
1992 Population projections of the U.S. by age, sex, race, and Hispanic origin: 1992 to 2050. Current Population Report, Series P25-1092.

U.S. Bureau of Census.
1993 Hispanic Americans Today. Current Population Report: Population Characteristics, Series P-23, No. 183.

van Willigan, J.

1986 Applied Anthropology. South Hadley, Massachusetts: Bergen Garvey Publishers.

Vygotsky

1978 Mind in Society: The Development of Higher Psychological Processes. M. Cole, V. John-Steiner, S. Scribner, and E. Souberman, (Eds), Cambridge: Harvard University Press.

Weidman, H.H.

1975 Concepts as Strategies for Change. A Psychiatric Annals Reprint. New Your: Insight Communications. Inc.

Chart 1
Barriers to Health Care

Analytic Category	Percentage	Total Number of Responses	Women	Men
Perceived lack of urgency	0.48	11	5	6
Economic problems/lack of health insurance	0.22	5	1	4
Language problems	0.13	3	1	2
Timing problems/ scheduling conflicts	0.13	3	2	1
Cultural insensitivity	0.04	1	0	1

Chart 2
Sociolinguistic Competencies

Situational Component	Percentage	Total Number of Responses	Women	Men	Missing Cases
Talking with nurses	0.68	24	9	15	-1
Making appointments in person	0.64	23	8	15	0
Making appointments by phone	0.64	22	8	14	-2
Talking with doctors	0.61	21	8	13	-2
Registering and giving personal and insurance information	0.46	16	4	12	-1
Checking out and paying	0.31	11	3	8	-1

Table 1

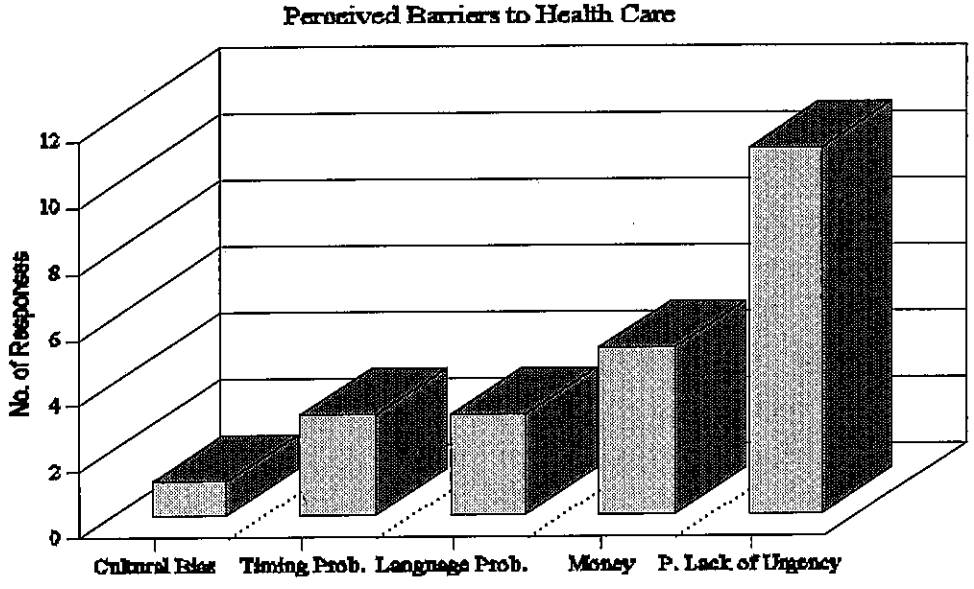


Table 2

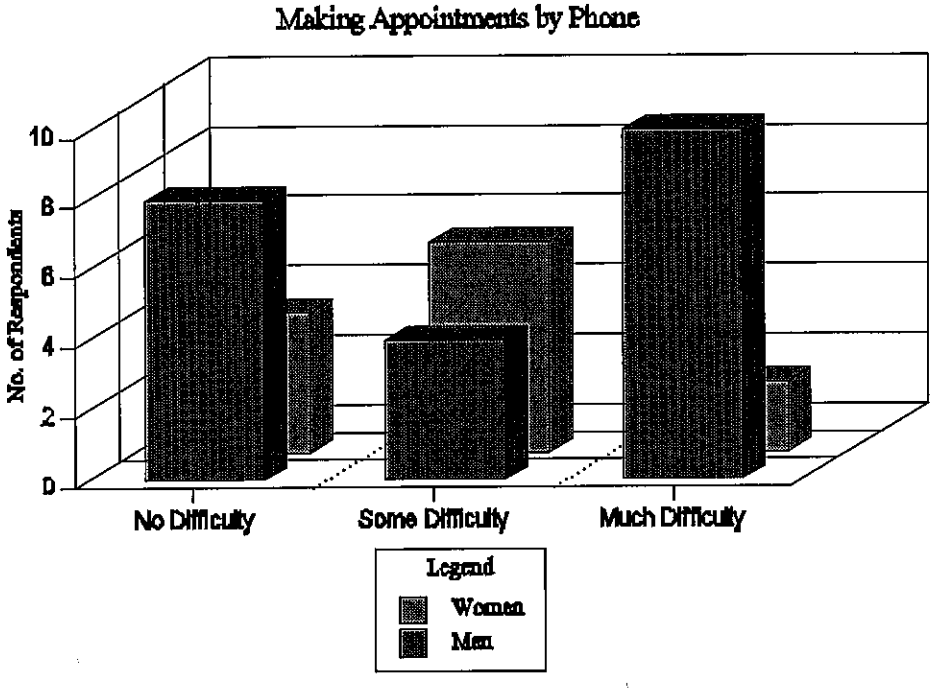


Table 3

Making Appointments in Person

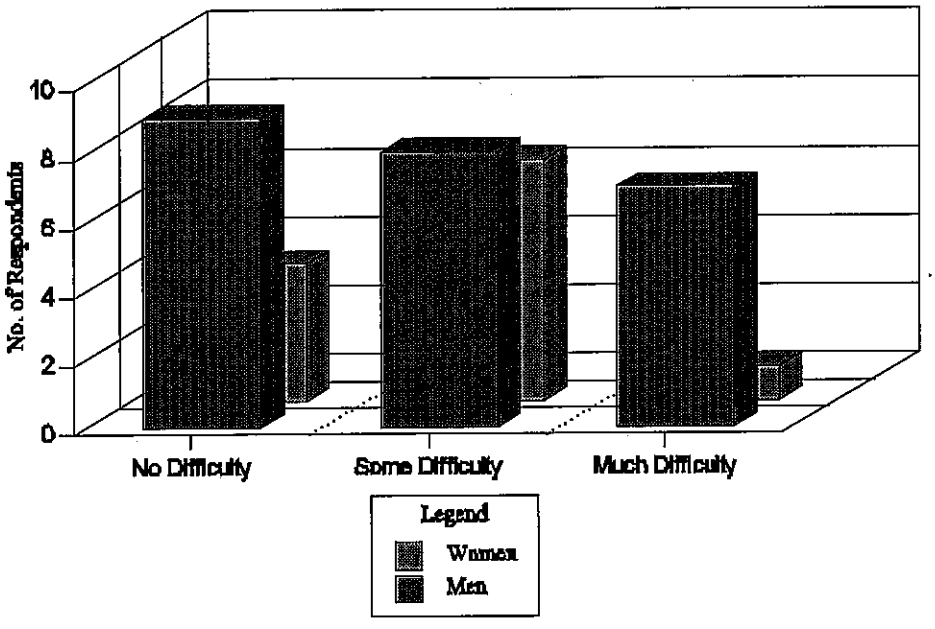
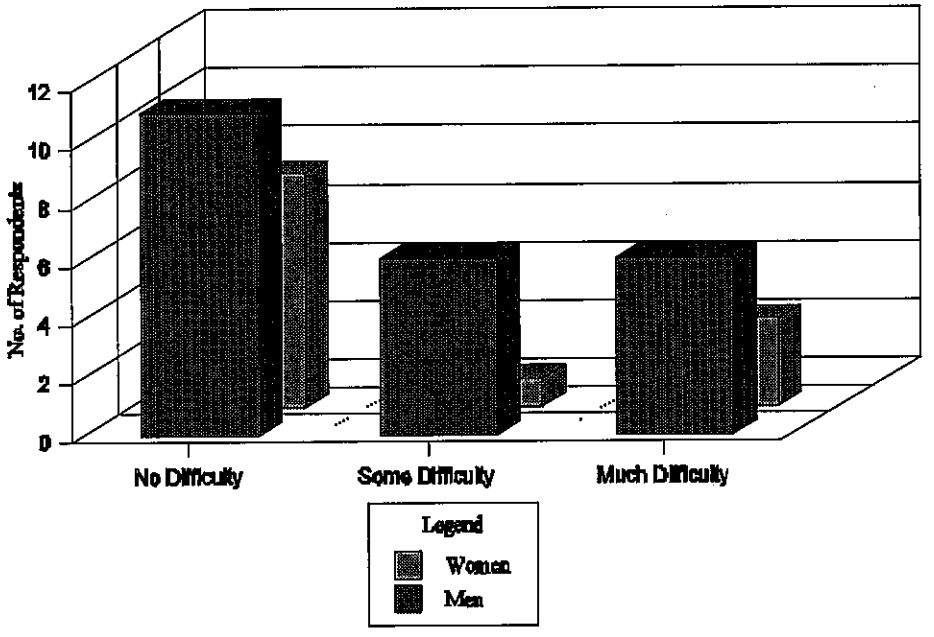


Table 4

Registering and Giving Information



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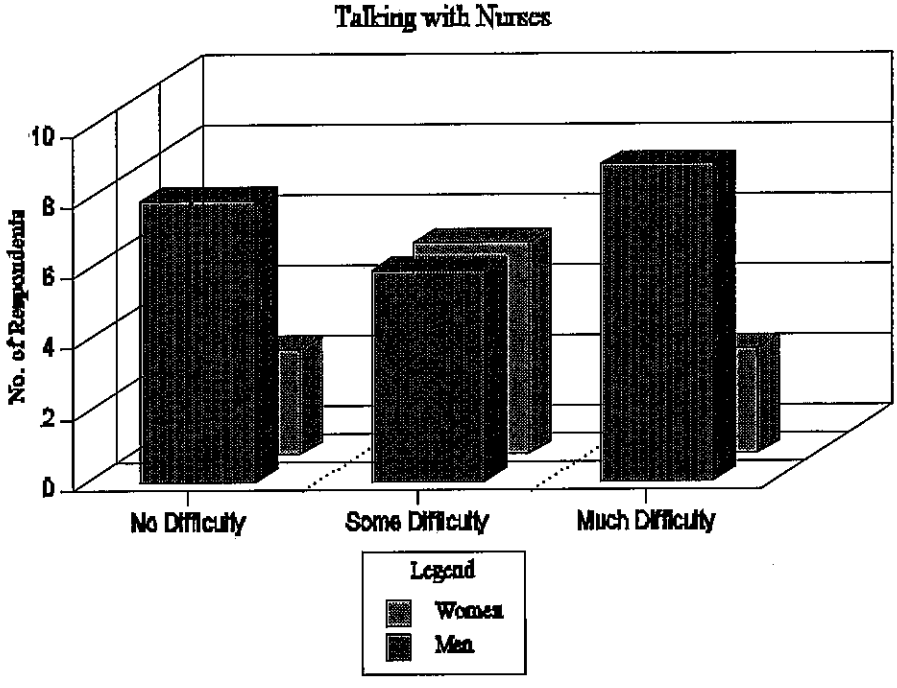

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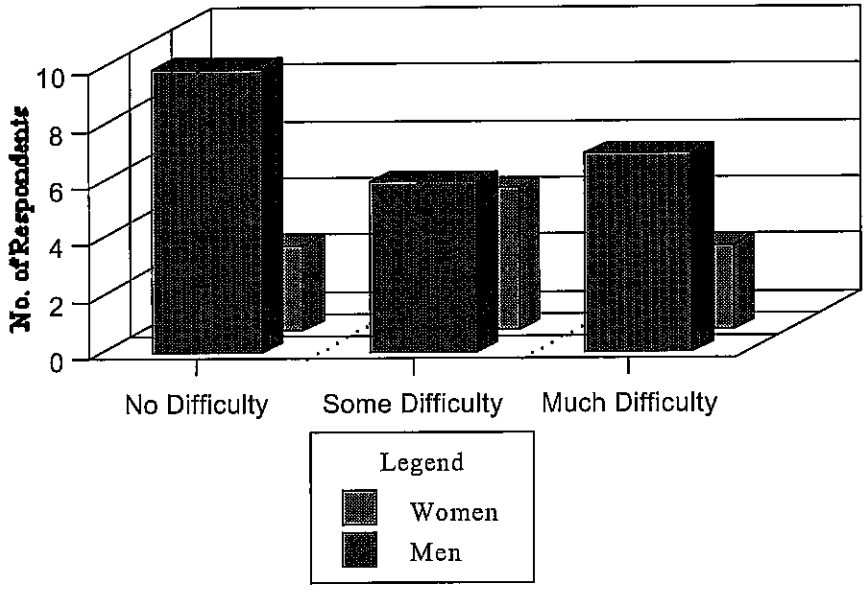

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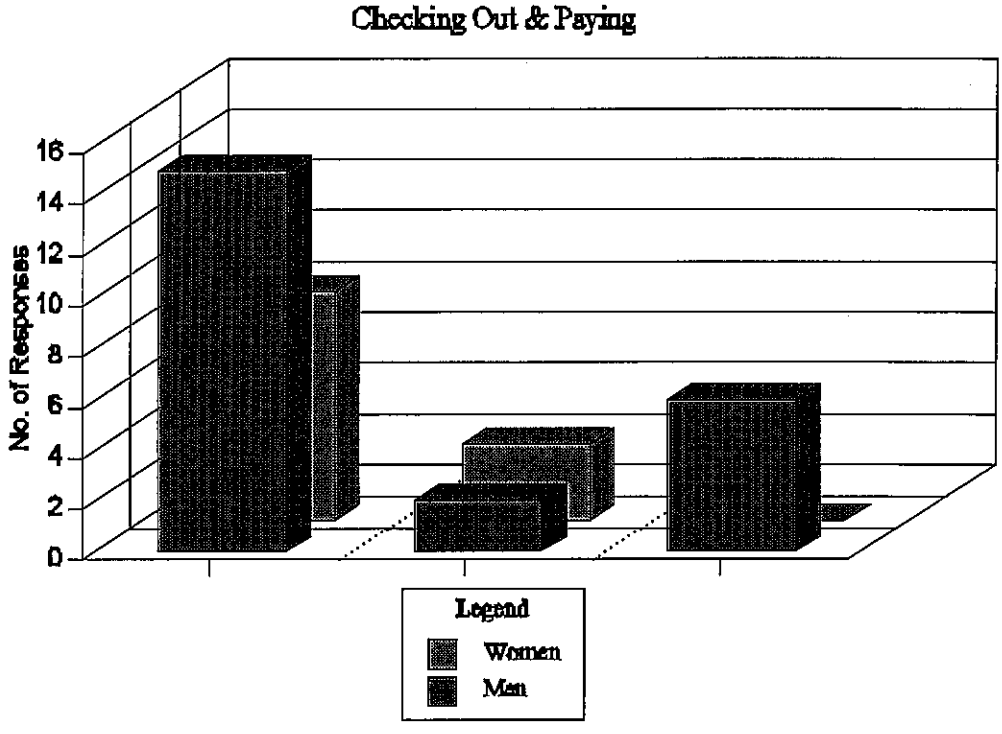
Checking Out & Paying
No. of Responses
16
14
12
10
8
6
4
2
0
Legend
Women
Men