

THE IMPACT OF LANGUAGE BARRIERS ON THE HEALTH CARE OF LATINOS IN THE UNITED STATES: A REVIEW OF THE LITERATURE AND GUIDELINES FOR PRACTICE

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ABSTRACT

Although Spanish was the primary language of an estimated 11% of adults in the year 2000, the U.S. health care system is largely geared toward serving English speakers. A systematic review was conducted of studies published in biomedical journals from 1990 to 2000 examining language barriers in health care for Latino populations. Aspects of the problem examined were access to health care, quality of care, and health status/health outcomes. Five (55%) of the nine studies examining access to care found a significant adverse effect of language; three (33%) found mixed or weak evidence that language affected access. Six (86%) of the seven studies evaluating quality of care found a significant detrimental effect of language barriers. Two of the three studies examining health status or outcomes found language to be a risk factor for adverse outcomes. Evidence was mixed as to the level of importance attributable to language when access to care is considered; however, non-English-speaking status was a marker of a population at risk for decreased access. Solid evidence showed that language barriers can adversely affect quality of care. Health care practitioners are recommended to devise an effective strategy to bridge language barriers in their setting. National laws and policies are discussed; practical guidelines and resources for providing language access in health care are provided. This article is intended to supply basic knowledge for providers and institutions in devising effective strategies for bridging the language barrier. *J Midwifery Womens Health* 2002;47:80–96 © 2002 by the American College of Nurse-Midwives.

INTRODUCTION

Although the United States is a multicultural and multilingual society, the health care system here is largely geared toward serving English-speakers (1–4). In 1990, more than 13% of the U.S. population (32 million people) spoke a language other than English as their primary language; (5) preliminary data from the 2000 census indicate that this figure may have climbed to more than 17% (6). Of those with a foreign language as their primary language in 1990, more than 38% spoke English less than very well (5). It is widely recognized that

people with little or no proficiency in English are at risk for experiencing language as a health care barrier (1,8,9).

Spanish, the most commonly spoken foreign language in the United States, was the primary language of almost 8% (17.3 million) of the U.S. population in 1990 (5) and is estimated to be spoken by 10% (26.7 million) of the U.S. population by preliminary data from the 2000 census (6). Estimates from the 2000 census indicate that Latinos may have already become the largest minority group in the United States at more than 34 million people, whereas African Americans number approximately 32 million (7). The population growth of Latinos has been seven times as fast as the rest of the U.S. population (10). Therefore, this article focuses on studies examining language barriers in the context of Latinos and the Spanish language. However, this does not diminish the importance of the language barrier problem as experienced by other populations in the United States.

Many believe that when a patient does not speak the language of his or her health care provider, multiple adverse effects on the patient's health care may occur (9,11). For example, a patient's inability to comprehend the education and treatment plan can lead to poor patient satisfaction, poor compliance, and underuse of services (9,12,13). In addition, access to health education that promotes health maintenance (primary prevention) may also be blocked by a language barrier (14,15). Importantly, the lack of provision of adequate services due to a communication barrier may represent a serious legal trespass, and health care providers need to be cognizant of pertinent legal and policy provisions (16). There are economic repercussions of both providing services in a patient's language when the patient has limited English proficiency and of failing to do so (1,17). Finally, the language issue is a central aspect of cultural competency in health care. Practitioners that serve culturally diverse populations will regularly be challenged to face the language barrier as part of their effort to provide culturally competent care.

The language barrier problem is complicated by the fact that many providers and institutions have no effective

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tive system in place to deal with a language barrier when it presents. Some of the strategies commonly used, such as using a family member or other untrained person to interpret, carry their own hazards of ethical breaches and inaccuracy (11,15,17). However, despite the probable link between a language barrier and suboptimal health care, the way in which language affects a non-English speaker's health care is poorly understood. Is limited English proficiency (LEP) a direct cause of adverse health care outcomes or is it more accurately seen as a marker of a population that is at higher risk for adverse outcomes due to other factors? Latinos, for example, have been shown to use less health care services than the rest of the population (18–20). Language is only one of the many factors that have been examined as a possible cause of this decreased use.

Health care providers that serve Latino populations need to be aware of the ways a language barrier may impact their clients' experience with health care. How do language barriers affect access to care, quality of care, health outcomes, and health care costs? This article reviews the studies in the English biomedical literature that have addressed such questions in the last decade. In addition, pertinent national laws, policies, and guidelines are introduced, and a list of resources is provided.

BACKGROUND

Demographics of Latinos

The term *Latino* is defined as “all persons living in the United States whose origins can be traced to the Spanish-speaking regions of Latin America, including the Caribbean, Mexico, Central America, and South America” (2). Although *Hispanic* has been the official term used by the federal government to refer to these same populations, *Latino* is more inclusive of the indigenous and African cultures' roles in Latin American history (2).

Both terms are somewhat problematic in that they group together people from many geographically and culturally diverse regions. They also put U.S. citizens of many generations together with recent immigrants. Clearly, such diverse and varied groups of people cannot share completely identical priorities and problems in regards to health care. However, as Novello et al (21) articulate, “although significant distinctions exist among the various Hispanic communities, there are also the important ties that transcend their differences. Similarities in language, a colonial past, and, of course, the

struggle against discrimination have brought the diverse Hispanic communities into a variety of activist coalitions and shared agendas.”

If the trend of rapid population growth in the Latino population continues, by the year 2050 Latinos are projected to represent 24.5% of the U.S. population, African Americans 13.6%, and whites 52.8% (22). Latinos also continue to have the highest fertility rate of any ethnic group in the United States (23). Between 2000 and 2005, people of Latino origin are projected to account for 41.3% of the nation's total population growth (22). In the next few decades, one of every three net additions to the U.S. population will be Latino (24).

Access to Care

It has been shown that Latinos as a group use less screening, preventive, and primary health care services in the United States than Caucasian Americans (19,20). In addition, they continue to be at higher risk for health problems in general (19,25,26). Findings from the Hispanic Health Assessment and Nutrition Examination Survey (HHANES) showed that among Hispanics, emergency departments were most likely to be the primary sources of health care (27).

Rew (26) asserts that language barriers prevent Latina women from seeking preventive health services such as cancer screening, mental health services, and reproductive health care services. Torres (15) states that language barriers can affect the ability of an individual to practice health promotion and risk avoidance based on health education. Stuart et al (13) found that language was a barrier for the use of outpatient mental health services for patients who were not fluent in English. Furthermore, various authors have reasoned that because conversation is the heart of the practice of medicine, a patient with a language barrier inherently lacks access to a therapeutic relationship with their health care provider (9,28).

Many authors have aimed to elucidate the factors that prevent equal access to care for LEP residents and immigrants. Among the factors that have been examined are low socioeconomic status, lack of health insurance, educational status, transportation and other situational barriers, lack of a primary health care provider, cultural differences, and language barriers (15,19,24,26,29–31).

Quality of Care and Health Outcomes

Despite being the fastest-growing minority group in the United States, Latinos experience a disproportionately disadvantaged health status (25,26,32). In addition, it has been shown that Latinos are less likely to have health insurance, a regular source of health care, and at least one ambulatory health care visit in the last year than Caucasian Americans (25).

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Poor patient outcomes that have been attributed to a language barrier between patient and provider include increased use of expensive diagnostic tests (3), increased use of emergency services and decreased use of primary care services (30), poor patient satisfaction (12), and poor or no patient follow-up when follow-up is indicated (33). Fortier et al (34) assert that a failure to ensure adequate communication between patient and provider “can lead to inappropriate or unnecessary testing, clinical inefficiency, misdiagnosis, negative outcomes, and malpractice.”

Conversely, a retrospective cohort study (35) of 622 patients with type II diabetes found that significantly more non-English speakers than English speakers had received adequate care that met the requirements of the American Diabetes Association. This indicates that limited English proficiency may not necessarily cause a decrease in the quality of care.

Legal Concerns

A recent manual published by the National Health Law Program asserts that both federal and state laws require health care providers to provide “linguistically appropriate health care” (17). However, these laws are not well known and are rarely enforced, and few immigrants have the knowledge or resources to demand language access (17).

According to Title VI of the Civil Rights Act of 1964 (36), “No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Although the Act does not define “discrimination on the basis of national origin,” it has been repeatedly interpreted as requiring the provision of language services (17). Furthermore, “related court decisions, Department of Justice regulations, and HHS Office for Civil Rights (OCR) directives consistently have required federally funded health care providers to offer translation services” (17). To clarify the rationale for requiring language access services in health care, the OCR issued a recent “Guidance Memorandum,” stating the following (16):

The language barriers experienced by these LEP persons can result in limiting their access to critical public health, hospital and other medical and social services to which they are legally entitled and can limit their ability to receive notice of or understand what services are available to them. Because of these language barriers, LEP persons are often excluded from programs or experience delays or denials of services from recipients of federal assistance. Such exclusions, delays or denials may constitute discrimination on the basis of national origin, in violation of Title VI.

Perkins and associates (17) have compiled a list of “OCR’s Bottom Lines for Linguistic Accessibility,” based on the range of decisions the OCR has issued. The list includes but is not limited to the following requirements (17):

- (a) recipients of federal funds have an obligation to offer translation services at no cost to limited English proficiency (LEP) individuals, (b) federal funds recipients need to have written policies for and staff awareness of the existence of such policies, (c) recipients need to provide written notices to clients in their primary language informing them of their right to receive interpreter services, (d) family and friends of LEP individuals should be asked to provide interpretive services only after alternative, no cost methods have been offered and the patient still chooses family/friend interpretation, (e) minors should not be used to translate, (f) recipients need to ensure the availability of a sufficient number of qualified interpreters on a 24 hour basis, and (g) interpreters need to be qualified and trained, with demonstrated proficiency in both English and the other language, knowledge of specialized terms and concepts in both languages, and the ethics of interpreting.

Title VI remains the primary federal law governing equal access to health care for people of limited English proficiency. Although to date there are no landmark court cases that link language barriers and health care, there are such cases that use Title VI to require language access in education and the social services (17). These cases provide legal precedence for civil rights actions involving language discrimination in health care. Health care providers that receive reimbursement from Medicaid should be aware that federal Medicaid regulations require states to operate in a manner that is consistent with individuals’ rights under Title VI of the Civil Rights Act (37).

On the legislative level, Congress first addressed language barriers in health care in the Disadvantaged Minority Health Improvement Act (DMHIA) of 1990 (38). This act stated that federally funded community health centers are required to provide primary health care services in the language of the intended recipient. It also mandated that the Office of Minority Health (OMH) of the Department of Health and Human Services (DHHS) spend at least \$3 million per year to assist such health centers in the provision of bilingual or interpretive services (34). Next, the Minority Health Improvement Act of 1994 clarified and strengthened the above-mentioned OMH set-aside for bilingual/interpreter services. It also required the OMH to establish a center for research and technical assistance related to provision of language access to health care (34). However, because of a complex interaction of the various forces involved in the interpretation and implementation of these laws, specific and uniform policies guiding the full implementation are still lacking (34).

Since 1995, the private sector and state governments have largely taken over the discussions of language issues in health care (34). Major nongovernmental organizations, such as the Joint Commission on the Accreditation of Health Care Organizations (JCAHO), the Henry J. Kaiser Family Foundation, and the National Health Law Program, have generated research policies, recommendations, guidelines, and funding toward bridging the language barrier problem. In addition, many states, particularly those moving toward Medicaid managed care, have developed policies regarding the provision of language access to organizations participating in the managed care. Many health care providers and institutions remain unaware of the laws and policies that dictate the provision of language access or remain unaware of how to comply with them. Still others are aware of the laws but have lacked impetus to create an effective system to comply (34).

Cultural Competency

Increasingly recognized as a critical aspect of quality health care, cultural competency is an awareness and an acceptance of cultural differences, and an ability to learn about and to sensitively interface with the patients' diverse cultures. It is a skill that health care providers need to actively cultivate when working with clientele from a culture foreign from their own.

Fostering cultural competency is a priority according to the American College of Nurse-Midwives (ACNM). The Philosophy of the ACNM states that "every individual has the right to safe, satisfying health care with respect for human dignity and cultural variations" (39). The ACNM's position statement on Minority Affairs asserts that the ACNM "seeks to promote educational preparation for its membership which will develop respect for cultural variations" (40). Similarly, the American College of Obstetricians and Gynecologists (ACOG) issued a committee opinion statement proclaiming that cultural competency is particularly relevant to maternity care (41). ACOG's committee opinion on cultural competency in health care states that (41):

For those who do not speak English, appropriately trained interpreters should be hired, and forms, patient education materials, and signs should all be accurately translated. If practice resources do not allow for the hiring of additional staff, community resources should be explored and, when appropriate, used. Providers should also render services in a manner that is appropriate to the community's culture(s). This may require providers or their staff to meet with representatives from the community to discuss how the delivery of services might be modified.

The perinatal period is often the first contact that an immigrant's family has with the health care system, and

that experience will affect future use of the system (41). As such, midwives play a crucial role as the representative of the larger health care system when serving recent immigrants. Whether the client is met with acceptance and understanding may have broader implications for their future health care.

Cost Issues

When a language barrier exists between patient and provider and no effective strategy to bridge the barrier is implemented, the health care system may pay an economic price through the increased use of diagnostic tests or through pulling staff from their normal job duties to interpret. Yet, efforts by an institution or health care provider to bridge the language barrier may include costly projects such as hiring professional interpreters and training professionals to speak other languages.

An anecdotal belief among some health care providers is that more time may be required to attend patients with a language barrier than those without one, especially if an interpreter is used (35). In a time-motion study comparing time spent with English-speaking and non-English-speaking patients, Tocher and Larson (35) found that there was no difference in time spent.

Hampers and associates (3) found in a prospective cohort study that when there was a language barrier between patient and physician in an emergency department, charges for diagnostic tests were significantly higher ($P < .01$) and ED stays were significantly longer (95% CI: 15, 42) than for patients without a language barrier. The authors hypothesized that physicians may be compensating for the inability to elicit an adequate history by ordering more diagnostic tests.

An ambulatory care clinic in California conducted a needs assessment to quantify their costs to language barriers in the absence of an effective interpreter system (42). It revealed that the time spent by staff members acting as interpreters was more costly than hiring two professional interpreters. In addition, a multitude of errors and confidentiality problems was attributed to the ad hoc interpreting that had been used.

The potential costs of the adverse effects of language barriers must be weighed against the projected costs of implementing a plan for providing effective language services.

METHODOLOGY

Three major computerized databases of medical literature were searched by using the keywords and phrases "language," "barrier(s)," "communication barrier(s)," "limited English proficiency," "Hispanic," and "Latino." The databases were MEDLINE 1966 to present, COCHRANE DATABASE OF SYSTEMATIC RE-

VIEWES, and Cumulative Index to Nursing and Allied Health Literature (CINAHL) 1982 to present. Searches were performed on three occasions in May, June, and December of 2000. Articles with pertinent titles and abstracts were selected from the initial literature search results, and full text was acquired to evaluate for inclusion criteria.

“Branching” was then performed to locate additional studies that qualified for inclusion in the study but did not appear in the initial literature search. In the process of branching, articles from the initial search that met criteria for inclusion were scanned for pertinent citations in their literature review and reference sections. References thus located were then evaluated for inclusion in the study.

Criteria for an article’s inclusion in the study were as follows: 1) the study must have been published in a health science journal in one of the years from 1990 to 2000; 2) it must be a systematic quantitative, qualitative, or experimental study; 3) the study must examine at least one of the following aspects of the problem of language barriers in health care: access, health status or health outcomes, cost, quality of care, follow-up, compliance or preventive care; and 4) it must examine it in the context of Hispanics or Latinos in the United States. Studies were excluded that did not meet all four of these criteria.

FINDINGS

Three separate computerized literature searches performed between May and December of 2000 yielded 332 citations within the years 1990 to 2000. Of these, 267 citations were excluded by their titles or abstracts for the following reasons: the study did not focus on language barriers in health care, it focused on a population other than Latinos in the United States, or it was a commentary and not a study.

Sixty-five articles were originally evaluated for inclusion in the study, and 11 met criteria for inclusion in the study. The references provided by these 11 articles yielded 16 additional potential articles for inclusion, but only three met inclusion criteria after evaluation; 14 articles comprised the final sample. Of the originally excluded studies, 29 were not scientific studies, 11 examined a problem with health care utilization other than language barriers, 13 had sample populations other than Hispanics/Latinos in the United States, and one was an unpublished dissertation.

Three broad aspects of the language barrier problem were represented in the sample. Nine studies (64%) examined access to health care, seven (50%) examined quality of care, and three (21%) examined health status/health outcomes. The numbers add up to more than 14 and 100% because six studies examined more than one aspect. No studies examining cost issues and language

barriers were found that examined the problem specifically in the context of Hispanics/Latinos.

Access to Care

Appendix A reviews the designs, samples, and findings of the nine widely varying studies that examined language and access to care. Evidence was not unanimous that language barriers are significant detriments to accessing care for non-English-speaking Latinos. Five studies (55%) found a significant adverse effect of language on access to care for Latinos with LEP; three studies found weak or mixed—significant by one measure but not by another—evidence that language impacted access, and one study (11%) found no evidence that language was a significant barrier.

The five studies that found unequivocal significant detrimental effect of non-English proficiency on health care access for Latinos varied greatly in design, sample, and measures. Flores et al (43) surveyed parents in a pediatric clinic and found that language barriers were the most frequently reported health care access barrier (26% of the sample). Kirkman-Liff and Mondragon (44) analyzed data from a large survey and found language to be “an important predictor” of health care access for Hispanic children. Russell and Ordoñez-McCammon (45) surveyed Latinos about barriers to accessing care and found that the greatest reported barrier was lack of bilingual health care providers (54% of the sample), and the second greatest was a lack of educational materials in Spanish (50% of sample).

In a qualitative study, Sherraden and Barrera (46) found that 44% of Mexican immigrant women reported that language barriers and/or poor communication caused decreased access to prenatal care. Women stated that because of a language barrier, they were unable to find available services such as WIC and enroll in them; they were not told about the status of their baby during pregnancy, and they were unable to tell their provider what was wrong with their health.

Last, Solis et al (47) analyzed data from HHANES, a population survey undertaken by the National Center for Health Statistics in 1982–1984 to assess the health and nutritional needs of Mexican Americans, mainland Puerto Ricans, and Cuban Americans (48). Although the sample was not designed to be representative of all Hispanics in the United States, its ultimate sample population included 76% of the Hispanics residing in the United States during the 1980 census. In their study that was published in 1990 (47), Solis and associates’ analysis of these data revealed that variation in language preference seemed to be a critical determinant of health care use for Mexican American adults and for Cuban men.

Three studies found mixed results or only weak

evidence as to language's effect on health care access. First, Estrada et al (49) analyzed another subset of the HHANES sample. They found that although language was among the barriers reported by respondents, it was greatly superceded in importance and frequency by several other factors, including cost and situational constraints. However, it is significant to note that more than half of the sample did speak English. Language as a barrier did not appear to be examined specifically in the Spanish-speaking subset of the sample. Therefore, this study has low validity as a measure for the importance of language barriers for Spanish-speaking Mexican Americans.

Next, Flores and Vega (50) found equivocal results regarding language's role in health care access for Latino children in their integrated literature review. Language as an access barrier was supported by a few of the studies analyzed, but one study found that it was not a barrier. Several other factors as access barriers were supported by stronger evidence, and the authors concluded that more research is needed regarding language's role. Last, in an interview study of Hispanic women regarding their experiences with mammography screening, Stein and Fox (51) found that language appeared to be a powerful predictor for the use of screening. However, although they had an English-speaking Hispanic control group to compare with the Spanish speakers, the groups differed so much in income, insurance, and educational level that the authors were unable to isolate the effect of language and conclusively show a link.

The sole study in the sample that concluded that language was not a barrier to health care access for Latinos (52) was an analysis of data from the 1987 National Medical Expenditure Survey (NMES) (53). Schur and Albers (52) found that language was related to poverty status, health status, and levels of insurance coverage, with Spanish speakers reporting lower status in these categories. They concluded that language status appears to be linked to sociodemographic and financial predictors of health care, but is not in itself a primary barrier to health care.

The findings of this review indicate that although it is probably a significant barrier to health care access in some situations, language may not be among the most significant access barriers for most of Latino populations in the United States.

Quality of Care

Seven studies examined the effect of a language barrier on the quality of health care for Latinos. See Appendix A. Measures for quality of care varied considerably. Three studies examined quality of care in terms of the use of preventive care; three examined the quality of the communication by assessing patient understanding of the

encounter, patient recall, and patient satisfaction; one examined follow-up and compliance; and one was a qualitative descriptive study examining Mexican immigrant women's experiences with prenatal care. These numbers add up to eight because one study examined two aspects. Five of the six quantitative studies used relevant English-speaking controls to isolate the effect of a language barrier on non-English speakers.

Of the seven studies, six (86%) found a significant adverse effect of a language barrier on the quality of the non-English-speaking patient's care. However, one study (54) found that language had no significant effect on quality of care, and one study (55) found significant adverse effects of language on some aspects of quality of care but no effect on another measure, preventive care.

In a survey in an ambulatory care setting, David and Rhee (55) found that significantly fewer ($P < .001$) of the Spanish-speaking cases than English-speaking controls reported that the side effects of medications were explained to them. Importantly, both cases and controls reported that understanding the side effects of medication corresponded with medication compliance. In addition, a significantly lower ($P < .05$) percentage of cases than controls reported satisfaction with medical care. The investigators concluded that it was likely that the differences found between the two groups were due to a language barrier. In the same study, no difference was found between the groups by the percentage that were told about mammography and pap smears and significantly more cases (Spanish speakers) than controls (English speakers) (78% versus 60%) reported having had a mammogram in the last 2 years (55). Thus, this study found no detrimental effect of language barriers on preventive care. The investigators offer the possible explanation that because the subjects of this study all had continuing comprehensive primary care, their health screening patterns may not be representative of Latinos who do not have a primary care provider. In addition, there was a significant difference ($P = .03$) in mean age between the cases and controls, cases being older—which could explain why more cases had mammograms.

Seijo et al (56) examined whether language discordance between patient and provider affected patient question-asking behavior and recall. A significant negative effect of language was shown. LEP patients were seen by either a bilingual (Spanish-speaking) physician or an English-only-speaking physician. The patients who saw a bilingual physician had significantly higher recall in all five categories measured than the patients who saw an English-speaking physician (73% versus 54%; $P < .05$). Observational data showed that there was no significant difference between the amount of information provided by the doctors in the two groups. In addition, patients seen by the bilingual physician asked significantly more questions than those seen by the English-

only physicians. The investigators concluded that “language discordance between physician and patient can have an effect on the interaction of these two parties and its outcome by leading to decreased patient information recall of the encounter and decreased patient question-asking behavior during it” (56). They warn that such decreased understanding can lead to decreased satisfaction, decreased compliance, and inadequate care.

Rosen et al (57) studied the satisfaction with care of Spanish-speaking Hispanic patients seen in emergency departments (EDs). Most EDs responded that Hispanic patients were as satisfied with their care as the English speakers. However, the telephone survey revealed that 12% of the Hispanics were dissatisfied with their care in the ED versus 0% of the English-speaking controls. In addition, 28% of the Spanish-speakers “did not understand, at least in part, their diagnosis or instruction.”

The remaining studies that examined language’s effect on quality of care were also reviewed previously in the discussion on access to care. These studies (46,47,51) all found a significant adverse effect of language on the quality of care, particularly on the use of preventive health screening. In Stein and Fox’s (51) survey, significantly fewer Spanish speakers had ever had a mammogram than the English-speaking Hispanic controls (13.8% versus 47.1%). Solis et al (47) found that language was significantly associated with recency of breast exams (Spanish speakers using less of these services) and recommended increased screening outreach efforts for Hispanic populations in general.

Last, Sherraden and Barrera’s (46) study of Mexican immigrant women’s experience with prenatal care in Chicago revealed that patients felt that language barriers negatively impacted their prenatal care. Patients’ medical records were also reviewed, and each patient was assigned a Kessner Index score for adequacy of prenatal care. (The Kessner Index calculates adequacy of care based on when prenatal care was initiated in pregnancy, number of visits, and weeks of gestation at delivery.) It was found that women who delivered low birth weight infants were more likely to have received “intermediate” or “inadequate” prenatal care than those with normal birth weight babies. The investigators hypothesized that a language barrier is one of the reasons that these women may not have received adequate care; however, the design of the study does not warrant interpreting the findings as cause and effect. Other possible reasons for decreased care were thought to be lack of health insurance, long waiting room times, and sociocultural factors.

The single study that stood apart from the rest of the sample in its findings regarding quality of care was a survey of 24 English-speaking Latinos and 24 Spanish-speaking Latinos in an emergency department. Enguinados and Rosen (54) found that there was no significant difference between the groups in terms of patient satis-

faction, adequacy of communication with the physician, or patient follow-up, and compliance after the emergency department visit; they concluded that “language is not a significant variable influencing follow-up compliance.” However, 23 of the 24 Spanish speakers communicated with their physicians through a professional medical interpreter and the remaining patient was attended by a Spanish-speaking medical doctor. Therefore, the results of this study cannot be validly generalized to apply to institutions that do not have similar professional language services.

In short, solid evidence supported language barriers causing decreased explanation of medication side effects, decreased patient satisfaction, decreased patient recall, and decreased question-asking behavior. Findings were mixed regarding language’s effect on preventive health screening. However, decreased recency of breast examinations was supported by evidence from a large subset of a large national survey, whereas the nonsignificant impact of language on knowledge about mammograms (55) was not supported by strong evidence.

Health Status and Health Outcomes

Three studies examined the effect of language barriers on health outcomes. See Appendix A. One study found that non-English-speaking status was associated with worse health status but did not find a direct effect of language. The other two studies found a causal relationship between a language barrier and poor health status or adverse health outcomes.

Kirkman-Liff and Mondragon (44) found that Spanish-speaking Hispanics (adults and children) had lower health status than English-speaking Hispanics. However, the measures used in the study did not or were not able to control for socioeconomic confounders to isolate language’s effect on health status. Health status was worse for those respondents who were classified as poor and near-poor than for non-poor respondents, and because Spanish-only language status was also correlated with poor and near-poor status, the investigators concluded that “Spanish monolingualism, in itself, is not a health risk factor but a practical indicator of important risk factors such as diminished education, poverty, and diminished access to care.”

In a review of medical records of Latino and non-Latino white patients with diagnoses of diabetes or hypertension, Perez-Stable et al (58) found that language concordance between patient and physician was associated with better functioning on three overall health scales. Conversely, language discordance was associated with worse functioning. The investigators concluded that because “patients reported better well-being and functioning when their primary care physician spoke their native language . . . this finding may have important

implications in training of physicians in areas with high concentration of Latinos.”

Flores et al (43) surveyed parents in an inner-city pediatric clinic and found that 8% of the sample reported that overall poor medical care resulted from staff not speaking Spanish, 6% reported misdiagnosis, and 5% reported prescription of inappropriate medications. The investigators concluded that language problems “can result in adverse health consequences for some children.”

These studies together do not provide conclusions about language’s effects on health status or outcomes of non-English-speaking Latinos. One study was unable to isolate the effect of language (44); the other two both showed an effect, but they used very different measures and cannot be analyzed together.

DISCUSSION

Latinos are now the largest minority group in the United States. The findings of this literature review indicate that language does have a significant impact on the health care experience of many Latinos with limited English proficiency. However, the kind of impact and its severity appear to vary considerably.

Five (55%) of the nine studies examining access to care found a significant effect of language (43–47), but one (52) found no effect. Three studies (33%) revealed mixed findings about language’s role on access to care (49–51). Six (86%) of the seven studies examining quality of care found some significant effect of language (46,47,51,55–57), but one (54) found no significant effect. Two (67%) of the three studies examining health status or health outcomes found an adverse effect of language barriers (43,58) and one (44) found mixed results. Great variation in the designs, samples, and measures of the studies limits the conclusions that can be drawn. See Appendix A.

Access to Care

Health care providers that serve Latino populations need to be aware of factors that can be a barrier for accessing care for these groups. Although evidence was inconclusive as to the level of importance of language as an access barrier for Latinos, it was found to be an access barrier to health care in more than half of the studies reviewed, and four of these used very large data sets (44,48,49,51). Unfortunately, two of these (47,49) used data from HHANES, and these data are no longer current because they were collected in 1982–1984. A national study of the same scale as HHANES that examines the health status of Latino populations is warranted to evaluate current issues. Other factors that limit the generalizability of the studies to all Latinos in the United

States are the varying natures of the studies and the lack of homogeneity of U.S. Latino populations.

Two patterns in health care access for Latinos were revealed by this literature review that have important implications for health care providers that serve Latino populations. First, the findings of the four largest studies all supported the conclusion that non-English-speaking status is an indicator of a person at risk for reduced access to care (44,47,49,51). Second, six of the studies found other factors to be much stronger barriers to health care access than language. These were cost, income, or financial constraints (66% of the studies that examined access); health insurance status (33%); and having a routine source of care (33%). Other barriers reported were lack of transportation, lack of child care, inability to take time off work, long waits, decreased likelihood of obtaining prescriptions from provider, poor educational attainment, and employment status (43,45,47,49,50). Awareness of these impediments to accessing care can help providers more effectively coordinate services for their at-risk LEP clients.

Quality of Care

In contrast to the mixed results regarding access to care, this review found solid evidence that a language barrier can produce a significant detrimental effect on the quality of care. This evidence adds to the extant legal requirements to increase the urgency with which health care providers must prioritize bridging the language barrier.

Strong evidence showed that language barriers caused decreased patient recall and question-asking behaviors (56), a lack of comprehension of medication side effects and/or of doctor’s instructions, and decreased patient satisfaction (55,57).

Three studies, two of which had an English-speaking comparison group, showed decreased use of preventive services in Latinos with limited English proficiency (46,47,51). This finding is consistent with the findings of other studies that have shown a correlation between non-English-speaking status or Latino race and decreased use of important preventive services (19,29,59).

Qualitative evidence that the language barrier was a cause of inadequate prenatal care by Kessner Index for Mexican immigrants was shown (46). It was previously shown that Mexican Americans use less prenatal care services and more frequently receive inadequate prenatal care by the Kessner Index than non-Hispanic whites (19). That language barriers may cause some of this deficiency is significant for the practices of midwives who serve Mexican-American populations.

The study that found no significant difference in the quality of care between English-speaking Hispanics and Spanish-speaking Hispanics had a sample in which all of the Spanish speakers used professional medical interpret-

ers or a bilingual physician (54). Therefore, the presence of a true language barrier in these interactions was doubtful. Rather than negating the possibility that a language barrier might have an impact on the quality of care, the findings of this study can be seen as a testament to the effectiveness of using professional interpreter services and bilingual health care providers.

Health Status and Health Outcomes

Language barriers may have a negative impact on the health outcomes and the health status of Latinos; however, more research using consistent measures to clarify the causal versus associative relationship between language barriers and poor health status is needed.

Only three studies examining health outcomes or health status were located in this literature review. Although they all qualified for inclusion based on having examined health status or outcomes, the outcomes measured were very different and, therefore, must be evaluated separately. However, the study by Perez-Stable et al (58) yielded solid evidence that when there was language concordance between patient and provider, the patients had better health functioning. Adverse health care outcomes such as misdiagnosis and prescription of inappropriate medications (43) are findings that are of great concern. Again, more research is needed to see if these findings are duplicated in other settings.

Methodologic Issues

The articles in this review illustrate some of the methodologic difficulties that exist for studying the role of language in health care for Latinos. First, special care must be taken to separate language's effects from other sociodemographic factors such as income, insurance status, location, services available, country of origin, and other factors. To truly show an effect of language, samples must be matched with controls that are comparable to these and other factors that affect health care use.

Second, language services used and the presence or absence of language concordance between patient and provider must be taken into account in any study examining a non-English speaker's interface with the health care system. Health services provided to a monolingual Spanish speaker through a professional medical interpreter is not analogous to services provided with no interpreter. In addition, the kind of interpretation and its adequacy also need to be described.

Finally, in conducting or interpreting research that involves Latinos, care must be taken not to inappropriately generalize. Patterns of health care use and health status may vary significantly among different ethnic, geographic, and economic groups that all fall under the category "Latino." For example, in multivariate analyses

of data from the 1989–1991 National Health Interview Surveys, Flores et al (18) found that differences in demographics, health, and use of services between Hispanic subgroups equaled or surpassed such differences between major ethnic groups such as Caucasians and African Americans.

Strategies Used to Provide Language Access

Currently, a wide variety of strategies are used across the country to bridge the language barrier between patient and provider. Experts in the field present the range of strategies in varying levels of detail (2,11,40,60). These strategies range from hiring bilingual health professionals to using multilingual educational material to using various types of individuals and technology to interpret.

The use of bilingual health professionals and interpretation appear to be the two major strategies used across the country. There are many different kinds of interpreting; only the most prevalent kinds of interpreting are highlighted here.

Bilingual Health Professionals

Despite the growing proportion of the U.S. population that speaks a language other than English, there is a scarcity of bilingual health care providers (1,60). Latinos, who have a higher likelihood of being bilingual than Caucasian Americans, for example, are currently "seriously underrepresented in the health occupations, particularly those requiring higher levels of skill" (24). In 1989, for example, 5.4% of physicians and between 2.2% and 3% of registered nurses were people of Latino origin (24). It is unknown what percentage of certified nurse-midwives (CNMs) and Certified Midwives (CMs) are bilingual or Latino, but it is known that although more than 50% of CNMs/CMs serve primarily women of color, only approximately 8% are of color themselves (V. Fletcher, Immediate Past-Chair, ACNM Midwives of Color Committee, personal communication, 2000).

Many investigators have found that there are many advantages of using bilingual health care professionals to bridge the language barrier problem over using interpretation (7,60,61). Such advantages include increased patient satisfaction, increased patient understanding, avoidance of diagnosis and treatment errors, improved therapeutic relationship, avoidance of extra time expenditure, and avoidance of the costs of employing professional or telephone interpreters, or of pulling ancillary staff away from their jobs to interpret.

Questions remain as to what level of proficiency in the second language is needed for the bilingual professional to bring about these benefits (63). If less than a native speaker level can be adequate, is it possible to train health care professionals to achieve a sufficient level of

proficiency? Prince and Nelson (64) conducted an analysis of the accuracy of physicians' communication in Spanish after they had completed a 45-hour Spanish training. They found that minor errors (which generally resulted in appropriate patient understanding) were committed more than 50% of the time and that major errors (such as misunderstanding the patient's symptoms or vocabulary) occurred 14% of the time. They concluded that "significant errors may occur when participants in such courses assume that their knowledge is sufficient to obtain a good history, give patient release instructions, and provide medical care in general without an interpreter present" and emphasized that the language training was in no way intended to or sufficient to replace the use of interpreters.

Interpreters

Because the vast majority of health care providers in this country are currently monolingual English speakers, various forms of interpreters are widely used. The three most commonly used forms of interpreters are ad hoc interpreters, professional interpreters, and telephone interpreters.

The use of ad hoc interpreters is defined by Flores (2) as the use of untrained, apparently bilingual people to interpret. People commonly used are friends or family members of the patient or staff in the work setting such as housekeepers, secretaries, or medical personnel who are untrained in interpreting. It is increasingly recognized that the use of untrained or ad hoc interpreters can lead to inaccurate communication and ethical breaches. Vasquez and Javier (65) identify the five most common errors committed by untrained interpreters as follows:

Omission is the process by which an interpreter completely or partly deletes a message sent by the speaker. Addition is the tendency to include information not expressed by the speaker. The tendency to simplify and explain is referred to as condensation, the tendency to replace contents is substitution. Finally, role exchange occurs when an interpreter takes over the interaction and replaces the interviewer's questions with the interpreter's own, thus assuming the role of the interviewer.

The inherent hazards of such errors are compounded by the fact that the clinician is unlikely to be aware that they are occurring. Thus, inaccurate interpreting may lead to inaccurate diagnosis, delayed or incorrect treatment, and other medical errors (9,32,42,65). Inaccurate interpretation can also cause ethical dilemmas such as lack of true informed consent and the lack of involvement of the patient in the treatment plan—a violation of patient autonomy. Other common ethical dilemmas include role disturbances and violations of patient confidentiality. For example, the use of a child to conduct the

interview of their parent or to communicate sensitive health information can upset the roles of the family and also cause distress to both child and parent (8,9,66). The use of an acquaintance or community member to interpret can lead to the inappropriate disclosure of confidential information about the patient (11).

A major disadvantage of using other staff at the health care site is the loss of productivity and the additional stress on the staff person that comes from pulling them away from their job duties to spend time interpreting (11,42,67). In addition, staff members may resent this additional work with no additional pay and feel overburdened by it.

Using professionally trained medical interpreters can provide a higher degree of accuracy and confidentiality and increased overall effectiveness of the interview. However, even this approach is not without potential problems; for example, the patient-provider rapport is interrupted and the interpreter may be unable to mediate cultural, class, and power differences between the patient and provider (68).

Interpretation via telephone is currently available throughout the United States via the AT&T language line; 140 languages are available 24 hours a day, 7 days a week, with patient, provider, and interpreter communicating through a conference call. Health care institutions can subscribe, paying a one-time fee for setting up the account and training, with minimum monthly usage fees depending on package chosen. Interpretation costs in 2001 were from \$2.25 to \$4.50 per minute, depending on language, time of day, and the kind of account package. Practices that cannot or do not want to subscribe can access the language line by calling (800) 628-8486 and billing to a major credit card or AT&T Universal Card. Translations of product package inserts and user guides for equipment are available by calling (800) 752-6096. Some institutions use the language line as one of the mainstays of their interpretation program; other practices use it only when uncommon languages are encountered.

Bridging Language Barriers in Your Setting

First, health care providers need to educate themselves and their institutions about the laws and regulations that address language access in their own particular setting. What is the practice or institution legally bound to provide and what options exist for ways to do this? The National Health Law Program has issued a concise and easy-to-use manual called *Ensuring Linguistic Access in Health Care Settings: Legal Rights and Responsibilities*, which summarizes pertinent federal and state language access legislation, state-by-state. It reviews Medicaid requirements, managed care provisions, and accreditation and performance standards set forth by JCAHO and the National Committee for Quality Assurance (NCQA).

It also includes recommendations for methods to bridge language barriers and can be obtained at no cost from the Henry J. Kaiser Family Foundation.

Second, providers who serve Latinos are urged to carefully construct a method for providing language services that is economically feasible for their setting. Many organizations—both governmental and nongovernmental—are supplying information on how to bridge the language barrier. Providers can contact one of these organizations for the free literature, guidelines, standards, and other information that they provide to assist in this process. See Appendix B. Enacting a strategy to bridge language barriers can present cost difficulties, particularly for private practices or community health centers with few resources. However, some of these costs may be somewhat or completely offset by the reduction of the costs of having no adequate language access system, such as increased use of diagnostic tests and the loss of productivity when staff are pulled away from their usual job requirements to interpret.

Valid solutions to the language barrier problem include hiring bilingual health care providers, hiring trained professional interpreters, training volunteer interpreters from the community, participating in interpreter pools to share interpreter costs with other agencies—a strategy that is already being used in cities such as Seattle, Oakland, Chicago, and Worcester—and using phone interpreting. Rural locations with few resources for hiring interpreters may be able to develop a pool of bilingual volunteers from the community being served. These volunteers do need proper training in the methods and ethics of interpreting and confidentiality. Standards and guidelines for training medical interpreters may be obtained from the Massachusetts Medical Interpreting Society.

The use of ad hoc interpreting (friends, family members, and other apparently bilingual individuals who happen to be available) should be avoided. This practice is illegal on the basis of standards set forth by the Civil Rights Act of 1964, guidelines from the Office of Civil Rights, federal Medicaid standards, and many state regulations. In addition, its detrimental effect on the health care of non-English-speaking patients has been consistently well documented.

SUMMARY

Latinos are the fastest growing segment of the United States population. This literature review found evidence that Latinos with limited proficiency in English are at risk for experiencing decreased access to care and decreased quality of care. More research is needed to examine the role of language barriers in health outcomes and health care costs. In the meantime, the current state of the science as well as legal and policy requirements

offer many compelling reasons to address this complex but important problem in health care delivery.

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APPENDIX A

STUDIES EXAMINING LANGUAGE AND ACCESS TO CARE,¹ QUALITY OF CARE,² AND HEALTH STATUS/HEALTH OUTCOMES³

<i>Authors and Source</i>	<i>Design</i>	<i>Sample</i>	<i>Major Findings</i>	<i>Conclusions</i>
David and Rhee (53) ²	Prospective survey in English and Spanish in an ambulatory care setting. Examined compliance with medication, patient satisfaction with care, and preventive testing.	Cross-sectional convenience sample: (68 cases: Spanish speakers 193 controls: English speakers). Both cases and controls predominantly Hispanic. Ad hoc interpreters used for Spanish speakers in this setting.	- Significantly more cases than controls reported that medication side effects were not explained to them. - Lack of explanation of medication side effects appeared to be correlated with decreased compliance. - Significantly more controls satisfied with care. - Significantly more controls than cases agreed that their doctor understood how they were feeling. - Significantly more cases had had mammogram.	- Language barrier represents an obstacle to a therapeutic bond between patient and provider. - Need more attention to providing adequate interpretation. - Language barrier negatively correlated with patient satisfaction. - Testing may be replacing dialogue when there's a language barrier.
Enguidanos and Rosen (52) ²	Survey of patients presenting to the emergency department, with follow-up survey 8 weeks later to see if patients had adhered to follow-up plan. Spanish speakers were asked about adequacy of communication.	Convenience sample of 24 English speakers and 24 Spanish speakers. Professional interpreters used for Spanish speakers.	- No significant difference in compliance with follow-up for English vs Spanish speakers. - All Spanish speakers reported no problems with communication (23 had medical interpreter, 1 had Spanish-speaking doctor). - For both groups, having a primary MD was the only factor associated with follow-up.	- Language was not a factor affecting follow-up. - Further study is warranted to examine relationship of language with follow-up and compliance. - Having insurance correlated with positive compliance for Spanish speakers.
Estrada et al (47) ¹	Analyzed data from the Hispanic Health and Nutrition Examination Survey (HHANES) of 1982–1984. Used a behavioral model of health care utilization (Anderson) to create multivariate analysis.	3,935 Mexican Americans aged 20–74 in five southwestern states. Multistage probability sampling. See text for complete description of HHANES.	- Cost was the most frequently encountered barrier to accessing care, followed by long wait in office, lack of childcare, delay for appointment, time off work, and others. - Staff not speaking Spanish was the 5th most frequently encountered barrier (3.9% of sample). - Spanish-speaking, foreign-born, and less-aculturated Mexican Americans were more likely to be prevented from accessing care than English speakers.	- Cost, availability, and access constraints have a more important effect than cultural factors (such as language) on accessing care. - Language did not rank high on the list of critical determinants of health care utilization.

APPENDIX A

Continued

Authors and Source	Design	Sample	Major Findings	Conclusions
Flores et al (41) ^{1,3}	Cross-sectional survey asking patients to list barriers to accessing care previously encountered.	203 parents of Latino children receiving care at an inner-city hospital. Cross-sectional sampling. 72% of the sample spoke little to no English.	● Language problems were the most frequent access barrier reported by the respondents (26%). ● However, only 6% reported that language problems had <i>prevented</i> them from seeking care. ● Barriers preventing parents from seeking care included transportation, not being able to afford care, excessive waiting time, lack of insurance. ● Nearly one in five (18%) reported not having brought their child in for care due to cost issues.	● Providers could identify patients at risk of not using services by inquiring about income. ● Providers should increase the bilingual capacity of health care staff. ● Providers should improve and expand interpreter services to improve health care for Latino children.
Flores and Vega (48) ¹	Integrated literature review to identify access barriers to health care for Latino children.	27 studies of original research; 12 of which used large national data sets.	● 32 potential access barriers identified. ● Several studies found language to be a barrier; however, one study showed no increased risk of impeded access due to language. ● Access barriers with the strongest supportive evidence included lack of insurance, poverty, decreased likelihood of receiving prescriptions, poor communication with provider, and lack of regular source of care.	● More research is needed to clarify language's role as an access barrier. ● Provider behaviors can act as an access barrier due to racial bias, cultural differences and language problems. ● There's a need for better assessment of patients' language abilities.
Kirkman-Liff and Mondragon (42) ^{1,3}	Analyzed data from a large survey conducted by a major foundation in Arizona investigating health status, barriers to care, and satisfaction with health care in the state.	3,104 randomly selected adults and 1,113 adults providing information about randomly selected children. A total of 469 adults and 235 children self-identified as Hispanic.	● Spanish-speaking Hispanic adults and children had lower health status and worse access to care than Hispanics interviewed in English. ● Language was "important predictor" for access to care for Hispanic children. ● For Hispanic adults, income was the strongest predictor of health care access.	● Authors concluded that language was more of a "practical indicator" of important risk factors for decreased health status and access, such as poverty and diminished education. ● Must work to decrease financial barriers to care.
Perez-Stable et al (56) ³	Cross-sectional survey and retrospective review of medical records to compare effects of ethnicity and language concordance with MD on measures for health outcomes, use of health care services, and clinical outcomes.	Stratified random sample of Latino or non-Latino white patients who had a diagnosis of hypertension or diabetes. 110 Latino, 126 non-Latinos; 34% of Latinos were English-speaking; 66% were Spanish-speaking	● Language concordance between patient and physician associated with better functioning on 3 overall health scales. ● Language concordance significantly associated with 10 of 14 health status measures, after controlling for confounders.	● Patients reported better health functioning and well-being when MD spoke their language. ● It is unclear what level of fluency or proficiency is necessary to affect health outcomes positively. ● There is a need to increase the number of Latinos in health care professions.

APPENDIX A

Continued

<i>Authors and Source</i>	<i>Design</i>	<i>Sample</i>	<i>Major Findings</i>	<i>Conclusions</i>
		40% of Spanish-speaking had language discordance with physician.	• No difference by ethnicity in health care use. • Latinos had less-privileged socioeconomic status than whites. • Latino ethnicity associated with better health outlook.	• Unexpected finding that Latinos had better health status on 2 of the 14 health measures, given their disadvantaged socioeconomic status and similar health profile to whites.
Rosen et al (55) ²	Nationwide survey of emergency departments and a telephone survey of Hispanic cases and English-speaking controls. Patients were asked about understanding, satisfaction, and use of translators.	258 emergency departments (EDs) interviewed. 43 Spanish-only Hispanic cases and 33 English-speaking controls all seen in one ED.	• Most EDs felt that Spanish-speaking patients were just as satisfied with care as English speakers. • Telephone survey revealed that 12% of cases were not satisfied with care as opposed to 0% of controls. • Major complaint from cases was that MD did not appreciate their primary complaint. • 28% of Spanish speakers did not understand at least part of their diagnosis or instruction. • No difference in follow-up compliance between cases and controls.	• Emergency department physicians should be aware that the presence of a translator does not necessarily ensure adequate patient understanding. • ED physicians should also be aware that the most common perceived problem is a failure to fully appreciate the presenting complaint.
Russell and Ordoñez-McCammon (43) ¹	Retrospective descriptive survey.	Nonprobability convenience sample of 97 Latino adults at a multiservice center for Latinos. 29% proficient in English; 79% Spanish speaking.	• Greatest reported barrier to care was lack of bilingual providers (54% of sample). • Second greatest: lack of educational materials in Spanish (50%). • Third greatest: cost (47%). Others: lack of transportation, geographic location, limited hours. • ¼ perceived that providers don't respect their culture.	• Recommendations: offer Spanish language training and cultural competency training to providers that serve Latinos; train more Latinos in health professions; increase Latino leadership in public policy; and provide services for Latinos in an environment that promotes respect for culture.
Schur and Albers (50) ¹	Secondary analysis from 1987 National Medical Expenditure Survey (a national multistage probability sample of approx. 14,000 households). Examined language as dimension of culture that affects access to care.	1,893 adult Hispanic Americans: 23% spoke Spanish only 26% Spanish primarily 40% English only 14% English primarily.	• Health care use and access indicators not significantly different between English- and Spanish-speaking Hispanics. • Spanish speakers had lower labor force participation and educational attainment. • Language status was related to poverty status. • Spanish speakers with lower health status.	• Language appears to be linked to sociodemographic and financial predictors of health care but is not in itself a primary barrier to health care. • Recommend continued efforts to reduce financial barriers to health care.
Seijo et al (54) ²	Prospective observational and survey study to see whether the lan-	Nonrandom sample of 51 Hispanic patients at Mt. Sinai Hospital.	• Patients seen by bilingual MD had significantly higher	• These findings show the possible effects of language discordance on patient recall.

APPENDIX A

Continued

Authors and Source	Design	Sample	Major Findings	Conclusions
	guage of the provider affects question-asking behavior and recall in Hispanic patients. Two parts: observe patient-MD interaction, then interviewed patient about recall from the encounter. Results compared.	24 patients seen by Spanish-speaking MD. 27 patients seen by English-speaking MD. Of these: 15 interacted in English, 9 with a(n unspecified) translator, 3 in Spanish.	information recall than those seen by monolingual English MDs (73% vs 54%). • Info recall was higher in all 5 categories. • No significant difference in amount of information given by English- vs Spanish-speaking MDs. • Patients seen by language concordant physician asked significantly more questions. • Among patients seen by English-only MD, recall was lowest for those who used a translator.	• The difference persisted despite adjustment for confounding variables. • More bilingual physicians are needed. • Recommend that doctors make an effort to establish a “formal friendliness” with Hispanic patients to make them more comfortable.
Sherraden and Barrera (44) ^{1,2}	Qualitative exploratory study. Ethnographically informed interviews for data collection regarding prenatal care experiences. Used Kessner Index for quality of care.	41 Mexican immigrant women in Chicago. 22 women with LBW babies (nonrandomly chosen) 19 women with NBW babies (nonrandomly chosen).	• Poor communication and/or decreased access due to a language barrier reported by 44% of women. • Other access barriers were cost, long waits, transportation, child care, and lack of continuity of care. • Many women felt the inability to communicate with provider led to adverse health outcomes for self and baby.	• The barriers to care (including language) did not prevent women from receiving care altogether but <i>did</i> prevent them from receiving early and regular care (caused less than adequate care by Kessner Index). • Women who received less than adequate care by Kessner more likely to have LBW.
Solis et al (45) ^{1,2}	Analyzed data from HHANES. Created an acculturation index and an access score, and measured these against use of various preventive health care services.	Adult Mexican Americans, Cuban Americans, and Puerto Ricans aged 20–74 who had answered all relevant questions for this analysis in the HHANES survey. Complex multistage design.	• Language was associated with recency of breast examinations (an important preventive care examination). • Acculturation index (included language) was important predictor of health care use for Mexican Americans and for Cuban men. • Having health insurance and having routine source of health care strongest predictor of health care use.	• Variation in language preference seems to be a critical determinant of use of health services. • Need outreach efforts to monolingual Spanish patients. • Need for increased screening efforts where high Hispanic populations.
Stein and Fox (49) ^{1,2}	Random-digit-dialed telephone interview. Variables examined included health status, communication with physician, access to care, language, and other demographic info, and mammography.	150 randomly selected Hispanic women greater than age 35 (70 English-speaking and 80 Spanish-speaking) (language of interview based on individual’s preference/ability).	• Significant difference between English and Spanish speakers’ experiences with mammography. • 13.8% of Spanish speakers had had mammogram vs 47.1% of English speakers. • Spanish speakers greater knowledge deficit about mammography. • Spanish speakers poorer, less educated, less insured.	• Language a marker for acculturation status. • Less-acculturated Hispanics need to be targeted more for preventive care (presently receiving less). • Physicians to learn to more effectively communicate with Spanish speakers.

APPENDIX B

SUGGESTED RESOURCES FOR PERSONS WITH LANGUAGE BARRIERS

<i>Organization</i>	<i>Contact Information</i>	<i>Language Services</i>
AT&T Language Line DiversityRx	800-628-8486; 800-752-6096 http://www.diversityrx.org	More than 140 languages Resources for health care providers, policymakers, and consumers to learn about cultural competence in health care, design better programs and policies, and to network
Henry J. Kaiser Family Foundation	Request for Publications: 800-656-4533 or http://www.kff.org	Request the manual prepared by the National Health Law Program entitled <i>Ensuring Linguistic Access in Health Care Settings: Legal Rights and Responsibilities</i> (1998)
Massachusetts Medical Interpreters Association (MMIA)	750 Washington Street, NEMC Box 271, Boston, MA, 02111-1845 http://www.mmia.org	Code of Professional Conduct for Medical Interpreters
National Council on Interpretation in Health Care (NCIHC)	NCIHC Care of the MMIA at the above address. Also: http://www.ncihc.com	An organization created to “promote culturally competent professional medical interpretation as a means to support equal access to health care for individuals with limited English proficiency.”
Office for Civil Rights (OCR)	US Department of Health and Human Services Office for Civil Rights Washington, DC 20201 (202) 619-0403 http://www.hhs.gov/progorg/ocr	Guidance Memorandum: “Title VI Prohibition Against National Origin Discrimination—Persons with Limited English Proficiency” includes guidelines for health care
Office for Minority Health (OMH)	OMH, Public Health Service Department of Health and Human Services http://www.omhrc.gov/CLAS	Have created recommendations for national standards for culturally and linguistically appropriate services (CLAS) for health and social services