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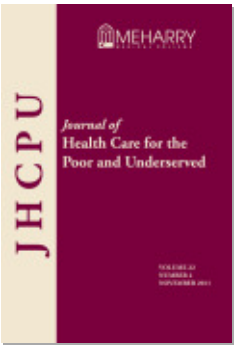
Quality of Reproductive Health Services to Limited English Proficient (LEP) Patients



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Quality of Reproductive Health Services to Limited English Proficient (LEP) Patients

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Abstract: **Background**. Medical patients with limited English proficiency (LEP) frequently receive health care services of suboptimal quality. **Methods**. We explored whether clients served with staff interpreters (language-discordant, LDI) receive reproductive health care of lower quality than clients seen by a bilingual clinician (language concordant, LC). We conducted a medical record review of 1,589 reproductive health visits of female and male LEP clients. **Results**. Multivariate analyses showed that LDI visits were significantly less likely than LC visits to contain documentation of the provision of education and counseling services and less likely to have documentation of sexually transmitted infection (STI) risk assessment among new female clients. Female clients in LDI and LC visits were equally likely to be tested for Chlamydia. **Conclusions**. Quality improvement activities should target family planning providers who must use interpreters when serving LEP clients. Medical charts should document the use of interpreters and bilingual clinicians to monitor quality of care.

Key words: Quality of care, reproductive health, medical chart review, limited English proficient clients, interpreter services.

In 2008, nearly 9% of U.S. residents and one in five Californians reported speaking English less than well.[1] Patients with limited English proficiency (LEP) frequently receive health care services of suboptimal quality. Clinicians seeing LEP patients with the help of an interpreter (language-discordant or LD visits) tend to take a less comprehensive medical history and are more likely to order unnecessary medical tests than clinicians who speak the client's native language (language-concordant or LC visits).[2] Language-discordant patient-provider interactions are associated with more frequent and expensive testing,[3] an increased likelihood of medical errors,[4–6] decreased patient

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comprehension,[7,8] lower participation in preventive care,[9,10] poorer chronic disease control,[11] and lower adherence to follow-up appointments.[12] LEP patients are also more likely to report having unanswered questions about their medical care after language-discordant visits than after language-concordant visits[13] and lower rates of receipt of counseling in the context of chronic disease management.[14]

In the context of reproductive health care services, the quality of patient-provider interactions has particular importance due to the prominent role of education and counseling in such services and due to the need for clinicians to assess behavioral risk factors of a sensitive nature. Lack of understanding about how to use family planning methods may increase the likelihood of contraceptive failure, and insufficient risk reduction counseling may leave clients at increased risk for contracting sexually transmitted infections (STI) and HIV.[15,16] In a Client Exit Interview, performed as part of the evaluation of the Family PACT program, a lower percentage of clients using an interpreter (80%) said that they understood everything the doctor was saying than clients who saw a clinician who spoke their language (85%) or were native English speakers (94%), suggesting special challenges of bridging the language gap with an interpreter in reproductive health visits.[17] However, the impact of language discordance on quality of reproductive health care services provided to LEP patients has not been assessed in prior studies.

This study explored the association between language discordance among Spanish speakers and key indicators of reproductive health care quality. We hypothesized that patients seen by a clinician who speaks their language, on average, receive higher quality services than patients who receive reproductive health services with the help of an interpreter.

The study was conducted as part of a broader quality of care assessment of a large publicly funded family planning program, California's Family PACT (Planning, Access, Care and Treatment) Program. Family PACT offers comprehensive reproductive health services to over 1.6 million uninsured, low-income men and women annually. The program's current provider network includes over 2,000 public and private medical sites specializing in women's health and family planning as well as family medicine, internal medicine, and other primary care-oriented specialties. All Family PACT providers commit to adhere to the same set of reproductive health program standards. In 2005, 49% of Family PACT clients reported Spanish as their primary language.[18]

Methods

Our data come from a comprehensive medical record review of services provided in 2005 to 2,565 male and female reproductive health clients with 4,939 visits paid for by Family PACT. The sample was representative of the Family PACT provider and client population. The large majority of the visits of LEP clients reported Spanish as primary language (97%) and in only six visits where interpreter use was documented a non- staff member was used. For this study, we retained data for 831 clients with 1,589 visits in which the clients' primary language was Spanish and in which the services were provided by a clinician who spoke their language or through a staff interpreter. Primary language was determined through self-report at enrollment. Abstractors asked during

their office visits whether a clinician whose visits were abstracted was proficient in the client's primary language and noted the response in the abstraction tool. The remaining visits were excluded from the analysis, including visits with clients with primary language documented as being English or non-Spanish, visits of Spanish-only-speaking clients in which a staff interpreter was not present, visits in which interpretation was carried out over a language line or by the client's friend, and visits in which the information on language or interpreter use was missing or inconclusive. The data retained for analysis came from 116 provider sites. Each site contributed between 1 and 37 visit records, with an average of 14 records per provider.

We categorized visits in which the services were provided by a provider who spoke the clients' language as language-concordant (LC, n=805) and visits in which a non-clinician staff member provided interpretation as language-discordant with interpreter (LDI, n=784). A total of 391 clients had only LC visits, 405 had only LDI visits, and 35 had both LC and LDI visits.

Quality of care indicators. In order to investigate the relationship between the type of interpretation and quality of care, we constructed dichotomous indicators based on the information about services documented in each abstracted visit. We selected indicators that reflect the quality of medical care, occur in the majority of reproductive health visits and are expected to be documented in the medical chart. Table 1 shows a complete list of quality of care indicators, the hypothesized difference in provider performance in services delivered and documented, the universe of visits for each indicator and the associated sample size by visit type.

Education and counseling services promote optimal reproductive health and assist clients in choosing and using contraception correctly and consistently and are therefore

Table 1.

QUALITY OF CARE INDICATORS, HYPOTHESIZED DIFFERENCE IN VISITS, AND SAMPLE SIZE BY VISIT TYPE

Quality of Care Indicator	Hypothesized Difference	Visit Universe	Sample Size	
			LC	LDI
Provision of Education and Counseling	LC>LDI	All	805	784
Provision of STI risk assessment	LC>LDI	With female clients	715	696
Chlamydia testing				
Women under age 26	LC>LDI	With female clients under age 26	296	242
Women age 26 and older	LC<LDI	With female clients age 26 and older	446	454

LC = language concordant
LDI = language discordant with interpreter

markers of quality of care. Provision of counseling is likely to be recorded in the chart because Family PACT reimbursement for counseling services requires chart documentation. We assessed documentation of any type of counseling and then separately analyzed the documentation of counseling on four distinct categories: contraceptive method use and options; reproductive health topics other than contraception; non-reproductive health topics; and STI/HIV prevention.

An education and counseling service was considered documented if at least one counseling topic was recorded during the visit. Contraceptive counseling was considered documented if there was a record of discussion of contraceptive method use or options, including sterilization. Reproductive health counseling was considered provided if one or more of the following topics were documented: infertility, folic acid use (females), preconception care or pregnancy-related counseling (females), breast self-exam (females), or testicular self-exam (males). Finally, non-reproductive health counseling included a variety of topics that may have been discussed on their own or as part of contraceptive method use and medical history taking, such as relationship counseling, smoking cessation, alcohol/substance use, weight management, general wellness, and all other non-reproductive counseling topics.

STI risk assessments ascertain which clients are at a higher risk of contracting a sexually transmitted infection (STI). An STI risk assessment was considered to be documented if a provider documented whether the client had a history of an STI within the past 12 months or since the last visit, or whether the client had a new sexual partner and/or more than one sexual partner within the last 12 months or since the last visit. The information on STI risk assessment was available only for female clients.

Appropriate testing for Chlamydia. The provision of Chlamydia tests was determined by the clinician's note in the chart or the presence of a lab result after the visit date. The Centers for Disease Control and Prevention (CDC) guidelines recommend annual screening of all sexually active women under age 26 for Chlamydia infection. Women age 26 and older should only be tested if they present with STI symptoms or if they are at an increased risk for an STI as determined by a risk assessment.[19,20,21] A high proportion of visits with Chlamydia tests among women age 26 and older in the typical family planning population suggests overutilization of Chlamydia tests, whereas for women under age 26, a high proportion of visits with the test indicates higher quality of care. Chlamydia testing for women age 26 and older is generally too high in reproductive health visits.[22] Chlamydia testing in this older age group may be even higher in LDI visits, because clinicians may prefer ordering a test rather than relying on an interpreter-assisted risk assessment to determine its appropriateness. As there are no similar Chlamydia screening guidelines for men, these indicators were applied to visits with female clients only.

Analysis. For descriptive analysis (Table 2), we analyzed client age, gender, primary language and the specialty of provider, looking at the distribution of these characteristics in all selected LDI and LC visit records. In the bivariate analysis (Table 3), we cross-tabulated the quality of care outcomes with visit type (LDI *vs*. LC) and performed chi-squared tests to identify significant associations ($p<.05$) between the visit type and outcome variables. Descriptive and bivariate analyses were performed in SAS 9.1.3 (SAS Institute, Cary, NC).

Table 2.

CLIENT AND PROVIDER CHARACTERISTICS BY LANGUAGE VISIT TYPE (N=1,589)

Characteristics	LC Visits (n=805)	LDI Visits (n=784)	P Value[a]
Client age, mean (SD)	29.4	28.6	.062
Female	88.8%	88.8%	.978
Provider Specialty			<.001
Family Planning/Women's Health	30.9%	22.8%	
Primary Care/Multi-Specialty	69.1%	77.2%	

[a]Statistical significance was determined using Student *t*-test (client age) and chi-square tests (categorical variables)
LC = language concordant
LDI = language discordant with interpreter

We further conducted a series of multivariate analyses in order to control for potential confounders, including client age, gender, whether the client was new or established at the visit, and provider specialty.

The visit records we analyzed had a dual nesting structure. Because the data were collected at a limited number of provider sites, clients were nested within provider sites. In addition, as up to five visits were abstracted for each client, the visits were nested within clients. Upon examination, we found that within-client variance was minimal: therefore, in model-fitting we adjusted for clustering of visits at the provider level only. A separate model was built for each outcome variable described in Table 1. To account for both the clustering effect of the provider site and potential confounders, we fit the models using a generalized linear mixed model with a logit link using the glmmML package[23] inside the R statistical software.[24] The process for model selection started with the fully specified model that included all given predictors and all second order interaction effects. Further, we used backwards model selection using the Akaike Information Criteria (AIC) to arrive at final models for each outcome. However, the visit type (LDI *vs*. LC) and client status (new *vs*. established) were forced into each model regardless of their significance or effect on the AIC of the model because they were the main predictor of interest, or were found to have statistically significant effects in many of the final models, respectively.

Based on regression coefficients estimated by each of the final models, we calculated adjusted odds ratios (AORs) comparing the odds of receiving counseling, STI risk assessment, and Chlamydia testing. In cases where the interaction between the visit type and a predictor variable was statistically significant, we computed partial AORs for each level of the variable (see Table 4). Other predictors retained in final models are footnoted in the table; details on their effect on each model are not discussed but are available on request.

Table 3.

QUALITY OF CARE BY VISIT TYPE—BIVARIATE ANALYSIS

Quality Indicator	LC Visits (%)	LDI Visits (%)	P Value[a]
Education and Counseling Provided			
Any Counseling	87.6	62.4	<.001
Contraceptive Counseling	71.1	54.7	<.001
Reproductive Health Counseling	26.8	21.1	.007
Non-Reproductive Health Counseling	22.5	14.0	<.001
STI/HIV Prevention Counseling	52.6	33.9	<.001
STI Risk Assessment	64.1	57.6	.013
Chlamydia Test Provided to Women Under Age 26	23.4	25.6	.564
Chlamydia Test Provided to Women Age 26 and Older	26.7	22.0	.104

[a]Statistical significance was determined using chi-square test.
LC = language concordant
LDI = language discordant with interpreter

Results

Client characteristics. The mean client age was 29.4 years in the LC group and 28.6 in the LDI group. Clients were predominantly female. Two-thirds of visits in the LC group and over three-quarters of visits in the LDI group were abstracted at Primary Care/Multi-Specialty sites (see Table 2).

Bivariate analysis. Table 3 shows results of the bivariate analysis comparing provider performance in LC and LDI visits on selected quality indicators. Among male and female clients, LC visits were significantly more likely than LDI visits to contain documentation that at least one education and counseling topic was discussed. This difference in service provision is observed among all major categories of counseling services, including contraceptive, reproductive health, non-reproductive health and STI/HIV prevention counseling.

Among women, LC visits were significantly more likely than LDI visits to have documentation of an STI risk assessment. However, female clients in LDI and LC visits were about equally likely to be tested for Chlamydia, both for women under age 26 and for women age 26 and older.

Multivariate analysis. The multivariate analysis compared LDI and LC visits when adjusting for age, gender, provider specialty and new/established status of the client as well as for the clustering effect of provider site. Confirming the results of the bivariate analysis, LDI visits had significantly lower odds of including a discussion of at least one education and counseling topic compared to LC visits, when adjusting for confounders and cluster effects. Of the individual counseling categories, only counseling on reproductive health issues among men showed a statistically significant difference,

Table 4.

ADJUSTED ODDS RATIOS FOR SELECTED QUALITY OF CARE INDICATORS, LANGUAGE DISCORDANT WITH INTERPRETER VS. LANGUAGE CONCORDANT VISITS[a]

Quality of Care Indicator	Adjusted Odds Ratio, LDI vs. LC (95% CI)*
Any Counseling	0.36 (0.18–0.72)
Contraceptive Counseling**	0.89 (0.53–1.51)
STI/HIV Prevention Counseling***	
Other Reproductive Health Counseling****	
Male Client	0.21 (0.05–0.89)
Female Client	0.66 (0.40–1.07)
Non-Reproductive Health Counseling**	
New Clients	1.72 (0.43–6.81)
Established Clients	0.61 (0.33–1.12)
STI Risk Assessment	
New Clients	0.25 (0.07–0.91)
Established Clients	0.97 (0.57–1.68)
Chlamydia Test among Women under Age 26	1.06 (0.67–1.68)
Chlamydia Test among Women Age 26 and Older	
Family Planning/Women's Health Provider	1.54 (0.34–6.95)
Primary Care/Multi-Specialty Provider	0.60 (0.35–1.05)

*The language concordant group served as the reference group.
**The model is also adjusted for client age and the interaction of new/established status with visit type.
***The model is also adjusted for client age, gender, and the interaction between gender and new/established status of the client.
****The model is also adjusted for provider specialty and the interaction between provider specialty and the new/established status of the client.
[a]All models include the visit type (LDI/LC) and new/established status of the client. The models are also adjusted for the clustering effect of provider site.
LC = language-concordant
LDI = language-discordant with interpreter

with LDI visits having significantly lower odds of including this type of counseling compared with LC visits.

The results for STI risk assessment also generally followed the results of the bivariate analysis. However, in the multivariate analysis only visits with new clients but not with established clients showed statistically significant effects. New female LEP clients seen in LDI visits had significantly lower odds of receiving an STI risk assessment than new female LEP clients seen in LC visits.

Similarly to the bivariate analysis, the multivariate analysis showed no relationship between interpreter use and Chlamydia testing, both among women under age 26 and among older women. However, there appears to be an interaction effect between

specialty type and visit type on STD testing of women 26 and older. The effect of this is that an LDI individual 26 and older is more likely to get a Chlamydia test at a women's health provider relative to an LC individual whereas an LDI individual 26 and older is less likely to get a Chlamydia test at a multi-specialty provider than an LC individual.

Discussion

This study explored the impact of two different strategies to bridge the language gap to limited English proficient clients on quality of reproductive health care. The findings show that substantial gaps remain in quality of services provided to LEP clients who are not seen by a clinician who spoke their language. Key indicators of health care quality for family planning encounters, such as counseling and STI risk assessment, were significantly less likely to be documented when interpreters were used during the clinical encounter compared to visits in which the clients were served by a clinician who speaks their language. These findings are consistent with studies exploring the relationship between the use of clinicians who spoke the clients' language and interpreters in primary care and emergency room settings and quality of care.[26,27] However, in contrast to these studies, our study did not identify a significantly greater likelihood of STI testing among LEP clients who used an interpreter.

We hypothesized that LEP clients who communicate with their clinician with the help of an interpreter are less likely to be counseled on reproductive health topics, less likely to be assessed for STD risks, and more likely to be tested for STD disease than clients who are seen by a clinician who speaks their language. We also assumed that this impact might be stronger at a client's initial visit than at subsequent visits when the clinician is more familiar with the client.

We found less frequent documentation of education and counseling on any topic when using an interpreter compared to that for clients seen by a language concordant provider. This may lead to clients seen in interpreter-facilitated visits being less likely to understand and adhere to their contraceptive regimens and being less well equipped to protect themselves from sexually transmitted infections. In interpreter-assisted interactions, both provider and client may limit their conversation to the specific visit reason (family planning or STD testing) due to a perception that communication through an interpreter requires extra time or interpreters may not have the sensitivity or vocabulary for in-depth discussions on sensitive topics. Therefore, providers may also refrain from discussing other important reproductive health issues, such as breast or testicular self-exam, and folic acid use. In this chart review, we did not assess details of the provider patient interaction and therefore could not determine which variables (patient or provider behavior) limit the communication. However, provider training curricula on how to work with interpreters assume that there is a significant positive impact of improving clinician skills in a three-way-communication.[28,29]

In the bivariate analysis, we found that providers were significantly less likely to document an STI risk assessment in an LDI visit than in an LC visit, again suggesting greater communication barriers when an interpreter is used. However, the multivariate analysis revealed a more nuanced relationship between language concordance and the visit type depending on the client's new or established status: new clients seen in LDI

visits were significantly less likely to have documentation of an STI risk assessment, while there was no difference in risk assessment between LDI and LC visits among established clients. In the first visit with a language-discordant client, providers may decide to forgo a sexual risk assessment, which would require more verbal interaction, and rather rely on the physical exam and limit the conversation to discussing the specific reason of the visit. During subsequent visits, the provider may want to ensure that a complete diagnostic assessment is documented in the chart and conduct the risk assessment at that point. However, since many new clients never come back after their first visit to a provider, this trend suggests lost opportunities to evaluate LEP clients at risk for an STI and to provide appropriate screening when the clients are assisted by an interpreter.

The gaps in counseling and STI risk assessment between LC and LDI groups suggest the need to improve provider-patient communication when the clinician has to rely on an interpreter, even when the interpreter is another skilled medical professional. This can be addressed through staff training on the principles of medical interpretation and clinician training on how to work with interpreters.[28,29]

Unlike STI *risk assessment*, the rates of Chlamydia *testing* do not seem to be influenced by the use of interpreters in a medical encounter. Over-testing for Chlamydia in the older age group, a common problem in family planning settings given that the STD risk and need to test women decreases with increasing age,[30,31] does not seem to be exacerbated by the presence of interpreters and potential language gaps. However, we noticed a trend among providers specializing in women's health to be more likely to test (and possibly over-test) women ages 26 and older during an LDI visit than in an LC visit which warrants further monitoring in future studies.

Our study has several limitations. The findings of this chart review are influenced by the level of comprehensiveness and accuracy of the provider's documentation. Medical record reviews provide only information that was documented by the provider in the medical chart, and do not capture the completeness and accuracy of counseling, risk assessment, or client comprehension and retention of the information. Further studies should assess the impact of language discordance and the use of interpreters on clients' understanding of reproductive health issues and contraceptive use.

Medical charts do not provide information on whether providers and staff have been evaluated for their language proficiency and their ability to provide accurate and unbiased interpretation. Hence, there may have been wide variability in the quality of communication in both the language concordant and language discordant group. While staff interpreters may be the preferred choice for interpretation at a clinic because they are on site and familiar with clinic protocols and procedures, they have not necessarily been trained in medical interpretation or in acquiring medical vocabulary in both languages. Clinicians that spoke the client's language could also have different levels of Spanish language proficiency. Some health plans have tested clinicians for language proficiency testing and to promote language training of clinicians.[32] However, considering the high demand and increasing language diversity in the United States, it is unrealistic to expect that sufficient clinicians will be able to conduct the medical visit in a language the patient understands. Identifying funding streams for trained interpreter services has always been difficult but is especially challenging in times of

economic crisis. Research identifying the most cost-efficient approaches to bridging the language gap is needed.

We also limited our analysis to staff interpreters due to a very low sample size of visits with other types of interpreters. Therefore, these findings cannot be extrapolated to interpreters accessed through a language line or other professional interpreters. In addition, this study included only Spanish-speaking clients. Clients with other non-English languages were excluded due to low sample size. Further studies are needed to determine if the trends in reproductive health care quality persist with other language groups.

Providers in this study did not consistently document the client's language needs in medical charts. As a result, we could not identify the group of LEP patients who saw neither a clinician who spoke their language nor an interpreter because it was not always clear whether a patient with a non-English primary language was proficient in English or not. It is possible that the actual gap of receipt of counseling services and risk assessment is even greater because this analysis did not include non-English speaking clients who saw English speaking providers and did not have any interpretation provided at the visit. The ability to monitor quality of care hinges on the accurate and comprehensive documentation of language needs, risk assessment, and counseling. Clinic administrators should evaluate in more detail how providers document limited English proficiency and encourage the use of mechanisms that prompt clinicians and staff to document information on interpreter needs in the chart, such as including it as an item on standardized intake forms and have prompts in electronic health records. This would facilitate estimating the need for interpreters and monitoring progress in improving quality of care.

Providers may have conducted risk assessments or counseling without documenting having done so in the charts, which would have led to an underestimation of assessments and counseling. However, providers can be expected to document counseling as accurately as possible because counseling can be billed to Family PACT as long as it can be documented in case of an audit.

This study highlights the importance of monitoring and addressing quality of health care for LEP clients in the reproductive health setting. Good communication between provider and client is crucial for the adoption of and adherence to contraception and for the prevention of STIs. Consistently high quality reproductive care will thus ultimately contribute to a reduction in unintended pregnancies, teen births, and sexually transmitted infections.

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Notes

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