



Short Communication

Spanish language proficiency among providers and Latino clients' engagement in substance abuse treatment



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HIGHLIGHTS

- Spanish language proficiency was negatively associated with client wait time.
- Spanish language proficiency was positively associated with retention.
- Proficiency played a mediating role between accreditation and wait time and retention.

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ABSTRACT

Quality of care, such as provision of services in Spanish, is a common factor believed to improve treatment engagement among Spanish-speaking Latinos in health care. However, there is little evidence that Spanish language proficiency among providers increases treatment access and retention in publicly funded substance abuse treatment. We analyzed client and program data collected in 2010–2011 from publicly funded treatment programs in Los Angeles County, California. An analytic sample of 1903 Latino clients nested within 40 treatment programs located in minority communities was analyzed using multilevel negative binomial regressions on days to initiate and spent in treatment. As hypothesized, Spanish language proficiency was negatively associated with client wait time and positively associated with retention in treatment, after controlling for individual and program characteristics. The path analysis models showed that Spanish language proficiency played a mediating role between professional accreditation and client wait time and retention. These preliminary findings provide an evidentiary base for the role of providers' Spanish language proficiency and Latino engagement in treatment for a population at high risk of treatment dropout. Implications related to health care reform legislation, which seeks to enhance linguistically competent care, are discussed.

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1. Introduction

Providers' language proficiency seems critical to meaningfully engage clients in substance abuse treatment (SAT), yet empirical evidence is limited. Emerging research has shown that linguistic proficiency is associated with engagement and treatment outcomes among Spanish-speaking Latinos accessing health services (Iwashita, Brown, McNamara, & O'Hagan, 2008; Santiago-Rivera, Altarriba, Poll, Gonzalez-Miller, & Cragun, 2009). Although federal data have suggested that more than half of SAT providers offer services in Spanish (Substance Abuse and Mental Health Services Administration [SAMHSA], 2010), service quality in terms of Spanish language proficiency is suspect. Because Latinos are the largest bilingual–bicultural ethnic group in the United States (U.S.

Census Bureau, 2012) and the fastest-growing group entering publicly funded SAT, it is critical to understand indicators of quality of care such as program service standards and counselors' Spanish language proficiency. This study relied on program- and client-level data collected in Los Angeles County to test whether providers' Spanish language proficiency plays a direct and mediating role in Latinos' wait time and retention in SAT.

Wait time to enter treatment is a significant barrier in SAT (Appel, Ellison, Jansky, & Oldak, 2004; Claus & Kindleberger, 2002; Hadland, Kerr, Li, Montaner, & Wood, 2009), whereas treatment retention, or time spent in treatment, has been cited as an important process outcome and robust predictor of reduced posttreatment substance use (Simpson, Joe, & Brown, 1997; Zhang, Friedmann, & Gerstein, 2003). Thus, it is critical to rely on these measures to analyze program capacity to enhance standards of care for bilingual–bicultural Latinos. To our knowledge, no studies have examined individual and service factors that enable Latinos to respond favorably to treatment.

As the U.S. Latino population continues to rapidly increase, health care providers are challenged to respond to its linguistic service needs and

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reduce general underutilization of behavioral health services (Alegria, Mulvaney-Day, Woo, et al., 2007; Kouyoumdjian, Zamboanga, & Hansen, 2003). Beyond offering services in Spanish, Spanish language proficiency is critical to accurately communicating critical health information to clients and meaningfully engaging them in their health care (Alegria, Mulvaney-Day, Torres, et al., 2007; Garland et al., 2000; Williams & Collins, 1995). Despite significant representation of Spanish-speaking Latinos in California, offering inpatient and outpatient social services in Spanish is not a standard practice (Guerrero, Pan, Curtis, & Lizano, 2011). Los Angeles County has the largest Latino population (4.7 million) and one of the largest publicly funded SAT systems in the nation (Crèvecoeur, Finnerty, & Rawson, 2002). The county is home to a highly ethnically diverse population, yet about 42% of individuals attending treatment programs are of Latino descent (SAMHSA, 2012). In 2010, 66% of the 457 treatment facilities in the county reported offering services in Spanish (SAMHSA, 2010). Yet, there is limited information about the quality of Spanish language services, particularly counselors' Spanish language proficiency and its impact on the adult population, which has limited English proficiency (Suarez-Morales et al., 2007).

Limited Spanish language proficiency among providers creates barriers for Latino clients to trust providers and initially engage in services (Colon, 1997). Services in Spanish are generally available in minority communities in Los Angeles County (Guerrero et al., 2011), and proficient Spanish-speaking counselors may be able to expedite the intake process and reduce wait time for Spanish-speaking clients. Thus, Hypothesis 1 posited that counselors' Spanish language proficiency would be negatively related to client wait time.

In addition, language barriers limit clear communication by Latinos during the intake or treatment process with monolingual or limited Spanish-speaking counselors, potentially leading to client dropout. Even for bilingual English–Spanish clients, providers' Spanish language proficiency helps establish trust, ensures accurate communication (Santiago-Rivera et al., 2009), and reduces risk of dropout (Sue, Fujino, Hu, Takeuchi, & Zane, 1991; Sullivan & Lasso, 1992). Thus, Hypothesis 2 posited that counselors' Spanish language proficiency would be positively related to client retention in treatment.

Higher access and engagement in treatment is also related to program capacity to provide high standards of service as measured by premier professional certifications that reflect client-centered and evidence-based procedures (Guerrero, 2013). Professional accreditation by the Joint Commission (TJC) in SAT is considered a proxy for standardized quality of care and has been associated with delivery of evidence-based treatments (Friedmann, Jiang, & Alexander, 2010; Knudsen, Ducharme, & Roman, 2006) and culturally responsive care (Guerrero, 2010, 2012). In particular, TJC expects that as part of service delivery, health care organizations comply with culturally and linguistically appropriate service standards (Wilson-Stronks & Galvez, 2007). TJC accreditation may have an indirect relationship with client wait time and retention. Thus, Hypothesis 3 posited that counselors' Spanish language proficiency would mediate the relationship between professional accreditation and client wait time and retention in treatment.

2. Methods

2.1. Sampling frame and data collection

This study used a fully concatenated program and client data set collected in 2010–2011. The sampling frame included all 408 non-profit SAT programs funded by the Department of Public Health in Los Angeles County, California. Client data were drawn from the Los Angeles County Participant Reporting System (LACPRS). Of the 141 items in the LACPRS survey, more than half are standardized scales and questions related to client admission, discharge, and health derived from state (California Outcome Measure System) and federal (Treatment Episode Data Set) measurement systems.

Client data used in this study represented 15,100 client treatment episodes collected from July 1, 2010, to December 30, 2011.

Data were also collected from a random sample of 147 publicly funded and nonprofit programs from 350 programs located in communities with a population of 40% or more Latino and/or African American residents in Los Angeles County. Clinical supervisors were key informants for program survey measures, and additional sources of data were used to cross-validate measures during follow-up site visits with 91% of the sample.

2.2. Analytic sample

Of the 147 programs completing surveys, 50 programs with Spanish-speaking counselors ($n = 103$) were randomly selected to complete the Spanish proficiency test. Only one counselor was selected from each program, ideally the counselor with the longest tenure in the program. Forty programs agreed to have their senior counselor complete the test. Counselors reported on 1903 client treatment episodes in 2010–2011 and analysis showed no statistically significant difference in average client treatment duration compared to unselected clients ($p > .05$).

2.3. Measures

2.3.1. Dependent variables

We examined two dependent variables: (1) client-reported wait time to treatment and (2) client retention in treatment. Client wait time was measured at intake as days spent on a waiting list before starting treatment (78% of clients reported no wait). Our retention variable reflected the number of days between admission and discharge dates as noted by counselors.

2.3.2. Explanatory variables

Counselors' Spanish language proficiency was tested using the Language Proficiency Assessment (LPA) of the American Council on the Teaching of Foreign Languages. This assessment is generally taken by college students and executives to qualify for admission at international universities or employment. The LPA in Spanish was conducted via phone as a 30-minute computer-generated and recorded interaction featuring contextual questions within a structured conversation. Counselors responded to questions and recordings, which were later evaluated by two expert raters. The validity and reliability of a rater-based assessment is a function of raters applying a shared mental model structured in the test. The interrater reliability of the phone-based test was .94 and internal consistency was $\alpha = .96$ (Surface, Harman, Watson, & Thompson, 2009; Thompson, Surface, & Whelan, 2007).

A measure of professional accreditation indicated whether each program had TJC accreditation. TJC is a premier accreditation body, particularly for SAT programs, which are generally not considered health care organizations.

Client demographics included as independent variables were gender, Medi-Cal eligibility, history of mental health issues, homelessness status, alcohol as primary substance problem among 21 different substances, and prior treatment episodes. Program characteristics were counselor proficiency in Spanish, acceptance of Medi-Cal, acceptance of private insurance, accreditation, methadone treatment, and residential treatment.

2.4. Data analysis

We used Stata to conduct multilevel negative binomial regression analyses using NBREG with a log link function (Stata, 2013). The CLUSTER option was used to account for the multilevel structure of the data (clients nested in programs) and obtain more accurate estimates of standard errors (Blakely & Woodward, 2000). Negative binomial regression with robust standard errors was used to analyze wait time and

Table 1
Program (*N* = 40) and client (*N* = 1903) variables in substance abuse treatment, 2010–2011.

Variable	<i>M</i> (<i>SD</i>), %, or <i>n</i>	Response format
Program characteristics		
Spanish proficiency	8.82 (1.03)	Proficiency scores from 1 to 11
Medi-Cal	67.16	Accepts Medi-Cal reimbursement
Private insurance	32.95	Accepts private insurance reimbursement
Accreditation	13.87	Accredited by TJC ^b
Outpatient	91.22	Provides primarily outpatient services
Methadone	7.25	Provides primarily methadone services
Residential	1.52	Provides primarily residential services
Client characteristics^a		
Treatment duration	97.21 (93.17)	Days in treatment, 7/1/2010–12/30/2011
Wait time	1.90 (6.19)	Days waiting to initiate treatment
Medi-Cal eligibility	36.31	Eligible for Medi-Cal insurance
Female	36.63	Self-identified as female
Mental health issues	13.40	Previous diagnosis of mental health issue
Homeless	11.25	Unstable housing status
Alcohol	17.45	Alcohol as primary problem among 21 substances
Prior treatment episodes	1.35 (3.41)	Number of previous treatment episodes

^a All measures were self-reported.

^b The Joint Commission.

retention measures that were overdispersed, i.e., their variance was much greater than their mean (Cameron & Trivedi, 2009; Xiang, Lee, Yau, & McLachlan, 2007).

In the first model with wait time as the dependent variable, a negative binomial regression model was established. In the second model, wait time served as an independent variable and the dependent variable was treatment duration. The third and fourth models relied on path analysis to examine the indirect effect of TJC accreditation on wait time to enter treatment (Model 3) and treatment duration (Model 4) via Spanish language proficiency, adjusting for other variables. Path analysis was conducted using the “mediation” R package. This approach involves creating a mediator model and an outcome model to calculate the direct and indirect effects while adjusting for control variables (Pearl, 2001; Robins & Greenland, 1992).

3. Results

Table 1 displays the descriptive statistics of key program and client characteristics. The average proficiency score reported by these 40 programs was 8.82 (*SD* = 1.03); however, only 13.78% had TJC accreditation. Wait time to enter treatment was minimal (*M* = 1.90 days), but its standard deviation was relatively large (6.19 days). We observed considerably large variation in treatment duration as well (*M* = 97.12 days, *SD* = 93.17).

Our findings supported Hypothesis 1, which posited that counselors’ Spanish language proficiency would be negatively related to client wait time. Table 2 summarizes the results of two negative binomial models. In the first model with wait time as the dependent variable, higher proficiency in Spanish had statistically significant effects on reducing waiting time (IRR = 0.697, 95% CI = 0.512, 0.948), adjusting for other program and client variables. However, TJC accreditation significantly increased wait time (IRR = 6.906, 95% CI = 2.300, 20.736). Medi-Cal eligibility was associated with reduced wait time (IRR = 0.582, 95% CI = 0.381, 0.889). Homeless clients received treatment faster than others (IRR = 0.486, 95% CI = 0.274, 0.862), as did clients with alcohol as their primary substance problem (IRR = 0.579, 95% CI = 0.403, 0.833).

Finding supported Hypothesis 2, which posited that counselors’ Spanish language proficiency would be positively related to client retention in treatment (IRR = 1.153, 95% CI = 1.043, 1.275). Accreditation was also associated with treatment duration (IRR = 1.649, 95% CI = 1.008, 2.698). Clients receiving methadone treatment (short-term or 1-year detox) had shorter treatment duration relative to those receiving regular outpatient treatment (IRR = 0.188, 95% CI = 0.101, 0.351). However, clients receiving residential treatment had higher average treatment duration (IRR = 2.431, 95% CI = 1.093, 5.405). Medi-Cal eligibility increased treatment duration (IRR = 1.685, 95% CI = 1.425, 1.993).

Findings provided support for Hypothesis 3, which posited that counselors’ Spanish language proficiency would mediate the relationship between professional accreditation and client wait time and retention. Program accreditation was associated with increased wait time, both directly ($\beta = 10.91, p < .01$) and indirectly ($\beta = 2.56, p < .01$) through Spanish proficiency (indirect effects shown only in text). The direct effect of program accreditation on client treatment retention was positive as

Table 2
Multilevel negative binomial regressions on client wait time and duration in treatment, 2010–2011.

Variable	Wait time			Retention		
	IRR ^a	SE	CI	IRR ^a	SE	CI
Program characteristics						
Spanish proficiency	0.697*	0.109	0.512, 0.948	1.153**	0.059	1.043, 1.275
Medi-Cal	1.011	0.409	0.458, 2.234	0.755	0.119	0.554, 1.030
Private insurance	0.343	0.197	0.112, 1.057	1.334	0.210	0.980, 1.815
Accreditation	6.906***	3.874	2.300, 20.736	1.649*	0.414	1.008, 2.698
Methadone ^b	0.003***	0.003	0.000, 0.019	0.188***	0.060	0.101, 0.351
Residential ^b	1.121	0.532	0.422, 2.843	2.431*	0.991	1.093, 5.405
Client characteristics						
Wait time	–	–	–	0.991	0.005	0.982, 1.000
Medi-Cal eligibility	0.582*	0.126	0.381, 0.889	1.685***	0.144	1.425, 1.993
Female	0.821	0.131	0.600, 1.122	1.093	0.070	0.964, 1.241
Mental health issues	0.656	0.246	0.315, 1.367	0.994	0.090	0.831, 1.188
Homeless	0.486*	0.142	0.274, 0.862	0.866	0.074	0.733, 1.024
Alcohol	0.579**	0.107	0.403, 0.833	1.015	0.061	0.902, 1.141
Prior treatment episodes	0.975	0.027	0.924, 1.029	0.997	0.005	0.988, 1.006
ln/alpha	1.973	0.233	1.516, 2.430	0.225	0.068	0.091, 0.359
Observations (programs)	40			40		
Observations (clients)	1903			1903		

^a Incidence rate ratio.

^b Outpatient treatment was reference category.

* *p* < .05.

** *p* < .01.

*** *p* < .001.

expected ($\beta = 60.30, p < .01$), but the indirect effect was negative ($\beta = -11.87, p < .001$). Therefore, program accreditation decreased treatment retention via Spanish proficiency. However, its overall effect (direct and indirect) on retention was positive ($\beta = 47.72, p < .001$).

4. Conclusions and Implications

This study showed that counselors' Spanish language proficiency was significantly related to process-of-care outcomes. In programs with language-proficient counselors, Latino clients reported shorter wait times and higher retention rates. This relationship was not necessarily proximal, necessitating further exploration of other quality-of-care measures at the program level. A path model found that although professional accreditation increased client wait time, it also increased client retention in treatment overall. These results add to emerging evidence that professional regulation and quality measures of culturally responsive care can have an impact on treatment engagement among Latinos (Campbell & Alexander, 2003; Guerrero, 2013; Guerrero & Andrews, 2011; Guerrero, Campos, Urada, & Yang, 2012).

Explanation of mixed findings, albeit conjectural, suggests that mismatches between professionally accredited programs (14% of sample) and counselors with low Spanish language proficiency (35% of sample) do not create the service delivery environment necessary to fully engage Latino clients in treatment. A combination of quality-of-care factors such as a well-trained workforce, strong program development (Friedmann et al., 2010; Knudsen et al., 2006), and culturally and linguistically competent service delivery (Campbell & Alexander, 2003; Guerrero, 2013) are necessary to improve minority client outcomes.

4.1. Limitations

Several limitations associated with study data must be acknowledged. First, measures were derived from cross-sectional data, preventing analysis of causality or directionality. However, the large client sample provided robust estimates. Second, client measures were not directly related to counselors' Spanish language proficiency. However, we selected the primary counselor assigned to Spanish-speaking clients at each site. Although Spanish language proficiency was tested as an indicator of program quality, the single measure was not fully representative of each program's linguistic competence.

Another limitation was social desirability associated with supervisors reporting on program measures and surveying only one supervisor per program. Although not optimal, we attempted to reduce response bias by completing validity checks (using funding data, counselor reports, and printed materials at program sites) with 91% of the sample during site visits.

Despite these limitations, findings have significant implications for health care policy and service delivery. Health care reform and other state initiatives have highlighted the importance of linguistic competence and compliance with high professional standards to effectively engage Spanish-speaking clients. As the addiction field searches for treatment quality indicators to promote evidence-based health care policy, this study provided evidence that providers should invest in counselors' Spanish language proficiency to improve engagement among Latinos in publicly funded SAT programs.

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Contributors

Dr. Guerrero reviewed the research literature, framed the scope of the paper, and was the primary text author. Tenie Khachikian and Tina Kim provided additional literature

review, critical review, and support in writing the manuscript, including revisions. Yinfei Kong provided primary statistical analyses, wrote the methods section, and reviewed manuscript drafts. William Vega provided critical review and support for all revisions. All authors reviewed and approved the final draft.

Conflict of interest

Erick Guerrero: No conflict declared.
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