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Geographic disparities in availability of Spanish-language PrEP services among Latino sexual minority men in South Florida

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BACKGROUND

South Florida, composed of Miami-Dade County (MDC) and Broward County (BC) has one of the highest HIV incidences and largest communities of people living with HIV in the US.

In 2017 in MDC and BC, over 75% of new HIV diagnoses were among sexual minority men (SMM), with up to 83% of new HIV diagnoses among Latinos being foreign-born.

A phylogenetic study found that most HIV infections among foreign-born Latinos occur after migrating to the US, suggesting that additional intervention is needed in high HIV risk areas, such as South Florida.

Pre-exposure prophylaxis (PrEP) can decrease HIV transmission by up to 99%, but lack of proximate and accessible, culturally-sensitive PrEP navigation services can deter PrEP uptake.

PrEP navigation is especially important in regions where PrEP "access" is generally not matched to need, such as South Florida.

The aim of the present study is to examine the relationship between Latino SMM (LSMM) individual-level immigration and zip code-related characteristics and the availability of Spanish-language PrEP navigation services in South Florida.

METHODS

This is a secondary data analysis of Mariano Kanamori's pilot PrEParados project.

Participant inclusion criteria were: self-reports of (1) being between ages 20-39 years, (2) identifying as Latino/x or Hispanic, (3) identifying as a cis man, (4) having sex with another man in the past 6 months, and (5) clinically indicating for PrEP, based on CDC Clinical Guidelines for PrEP.

Location data for Spanish-speaking PrEP navigator services were downloaded to our geodatabase from the CDC National Prevention and Information Network (NPIN) website on March 31, 2021.

PrEP navigation service areas were calculated using the ArcGIS service area analysis tool for street network distance thresholds of 1, 2, and 5 miles.

We used multilevel logistic regression analyses were conducted using the R environment to identify associations of access to PrEP navigators.

RESULTS

A total of 131 participants provided address data and were included in our analyses.

As of 2021, 47 PrEP navigators—26 in MDC, and 21 in BC—were reported to the CDC NPIN. Thirty-five (74%; 22 in MDC and 13 in BC) provided services in Spanish.

Participants were born in the US (n=71) or Latin America and those born in Latin America reported the following countries of birth: Cuba (n=25), Brazil (n=9), Columbia (n=9), Nicaragua (n=6), Dominican Republic (n=5), Honduras (n=4), Peru (n=4), Puerto Rico (n=3), Brazil (n=1), El Salvador (n=1), Mexico (n=1).

Participants were grouped into 60 zip codes (ICC=0.969 at 1 mile availability; ICC=0.717 at 2 miles; ICC=0.990 at 5 miles).

Latin American-born LSMM had 0.09 times lower availability of Spanish language PrEP navigation services within 1 mile relative to their US-born counterparts (OR=0.09, 95% CI: 0.01-0.68). Zip-code-level HIV incidence was associated with 1.7 times higher odds of Spanish PrEP service availability within 1 mile (OR=1.68, 95% CI: 1.17-2.42). Additional details can be found in Table 2.

Table 1. Demographic and background characteristics of participants

Mean (SD)	Born in US (N=71)	Born in Latin America (N=60)	Overall (N=131)
Age	28.8 (4.07)	27.7 (4.30)	28.3 (4.20)
Discrimination stress score	1.69 (0.944)	2.36 (1.28)	2.00 (1.15)
Immigration stress score	1.33 (0.886)	2.09 (1.42)	1.68 (1.22)

Figure 1. Availability of Spanish-speaking PrEP providers in South Florida

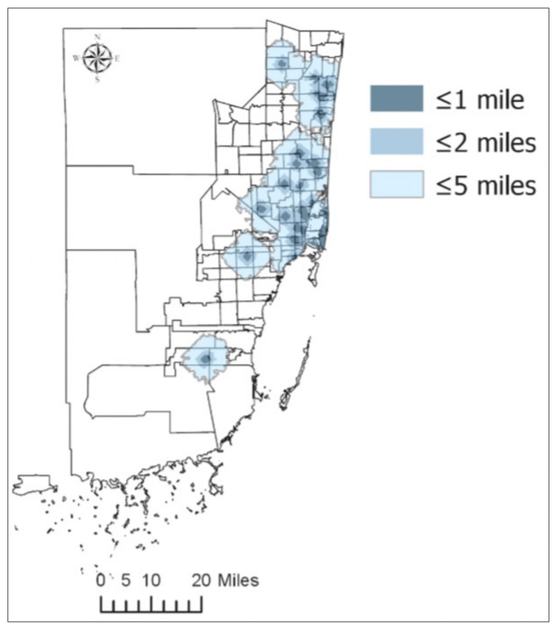

Chart 1. Availability of Spanish-speaking PrEP services to LSMM in South Florida

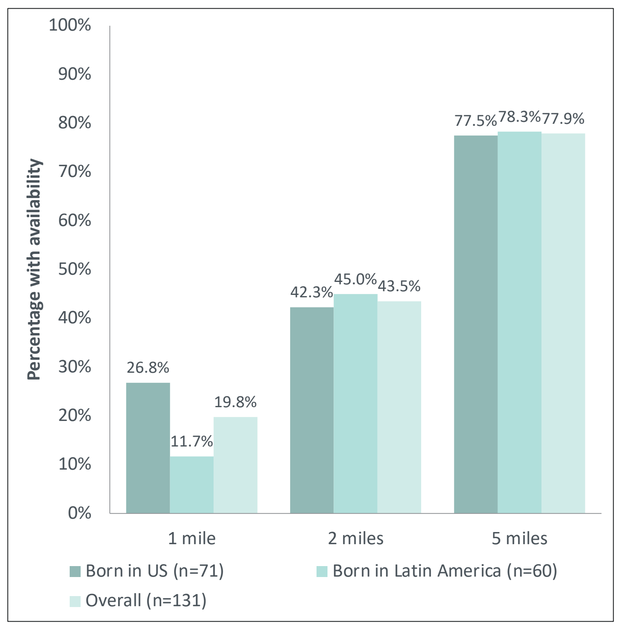

Table 2. Multilevel models of LSMM access to Spanish language PrEP navigators

	Live within 1 mile of Spanish language PrEP Navigators			Live within 2 miles of Spanish language PrEP Navigators			Live within 5 miles of Spanish language PrEP Navigators		
Measures	**Odds Ratios**	**CI**	**p**	**Odds Ratios**	**CI**	**p**	**Odds Ratios**	**CI**	**p**
(Intercept)	0.02	0.00 – 12.60	0.223	0.00	0.00 – 67.59	0.271	0.00	0.00 – 5252.45	0.338
Individual-level									
Age	0.94	0.78 – 1.14	0.528	0.92	0.74 – 1.14	0.458	1.07	0.78 – 1.47	0.685
Income (as numeric)	1.50	0.92 – 2.42	0.101	1.47	0.74 – 2.92	0.272	0.64	0.22 – 1.86	0.409
Born in Latin America (ref=Born in US)	**0.09**	**0.01 – 0.68**	**0.020**	2.29	0.35 – 15.10	0.388	0.31	0.02 – 5.98	0.437
Density	2.03	0.03 – 118.21	0.732	0.48	0.01 – 42.21	0.746	0.45	0.00 – 810.91	0.833
Zip-code-level									
Population density	1.07	0.90 – 1.26	0.445	1.27	0.97 – 1.66	0.079	2.41	0.86 – 6.77	0.096
Prop. living below poverty	0.94	0.83 – 1.06	0.295	1.01	0.86 – 1.19	0.901	1.28	0.84 – 1.97	0.254
HIV Risk	**1.68**	**1.17 – 2.42**	**0.005**	1.98	0.90 – 4.36	0.090	4.30	0.42 – 44.08	0.219
Random Effects									
σ^2	3.29			3.29			3.29		
τ_{00}	$2.63_{Zip\_code.x}$			$7.49_{Zip\_code.x}$			$12.30_{Zip\_code.x}$		
ICC	0.44			0.69			0.79		
N	$60_{Zip\_code.x}$			$60_{Zip\_code.x}$			$60_{Zip\_code.x}$		
Observations	131			131			131		
Marginal/ Conditional R^2	0.457 / 0.698			0.522 / 0.854			0.860 / 0.971		

CONCLUSION

Spanish-language PrEP navigation services are in high HIV incidence zip codes where LSMM reside; however, foreign-born LSMM continue to experience more new HIV diagnoses than expected.

LSMM who were born in Latin America, relative to the US, are 91% less likely to live within 1 mile from Spanish language PrEP navigation services.

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Latin American-born LSMM also experience greater immigration and discrimination stress relative to US born LSMM, which may partially explain PrEP access barriers.

The LSMM community's lack of PrEP availability is a multilevel health disparity, and to surmount this barrier, interventions should operate at network and community levels.

Limitations include the study's cross-sectional design, use of respondent-driven sampling may have introduced high interdependency within networks, modest sample size, social desirability bias, and our operationalization of geographic availability as within 1, 2, or 5 miles of LSMM residential addresses may not reflect the mobility and life spaces of respondents, thus biasing our notion of service availability.

Future studies should explore how location-based apps—with appropriate privacy controls—can help investigators better understand the spatial match of PrEP services to respondent activity spaces.

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