Disparities in Sign Language Interpreter Services in the Dominican Republic and LMICs

Brian F. Yee, BS[1]; Vivek A. Ekkirala, BS[2]; Julio Roque Buenrostro, MS[1]; Divya Srinivasan, BA[3]; Michael J. Simeon, BS[1]; Sruthi Surapaneni, BS[4]; Ashok Jagasia, MD[2]

1. Rush Medical College, Chicago, Illinois, U.S.A.
2. Department of Otorhinolaryngology-Head and Neck Surgery, Rush University Medical Center, Chicago, Illinois, U.S.A.
3. Drexel University College of Medicine, West Reading, Pennsylvania, U.S.A.
4. College of Human Medicine, Michigan State University, Rochester Hills, Michigan, USA.

Introduction

- Hearing-impaired communities face significant barriers to education, healthcare, and communication, especially in low- and middle-income countries (LMICs).
- Access to sign language education and interpretation remains limited in many LMIC settings.
- **Limited availability of interpreter and remote services may further restrict access, particularly where in-person resources are geographically concentrated.**
- Builds on 15 years of engagement in the Dominican Republic (DR), including research, a pediatric hearing program, and service initiatives.
- **Purpose:** Assess structural barriers to sign language resources in urban areas of the DR and United States (US) to inform future program development.

Methods

This descriptive study systematically reviewed publicly available online sources to characterize sign language resources across 10 major urban areas in the Dominican Republic (DR) and 5 major urban areas in the United States (US). Sources included organizational websites and social media pages.

Resources assessed included:

- Sign language learning centers and programs
- Tele-learning resources
- Interpreter centers
- Tele-interpretation services

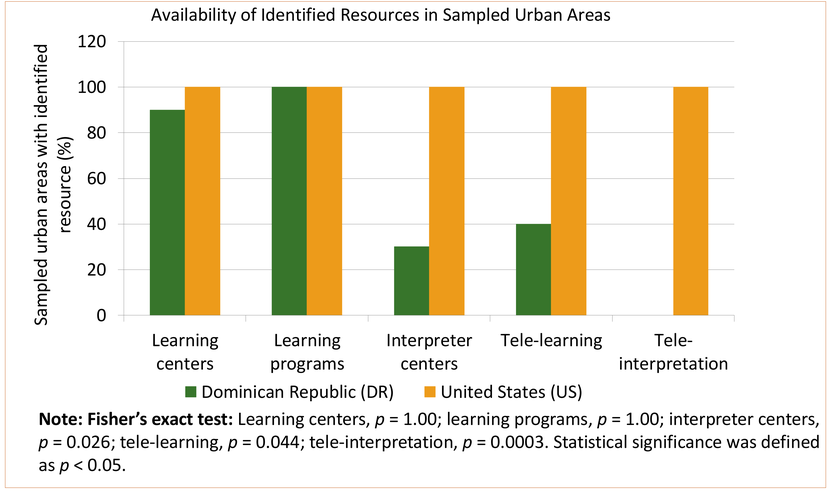
For each sampled urban area, resource availability was evaluated based on whether at least one resource of each type was identified. The number of learning centers, learning programs, and interpreter centers identified per city was also recorded to characterize differences in resource availability between the DR and US.

The proportion of sampled urban areas with an identified resource was compared between the DR and US using Fisher's exact test in RStudio. Statistical significance was defined as $p < 0.05$.

Because resource identification relied on publicly available online information, failure to identify a resource did not necessarily indicate that the resource was unavailable.

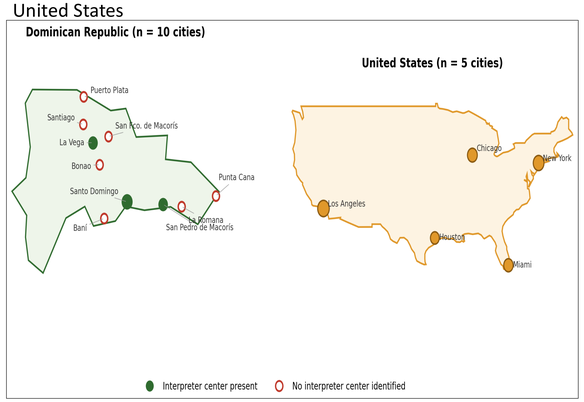
Results

Figure 1. Availability of Sign Language Resources in Sampled Urban Areas of the Dominican Republic and the United States



Note: Fisher's exact test: Learning centers, $p = 1.00$; learning programs, $p = 1.00$; interpreter centers, $p = 0.026$; tele-learning, $p = 0.044$; tele-interpretation, $p = 0.0003$. Statistical significance was defined as $p < 0.05$.

Figure 2. Geographic Distribution of Interpreter Center Availability Across Sampled Urban Areas of the Dominican Republic and the United States



Note: Each marker is one sampled city. Green = at least one interpreter center identified (DR: 3 cities, 4 centers in total; US: all 5 cities, 33 centers). Red = none identified online, which does not confirm that none exists. Maps are schematic and not to scale.

Table 1: Sign Language Resources Identified per Sampled Urban Area

Resource per city	DR, median (range)	US, median (range)
Learning centers	1 (0–3)	6 (5–15)
Learning programs	2 (1–3)	8 (7–15)
Interpreter centers	0 (0–2)	6 (4–10)

Note: Values are the median (minimum–maximum) number of resources identified per city (DR, n = 10 cities; US, n = 5 cities). DR = Dominican Republic; US = United States. Counts were not adjusted for city population. Group comparisons (Fisher's exact test; Figure 1) were based on the proportion of cities with at least one resource, not on these counts.

Discussion

- Learning programs were identified in every sampled city, suggesting broad geographic availability of basic sign language education in both countries
- The median US city had 6 learning centers and 8 learning programs, compared with 1 and 2 in the DR
- **Largest disparities:** 7 of 10 DR cities had no identified interpreter center and none had tele-interpretation; every sampled US city had interpreter centers, tele-learning, and tele-interpretation
- Interpreter services concentrated in a few DR cities may create geographic barriers outside service hubs; tele-interpretation and remote education could extend access without a center in every city

Limitations: findings reflect the online search methodology; "not available or not reported" does not necessarily mean a resource does not exist

These findings may inform a Rush–DR partnered pilot of low-cost tele-interpretation

Similar gaps likely exist in other Caribbean and Latin American LMICs, though local validation is needed before extending these findings beyond the DR

Conclusion

- Urban areas in the Dominican Republic had substantially less interpreter and remote-service infrastructure than the sampled US cities. Although every included city had at least one sign language learning program, the DR had fewer learning resources per city and significantly lower availability of interpreter centers, tele-learning, and tele-interpretation services.
- No tele-interpretation service was identified in any sampled DR city, an important service gap, and interpreter centers were concentrated in only three cities, which may restrict access outside established service hubs.
- Expanding culturally appropriate tele-interpretation and remote sign language education could improve access without a dedicated interpreter center in every city. Future studies should confirm availability directly with local organizations and evaluate utilization, quality, geographic reach, technology access, and barriers to implementation.