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Living on the Border: A Brief Report on the Migrant Crisis

By **Roberto Johansson**, MD, PhD, FAAP

This special third issue of the JNHMA focuses on the ongoing migration crisis at the US-Mexico border from a variety of informed perspectives, including additional theorization and original research centered on clinical means in which language and cultural issues influence patient care.

Migration across the US-Mexico Border is not new. For millennia, indigenous people have used natural passages, riverbeds, and *arroyos* to traverse the harsh environment of the Chihuahua and Sonoran deserts in search of water, arable land, game, and to escape social unrest. After colonization by Europeans, and the subsequent establishment of new geopolitical borders, migration patterns changed, and many were prohibited. But the establishment of *Nuevas Fronteras* did not deter people in search of work or a better life in *the Milagro del Norte*. For many decades, this was the case for many Mexican workers who travelled north to the United States, many under the auspices of the Bracero Program, a US government program welcoming migrants to enter the US legally as temporary workers. Agricultural farm workers were able to migrate to work on both sides of the border. Although the Bracero Program ended in 1964, the northbound migration has continued. In the early 1980's, political unrest, civil wars, economic oppression, and climate change forced people from beyond Mexico—Central America (e.g., El Salvador, Honduras, Nicaragua), South America (e.g., Venezuela, Colombia), and the Caribbean (e.g., Haiti, Cuba)—to look North.

Once in the US, a person is "in custody" and can seek asylum, not refugee status. Refugee status is an application that takes place outside of the US and provides specific legal protections. Asylum seekers do not have these protections and will often, ultimately, be seeking refugee status. Although we speak of a migrant crisis, being a migrant implies choice in leaving one's country. For many, the compelling reasons outlined above have taken away their choice. We may instead be confronting a refugee crisis.

In custody, medical exams are conducted. With varying medical needs, these exams are often woefully less than many migrants need[1,2]. Unfortunately, critically ill children and adults have died because of illness while in custody[3]. After their long journey through the Darien Gap and Chihuahuan Desert, many have nutritional deficiencies (e.g., iron deficient anemia, micro and macrocytic anemias) secondary to protein and calorie deficient diets. They have also endured physical and psychological abuse and trauma. Compounding matters, tropical diseases are common—Chagas Disease, Leishmaniosis, intestinal parasites, and other illnesses not often seen and cared for by healthcare professionals in the US. Chronic illness such as Type 1 and Type 2 diabetes, COPD, and newly diagnosed illness such as adenocarcinoma of the lung, leukemia, and lymphoma may also afflict new migrants. Contrary to the misinformation from anti-migrant news sources, the overwhelming majority of new migrants do not have the resources to access medical care. We, as a society, must ask ourselves, "How can we help these new arrivals to our country?" How can we reverse hostile anti-migrant sentiment?

Migrants may be deported or may be accepted for an asylum hearing and live in the US while they await their court date. Some may stay in US border communities such as El Paso, TX, this writer's current hometown. In El Paso, religious organizations like Annunciation House (currently under investigation by the Texas Attorney General for violating state immigration law) and Sacred Heart Catholic Church—both under the auspices of the Archdiocese of El Paso; and non-governmental organizations, such as, Hope Border Institute, Las Americas, and others, provide medical care and assist migrants to reach their destinations within the US. Groups such as the Migrant Clinicians Network help and support migrants along their journey. When migrants arrive to their destination cities, some by politically motivated anti-sanctuary city stunts, a variety of challenges greet them. With few exceptions, migrants currently crossing the US-Mexican Border

are limited English speakers with those from Central and South America speaking Spanish or native languages such as K'iche and Lenca. They may find themselves in harsh agricultural, poultry, or meat processing working environments, with scarce medical resources and limited language or social support. Some may find themselves in large metropolitan areas, such as Los Angeles, Chicago, or New York City, but even in these cities the "systems" are overwhelmed.

We hope that this edition of the *Journal of the National Hispanic Medical Association* presents facts and thoughtful perspectives on the impact of current immigration issues on health. We invite an open dialogue on problems and potential solutions. Articles in this Journal include contributions from the Migrant Clinicians Network, a network of concerned, compassionate, and committed healthcare workers who support migrants from the time they cross the Border to the time they are settled safely in the US. Additionally, we have a contribution from *Unsettled*, a group of physicians from across the US who care for the health needs of new migrants. *Unsettled* was founded and organized by Dr. Judith Flores, Chair-Emeritus, National Hispanic Medical Association Board. Collectively, these articles present a multi-faceted and informed view of what it means to provide medical, social, and psychological *care* to new arrivals to our country, a country of migrants.

~

Dr. Roberto Johansson is a bilingual, bicultural, Hispanic pediatrician caring for children, many of whom have made "the crossing", in El Paso, TX.

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Medical Student and Faculty Attitudes Toward Translanguaging with Spanish-Speaking Patients

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ABSTRACT

Background: Spanish is the second most common US language, and Spanish speakers commonly *translanguage*—spontaneously integrate multiple languages. Medical language courses have proliferated, yet learner and faculty attitudes about translanguaging with patients remain unexplored. Also, it is unclear whether medical Spanish courses address real-world patient linguistic practices, such as translanguaging.

Methods: We applied a community cultural wealth framework to identify translanguaging practices relevant to patient-physician communication: regionalisms, Spanglish, and non-standard language usage. From January 2020 to May 2021, we surveyed students (n=355) and faculty (n=14) in a standardized medical Spanish course at 14 sites on their attitudes toward translanguaging practices.

Results: Regionalisms were the most widely accepted translanguaging practice by both students and faculty, and this opinion was reinforced by the course (94% pre vs. 95% post-course agreement; p=0.045). Student agreement with Spanglish was moderate and declined post-course (58% vs. 55%; p<0.001). Faculty were likelier than students to be accepting of non-standard language usage (57% faculty vs. 5% students; p<0.001).

Conclusion: Medical students and faculty reported mixed attitudes about translanguaging practices in healthcare, and taking a medical Spanish course had variable effects on student responses. Future work should focus on developing and evaluating medical Spanish educational pedagogies that explicitly incorporate real-world patient perspectives and promote flexible language use that prioritizes mutual respect and understanding.

Keywords: *translanguaging, non-English language preference, patient-centered communication, language concordance, medical Spanish, heritage Spanish*

1. Introduction

Courses that teach language skills for clinicians with the goal of enhancing language-concordant communication with minoritized linguistic groups are termed medical language courses. According to the most recent national survey published in 2021, 78% of US allopathic medical schools offer medical Spanish courses in response to population need.[1] The 2020 US Census estimated that 40.5 million people spoke Spanish at home. Of that group, 15.9 million reported speaking English "less than very well."[2] Given that medical Spanish courses aim to teach practical skills that enhance clinicians' patient-centered communication through language-concordant care,[1,3] it is essential that they incorporate Spanish speakers' real-world linguistic practices. Language-concordant care results in improved outcomes, patient satisfaction, and health care utilization for populations that are linguistically marginalized[4] How patients, families, and communities from linguistic minority groups best understand and actualize their health may not be within the traditional bounds of a named language (e.g., English, Spanish, Russian) and may instead fluidly integrate influences from multiple languages and cultures. In particular, the immigrant experience commonly involves varied linguistic exposures that can, over time, shape the dynamic and often hybrid linguistic practices that a person, family, and community may use for different aspects of their lives, such as home, school, work, and health care.[5]

Translanguaging offers a way to understand real-world linguistic practices by focusing on how multilingual individuals use language to create meaning by re-combining, arranging, and deploying features from multiple languages, depending on audience, context, and ability.[6-7] By contrast, language courses may reinforce static monolingual models that may not accurately reflect the real, every day, spontaneous, and hybrid linguistic practices of multilingual populations.[7-8]

Furthermore, much of the existing literature about translanguaging in education is from the K-12 stage, with a dearth in tertiary education and professional education. [9]Research evaluating medical Spanish teaching practices has found a greater emphasis on terminology memorization and knowledge-related competencies and a gap in teaching patient-centered and culturally informed communication strategies. [10-11] Medical educational materials, such as medical Spanish textbooks[10] and online resources[11] often portray an *idealized* linguistic standard and lack representation of multiple varieties of Spanish.[12] To our knowledge, no studies to date have evaluated the attitudes of medical students toward translanguaging, nor the degree to which medical Spanish courses might influence student attitudes toward translanguaging. There are also no existing recommendations for whether or how translanguaging should be incorporated into medical language education.

Given the potentially competing forces driving the content and pedagogy of medical Spanish education, it is unclear whether students who complete medical Spanish courses leave the classroom with more or less flexible views about language than before they started. We sought to explore medical student and faculty attitudes toward translanguaging in the context of an existing medical Spanish course being implemented at multiple medical schools.

Figure 1. Flowchart demonstrating the use of the Community Cultural Wealth framework to identify categories of translanguaging practices relevant to patient-physician communication.
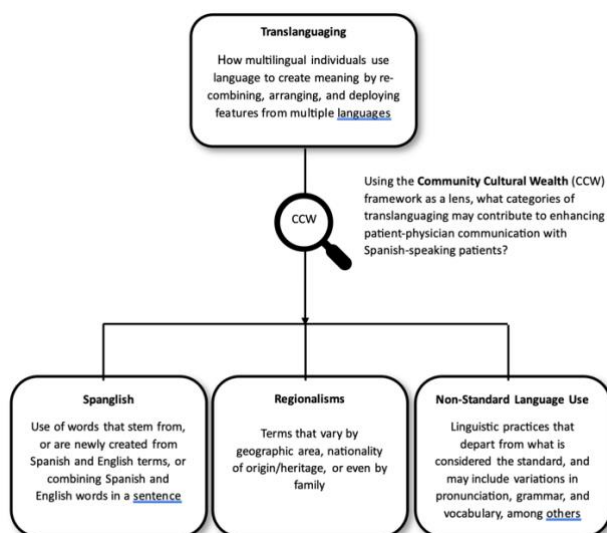
2. Methods

Theory

To center multilingual perspectives, we approached our study of translanguaging in a standardized medical Spanish curriculum through the lens of community cultural wealth.[13] Based on social capital theory, the conceptual framework of community cultural wealth posits that individuals' cultural—including linguistic—assets are potential sources of power and social mobility. The day-to-day use of language by patients, communities, students, and faculty not only enriches the classroom but also healthcare interactions. Using this framework, the research team identified three general categories of translanguaging practices relevant to patient-physician communication with Spanish-speaking patients (Figure 1): Spanglish, regionalisms, and non-standard language use, which were then used to develop the translanguaging questionnaire. The translanguaging category descriptions and questionnaire items are detailed in Table 1.

Study Context: A Multi-Site Medical Spanish Curriculum

In 2019, a multidisciplinary team of experts including linguists, educators, and physicians developed the curriculum as part of a national effort to create and evaluate a standardized approach to teaching medical Spanish in US medical

schools.[14] Participating schools adhered to predefined requirements pertaining to time commitment, faculty supervision, and learning objectives.[14] The course involved an 80-hour minimum learner time commitment, at least 25% of activities were faculty-supervised, and the learning objectives followed those detailed by Ortega et al.[14] In the context of this national curriculum, the research team was interested in exploring what role, if any, translanguaging played in the medical Spanish classroom. To begin this line of inquiry, the following research questions emerged: What attitudes about translanguaging do medical students who enroll in medical Spanish courses report before and after the course? What is the association, if any, between faculty attitudes about translanguaging and those of their students?

Table 1. Translanguaging attitudes questionnaire, rationale for each statement, and relevance to medical Spanish course learning objectives

Translanguaging topic	Statement from translanguaging questionnaire*	Description of relevance to medical Spanish	How the survey item maps to medical Spanish course learning objective/s from Ortega et al.[11]
Spanglish	Use of Spanglish and anglicisms (words borrowed from English) is appropriate when speaking with patients.	Using words that stem from, or are newly created as a hybrid term from, multiple languages, such as Spanish and English, is a common translanguaging practice. Another way to use Spanglish involves borrowing a word from English while speaking in Spanish, or vice versa, and is also a common translanguaging practice for US Spanish speakers. Examples relevant to healthcare include the following: - *Checar, chequear* (variants meaning "to check") - *Emarai* (verbal pronunciation of the English acronym MRI)	**Learning objective**: Upon completion of the course, the learner should be able to orally communicate the treatment plan to the patient, adjusted for cultural, emotional, and literacy needs. **Explanation of relevance**: When describing the treatment plan, such as medications or home care instructions, Clinicians should be mindful of using words that patients and their caregivers understand. (e.g. *chequear* is more commonly used in US Spanish than *revisar* or *monitorizar*)
Regionalisms	Medical Spanish should involve learning regional words or phrases.	Spanish terms that are used to describe symptoms, parts of the body, or other health-related concepts may vary by geographic area, nationality of origin/heritage, or even by family. Examples include the following: - The phrase "*Parece café*" would mean "It looks brown" for many Latin American persons but would mean "It looks like coffee" to those of Spanish origin. Medically, these have very different meanings and could lead to different diagnoses and plans of care (e.g., when evaluating a patient with possible hematemesis) - *Ictus, embolia, derrame* (words for stroke that vary geographically with the first two being more common in Spain and *derrame* being more common in US Spanish)	**Learning objective**: Upon completion of the course, the learner should be able to obtain an accurate, age-appropriate complete medical history and orally communicate findings of the medical evaluation to the patient, adjusted for cultural, emotional, and literacy needs. **Explanation of relevance**: Patient may use regional word to describe a symptom (e.g., *café*). Clinicians must use words that the patient understands in describing the diagnosis (e.g., words for stroke vary regionally).
Standard Spanish	Standard Spanish is needed to develop relationships with Spanish-speaking patients.	The term *standard Spanish* refers to the concept that there is a standard set of rules and lexicon that define the bounds of the Spanish language. Some forms of translanguaging are typically considered non-standard. Hence, the item is intended to present a less flexible perspective on language use with patients compared to the attitude reflected in the previous two statements. Specifically, the statement asks whether remaining within the bounds of *standard Spanish* is important for developing a relationship with Spanish-speaking patients. Examples of non-standard Spanish may include regionalisms and Spanglish but may also include the application of grammar rules from other languages that affect verb conjugation, syntax, and other components of speech; the incorporation of varied linguistic practices that depart from what is	**Learning objective**: Upon completion of the course, the learner should be able to assess patient comprehension of the information provided and address gaps in the patient's knowledge. They should also be able to recognize when their own language limitations are reached, and a medical interpreter is needed. **Explanation of relevance**: Establishing a relationship with the patient is important for accurately assessing the extent to which the patient has understood the healthcare visit and for establishing trust. To this end, the clinician must be able to adapt to the linguistic needs of the patient rather than rigidly adhere to an idealized linguistic standard.

	considered the standard pronunciation; among others.

* Respondents were asked to indicate the extent to which they agreed or disagreed with each statement on a 4-point Likert scale (Strongly Agree, Agree, Disagree, Strongly Disagree)

Note: For brevity, the three statements are abbreviated by topic as Spanglish, Regionalisms, and Standard Spanish, respectively, throughout the manuscript.

Translanguaging Questionnaire

To address the research questions, we designed a survey of medical student and faculty attitudes toward translanguaging practices prevalent among US Spanish speakers. PO, a medical Spanish educator, bilingual physician, and language concordance researcher, and JP, a bilingual applied linguist and Spanish language professor with expertise in translanguaging pedagogy, developed the survey. Since there were no published questionnaires that elicited student/clinician attitudes about translanguaging, survey development followed guidance from Artino and colleagues.[15] The items (Table 1) were developed to evaluate participant translanguaging attitudes in healthcare, reviewed by content experts, and piloted prior to administration. To facilitate readability and avoid biasing respondents, the statements were written in plain, neutral language.

Table 2. Student respondent characteristics that were evaluated as potential cofounding variables and their definitions.

Self-reported feature	Definition
Demographics	
Age	Age in years
Gender	Self-reported gender with answer choices including Female, Male, Non-binary
Hispanic ethnicity	Hispanic, Latino, Latina, Latinx, or of Spanish origin
Nationality of origin or heritage	Students had the option of indicating nationality of origin or heritage, which was a variable of interest since Spanish linguistic practices may differ by country, region, and community
Level of training	
Clinical	Third and fourth-year medical students
Pre-clinical	First and second-year medical students
Spanish clinical experiences	
Frequency of clinical Spanish use	We asked students how often they used Spanish in a clinical setting (directly communicating with patients or patients' caregivers in Spanish). Likert scale answer choices included Always, Frequently, Sometimes, Rarely, and Never. Those who reported Sometimes or more often were classified as "Clinical Spanish Use Sometimes+."
Frequency of ad hoc interpreter requests	We asked students how often they were asked to serve as an ad hoc, untrained medical interpreter. Likert scale answer choices included Always, Frequently, Sometimes, Rarely, and Never. Those who reported Sometimes or more often were classified as "Ad Hoc Interpreter Sometimes+."
Spanish learning opportunities	
Heritage Spanish speaker	Students who indicated that their informal childhood experiences included one or more parents or caregivers using Spanish regularly
Prior advanced Spanish education	Students who indicated completing advanced level Spanish classes at the college/university level or a Spanish major or minor
Prior study abroad	Students who had taken a Spanish course in a Spanish-speaking country during their higher education
Prior medical Spanish	Students who reported having completed a different medical Spanish course in addition to the one in which they were currently enrolled during the time of the study
Language skills	
Baseline proficiency in Spanish	Spanish proficiency was rated using the ILR-H, which uses a 5-point scale with level options of Excellent, Very Good, Good, Fair, and Poor. To dichotomize for analysis, we classified students as "Good+" if they indicated an ILR-H level of Good or greater, which corresponds with a mid-intermediate level and above.
Number of languages spoken	Students were asked to indicate any languages they spoke besides English or Spanish. For students who reported skills in languages besides English and Spanish, we classified them as "Trilingual+."

Note: ILR-H, Interagency Language Roundtable for healthcare

Population Studied

There were two populations of interest. One was students at any point in their medical school training who were enrolled in a medical Spanish course. The other was faculty members that taught these courses.

To be eligible for this study, students had to be enrolled in a medical Spanish course at any participating institution. All courses had a pre-requisite that students must self-report a Spanish proficiency level of "fair" or higher on the Interagency Language Roundtable for healthcare (ILR-H).[16] The ILR-H is a validated language self-assessment tool specific for healthcare contexts[17] that has been recommended as a screening tool for entry into medical language courses.[14] Faculty were also invited to complete the same translanguaging attitudes survey. Study participation by students and faculty was voluntary, and this study met exemption criteria by the University of Illinois Institutional Review Board as the lead study site and at 13 additional sites. Sites spanned all US regions (southern, northeastern, central, and western).

Study Design

In this prospective, observational cohort study, faculty from each site electronically received the student and faculty questionnaire links; each faculty member distributed the link to their students and followed their respective IRB policies to obtain informed consent from participants. Survey data were collected using Qualtrics. When completing the questionnaire, the first item instructed participants in generating a unique identification code, which would permit matching pre- and post-course survey responses while maintaining anonymity.

Statistical Analysis

Our analysis focused on whether students' translanguaging attitudes changed post-intervention. To prepare the data for analysis, we grouped the responses to each of the three translanguaging items into two discrete groups: agreement and disagreement. We used Chi-squared tests and logistic regression analyses to evaluate multivariate effects controlling for mediating demographic and experiential factors such as nation of origin, baseline Spanish ability, and ethnicity (further detailed in Table 2 and Results) and faculty translanguaging attitudes.

3. Results

Description of Students

Across 14 sites, all four US geographic regions of the Association of American Medical Colleges were represented, including 3 schools in the southern region, 4 in the northeast region, 3 in the central region, and 4 in the western region. Of these schools, 355 students participated in the course between January 2020 and May 2021; 307 and 165 completed the pre- and post-course surveys, respectively. Eighty-nine students (25%) identified as Hispanic, reporting 19 nationalities (Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Paraguay, Perú, Puerto Rico, Spain, and Venezuela). Most were women (77%, 243/317), half were younger than 25 years (152/307), and 32% were in their clinical training years of medical school (100/316).

Description of Faculty

We received 14 faculty responses from 11 (79%) of the 14 sites. Some sites had more than one faculty response if the course was taught multiple times during the study period. Most faculty were Hispanic (12/14), women (10/14), and all were clinicians (13 physicians). Among faculty who identified as Hispanic, reported nationalities included Chile, Colombia, El Salvador, Nicaragua, and Spain. Physician specialties included Emergency Medicine, Family Medicine, and Internal Medicine. Most faculty self-rated as "excellent" on the ILR-H (12/14) and two as "very good." All had taught medical Spanish for at least four (mean of eight) years.

Student Translanguaging Attitudes

Most students agreed with all three translanguaging-related statements both before and after the course (Table 3). The Spanglish statement was more controversial, with approximately half indicating agreement vs. disagreement, whereas over 90% agreed with Regionalisms and Standard Spanish. These trends remained true across Hispanic ethnicity, gender, age, and training level subgroups. Following the course, there was a decrease in agreement with Spanglish (pre- 58% to post-course 55%; p<0.001), an increase in agreement with Regionalisms (pre- 94% to post-course 95%; p=0.045), and

an increase in agreement with Standard Spanish (pre- 93% to post-course 95%; p<0.001). The results of confounding factor analyses are shown in Table 4. Post-course, students who had taken a prior medical Spanish course were less likely to agree with Regionalisms (p=0.036). No other factors were significant.

Table 3. Changes in student attitudes toward translanguaging statements before and after completing a medical Spanish course: Descriptive Statistics and Tests of Proportions

Translanguaging Statement	Phase	Race/Ethnicity				Gender				Age				Training Level				Overall**		p-value
		Non-Hispanic		Hispanic		Male		Female		Age < 25		Age 25+		Pre-Clinical		Clinical				
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
1. Spanglish	Pre-Course	220	57%	87	60%	111	64%	196	54%	148	57%	150*	59%	210	58%	97*	58%	307	58%	< 0.001
	Post-Course	100	57%	30	53%	51	59%	79	54%	53	47%	73*	64%	55	45%	75*	64%	165	55%	
2. Regionalisms	Pre-Course	220	95%	87	94%	111	94%	196	95%	148	95%	150	95%	210	96%	97	92%	307	94%	0.045
	Post-Course	100	94%	30	100%	51	92%	79	97%	53	96%	73	95%	55	96%	75	95%	165	95%	
3. Standard Spanish	Pre-Course	220	95%	87	89%	111	96%	196	91%	148	93%	150	93%	210	94%	97	92%	307	93%	< 0.001
	Post-Course	100	97%	30	90%	51	96%	79	95%	53	92%	73	97%	55	96%	75	95%	165	95%	

Note: Number of students (n) and percentage (%) represent the respondents who indicated agreement (Agree/Strongly Agree) with each translanguaging statement. Statements 1 and 2 describe more flexible attitudes toward aspects of translanguaging, and statement 3 describes a less flexible attitude.

 *Pre vs. post-course change in attitude toward use of Spanglish/anglicisms was significant in sub analyses based on logistic regression for by Age, p = 0.033, and Training Level, p = 0.008

**P-value for "Overall" indicates significant pre-post differences in the translanguaging statement based on chi-squared tests.

Faculty Translanguaging Attitudes

Comparing attitude trends for students versus faculty as a whole, post-course agreement rates with Spanglish and Regionalisms were similar for both groups (55% of students and 57% of faculty agreed with Spanglish, p=0.886; 95% of students and 92% of faculty agreed with Regionalisms, p=0.706). By contrast, student and faculty attitudes toward Standard Spanish differed; 95% of students and 43% of faculty agreed with use of standard Spanish, p<0.001. There was no consistent relationship between faculty translanguaging attitudes and their own students' survey responses (Table 5).

4. Discussion

This study presents a novel exploration of translanguaging attitudes among medical students and faculty in a medical Spanish course and is strengthened by its broad geographic reach across 14 schools and all US regions. Our findings show that current medical Spanish educational practices fall short of addressing the real-world linguistic practices of US Spanish speakers. Faculty reported openness toward incorporating Spanglish, regional words, and non-standard uses of Spanish in healthcare communication. However, these messages may not be effectively transmitted to students.

Drawing from our findings, we summarize several lessons learned on how a translanguaging lens can inform medical Spanish education. First, multiple varieties of Spanish should be represented in the teaching materials and among faculty, teaching assistants, guest speakers, and standardized patients. This can expose students to the variety of dialects, sounds/accents, regional words,[18] and the different practices and conceptualizations that exist therein.[19] Training for medical Spanish faculty should also incorporate these ideas, reinforcing that all varieties of the language should be equally valued in order to appropriately reflect the linguistic realities of everyday people and marginalized communities.[20-21]

Table 4. Analysis of factors potentially affecting student translanguaging attitudes

Factor	Statistic		Spanglish statement			Regionalisms statement			Standard Spanish statement		
			Pre-Course	Post-Course	p-value	Pre-Course	Post-Course	p-value	Pre-Course	Post-Course	p-value
Spanish Formal Education											
Prior Advanced Spanish Education	No	n	190	88	0.152	190	88	0.358	190	88	0.434
		%	58%	61%		94%	97%		94%	97%	
	Yes	n	117	40		117	40		117	40	
		%	57%	43%		96%	93%		92%	93%	
Prior Study Abroad in Spanish-Speaking Country	No	n	191	84	0.839	191	84	0.155	191	84	0.205
		%	60%	58%		93%	98%		94%	98%	
	Yes	n	116	44		116	44		116	44	
		%	53%	50%		97%	91%		92%	91%	
Prior Medical Spanish	No	n	248	110	0.313	248	110	**0.036**	248	110	0.648
		%	60%	58%		94%	97%		93%	95%	
	Yes	n	59	18		59	18		59	18	
		%	49%	39%		97%	83%		95%	94%	
Spanish Informal Education											
Heritage Spanish Speaker	No	n	230	100	0.408	230	100	0.999	230	100	0.168
		%	57%	57%		94%	94%		94%	96%	
	Yes	n	77	28		77	28		77	28	
		%	61%	50%		96%	100%		91%	93%	
Language Skills											
Good+ Spanish Proficiency Level on ILR-H	No	n	142	68	0.314	142	68	0.256	142	68	0.180
		%	56%	59%		92%	97%		96%	97%	
	Yes	n	165	60		165	60		165	60	
		%	59%	52%		97%	93%		91%	93%	
Trilingual+ (Reports skills in Spanish, English, and at least one other language)	No	n	193	79	0.225	193	79	0.526	193	79	0.723
		%	55%	49%		96%	95%		93%	95%	
	Yes	n	113	49		113	49		113	49	
		%	62%	65%		92%	96%		93%	96%	
Spanish Clinical Experiences											
Clinical Spanish Use Sometimes or More Often	No	n	48	23	0.607	48	23	0.792	48	23	0.999
		%	52%	57%		90%	96%		94%	100%	
	Yes	n	96	59		96	59		96	59	
		%	59%	61%		95%	95%		94%	95%	
Asked to Serve as Ad-hoc Untrained Interpreter Sometimes or More Often	No	n	201	79	0.255	201	79	0.403	201	79	0.131
		%	57%	52%		94%	96%		95%	97%	
	Yes	n	104	49		104	49		104	49	
		%	59%	61%		97%	94%		90%	92%	

Note: Student number (n) and percentage (%) represent the those indicating agreement (Agree/Strongly Agree). Good+ represents students with ILR-H Spanish level of "good," "very good," or "excellent." Bold indicates p-value<0.05.

Second, faculty should empower students who are heritage speakers to share their lived experiences with language in the classroom. Our study participants included 25% heritage Spanish students. Data show that heritage Spanish students may sometimes feel discouraged, self-conscious, or embarrassed about their language skills in the traditional language classroom.[22] Medical Spanish courses in our study seemed to reinforce the notion that the "standard" use of language is important for building relationships with patients (most students agreed with the Standard Spanish statement, and agreement increased post-course), which may not necessarily be the most effective way to communicate with patients and may also reinforce linguistic hierarchies that can discourage and minoritize heritage speakers. Furthermore, when underrepresented students experience discrimination and racism, their intent to practice in underserved areas decreases.[23] By endorsing a flexible approach to language, translanguaging in the medical Spanish classroom may help heritage students feel empowered to use their cultural and linguistic capital to participate in class and eventually to communicate with patients and advocate for language equity in the healthcare system.

Third, students should reflect on their linguistic biases. For example, while regionalisms and Spanglish are both common examples of translanguaging, students placed a greater value on the former. This is consistent with published literature that affirms that not all varieties or usages of a language are equally well-respected or considered to have the same level of prestige.[18] Spanglish is an example of non-standard Spanish which, popularly, is sometimes viewed as corroded. Recognizing such hierarchies is important to providing equitable medical care because valuing some linguistic features over others is a form of bias and may result in health disparities.[18] Future research should explore the perceived challenges to translanguaging in medical interactions to better understand why medical Spanish learners or faculty would be hesitant to translanguage in patient care. This could be done by observing medical interactions and identifying translanguaging moments, or through qualitative study of the experiences of medical students, clinicians, and patients about the use of translanguaging in clinical encounters. Understanding translanguaging barriers may then inform the development of effective strategies to enhance, person-centered patient-physician communication through medical Spanish education. Incorporating translanguaging concepts in medical Spanish teaching may help mitigate language bias in healthcare.

Table 5. Associations between Faculty Translanguaging Attitudes with Student Translanguaging Attitudes Following a Medical Spanish Course

	Faculty Attitudes					
	Use of Spanglish and anglicisms is appropriate when speaking with patients		Medical Spanish should involve teaching regional words/phrases		Standard Spanish is needed to develop relationship with Spanish-speaking patients	
Student Post-Course Attitudes	Correlation	p-value	Correlation	p-value	Correlation	p-value
Use of Spanglish and anglicisms is appropriate when speaking with patients	0.13	0.142	0.23	**0.009**	0.23	**0.008**
Medical Spanish should involve regional words / phrases	-0.10	0.249	0.10	0.234	-0.01	0.883
Standard Spanish is needed to develop relationship with Spanish-speaking patients	0.03	0.730	-0.03	0.727	-0.04	0.642

Note: Bold indicates p-values<0.05

Our study has some limitations. Participating schools may have differed in their course implementation in ways that could have impacted student attitudes about translanguaging, and these differences were not evaluated. Also, while a large number of students participated in the study, there was notable pre to post-survey attrition, which may contribute to sampling bias and limit generalizability. The faculty sample size was small, and all had over four years of medical Spanish teaching experience; it would be important to include newer faculty in future research.

The translanguaging framework offers viable strategies for teaching equitable, effective communication by centering the diverse, dynamic, real-world linguistic practices of patients rather than a static linguistic standard. Engaging patients and community members in the identification of medical Spanish content that reflects translanguaging practices would be an important way to ensure that the materials developed align with real-world communication strategies and usable, comprehensible content. Given the dynamic nature of language, community engagement should be longitudinally incorporated into quality assurance and improvement processes in the medical Spanish field. Future studies should consider qualitative approaches to evaluating learner and faculty attitudes, develop validated instruments to evaluate use

of translanguaging in medical encounters, explore translanguaging among other linguistic groups, and gather perspectives from clinicians and patients.

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Compliance with Ethical Standards

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Informed Consent: Enrollment of study participants complied with the informed consent protocol at each study site.

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Perceptions of Accent Modification Programs: Assimilation or Racism?

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ABSTRACT

Background: International medical graduates (IMGs) represent approximately 25% of practicing physicians in the United States (US), including residents and fellows. Unfortunately, often non-American English accents often challenge professional credibility. In fact, many healthcare providers and scholars in the US face linguistic discrimination. This type of discrimination has not been examined in great depth, especially in academic medicine.

Objective: The objective of this study is to examine IMG perspective as they relate to linguistic accent, explore accent modification programs, and analyze the message such programs may send to trainees.

Methods: The authors utilized semi-structured interviews. The interviews took place virtually for 30 to 45 minutes. Interviews were transcribed and all response summaries were relayed back to the participant to assure correct meaning. Data was analyzed by 3 authors using the constant comparative method to extract recurrent themes. Secondary data specifically explores accent modification programs. Selection of institutions was purposeful and derived from web searches. We selected eight institutions, which allowed for a content analysis of each institutional website. A final thematic analysis was performed via discussing the themes as a group, inclusive of the publicly available institutional messages.

Results: We identified three main themes: (1) perception of accent modification as racist and as forced assimilation, and (2) accent as linguistic discrimination and deficit-based thinking (3) hidden message in accent modification programs.

Conclusions: Our research highlights an unsettling sentiment among IMGs: accent modification programs might harbor a racist undertone, potentially suggesting forced assimilation and covert biases. A significant number of participants expressed that perceived accents can be a source of discrimination.

Keywords: *international medical graduates, diversity, discrimination, racism, health equity*

1. Introduction

International medical graduates (IMGs) represent approximately 25% of practicing physicians in the United States, including residents and fellows.[1] Before applying for residency in the US, IMGs must have to be certified by the Educational Commission for Foreign Medical Graduates (ECFMG). The ECFMG certification requirements include passing the US Medical Licensing Examination (USMLE) multiple exams, Step 1 and Step 2 Clinical Knowledge. The approved English language and communication skills test for IMGs is the Occupational English Test (OET). This test was designed for physicians to assess healthcare specific communication skills as a crucial step in the ECFMG pathway program to certification.[2]

In 2022, the top ten nations for ECFMG J-1 visa sponsorship were (in descending order) Canada, India, Pakistan, Saudi Arabia, Jordan, Lebanon, Egypt, Nepal, Nigeria and Colombia with 13,822 physicians approved for J-1 visas in 2022 .[3] Many of these countries' citizens speak English as their second language with accents and pronunciation different from the American English accent, inclusive of all regions in the US. For the purpose of this study, we define an accent as a phonetic trait from an individual's original language that is carried over into a second language. [4,5.]

Unfortunately, often a non-American English accent often challenge professional credibility.[6] Furthermore, many scholars in the US face language discrimination because they speak English with a foreign accent or an accent deemed

foreign by the listener.[6,7] Scholars in linguistics and social psychology have demonstrated how accents can have subtle and unconscious effects predisposing listeners to react and form opinions of individuals differently. This type of linguistic discrimination has not been examined in great depth, especially in academic medicine.[6]

Accent modification programs are described as part of communication programs that are meant to teach the individual a combination of pronunciation, syntactic, and intonation skills. Other goals were related to confidence, ease, and spontaneity in communication.[8] Related terms also include accent reduction or American-English for international students. Such programs are also available in many major academic institutions with some studies evaluating the efficacy of those programs. [5,9] Khurana and Huang reported outcomes of an accent modification program, acknowledging that international medical graduates compose 20% of the U.S. physician workforce, and that, despite knowledge and expertise, pronunciation patterns often become a barrier to being understood.[9] The program reported a significant improvement in their ability to pronounce words distinctively, stress words or syllables more accurately and use of body language/facial expressions appropriately". In addition, Khurana and Huang reported that in order "to attain their full potential, they must learn to communicate in a manner that is consistent with U.S. language and cultural norms".[9] No large, randomized studies have been performed to evaluate their effectiveness.

The primary purpose of this study is to examine the IMG's perspective as they relate to linguistic accent (RQ1), accent modification programs and the message such programs may send to trainees (RQ2). We are informed by a previous study by Sotto-Santiago & Vigil in which they examined racist nativist attitudes in academic medicine.[6] The findings confirmed experiences of racism, discrimination and microaggressions amongst minoritized faculty, Latine, as well as calling attention to accents as exclusionary identifiers, and their effect on academic credibility.[6] We aim to raise awareness of the institutional role in perpetuating inequities and systemic messages that counter the values professed in diversity, equity, inclusion and justice.

Conceptual framework: Racist Nativism

Racist nativism is defined as the assignment of values to real or imagined differences in order to justify the superiority of the "native." Nativists see outsiders as foreigners, un-American, and threats to the American system who have failed to assimilate into the dominant White-American national identity.[10] While nativism is traditionally associated with immigration and other race/ethnic policy preferences, it also affects attitudes towards health care policies and reform.[11] Since racist nativism has been used to examine minoritized college students' experiences and minoritized faculty, we are interested in seeing if similar messages and perspectives exist for IMGs in residency training.[6,12,13] In what follows, we discuss our study's approach and findings.

1. Methods

Sampling and study population

After obtaining approval from the Indiana University Institutional Review Board (12270), we sent an email to the IM residency program and potential participants. They met the inclusion criteria if they were an IMG and a resident physician. The participants were voluntarily enrolled in the study without compensation.

We used purposive sampling for the selection of participants. We initially planned to interview eight participants in accordance with prior research on thematic saturation that showed that the majority (70%) of the themes emerged at six interviews with 10-12 interviews resulting in 80-92% of themes.[14-17] We decided to add four interviews to every new theme that emerged. A total of 12 participants at a large research university in the Midwest were interviewed between August and December 2022. Participants were informed of the topic of the interview and provided informed consent to participate in the study. We performed the study using the Standards for Reporting Qualitative Research (SRQR) reporting guideline.

All participants have been living in the US for between three to five years. They were from Asian and South American countries. Countries of origin are not revealed to protect the confidentiality of participants. Most participants had exposure to English either because it was their first language or the official language of the educational system or because

it was required by the said system. Two participants learned English in middle and high school but did not seriously start to speak it until they considered a career in the US. One of them noted that he had taken courses, listened to tapes for pronunciation, and practiced with his US friends before taking any English proficiency test. Despite the difference in the age of exposure to English, all participants passed the required medical board examinations (USMLE) and relayed doing well on their Step 2 Clinical Skill, a former portion of USMLE, which includes English proficiency.

The participants' medical education was a 4-year or a 7-year program. Those who attended a 4-year program had similar structure to medical training in the US. The 7-year program consisted of 5 years of basic science and 2 years of clinical training. Some participants who attended a 7-year program had a slight variation of the program which included four years of basic science, two years of clinical training, and a year of social service whereby the participant spent time in an underserved community where they practice independently. The clinical years of participants who pursued a 7-year program training had longer rotation months of 3 months for basic clinical rotation such as internal medicine, pediatric, obstetrics and gynecology, and general surgery. All participants completed a year or more of clinical training and/or research experience compared to their US counterparts before starting residency in the US. We choose to describe their training as a reminder that these IMGs had exceptional training and had considerable exposure to the English language.

Data Collection

The authors utilized semi-structured interviews to explore the impact of accent on the experience of IMGs as healthcare providers and gauge their perception of accent modification programs. Semi-structured interviews were preferred for the personal nature of the subject matter and to allow for follow up questions to clarify any ambiguous answers. One-on-one interviews assess participant's belief and motivation and allow for the collection of more information with follow up questions.[18] The interviews took place via Zoom for 30 to 45 minutes. All response summaries were relayed back to the participant to assure correct meaning. Immediately after completing each interview, the researcher transcribed the interview into a word document.

The interview focused on the participant's length and make-up of medical training; additional clinical training after medical school; exposure to English before starting their training in the US; and performance on the communication portion of the USMLE with emphasis on English proficiency. Additionally, they were asked about their experiences as an immigrant and as a resident physician in the US, their perspectives on accent, patient care, and building relationships with colleagues. We concluded the interviews by discussing accent modification programs to gauge their awareness and perceptions of such programs, and whether they would consider participating in one, if they had not already or if they had the opportunity (see Table 1. Interview Questions).

Table 1. Semi-structured Interview Questions

Tell me a bit about your journey here? (Medical school, training, etc.)
What strengths do you feel you bring to medicine in the United States?
What have been the most difficult challenges in your experience here?
We have been exploring accent modification programs in healthcare. Have you heard of those?
If yes, what is your understanding of such programs? Have you ever participated in one?
If not, would you consider joining such programs?
Have you experienced colleagues and patients commenting on what they may perceive as an accent?
If yes, how often did it occur? (Less than 25%, 50%, or greater than 50?)
Do you feel your perceived accent had a positive or negative impact in patient care and/or physician-patient relationship?
What about your career in general?
Going back to accent modification programs. Do you consider accent-modification programs as fostering inclusion or assimilation?
Is there anything else you would like us to consider or communicate specifically about language accents or accent medication programs?

The secondary data specifically explores accent modification programs. Selection of institutions was purposeful and derived from web searches. Total sample of institutions via Google search resulted in several programs. We selected eight, which allowed for a content analysis of each institutional websites from 2021.

Table. 2		Accent Modification Programs in Academia	
Institutions		Academic Medicine	
Northwestern University		University of Pittsburgh Medical Center	
George Washington		Emory Healthcare	
Vanderbilt University		University of Missouri, Health Professions	
University of San Diego		University of Miami Health System	
Google search terms:			
accent modification programs in academia			
accent modification programs in academic medicine			
accent reduction programs in academic medicine			
accent reduction training in academic medicine			
Results:			
American English for Internationals			
Accent Modification Program for the Medical Professional			
Foreign Accent Modification Program			
Accent Modification Professional Program			
Accent Reduction			
Accent Modification and Professional Speaking			

Data Analysis

Initial data was analyzed by 3 authors (SSS, AK, AAH) using the constant comparative method to extract recurrent themes. Responses to the questions about the impact of perceived accents in patient care and careers in general, as well as perspectives on accent modification programs were categorized and thematized. This allowed for the interpretation of nuanced responses for participants with mixed feelings and opinions on these matters. For instance, it would be possible that participants experienced both positive and negative impacts of perceived accent, or that they would identify both positive and negative aspects of accent modification programs. A final thematic analysis was performed via discussing the themes as a group, inclusive of the publicly available institutional messages. A reanalysis of these interviews (SSS, AAH) and findings (EM, MLH) was conducted in August 2023 for relevance and concordance.

2. Results

This study examines IMG's perspective on accent (RQ1), accent modification programs and the message such programs may send to trainees (RQ2). We identified three main themes: (1) perception of accent modification as racist and as forced assimilation, and (2) accent as linguistic discrimination and deficit-based thinking (3) hidden message in accent modification programs.

2.1. *Perception of accent modification as racist and as forced assimilation*

Participants discussed their experiences and shared the types of linguistic accents considered acceptable versus others. Participant A reported:

> "Only certain accents are targeted. If I was from the UK or Australia, no one will ask me to change my accent. English is spoken worldwide with different accents and that will not change. One only needs to have empathy when dealing with people."

For many participants, accent was strongly tied to the participant identity and changing it was considered assimilation as echoed by participants B and K below.

> "Changing someone accent is stripping them of their identity." (PB)

"I will never want to change my accent. I am so proud to be Latina." (PK)

Certain participants also pointed to the irony of the program in targeting IMGs' accents when there is such variation in accents in the US. Participant H and D said:

"What is the standard accent we are trying to modify it to? There are several accents in the world and in the US" (PH).

"There is no one correct accent. Otherwise midwestern Americans will not communicate with southern Americans." (PD)

Several participants considered accent modification programs an indicator of racism and discrimination in the US.

"I have had racist comments from patients usually old and white, with comments that sounded racist such as being called, 'Brown alien.'" (PC)

"Never had a patient not understand me because of my accent but I've had a patient refuse to talk to me because I was foreign." (PE)

"A patient once told me 'Get me someone who speaks proper English.' English should not be in your accent to understand it. One must keep in mind the underlying microaggressions. Racism and discrimination cofound accent sometimes." (PH)

"I was told during my ICU rotation: 'go back to your country.'" (PI)

2.2. Accent as linguistic discrimination and deficit-based thinking

Many participants perceived that accent modification programs were looking at IMGs accents as weakness without considering the strengths they bring into medicine. Participants C and I mentioned:

"I bring diversity in medical practices. Taking care of other immigrants here who are usually grateful and happy to see someone who look like them." (PC)

"I don't perceive my accent as a weakness. You don't want everything to be alike. A different accent adds to the diversity of the American population. It allows certain patients to see themselves reflected in the healthcare professional." (PI)

2.3. Hidden message in accent modification programs and their message

When asked whether they would join an accent modification program, only one (Participant I) said he would join the program, if the opportunity presented itself stating that he is still very much "paranoiac" about saying the wrong things and being corrected even though he has not had any negative experiences with patients nor colleagues. For others, the decision to partake or not to partake in an accent modification program was primarily influenced on the participant's perception of the program. Many participants perceived the programs as perpetuating assimilation and racial discrimination. Consequently, these participants had strong objections. Participants A, I, and H reported:

"I will not recommend. There is racist undertone." (PA)

"There exist different accents in the US. It is not just about the accent. People understand us but the culture of racism here is the problem." (PI)

"If language loses its purpose as communication tool, then may be such program has place. But it can be a dangerous tool when IMG is seen as "other" because of existing xenophobia." (PH)

"Others who objected to the participation in accent modification program echoed the lack of consideration regarding diversity and the existing restrictive view of accent as purely phonetic ability."

"My accent is never an issue. I always find a way to communicate with patients no matter where they are from. There are many accents in the US. Targeting accents is not helpful." (PK)

"Although not interested in personally partaking in accent modification programs, participants E and F reported no strong objection to such programs if it was an individual's choice to pursue them, and not mandatory."

"It can be a positive or negative thing depending on if it is mandatory (PJ) otherwise one can feel segregated." (PC)

The rest of the participants reported that the program had no place at their level of training stating that mandatory standardized testing exists to remedy any proficiency issue.

Hidden Message and Accent Correction: Programs That Perpetuate Assimilation

Through the examination and content analysis of websites in general, the mission of accent modification programs is said to emphasize how international medical professionals "learn to minimize their non-native accents and cultivate good conversational skills". Table 3 summarizes some of these aspects.

Table 3.   Racist Nativist Commentary from Websites

Target Audience-For those who want to…
Be understood without having to repeat yourself.
Whether you know it or not, you have an accent.
Can improve your self-confidence and open doors to career advancement opportunities.
A strong accent may interfere with the ability to be understood
Included flier on Perspectives on communication disorders and sciences in culturally and linguistically diverse populations
Sample marketing
However, accents can sometimes adversely affect communication. If you've been told you have an accent, you may have faced the following difficulties:
People not understanding you
Avoiding social interaction with people you don't know or who may not understand you
Frustration from having to regularly repeat yourself
People focusing more on your accent than on what you are saying
Such communication barriers can affect your job, education, and everyday life. For these reasons and more, you may want to work with a specialist to help modify your accent.

3. Discussion

In an era where diversity, equity and inclusion, and the contributions of IMGs towards health equity in the US cannot be denied as paramount, the challenges and discrimination faced by IMGs in relation to linguistic accents remain a pressing concern. This study, a pioneering effort, delves into IMGs' perspectives on linguistic accents, accent modification programs, and the implicit messages these initiatives might convey.

Our research highlights an unsettling sentiment among IMGs: accent modification programs might harbor a racist undertone, potentially suggesting forced assimilation and covert biases. A significant number of participants expressed that perceived accents can be a source of discrimination.

Looking through a racist nativism lens, racism that sees foreigners as a group that has failed to assimilate into the dominant white-American national identity, we can see how linguistic discrimination and stereotyping can lead listeners to make biased judgments and assumptions. This judgment from the listener can determine status, ascribe intelligence and skills, and determine academic success.[6]

Accent modification programs risk perpetuating these racist nativist practices and inequities in academic medicine. Although programs may target international medical professionals, its hidden or potential message is difficult to avoid. These programs may overlook certain factors, like the perceptions of IMGs about feeling excluded. In addition, it implies a language deficit if American English is not used. It is also important to highlight that *an accent does not equal limited language proficiency,* and such programs sustain an assimilative mentality.

The presence of an accent is perceived as a foreign trait with negative consequences. For example, various participants mentioned a hidden connection with accent and race/ethnicity and nationality: *Only certain accents are targeted. "If I was from the UK or Australia, no one will ask me to change my accent. English is spoken worldwide with different accents and that will not change".* Racialized experiences around language elevate a serious concern for IMGs. In addition, it impacts personal and professional identity, as one participant mentions: "*Changing someone's accent is stripping them of their identity."*

Another participant remarked, "If language loses its primary role as a communication tool, then perhaps such a program is justified. However, it becomes perilous when immigrants, referred to as IMG, are perceived as the 'other' due to prevailing xenophobia." Delving into the nuances of human identity, the statement insightfully draws attention to the dangers of misusing language to create divisions rather than foster understanding. The potential for language to inadvertently label immigrants (denoted as IMG) as an 'other' heightens the risk of reinforcing xenophobic sentiments. Xenophobia, driven by a fear of the unfamiliar, becomes even more potent when combined with other biases, such as racism, gender, or class discrimination. Misappropriating language in this manner not only diverts its foundational role in communication but also deepens societal divides.[19]

Accent modification programs, supported by institutions, may reinforce policies that sustain institutional racism. "Well-intentioned" implicit messages become apparent when viewed and experienced by minoritized groups. *"Such communication barriers can affect your job, education, and everyday life. For these reasons and more, you may want to work with a specialist to help modify your accent."* We encourage our readers to think if this well-intended message can also communicate that an accent contributes to difficulties in job and career prospects? *"Frustration from having to regularly repeat yourself."* Is this frustration also hiddenly referring to listeners?

4. Conclusion

As such, the present study argues that racist nativism, by way of the accent modification program, directly targets a minoritized group of IMGs. Instead of diversity being respected and celebrated, non-white racial identities and multilingualism have been seen with equal views as an asset based on the demographics of the US, but also as a deficit.

We acknowledge the limitations of our research , being the first study in graduate medical education directly exploring racist nativist practices. As such, it becomes paramount that we continue to apply antiracist practices in the evaluation of institutional programs. There is nothing wrong with reassessing practices that challenge the status quo and question the reasons why certain programs are in place. Plenty of diversity statements suggest that we have the tools to do so and explore how our own programs perpetuate inequities and exclusion. Future research should expand upon linguistic discrimination in academic medicine and health professions and hopefully give rise to the awareness and biases that we may possess in this regard. While we do not advocate the outright elimination of accent-modification-reduction programs, a critical review of their marketing strategies and the implied messages is crucial. Institutions must ensure that their policies truly echo the spirit of diversity and inclusion they claim to champion.

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The Association of Patient-Provider Language Concordance with Healthcare Comprehension Among Mexican-origin Latino/as in Oregon

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ABSTRACT

Objective: To understand the local Mexican-origin Latino community's preference for bilingual health care providers and understand the relationship between language concordant care and comprehension of a healthcare visit.

Background: Language barriers in healthcare negatively impact quality of care. Language concordant care (where a health care provider speaks the patient's language) has been shown to result in better patient comprehension than using interpreters/translators.

Study Design: This is a cross sectional study in collaboration with the General Consulate of Mexico. We developed a 20-item survey that includes questions about socio-demographics, an acculturation scale, and questions regarding language concordant care experience and preferences. Participants were aged 18 or older who had a healthcare visit within the past 12 months. We used descriptive and multivariable statistics to describe our sample and test the association of language concordant care and comprehension of the healthcare visit.

Results: We recruited 505 participants who all completed the survey in Spanish.

Overall, 93.5% reported preference for a language concordant provider and 32.9% reported receipt of such care. Of those who reported a concordant provider visit, 87% reported a regular source of care compared to 50% among those with a discordant provider (p<0.001). In multivariable analyses, patients with a concordant provider had higher odds of understanding everything their provider said (aOR = 10.53 (95% CI: 6.60-16.81).

Conclusion: There is a gap between the preference for language concordant providers and the receipt of this type of health care for Oregon Latinos. Increasing access to language concordant care can contribute to improving health care quality, equity, and outcomes for Latinos in Oregon.

1. Introduction

In 2020, the Latino population in the United States reached 62 million people, accounting for almost one in five Americans (19% of the US population).[1] Latinos are the second largest racial or ethnic group, and in nearly every state in the US, the Latino population growth has outpaced overall population growth. Oregon has followed this pattern: between 2010 and 2020 the Latino population grew 31%, compared with only 11% growth in the overall state population. Among Oregon Latinos, an estimated 85% are of Mexican origin,[2] and nearly 1 in 10 Oregonians speak Spanish at home.[3]

People with limited English proficiency (LEP) are those who do not have English as their primary language and have difficulty communicating effectively in English. There are about twenty-five million people in the United States that have limited English proficiency,[4] and over 8% of Oregonians report that they speak English 'less than well'.[3] LEP is associated with barriers to accessing healthcare as well as in patients' comprehension of the healthcare visit.[5]

Studies have shown that the presence of language barriers between patients and providers hinders the ability to deliver high-quality care for patients, maintain patient safety, achieve high levels of patient comprehension and high levels of patient satisfaction with their care.[6] Language concordance between patients and providers happens in a healthcare setting when both parties speak the same preferred/native language of the patient.[7] Language concordant providers have been

shown to have stronger relationships with their patients, build trust more easily, and provide higher quality of care compared to in-person or telephone-based translators.[8] Language concordance between a physician and patient has been shown to improve care delivery by reducing medical errors, increasing patient understanding of the illness and treatment plan, improving patient adherence, resulting in higher satisfaction with the care received.[8]

The purpose of this study is to understand the local Mexican-origin Latino community's preference for language concordant (Spanish-speaking) health care providers and understand the relationship between language concordant care and comprehension of a healthcare visit. We hypothesize that 1. Mexican origin Latinos in Oregon have a preference for language concordant care; and 2. the presence of a language concordant provider is associated with greater comprehension of the health care visit.

2. Methods

We conducted a cross-sectional survey study. Our bicultural, bilingual (English and Spanish) research team members recruited Spanish- or English-speaking Latino/as who were at least 18 years old and waiting for processes and services (such as passports and notary appointments) at the Consulate General of Mexico in Portland, Oregon. The Consulate serves both Mexican-born and U.S.-born individuals of Mexican origin; U.S.-born individuals of Mexican origin can, for example, apply for dual citizenship or request Mexican passports or birth certificates from the Consulate.

We recruited a convenience sample of 505 individuals between December 2022 and April 2023. Respondents who met the screening criteria (self-identified Latino/a, at least 18 years old, and having had a healthcare visit within the last 12 months) provided oral informed consent after reviewing an information sheet and chose their preferred language (Spanish or English) for the self-administered survey. Participants completed the survey on paper; responses were then entered into a REDCap (Research Electronic Data Capture) electronic database by trained study staff. The senior author resolved any questions about survey responses. The Oregon Health and Science University Institutional Review Board approved this study.

We developed our survey based on previous literature, included validated scales, and also developed our own questions. The Consulate General of Mexico participated in the development and translation of the survey to ensure that our questions and wording were culturally appropriate in Spanish and English. Finally, we worked with a colleague at the National Institute of Public Health in Cuernavaca, Mexico, to do a final check of our Spanish version of the survey. Our survey contained a total of 20 items and included a validated language-based acculturation scale,[9] whether their last health care provider spoke Spanish, preferences for language-concordant care, overall understanding of information communicated by the provider at the most recent healthcare visit (measure of comprehension),[10] and socio-demographic information (details below).

Our primary outcome for regression modeling was the respondent's level of comprehension of information communicated by the provider at the most recent healthcare visit. We categorized comprehension as a binary variable: understanding everything the provider said versus understanding most, some, or only a little.

Our primary independent variable was experience of a language concordant provider at the respondent's most recent healthcare visit. We classified a Spanish-speaking provider as language concordant and an English-speaking provider as language discordant; no respondents reported a provider speaking another language. Our secondary independent variable was respondent acculturation using a validated scale.[9] Respondents were classified as low acculturation, bicultural, or high acculturation based on language(s) spoken as a child, usually spoken at home, usually spoken with friends, and that they usually thought in. Respondents who only spoke Spanish or some other language as a child could report that other language. We combined bicultural (n = 28) and high acculturation (n = 6) respondents into a single group for analyses due to small sample sizes.

We included several other sociodemographic variables. We categorized respondent age, in years, as 18-24, 25-29, 30-39, 40-49, or 50 and above. Respondents reported their gender as male, female, or an open-ended option to self-identify. However, no respondents identified as a gender that was not male or female. We classified the number of years that the respondent had lived in the United States as less than five, five to ten, eleven or more, or "all of my life". In regression

analyses, we collapsed eleven or more and "all of my life" into a single category. We categorized respondent education level as no formal schooling, currently in school, primary school, secondary/middle school, high school/GED, or at least an associate's degree. We collapsed education into a binary variable for regression modeling: less than high school versus high school or more; respondents who were currently in school were placed in the latter category. We included respondent residence, relationship status, and income status as binary variables (yes versus no): residence within the Portland metropolitan area (vs outside of the metro area), married or cohabitating, and had a regular source of income, respectively.

We included several variables related to the respondent's experience with healthcare. First, we included whether the respondent had a regular source of health care (yes versus no) and their preference for a healthcare provider who speaks their native language (agree, neutral, or disagree). We also included multiple variables about the respondent's most recent healthcare visit: who the visit was for (the respondent or a family member,) whether they needed help to understand what the provider said (yes versus no), who helped them understand the provider (minor child, adult family member/friend, non-medical staff, medical staff (including provider), professional interpreter, other, or no one).

Analysis

We compared respondent sociodemographic variables and acculturation level by receipt of language concordant care at the most recent healthcare visit, using Pearson's chi-squared test. We used overlaid bar graphs to graphically assess respondent's preference for and receipt of language concordant care, by acculturation level. We compared respondent's healthcare experiences by receipt of language concordant care at the most recent healthcare visit, using Pearson's chi-squared or Fisher's exact test. We developed crude and adjusted logistic regression models using respondent's comprehension of information communicated by the provider at the most recent healthcare visit as the outcome and receipt of language concordant care as the primary independent variable. The adjusted model also included respondent age, gender, acculturation, and years in the United States. We plotted the crude and adjusted odds ratios for receipt of language concordant care, with 95% confidence intervals.

3. Results

Our survey sample included 505 respondents, all of whom took the survey in Spanish. Table 1 describes our sample by receipt of language concordant care. The majority of our sample was between the ages of 30-39 (33.7%) and 40-49 (28.9%). The sample was overall equally split when it came to gender, female (47.3%) and male (52.5%). The overall majority of our sample resided in the Portland Metro area (85.9%), have been living in the United States >10 years (60.2%), and are married or co-inhabiting (85.9%). As for education levels, the majority of our sample reported having completed middle school (40.6%) or high school (34.9%), and 88.7% of our sample reported a regular source of income. A large majority of our sample had low levels of acculturation (93.3%).

Table 1. Mexican-origin Latino respondent characteristics, by experience with language concordant care and overall (n = 505), Oregon, 2022. Data are n (%).

Characteristic	Discordant care	Concordant care	Overall	p-value
n	339	166	505	
Age (years)				0.232
18-24	16 (4.7)	11 (6.6)	27 (5.4)	
25-29	61 (18.0)	35 (21.1)	96 (19.0)	
30-39	109 (32.2)	61 (36.8)	170 (33.7)	
40-49	102 (30.1)	44 (26.5)	146 (28.9)	
50+	51 (15.0)	15 (9.0)	66 (13.1)	
Gender				0.356
Female	160 (47.2)	79 (47.6)	239 (47.3)	

Male	179 (52.8)	86 (51.8)	265 (52.5)	
Missing	0 (0.0)	1 (0.6)	1 (0.2)	
Lives in Portland metro area				0.128
No	40 (11.8)	30 (18.1)	70 (13.9)	
Yes	298 (87.9)	136 (81.9)	434 (85.9)	
Missing	1 (0.3)	0 (0.0)	1 (0.2)	
Years in the United States				0.677
< 5	28 (8.3)	15 (9.0)	43 (8.5)	
5-10	88 (26.0)	48 (28.9)	136 (26.9)	
≥ 11	206 (60.8)	98 (59.0)	304 (60.2)	
All of my life	17 (5.0)	5 (3.0)	22 (4.4)	
Married or cohabitating	288 (85.0)	146 (88.0)	434 (85.9)	0.363
Education				0.399
Didn't attend school	14 (4.1)	3 (1.8)	17 (3.4)	
Currently in school	4 (1.2)	3 (1.8)	7 (1.4)	
Primary school	52 (15.3)	31 (18.7)	83 (16.4)	
Secondary/Middle school	134 (39.5)	71 (42.8)	205 (40.6)	
High school/GED	121 (35.7)	55 (33.1)	176 (34.9)	
Associate degree or more	14 (4.1)	3 (1.8)	17 (3.4)	
Has regular source of income	306 (90.3)	142 (85.5)	448 (88.7)	0.115
Acculturation				0.114
Low	312 (92.0)	159 (95.8)	471 (93.3)	
Bicultural/High	27 (8.0)	7 (4.2)	34 (6.7)	

Figure one is divided by acculturation level and shows both preference for and receipt of a language concordant provider. Overall, 93.5% reported preference for a language concordant provider and 32.9% reported receipt of such care (data not shown). For those with low acculturation levels (left bar), the majority indicated a preference for a language concordant provider (98.7%) and 33.8% reported receipt of a language concordant provider (Figure 1). Among the high acculturation group, a slightly smaller majority indicated a preference for a language concordant provider (88.2%) and 20.6% reported receipt of a concordant provider.

Figure 1: Preference for (blue bar) and receipt of (red bar) a language concordant provider, by acculturation level.
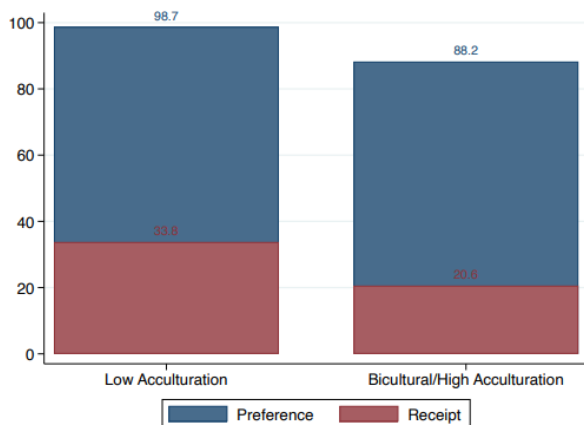

Table two shows healthcare experiences of respondents by experience of a language concordant provider. A smaller proportion of those who reported a discordant provider reported a regular source of care (50.1%) compared to those with a concordant provider (87%; p<0.001). When asked if the respondent needed someone to help them understand the provider, those with a discordant provider reported higher levels of need of assistance (80.8%) compared to those with a concordant provider (21.7%; p=<0.001). Finally, among those with a discordant provider, a lower percentage reported understanding everything the provider said (23.3%) compared to those with a concordant provider (68.1%; p≤0.001). All these differences between those with a discordant and concordant provider were statistically significant.

Table 2. Healthcare experiences of respondents, overall and by experience with language concordant providers. Data are n (%).

	Discordant provider	Concordant provider	Overall	p-value
n	339	166	505	
Who was seen at your last visit?				*0.001*
Myself	271 (79.9)	109 (65.7)	380 (75.2)	
Family member	68 (20.1)	56 (33.7)	124 (24.6)	
Missing	0 (0.0)	1 (0.6)	1 (0.2)	
Do you have a regular source of health care?				*< 0.001*
No	169 (49.9)	20 (12.0)	189 (37.4)	
Yes	170 (50.1)	145 (87.4)	315 (62.4)	
Missing	0 (0.0)	1 (0.6)	1 (0.2)	
Did you need someone to help you understand the provider?				*< 0.001*
No	63 (18.6)	130 (78.3)	193 (38.2)	
Yes	274 (80.8)	36 (21.7)	310 (61.4)	
Missing	2 (0.6)	0 (0.0)	2 (0.4)	
Who helped you understand the provider?				*< 0.001*
Minor child	29 (8.6)	8 (4.8)	37 (7.3)	
Adult family member or friend	55 (16.2)	3 (1.8)	58 (11.5)	
Non-medical staff	19 (5.6)	7 (4.2)	26 (5.1)	

Medical staff, including provider	7 (2.1)	7 (4.2)	14 (2.8)	
Professional interpreter	106 (31.3)	18 (10.8)	124 (24.6)	
Other	1 (0.3)	0 (0.0)	1 (0.2)	
Did not have someone	119 (35.1)	123 (74.1)	242 (47.9)	
Missing	3 (0.9)	0 (0.0)	3 (0.6)	
How much did you understand of what provider said?				< 0.001
Everything	79 (23.3)	113 (68.1)	192 (38.0)	
Most	169 (49.9)	44 (26.5)	213 (42.2)	
Some	63 (18.6)	5 (3.0)	68 (13.5)	
Little	22 (6.5)	3 (1.8)	25 (5.0)	
Missing	6 (1.8)	1 (0.6)	7 (1.4)	

Figure two presents the crude and adjusted regression model results. The model outcome is comprehension at the last healthcare visit comparing those with Spanish-speaking providers (concordant) with those with an English-speaking provider (discordant) (Figure 2). The adjusted model controls for age, gender, acculturation, and years in the United States. Both crude and adjusted estimates are above one, meaning that patients who had a Spanish speaking provider had higher odds of understanding everything the provider said at their visit. The crude association was OR = 7.02 (95% CI: 4.65-10.60), the adjusted estimate was aOR = 10.53 (95% CI: 6.60-16.81).
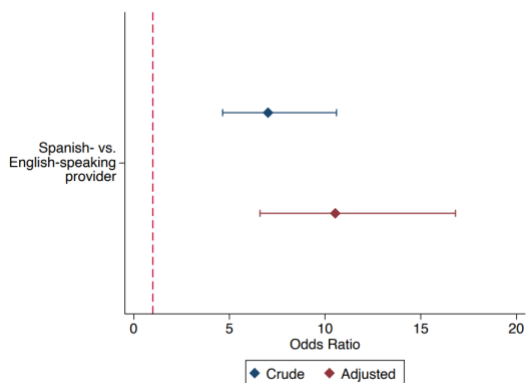
Figure 2.

Figure 2: Crude (blue) and adjusted (red) odds ratios of understanding everything that the healthcare provider said at the most recent visit for respondents who had a Spanish-speaking provider compared to an English-speaking. Adjusted estimates are adjusted for age, gender, acculturation, and years in the United States. The red dashed line represents the null value (odds ratio = 1).

4. Discussion

In our sample of Mexican-origin Latino/as (Mexican and Mexican American) recruited from the Consulate of Mexico in Portland, Oregon, only about one third of the respondents reported having a language concordant provider, despite having an overwhelming preference for one. We found that those who received language concordant care were more likely to report a usual source of care, and we found a strong and significant association between receipt of language concordant care and comprehension of the healthcare visit, controlling for other factors.

Our findings illustrate a critical gap in access to language concordant providers. We show that despite very high levels of preference for a language concordant provider among our sample of Latinos in Oregon, only about one third of reported having one at a recent healthcare visit. In Oregon, Spanish is spoken by only 10 percent of the healthcare providers with

75% of these providers located in just six of Oregon's 36 counties.[11] This lack of access to language concordant providers forces patients with LEP to rely on the availability and accuracy of a translator or use a second language to communicate with their provider which may result in decreased comprehension, increased psychological stress, and communication errors that are not faced by patients with language concordant providers.[12] Research has shown that language concordant care is associated with greater privacy, sense of trust, satisfaction, as well as patient comprehension and accuracy of communication.[12] Therefore, the use of interpreters is not the most effective way to solve language barriers and is at best a short-term solution. In addition, the use of interpreters can increase the cost and length of visit times.[12]

Latinos in Oregon demonstrate a strong preference for language concordant care. In particular, those with lower levels of acculturation nearly universally (98%) reported a preference for language-concordant care and preference was also high (88%) among our high acculturation group. This is consistent with a previous study in Oregon that showed among Spanish-speaking participants 56.1% reported needing interpreting services.[13] While the focus of that study was on interpreter services, both studies showed a significant gap in availability of Spanish speaking healthcare personnel. It is also important to reiterate that the Latino population in Oregon is increasing since the time of the previous study,[1] making the need for more Spanish speaking providers even greater today.

Our study found that a significantly higher proportion of those with a language concordant provider reported having a regular source of care compared to those without one. A similar study conducted in California utilized a survey conducted in 11 different languages and found similar differences in regular sources of care between those with LEP and English proficient respondents.[5] They showed a higher percentage (18%) of LEP respondents who reported not having a usual source of care compared 14% among those with English proficient. Those with LEP may be hesitant to seek care, have difficultly establishing a regular source of care, or face additional barriers to accessing care.[5] Having a regular source of care is important for overall health and well-being and accessibility is an important measure of quality of care.[14]

Our study highlighted lower levels of comprehension of health care visits among those who reported visits with a discordant provider compared to a concordant provider. Previous studies have found that the failure to communicate properly the seriousness of a diagnosis, risk factors, and treatment lead to patients not complying with instructions or opt out of having life-saving procedures and treatments.[10,15] Further, there is evidence that miscommunication is more likely to occur among clinicians who use an inadequately mastered second language likely due to challenges conveying nuances of risk and certainty.[16] Healthcare diagnoses and treatment plans are crucial to understand fully in order to ensure positive health outcomes as well as maintain patient safety. The presence of a language concordant provider is the key to improve and optimize levels of understanding and overall improve health and well-being among the Latino community in Oregon, and across the country.

Limitations

Our findings must be interpreted with the following limitations in mind. Our recruitment took place in the Mexican Consulate, therefore, our results may not be generalizable to all Latino/as in Oregon. All of our participants took their surveys in Spanish, and may not represent the preferred language of all Latino/as in Oregon.

Key Takeaways and Implications

This study was able to identify that there is a preference for language concordant providers among Latinos in Oregon. There is a gap between the preference for language concordant providers and the receipt for this type of health care. In addition, there is an association between language concordant care and overall comprehension of a healthcare visit. Our study results can help understand the need for Spanish-speaking providers in Oregon, to advocate for an increase in access to language concordant care in Oregon and contribute to improving health equity and outcomes for Latinos in Oregon.

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Concurrent Validity of the PHQ-9 in English and Spanish

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ABSTRACT:
Depression in the United States remains undertreated because of poor screening, resulting in half of the adult patients not diagnosed with major depression. There are barriers that lead to poor screening for depression, including language, availability of appropriate devices, and ease of use of a validated instrument for screening. The Patient Health Assessment Questionnaire – 9 (PHQ-9) is recommended for screening in primary care; it has been found to be effective and easy-to-use screening device and validated for this purpose, but only in English.
Purpose: A quantitative correlational study to demonstrate the concurrent validity of the Spanish PHQ-9 with the English PHQ-9 in screening for depression in Spanish-speaking patients.
Method*:* The study included a cohort of 10 primary care clinics in Dallas/Fort Worth, TX, which during a 6-week period collected data from 397 participants who were bilingual (read and write) in both English and Spanish. This was a quantitative correlational study using Intraclass Correlation Coefficient (ICC) analysis for this study; the researchers examined the concurrent validity of the Spanish version of the PHQ-9 for screening for depression as compared to the English version of the PHQ-9 item by item (paired items), comparing total scores and provisional diagnosis scores.
Results: The Spanish version of the PHQ-9 compared to the English version of the PHQ-9 had an ICC [>.9]. For each paired item an ICC [.970], for paired items total scores an ICC [.992], and for paired items provisional diagnosis scores of depression [.981].
Conclusions: The results demonstrated the translated psychometrics of the English PHQ-9 into Spanish are retained and the use of the Spanish version of the PHQ-9 is a valid instrument for assessing depressive symptoms in patients.

Keywords: Depression screening, PHQ-9 English and Spanish, PHQ-9 translations

1. **Introduction**

Depression in the United States remains undertreated in primary care. A recent study examining trends in U.S depression prevalence from 2015-2020 identified widespread increases in depression without treatment describing a need for a comprehensive plan for screening and treating the ongoing mental health crisis.[1] A literature review by Williams and Nieuwsma, supported the lack of care because of poor screening.[2] They found 50% of adult patients with major depression were not identified. Untreated depression leads to increased mortality and reduced quality of life, adversely affecting families, the workplace, and society as a whole.[1-2] The United States Preventive Services Task Force (USPSTF) has evidence that depression screening can be effective in primary care for identifying and treating patients in all segments of society.[2] Additionally the USPSTF stated early detection and treatment improves clinical outcomes in at-risk populations with screening and providing a comprehensive treatment program that includes antidepressant therapy, psychotherapy, or a combination of both.[1-2] In September 2013, the Institute for Clinical Systems Improvement (ICSI) published the 16th edition of the Adult Depression in Primary Care Guidelines, which incorporated an algorithm for screening patients in primary care adapted from the American Psychiatric Association (APA) *DSM-5* recommended a systematic screening for patients suspected of having depression.[4] The recommended screening tools were the Patient Health Questionnaires (PHQ-2 and PHQ-9).[5] This study examined the English PHQ-9, the use and validity of this instrument; appropriate translation into Spanish and the concurrent validity of the Spanish version of the PHQ-9 for screening for depression in Spanish.

2. **Background**

Approximately 61 million people in the United States (21% of the U.S. population) speak a language other than English in their homes.[6] Language barriers contribute to poor care, increased costs, and inherently, a potential for injury to patients. [7-8] There are numerous barriers which lead to poor screening or no screening for depression, including (a) the effects of language, (b) the availability of appropriate screening tools, (c) the ease of use, and (d)

provider expertise.[4] Additional barriers include availability of screening tools in other languages, appropriate translations, and concurrent validity for use. The Patient Health Questionnaire (PHQ) was developed in 1999 as an easy-to-use self-assessment instrument to aid in the diagnosis of mental disorders in primary care.[9] It differs from other instruments in that it was created to address the essentials of *DSM-5* criteria for screening for depression and was found to be valid for screening, monitoring treatment, and for establishing remission.[5]

Rationale

Language disparities exist in how patients interpret a written document, or how verbal statements are understood. The concern revolves around the subject of the questions asked and how they are answered by a patient.[7-8] Patients must understand the context in which a question is being asked, and the responses made should be answered in that context.[7-8] The PHQ-9 has a long history of use and validity, and most notably the most commonly used screening tools in primary care.[3-4] The PHQ-9 has been translated into multiple languages by MAPI Research Trust, a leading linguistic organization using the protocol created by Beaton, Bombardier, Guillemin, and Ferraz.[10] The presumption that a validated screening instrument will retain its psychometric properties when linguistically translated appropriately has not been demonstrated.[11]

Conceptual framework

There are studies that have used the PHQ-9 in languages other than English to examine the reliability and validity of the PHQ-9; these include Chinese, Haitian Creole, Arabic, and others in Spanish.[12-14] Examples of studies in Spanish include a cohort study in Peru using a Rasch Item Response Theory Analysis of the PHQ-9 with similar findings when compared with other similar groups.[3,15] A correlational study completed in Chile with the specific objective of validating the PHQ-9 in Spanish, demonstrated validity in identifying depression when compared to those of its English counterpart.[16] An Ecuadorian public health study, using a validity survey instrument that included sociodemographic data, the PHQ-9, and other standards of measurement such as the Beck Depression Inventory-II (BDI-II), the Generalized Anxiety Disorder Scale (GAD-7), the Positive and Negative Affect Scale (PANAS), and the Quality-of-Life Index (QLI) for evaluating for validity of the psychometric properties and concluded that the PHQ-9 could aid screening for depression.[17] In Argentina a cross-sectional study aimed to validate and corroborate the PHQ-9 to determine appropriate cut-off points for varying degrees of the severity of depression using the PHQ-9, additional correlation with interviews with trained clinicians using the Mini International Neuropsychiatric Interview (MINI) and the Beck Depression Inventory-II (BDI-II) to validate the scores of the PHQ-9. The outcomes demonstrated acceptable validity and reliability for both screening and assessing the severity of depressive symptoms.[18] There are no previous studies that have examined the concurrent validity of the PHQ-9 in English to Spanish with participants who are bilingual (able to read and write) and who have completed both versions of the PHQ-9 sequentially.

Significance

The significance of the proposed study is to bridge the gap in the literature by validating the use of the PHQ-9 in Spanish for screening for depression. A validated instrument in Spanish benefits both clinicians and patients in identifying depression and improves the morbidity and mortality of depression in a Spanish speaking population. Currently, there are limited validity studies for the use of the PHQ-9 in Spanish for screening for depression and the studies completed have demonstrated low evidence, because of limitations.[1-4] There is good evidence for proper translation of the PHQ-9, however questions remain as to the retention of its psychometric properties and if validity is maintained when compared to the English version of the PHQ-9. The purpose of this quantitative correlational study was to further demonstrate the concurrent validity of the Spanish version of the PHQ-9 with the English version in screening for depression in Spanish-speaking patients. The outcome of this research is to have a validated instrument for screening for depression in the Spanish-speaking community and to create a methodology of validation that can be replicated for use other languages.

3. Research Question(s) and Hypotheses

RQ_1: What is the concurrent validity of the English and Spanish language versions of the PHQ-9 depression screening tool?

H_0: < .8

H_1: > .8

4. Methods

Research Design

The study was quantitative, applying a correlational design, examining the concurrent validity of the diagnostic cut-offs both in the English and Spanish PHQ-9 questionnaires.

Study Participants

A cohort of ten clinics located in the Dallas/Fort Worth, TX, were recruited to collect the data sample. The Medical Director of the organization approved permission to perform the research project. The participant pool came from patients 18 years or older who presented to the clinic for medical services were asked to participate and based on participant response and bilingual status resulted in either inclusion or exclusion from the research study. There were 411 participants who completed the PHQ-9 in both English and Spanish, of those 397 participants met the inclusion criteria.

Inclusion criteria. The inclusion criteria included bilingual patients who were (a) 18 years or older, (b) able to read and write in Spanish, and (c) were able to complete both versions of the PHQ-9 sequentially.

Exclusion criteria. The exclusion criteria: if the patient was (a) *not* 18 years or older or is (b) *unable* to read and write in both English and Spanish, or (c) declined to participate.

Sampling methodology.

The collection of data was accomplished using a consecutive sampling methodology. Each patient who presented for clinical services and was 18 years or older and bilingual Spanish/English (read & write) was asked to participate in the research project. Those who met the inclusion criteria were asked to complete a demographics questionnaire and the paper versions of the PHQ-9 in both English and Spanish, sequentially – random order English – Spanish or Spanish – English (see Appendices A - D).

Institutional Review Board approval.

Approval for this study was granted by the Institutional Review Board of A. T. Still University. No data was collected prior to approval. A wavier of consent was given; no changes to the study have been made.

Survey Instrument

The criterion was the English version of the Patient Health Questionnaire -9 (PHQ-9) which is considered the gold standard of measurement for screening for depression and has been validated and confirmed for use in English.[5,8,19] The PHQ-9 has been translated in over 55 languages, but has not been validated in any language other than English.[20] The Spanish version of the PHQ-9 is formatted in the same manner as the English. For this study, the translated Spanish version by MAPI has been linguistically validated was used and correlated to the English version.[10,21]. Both versions of the PHQ-9 incorporate the Likert scale. There are 9 questions and optional 10th question with corresponding columns labeled: 0 - *not all days*, 1- *several days*, 2- *more than half the days* and 3 - *nearly every day*. Each column scores were summed individually, and the subtotals are summed for a total score that provided a provisional diagnosis of depression that was scored: 0-4 none – *minimal depressio*n, 5-9 *mild depression*, 10-14 *moderate depression*, 15-19 *moderately severe depression*, and 20-27 *severe depression*.

Data Collection

The collection of data took take place over 6 weeks at 10 clinics. The front office medical office assistant(s) (MOA) were trained in the study protocol (Appendix I). The MOA at a front desk / reception area screened for participants (18 years and older; bilingual able to read and write in both English and Spanish), upon entering the clinic for an appointment. If a patient met the inclusion criteria and agreed to participate, the person was given a survey to complete; demographics form, and both versions of PHQ-9 (randomly ordered) sequentially. Once completed, the patient returned (no identifiers) the forms in a provided envelope and placed into a secured drop box at the front desk. This method of data collection ensured a more diverse population completing the forms to help with validation and

ensured anonymity which removed the need for informed consent. The completed forms were collected from the clinics at regular intervals by the principal investigator.

Statistical Analysis

Data analysis was performed using IBM SPSS Statistic Version 24. Demographic variables collected were primarily using a questionnaire that was completed by the participants which included sex, country of origin, and generation of arrival to United States, highest education level, income status, current work status, insurance status, and marital status, apart from the level variable age. Frequencies were completed on the variables with valid percent's reported to demonstrate the number of occurrences and to identify any missing data. Normality testing was conducted using Shapiro-Wilk analysis, ($p>.05$) for the interval of age. Each question individually yielded data which is scored from 0-3 and scored accordingly. The columns are summed, and a total score achieved to establish a provisional diagnosis score. Intraclass correlations between both versions of the PHQ-9 were completed (English Item 1 to Spanish Item1, [paired item]) and total scores. A variable was created to identify the provisional depression diagnostic category ranges based on the total scores for each PHQ-9 (English and Spanish) that was completed by each participant. The two variables labeled English provisional diagnosis and Spanish provisional diagnosis were analyzed using frequencies to illustrate the valid percentage of the provisional diagnosis of depression levels. Additionally, Intraclass correlation was completed on the paired items to demonstrate concurrent validity. The data are displayed in tables.

5. Results

Characteristics of the Sample

There were 411 participants who completed the survey instrument. Of these, 14 were excluded because of age, leaving 397 participants who met the inclusion criteria of bilingual (able to read and write) both in English and Spanish, and consented to participate in the research. Normality testing was conducted on the variable, *Age*, via the Shapiro-Wilk test, *p=.0001*. The median age was 30 years (IRQ =17) patients ranged in age from 18 to 86 years old. The majority of participants were female (*n*=238; 64.2%). Most of the participants were from the United States (*n*=183; 50%), and Mexico (*n*=133; 36%) (see Table 1).

The largest groups of participants were first generation (*n*=138; 40.6%) as compared to participants who have been in the United States three generations or longer (*n*=89; 27.5%). The educational level of the participants varied from 6 years of education or less (*n*=36; 9.7%), with the largest group having a secondary education (7-12 years) (*n*=139; 37.1%). A majority of the participants reported working either full-time or part-time (*n*=275; 76.6%). Most participants reported an average income of $10,000 - $49,000 (*n*=174; 47.5%). The greatest number of participants had either commercial health insurance (*n*=145; 40%) or were self-pay (*n*=138; 38.3%). Most of the respondents reported been married (*n*=181; 47.9%).

6. Findings

Research question.

The question of concurrent validity of the English and Spanish language versions of the PHQ-9 depression screening tools when compared using Intraclass correlation (ICC) item by item (item pair) for both versions of the PHQ-9, demonstrated that the English to Spanish versions of the PHQ-9 does correlate, with an ICC [>.9] in every item pair (see Table 2). Additionally, ICC has demonstrated a high degree of confidence that the Spanish version of the PHQ-9 is equally valid to the English version for use in screening for depression in Spanish. The results reject the null Hypothesis ICC [<.8], there is insufficient evidence to illustrate no concurrent validity between the English version of the PHQ-9 and the Spanish version of the PHQ-9 for screening for depression (see Table 2). Additionally, the results have demonstrated ICC [>.8], supporting the alternative hypothesis, that there is concurrent validity of the English version of the PHQ-9 and the Spanish version of the PHQ-9 for screening for depression (see Table 2). Further analysis using ICC for examining the total scores of depression in the English and Spanish versions were also shown to highly correlate with an ICC of [.992] and CI>.991.

An additional analysis was performed to compare the frequencies of the provisional diagnoses of depression for both the English and Spanish versions. Both versions of the PHQ-9 demonstrated a provisional diagnosis score of minimal depression (0-4) of 55.7%. Those with a severe depression score (20-27) slightly varied English 2.5% and Spanish

2.3%. Additional analysis of the provisional diagnosis paired items demonstrated a high degree of correlation with an ICC of [.981] and a CI >.977 (see Table 3). The findings demonstrate a retention of the translated psychometrics and concurrent validity of the Spanish PHQ-9 to the English PHQ-9 and therefore valid for use in screening for depression in Spanish.

7. Discussion

The results of this study demonstrated concurrent validity of the PHQ-9 in English and Spanish using ICC. Every item pair was correlated in both versions of the PHQ-9 that demonstrated that the translated psychometrics was retained from English to Spanish with high ICC correlation rates between both versions of the PHQ-9, with minimal divergence in the ICC scores. These findings support previous research which examined the validity of the Spanish version of the PHQ-9, using a one language methodology. [15,21,22]

All of these studies were considered low evidence because of study limitations.[2-4] There have been several multi-lingual studies completed - Chinese, Haitian - Creole, Arabic and Spanish and there still remains a gap in the validity of PHQ-9 in any other language but English.[12-15] A meta-analysis has been completed examining the use of the PHQ-9 with analysis and review of 27 validation studies, in numerous languages including Spanish.[24-25] The two major studies in Spanish were both shown to be appropriately translated, however, there was only one study which had reported translated psychometric properties although neither studies was considered as strong evidence of validity.[11,24-25]

A presumption has been made that the translation process provides retention of the psychometric attributes analogous to validity and reliability has been shown not to be true.[11] Although a translated statement or word may be correct linguistically, it may not be interpreted by the examinee in the same context as when asked, thereby making the assessment tool invalid.[21] A standardized process has been created for how a translation of a self-assessment questionnaire is completed from its original version to a new language while achieving linguistic validity, maintaining cultural relevance, and assuring its concurrent validity for use.[10,21] The Spanish version of the PHQ-9 translated by MAPI meeting the standards established by Beaton et al. and Ramada-Rodilla was used for this study.[10,21] The participants in this research were diverse in country of origin providing strength to the translation of the PHQ-9 in the retention of the translated psychometrics as the same in both English and Spanish for validation and use.

Implications of Findings

The implications of this research demonstrated validity for using the Spanish version of the PHQ-9 in screening for depression. The clinical benefits include having an additional validated instrument, removes a language disparity and primary care providers can have confidence in using the Spanish language PHQ-9 as a screening device for depression knowing the psychometric properties of the original English version are retained. Additionally, the methodology used in this research can be replicated for use in validating other language translations of the PHQ-9 to improve screening of patients for depression in other languages.

Limitations of the Study

There were a few limitations noted in the research process. There was a larger sample size anticipated with the 10 clinic cohort, the smaller size could be related to the initial numbers projected because of the original definition of bilingual; speaking both languages, rather than reading and writing in both languages, this would account for the smaller sample size. A limitation may have been not defining a champion at each cohort clinic for collecting data, at the reception desk rather than as a group effort. Additionally, complacency may have played a role in collecting data; over time there tended to be less enthusiasm for collecting data. A strategy to mitigate this from occurring might be to create a competition or incentive to increase the motivation for collecting data. Additional emphasis during the training highlighting the importance of data collection over an extended period might make the task a higher priority for the individuals involved. A more aggressive style in the management of the collection process such as calling, texting, and encouragement to those assisting in the collection process may have increased the number of participants. Finally, completing the research using a paper process was cumbersome considering the age of technology present; using electronic tablets or similar devices would have expedited the collection process, as well as speeding up the scoring and data entry portions of the research.

Recommendations for Future Research

The next step in the process would be to validate the PHQ-9 in Spanish for monitoring of treatment of depression and then for remission of depression. The English version PHQ-9 has been shown to be valid in both monitoring the treatment and remission of depression.[5,26-27] Currently, no studies have been validated in any other languages. Further research should include validating the PHQ-9 for screening for depression in adolescents (12-18 years) in Spanish and other languages as well.[28]

8. Conclusions

This research was to determine if the translated PHQ-9 in Spanish was concurrently valid to the PHQ-9 in English for screening depression, and to demonstrate that the translated psychometrics were equal linguistically and understood by the patient to be the same as the English version of PHQ-9, in screening for depression in Spanish. The findings demonstrated a high Intraclass Correlation Coefficient between each item pair for both versions of the PHQ-9 English and Spanish, bridging the gap in the literature and supporting the findings of previous research. This research was the first of its kind using bilingual (read and write both languages) participants completing both versions of the PHQ-9 sequentially allowing for direct analysis using ICC item by item leading to these findings. The results demonstrated that the translated psychometrics of the English PHQ-9 into Spanish is retained and the use of the Spanish version of the PHQ-9 is a valid instrument for assessing depressive symptoms in patients.

Future research on use of the PHQ-9 in Spanish for monitoring treatment and for remission along with validating the PHQ-9 other languages is warranted.

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The Climate Migrant: Health Risks Before, During, and After Migration

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ABSTRACT

The climate crisis and migrant health are closely intertwined. Climate change is rapidly altering the planet, and migrants are experiencing new and overlapping health consequences as a result. In this article, three subsets of migrants affected by the climate crisis are identified, and the health needs of each are delineated. Climate-precipitated migrants were forced to move as a result of a climate impact like a hurricane or drought. Climate-impacted migrants may have migrated initially for reasons unrelated to the climate crisis, but the social and occupational factors they encounter increase their risk of climate-related health effects during and after migration. Climate workers, the third type of migrant identified, move into regions affected by climate disasters to aid in clean-up and rebuilding, facing significant occupational and environmental health risks. All three types of climate migrants are increasing, but little attention is given to the health and safety of these migrants. Frontline clinicians and community health centers play an increasingly important role regarding climate-related health conditions; up-to-date training of and support for clinicians can reduce climate-related morbidity and mortality, but clinicians on their own are unprepared to systematically address climate health inequity. Regulation needs to anticipate the health impacts of the advancing climate crisis by reinforcing the migration system to enable movement after a crisis and increasing worker protections to facilitate faster and safer climate response and post-disaster recovery.

Keywords: *Migrants, immigrants, immigrant health, migrant health, migrant workers, farmworkers, climate change, climate justice, occupational health, disaster response*

1. Introduction

Human activities have already increased global surface temperatures 1.1 degrees Celsius above 1850 - 1900 levels.[1] 2023 was the hottest year on record,[2] emissions of greenhouse gases like carbon dioxide continue to increase rather than decline, and crossing the threshold of 1.5 degrees of warming, the international target to reduce the worst effects of climate change, appears to many as 'inevitable'.[3] This global warming has created a climate crisis wherein global and regional climate and weather patterns have been altered, changes which are predicted to continue and rapidly intensify. Sudden-onset climate disasters like hurricanes and wildfires, and slow-onset climate disasters like drought, are destabilizing communities across the world. These disasters are causing new migration as well as putting new pressures on people who are already migrating or have recently migrated.

Migration, both within countries and across borders, is growing. As migration and the climate crisis intersect, hundreds of millions of people are experiencing new health risks and changes in health status that require significant attention and new public health and regulatory approaches. Yet, the climate crisis can affect the health of migrants in different ways -- before, during, and after their migration. In this article, we identify three subsets of migrants who are affected directly by the climate crisis at different stages of their migration process, with an emphasis on these migrant populations who are moving to or within the United States. Climate-precipitated migrants were forced to move as a result of a climate impact like a hurricane or drought. Climate-impacted migrants may have migrated initially for reasons unrelated to the climate crisis, but the social and occupational factors they encounter increase their risk of climate-related health effects during and after migration. Climate workers, the third type of migrant identified, move into regions affected by climate disasters to aid in clean-up and rebuilding, facing significant occupational and environmental health risks. A migrant can fall into more than one category; indeed, as the climate crisis worsens, migrants may experience health consequences from the climate crisis at each step of their migration, and one migrant may be categorized within all three subsets of climate migrants.

2. Climate-Precipitated Migrants

The climate-precipitated migrant leaves their home because of a destabilizing climate impact. Some migrants are propelled to voluntarily move as an adaptive strategy, as a response to climate-heightened vulnerabilities. For example, a subsistence farmer who is economically precarious may decide to move after an unprecedented climate-intensified drought; the farmer may already have experienced numerous challenges threatening his livelihood, including the impacts of economic downturns as a result of COVID-19, community gang violence, unstable supply chains, structural inequities, and political corruption and instability,[4-5] but the drought was the precipitating factor that finally propelled him to move. In other cases, a climate-precipitated migrant is forced to urgently move for survival. For example, in 2020, two Category 4 hurricanes, Eta and Iota, destroyed an estimated 700,000 hectares of crops and displaced 339,000 people in Guatemala alone, destabilizing entire communities.[6] These hurricanes, with their rapid intensification and deceleration ahead of landfall, "bore the hallmarks of climate-driven storms."[7] Across the region, an estimated 1.5 million Central Americans were displaced that year alone, and humanitarian response was slow, as the pandemic restricted movement, leaving displaced people with minimal access to aid relief.[8-9]

The health consequences of the climate crisis for climate-precipitated migrants are varied and extensive. An estimated 94 people died during or directly following the hurricanes.[10] The longer-term impact may kill many more. Central America's multi-year severe drought, followed by Eta and Iota, compounded by numerous other destabilizing factors, has caused widespread malnutrition that continues to affect the displaced, many of whom chose not to, or were unable to, return home.[11] Without access to stable, safe housing, clean water, food, or employment, the displaced face a wide range of health impacts, from pneumonia, to water-borne illness, to heat-related illness, infectious disease, and death. It is estimated that more than 7 percent of the population of certain regions of Honduras and Guatemala have been recorded at the US-Mexico border as migrant families; accurate migration percentages are very likely to be higher, with many migrants settling in other areas of their country or in neighboring countries.[12]

Within the US, 1,150 disasters resulted in 11.1 million internally displaced people (IDPs) between 2008 and 2022, not including IDPs from US territories like Puerto Rico and the Virgin Islands.[13] While earthquakes accounted for a small percentage of these displacements, the vast majority were the result of storms, floods, and wildfire, many of which have been strengthened by the climate crisis. Many hope to stay at their new locations; others intend to return to their homes when their region becomes safe and stable again.

Underreporting and poor data systems capable of capturing climate-related displacement result in incomplete data on the picture of climate-precipitated migration across the Americas. Yet, the incidence of climate migration is expected to accelerate. Climate disasters are expected to force between 216 million to over 1 billion people to move globally by 2050.[14-15]

3. Climate-Impacted Migrants

The overlapping and amplifying forces that result in migration often include some aspects of the climate crisis, as discussed above. However, at the US-Mexico border, climate impacts are not recognized in US asylum law.[16] Asylum seekers must prove a credible fear of persecution to be eligible for asylum.[17] Consequently, migrants who have received asylum in the US have documented persecution due to race, religion, nationality, membership in a particular social group, or political opinion. Their lived experiences include threats from local gangs or cartels, domestic partners, and political factions. It is important to recognize that the climate crisis is not reported as the primary instigator of migration by most migrants today; however, as a "threat multiplier," as it is often termed, climate change intensifies and exacerbates pre-existing insecurities and instabilities.[18]

Regardless of the size of the role that the climate crisis had on a migrant's decision to move, all migrants experience heightened vulnerabilities that can result in climate-related health impacts during and after their migration. In this article, migrants experiencing this intra- and post-migration climate impact are called climate-impacted migrants (CIMs). Under this definition, all climate-precipitated migrants become climate-impacted migrants when they begin their migration and encounter these new climate-related health threats.

During migration, CIMs encounter climate-fueled weather patterns that can disrupt their health and lead to death. Common health risks from these weather patterns include dehydration, heat or cold stress, exposure to elements, and overcrowding in shelters. Poor access to food, clean water, shelter, health care, and other necessities are common among CIMs. At the US-Mexico border, some enter with visas or request asylum. Many others attempt to cross the border in remote locations to enter the US. During this portion of their migration, CIMs have encountered climate

extremes like heat, drought, and flash flooding. The remains of 9,515 migrants were recovered by Customs and Border Protection (CBP) between 1998 and 2022.[19]At least 890 migrant remains were found in 2022 alone. Deaths in 2023 may have been even higher, with 148 deaths during the fiscal year in just the El Paso sector, nearly double of FY 2022's number.[20] The International Organization for Migration has declared the border the deadliest land route for migrants worldwide.[21] The increase in deaths may relate to the unprecedented intense and long-lasting heat waves the region experienced in the summer of 2023.[22] The scale of the issue is not new, however; the American Public Health Association declared these deaths a public health crisis in 2009.[23]

Climate factors during and after migration have a higher impact on CIMs compared to the US population as a whole because migration itself positions CIMs for poor health outcomes. During migration, CIMs have an increased risk of a myriad of health concerns because of migration: exposure to infectious disease from crowded migrant facilities, substandard housing, or unsafe water; food insecurity and scarcity; and mental health needs from trauma, stress, exploitation, and unsafe encounters during migration. Access to health care when needed is largely blocked for migrants. Lack of familiarity with local health care services and systems, limited eligibility to publicly and privately funded health care programs, lack of transportation, limited funds for out-of-pocket costs, fear of exposing immigration status, language differences, and cultural differences each may erect a barrier to establishing care when needed. Even IDPs, who often do not encounter barriers around language, culture, and familiarity with health systems, may be unable to access care in their new location, when their current insurance will not cover out-of-network care, and local health systems require proof of residency to be eligible for the new state's health insurance.

Following migration, many CIMs are limited to the industries in which they can find work, and take jobs in industries such as agriculture and construction. These two industries are already some of the most dangerous industries in the country,[24] and are additionally highly impacted by the changing climate. While data are limited due to migration and fear of exposing immigration status, it is estimated that 68% of hired farmworkers are foreign-born, primarily from Mexico and Central America.[25]

Due to the outdoor nature of these jobs, climate is a key risk factor, particularly extreme heat and wildfires. Here, we outline some of the climate health risks faced by CIMs after migration when working in climate-impacted industries.

Heat
Extended heat waves can result in dehydration, heat stress, and death when temperatures are high. High heat also causes numerous secondary health risks, such as long-term kidney damage and kidney disease, worsening of comorbidities, prescription interactions, and mental health impacts.[26] Farmworkers are 35 times more likely than other workers to die on the job due to heat; construction workers are 13 times more likely.[27]

Housing
Workplace-provided housing, commonly extended to low-wage workers like farmworkers, is often substandard. Among those who must secure their own houses, poor finances, lack of social networks, and rural locations may limit workers' ability to find suitable housing. Substandard housing is hazardous in a climate-altered world. During an extended heat wave, for example, poorly constructed and overcrowded houses with poor ventilation and/or insulation expose workers to high-heat conditions indoors after work, thereby increasing their risk of heat stress and dehydration compared to workers who can recover overnight in a cooled home. Similarly, during a wildfire, workers in substandard housing are exposed to wildfire smoke inside, without reprieve.

Water
Farmworkers in rural areas often rely on well water; after floods and storms, or during extended drought or heat, water contamination may be a concern, from chemical and fuel spills, deceased animals, rotting materials, and growth of bacteria or algae.

Air quality
Wildfires are another climate-fueled disaster that disproportionately affect outdoor workers like those in farmwork and construction, where heavy physical exertion outdoors is required, and their vulnerabilities are compounded. Fires cause acute burns, and smoke can affect the cardiovascular and pulmonary health of people hundreds of miles away. When a smoke event occurs, workers in many situations continue to labor, without consideration for or understanding of the considerable acute and chronic impacts of smoke inhalation. Other day-to-day exposures – including high heat,

pesticides, and ozone – may overlap with smoke exposure, and the composition of wildfire smoke may include farm and home chemicals and/or heavy metals like lead.[28]

4. Climate Workers

As climate change has progressed, a new category of migrant workers has emerged: the climate worker. These workers take jobs directly related to climate disasters. Called "resilience workers," "disaster clean-up workers," or "reconstruction workers," these low-wage temporary workers move into regions that have experienced a disaster. As climate change has increased the number and severity of disasters, this work has become more regular, and some workers have moved from one disaster region to another, while others moved into a region as a resilience worker and settled. Their work includes demolition, removal, and remodel/reconstruction of damaged structures, and clearing and repair of roadways and infrastructure that may be inaccessible from debris like water, mud, and downed trees. Additionally, in wildfire areas in the West, some migrant workers are training to assist in seasonal prescribed burns to reduce the impact of future fires.

Despite the wide range of work they may be conducting, climate workers share many social factors that can affect their health: their work is insufficiently regulated, they have few economic resources, they often do not speak the dominant language, lack networks in their temporary communities, lack familiarity with health systems, and, for many, lack authorization to work. Those without work authorization harbor fear of exposure and reluctant to access forms of assistance. Layered on these notable social factors, climate workers also experience health risks at work. Climate workers have the same environmental and occupational health risks that CIM workers like farmworkers and construction workers do, as delineated above, as well as additional risks unique to their work in a post-disaster environment. Some areas of concern are:

Housing

Just like farmworkers, climate workers are sometimes provided housing and bussed into the region to work. The provided housing frequently is substandard, but alternatives are unavailable in recently-devastated areas. Those living in housing within disaster zones contend with issues like mold, structural integrity, and poor security.

Food and water

Post-disaster regions often lack important basic infrastructure, and workers frequently do not have access to clean potable cool water at work nor in worker housing. Establishments selling food may be limited as businesses themselves are shuttered by the disaster.

Exposures

Exposure to mold and mildew is common when working in buildings after flooding and storms, causing significant health concerns. Carbon monoxide deaths spike when demolition workers or those living in communities after a disaster improperly utilize generators indoors for basic electrical needs or for reconstruction.

Climate workers' health is not at risk solely from a disaster that has occurred. The regions in which they work have a high probability of a recurring climate event, and workers who move into a post-disaster landscape can become displaced by another disaster. For example, climate workers who rushed to Florida to assist with urgent cleanup after Hurricane Ian, a deadly Category 5 hurricane, were exposed to Hurricane Nicole, which arrived six weeks after Ian.[29] This situation is a reminder that a migrant may shift from one subset of climate migrant to another, in this case, from climate worker to CIM.

5. Legislative and regulatory deficits

Compounding these numerous health risks for migrants, which themselves are amplified by a litany of social factors, is a severe lack of federal and state regulatory protection for the jobs that migrants can take.[30] For example, farmworker exceptionalism is a long-standing policy of exclusion of workers in agriculture from basic labor laws and protections, like overtime pay and the right to unionize, from which most other types of workers benefit. Moreover, farmworkers are excluded from health and safety regulations afforded to other workers.[31] There are no federal standards to protect workers from heat or wildfires. To date only five states have promulgated heat standards for outdoor workers. Washington, California, and Oregon are currently the only states that regulate occupational exposure

to wildfire smoke. While numerous laws regulate the construction industry, the urgency and impermanence of post-disaster cleanup work often result in an environment where regulatory protections are ignored or overlooked.[32] Climate migrants enter into a work arena where they receive minimal protection and do not have access to training on work hazards in the language of their choice, including trainings relating to the workplace (like fall prevention) and those related to climate (like heat stress avoidance, or the health implications and best practices around mold and mildew, or wildfire smoke).

6. Discussion: Policy-based and clinical pathways to support climate migrants

Some of the significant migrant health challenges arising from the climate crisis can be lessened through climate-informed emergency preparedness policy and climate-strengthened health systems, particularly the community health center model.

Legislative and policy efforts on emergency preparedness can recognize and anticipate migrant health vulnerabilities. Here are some avenues:

a) Communities should review and reframe present emergency plans to factor in climate risks. Many emergency preparedness efforts, at the local, county, state, and federal levels, do not take into account the breadth and severity of climate impacts that may occur. Some communities are experiencing new climate impacts, like wildfires, in places that had not historically encountered fires, or higher sea levels impacting coastal communities. Other communities are seeing intensified disasters like rainstorms. In Puerto Rico, an island that has historically sustained hurricanes, climate-strengthened hurricanes are causing greater damage and death because of greater precipitation, a consequence of climate change.[33] Policies must review and reflect present-day and future climate-fueled emergency situations.

b) Vulnerable populations like migrants must be incorporated into emergency policy, legislation, and programs, with culturally responsive and linguistically appropriate information and outreach. Anecdotal reports across the nation – from fires in California to storms in North Carolina -- show migrants and immigrants unaware of emergencies or evacuation events because of a lack of community connection and, notably, a dearth of Spanish-language emergency information. [34-35]As these communities are often the most at-risk, they need to be identified and consulted, and their specific needs and outreach to meet them should be incorporated into emergency plans.

c) Policy and legislative initiatives around resiliency need to work with social structures and address the root cause of hazards in communities. For example, funding for community renewable energy is an important step toward local energy independence and control during an emergency. However, those who are more vulnerable often do not qualify for these programs given unsafe or unstable housing. Resiliency strategies need to target structural deficiencies first, and climate technology later.

Finally, national policy and emergency plans should incorporate and fund community-led responses from community health centers (CHCs). CHCs are on the frontlines of the climate crisis, and they are uniquely positioned to support the health of climate migrants at each step of their migration. The federally supported CHC system comprises of roughly 1,400 organizations in every state, U.S. territory, and the District of Columbia.[36] CHCs, also called Federally Qualified Health Centers (FQHCs), offer affordable health care to over 30.5 million people. Their model provides care regardless of immigration status and ability to pay, and increases access by reducing barriers like cost, lack of insurance, geographic accessibility, and language access.

CHCs are community-based, and well-versed in the needs of their communities. Indeed, in disaster after disaster, CHCs are on the frontlines, as a trusted source of care, connection, and relief to their communities, even in the face of significant impediments like damaged infrastructure and lack of consistent electricity.[37] However, it is not standard practice to consider these organizations when crafting national response plans. In addition to capacity building, federal funding and plans must include CHCs and community organizations that can promote recognition of and resiliency and adaptation among the most vulnerable.

As climate change increases vulnerabilities, these CHCs can partner with community leaders and organizations to develop emergency plans that incorporate the voices and needs of migrants. CHCs must also consider their physical infrastructure, incorporating solar and back-up battery systems to ensure consistent operations during emergencies.

Many CHCs have already partnered to build "resilience hubs" – community-led equity-focused centers that can serve as community gathering spaces and trusted locations in the case of an emergency.[38] A resilience hub offers refuge in an emergency, but also can provide services and education, from emergency meal distribution to children's mental health support, to employment assistance.

Clinicians, including community health workers, need ongoing education, technical assistance and culturally contextual resources and strategies to meet the growing and changing needs of the migrant populations that visit or resettle in their communities. Additionally, in the face of climate disaster, clinicians themselves need support. The mental health toll of caring for an underserved and overlooked community in the midst of crisis is significant and long lasting. Moreover, the clinicians and their families themselves may by impacted by the disaster, furthering the mental health toll. Migrant Clinicians Network, a nonprofit focused on building practical solutions at the intersection of migration, vulnerability, and health, meets clinicians' clinical training needs, providing resources, virtual seminars offering continuing education credit, technical assistance, peer support and connection, and virtual case management specifically designed for clinicians serving migrants. As the climate crisis continues to disproportionly affect migrants, this organization and its partners are emphasizing climate-focused programming, continuing education, and culturally contextual resources to better address the health needs of climate migrants.

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Case Study: Urgent Medical Care for Asylum-Seeking Infant at US-Mexico Border

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ABSTRACT:

A 22-month-old male presented at a triage facility within an immigration shelter with wounds, inflammation, and swelling across legs and arms; bloody and pus-filled discharge; skin discoloration, scaling, and swelling; and significant pain. His family had been released from immigration detention after migrating from Central America to the U.S. southern border. The attending triage nurse-midwife immediately transferred the patient to a local hospital for emergency care, in addition to signing the patient's family into Specialty Care Action Network (SCAN), a pediatric component of Health Network, a virtual system for medical care coordination. After transfer to another hospital for higher level care, where he received a diagnosis of Carvajal syndrome, the patient was sufficiently stable for transport to a hospital in California, his family's final destination. The resident physician in San Antonio, a SCAN case manager, a network of clinicians, and the medical director in California arranged for his extensive and diverse subspecialty care, through nonprofit funding and charity care in the absence of case management or care for migrants provided by federal immigration and/or health systems.

1. Case Presentation

A 22-month-old boy arrived at a nonprofit immigration shelter with his mother, father, and older brother upon release from an immigration detention center operated by the United States Customs and Border Protection (CBP). The shelter often acts as a transitional space for asylum seekers after release from detention, allowing them to contact family and friends, shower, eat a warm meal, and arrange for transport to their destination within the U.S. This particular shelter has an established triage system for pregnant people and children to assess wellness before travel, which is not typical among U.S. border immigration shelters. At the shelter, child asylum seekers with an acute health condition are enrolled into two programs operated by Migrant Clinicians Network, a national nonprofit focused on migrant health: 1) Health Network (HN), a virtual case management system; and 2) the Specialty Care Access Network (SCAN), an adjunct program of HN that utilizes a national network of volunteer pediatricians and pediatric specialists called SCAN Champions to assist in care coordination and charity care in or near the patient's receiving community.

The patient's condition upon arrival was serious. He was physically inconsolable and unable to support his weight. His legs and feet, and portions of his arms and hands were described by the triage clinician, a nurse-midwife, as "shocking," noting that the skin was "reptile-like." She noted wounds, inflammation, and swelling across legs and arms; bloody and pus-filled discharge; skin discoloration, scaling, and swelling. The family disclosed that in detention, the patient was taken to a hospital at the U.S.-Mexico border, but the hospital discharged the patient back to the detention center reportedly without treatment. Upon return to the detention center, the patient and his family were processed and released to the immigration shelter, which immediately determined the patient needed emergency attention. The child was enrolled in SCAN and then transported by ambulance to a regional children's hospital.

The patient was quickly transferred from the regional hospital to University Hospital in San Antonio, Texas, a teaching hospital affiliated with University of Texas Health Science Center (UTHSC) for a higher level of care. At intake, the patient showed significant skin sloughing, erythrodermatitis, pruritus, and recurrent infections. In addition, the patient's clinicians noted cardiomyopathy, heart failure, esophagitis with gastritis, low bone density, and elevated fecal calprotectin. He was experiencing constipation and occasional diarrhea, had fat in the stool, and had allergies to soy and lactose. He had a tracheostomy, and was underweight due to inadequate caloric intake as well as showing significant growth delay. Additionally, he was found to have multiple closed fractures of ribs with routine healing. His parents disclosed that clinicians in Mexico, during the course of their migration, had given him a diagnosis of severe dermatitis, multiple allergies, and metabolic wasting (SAM) syndrome, but clinicians in San Antonio were unsure of the diagnosis.

He remained in serious condition for approximately six weeks. The attending physician reported the patient's condition as highly variable, with multiple periods of sepsis and continual efforts to determine a suitable high-calorie

diet. During his time at University Hospital, the patient was seen by subspecialists including: infectious disease, dermatology, cardiology, genetics, and nutrition.

At the University Hospital, the patient received the corrected diagnosis of Carvajal Syndrome, a genetic condition with symptoms that begin in early childhood characterized by dilated cardiomyopathy with left ventricular dilation, patchy palmoplantar hyperkeratosis, typically affecting only palms and soles, and woolly hair.[1] Fewer than 1000 people in the U.S. have this syndrome.

To begin his case management in anticipation of his eventual move out of the hospital, SCAN case managers reached out immediately to the patient's family and to their "anchor contacts," people with which the family has regular contact but who are not actively migrating. One day after enrollment at the immigration shelter, a case manager received a text message from the patient's mother, who confirmed that the family wished to migrate to the Los Angeles region to join family, once the patient was stable. The mother informed the case manager that the patient had already been transferred to the University Hospital in San Antonio.

Three days later, after discussion with Health Network's medical team, the case manager reached out to John Harlow, MD, who is a SCAN Champion and the co-founder and medical director of La Laterna, an interdisciplinary co-located clinic that provides holistic care for children and families who have experienced trauma during migration. La Laterna provides medical care, mental health care, legal assistance from immigration attorneys, and case management in one clinic in Los Angeles. Six days later, SCAN case managers had received the first set of medical records from the University Hospital in preparation for the patient's eventual transfer to Children's Hospital Los Angeles, a part of the AltaMed community health center system, under the care and direction of Dr. Harlow and La Laterna.

When Dr. Harlow was informed of the complex medical situation of the patient, he worked with his team to prepare to enroll the patient in emergency Medi-Cal, California's Medicaid health care program, upon his arrival to California, and alert the cardiology and dermatology subspecialties at Children's Hospital Los Angeles to ensure referrals go quickly once he arrived. Because of the patient's condition, travel to California was delayed by almost six weeks until he was deemed safe for discharge and transport.

Upon discharge in San Antonio, the family immediately took the patient to California. The initial intention was to enroll the patient at the intake clinic, but his condition worsened, and the patient was immediately taken to the hospital. At Children's Hospital, the patient received emergency Medi-Cal and was quickly seen over the course of the following weeks by clinicians in cardiology, endocrinology, dermatology, allergy, and immunology, as well as a cardiologic nutritionist, ENT doctor, and palliative care. Despite extensive care, the patient's clinical state remained dynamic; he has been discharged and readmitted to the hospital on multiple occasions, and continues to need close follow-up.

In the meantime, the SCAN case manager has maintained regular care with the patient's family and clinicians. For example, the family reached out to the SCAN case manager upon receipt of a bill from the University Hospital that they weren't expecting. The SCAN case manager connected the family to a case manager at the University Hospital and continues to follow up with the patient's family until the family alerts the case manager that the bill issue has been sufficiently settled.

2. Discussion

Migrant children with acute medical conditions encounter numerous obstacles to accessing and maintaining care, particularly the hard-to-find and expensive pediatric subspecialty care. Consequently, their families frequently struggle to manage their conditions at every step of their migration, including after migration in their receiving communities around the United States. There is limited literature on the need for and acquisition of medical care during migration within the U.S., in part because the act of migration itself is a barrier to participation in research. However, a growing number of pediatric care providers are identifying and responding to the accelerating need among immigrant children to receive essential health care services. For example, in 2019, the American Academy of Pediatrics issued a Policy Statement on the Organizational Principals to Guide and Define the Child Health Care System and/or Improve the Health of All Children, titled Providing Care for Children in Immigrant Families.[2]

Migrant Clinicians Network, a national nonprofit, initially developed Health Network in response to reports from clinicians at community health centers that migrating patients were unable to continue care, noting a lack of communication between points of health care provision, that led to gaps in medication and repeat testing and diagnoses. HN enables continuity of care. A migrating patient enrolled in HN receives virtual case management, including establishment of primary care with a local health center; culturally responsive support of and communication with the patient and, in the case of children, the patient's family; medical records transfer between points of care; and assistance in identifying and attaining services like sliding scale fees, local assistance programs, and transportation to medical appointments.

Migrant Clinicians Network, along with partners Texas Children's Hospital/Baylor College of Medicine, Stanford University School of Medicine, and University of Texas Rio Grande Valley School of Medicine, expanded HN by forming the Specialty Care Access Network (SCAN) in 2020 in recognition that primary care clinics including community health centers were often unequipped to serve the subspecialty care needs of children asylum seekers. SCAN augments HN's virtual case management by utilizing a network of pediatric subspecialists called SCAN Champions, who assist in identifying sources and coordination of specialty care in conjunction with Health Network's coordination of primary care and establishment of medical home.

When a patient is enrolled in SCAN, the patient receives HN's virtual case management. Additionally, the HN case manager contacts SCAN Champions in or near the patient's receiving community for assistance in obtaining charity subspecialty care, and, once a path to care is identified, arranges for records transfer and other coordinating support to fluidly transfer the child to care.

A federally funded system of care for migrants including asylum seekers is lacking. Unlike refugees, asylum seekers are released into the U.S. without a status that affords them entry into a health system. Statewide health system eligibility for asylum seekers varies widely.[3] Some states require proof of long-term residency before an asylum seeker can attain health insurance; other states have emergency enrollment or fewer obstacles to enrollment to ensure that new arrivals can access state insurance marketplaces. In states where asylum seekers are eligible for health insurance, barriers like language, cost, transportation, and fear may dissuade an asylum seeking family from securing care.

In the absence of a federal case management and a pediatric subspecialty system of care, SCAN is funded through a combination of private gifts, small governmental program funds and volunteer services. With its limited funding, SCAN cared for 80 children in 2023, a small fraction of the number of children with specialty needs from asylum-seeking families that arrived that year. SCAN and HN are available at just one immigration shelter out of more than a dozen along the U.S.-Mexico border. Had the patient chronicled in this case study been released to a different immigration shelter that did not have a relationship with Migrant Clinicians Network, he would not have received any case management or connection to pediatric subspecialty care.

Policy recommendations

All U.S. federal government, private, and community-based organizations involved with immigrant children should adopt policies that protect and prioritize their health, well-being, and safety, and should consider children's best interests in all decisions by government and private actors.

Federal health care systems for asylum seekers must provide post-detention case management to connect asylum seekers with ongoing health conditions to primary care. Additionally, medically fragile asylum seekers with subspecialty care needs require a higher level of case management and connection to subspecialists.

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Migrant Clinicians Network: Championing Health Equity

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ABSTRACT

As with many underserved populations, migrants, immigrants, and asylum seekers encounter barriers to access culturally responsive high-quality health care in the United States. Clinicians dedicated to serving them struggle to reach them, and lack strategies, resources, and technical assistance to remove barriers to care. Migrant Clinicians Network advocates for these populations' health needs, develops both patient-facing and clinical resources, and provides services and technical assistance to support clinical care on the frontlines. Migrant Clinicians Network's goal is to create practical solutions at the intersection of vulnerability, migration, and health. In this article, the authors examine the underserved populations in the United States that Migrant Clinicians Network seeks to serve, and the efforts built to meet their basic health needs.

Keywords: *Migrants, immigrants, asylum seekers, migrant health, community health, health equity, worker health and safety, migrant disparities, medically at-risk migrants*

Migration is complex, geographically and seasonally variable, and continually, rapidly changing. Millions of people move within the United States each year, seeking improved economic or lifestyle conditions, fleeing or returning from climate disaster, or following seasonal changes in work opportunities. Millions more arrive to the United States each year, seeking safety and a better life through immigration. Across the United States and U.S. territories, clinicians encounter migrants as new patients within their practices or through community outreach. They struggle to meet migrants' health needs and remove the significant and overlapping barriers migrants face to access health care and achieve health and well-being. Migrant Clinicians Network (MCN), a national nonprofit, advances health equity and reduces structural barriers by developing practical solutions that enable migrants to access high-quality, culturally responsive health care, and equipping clinicians to provide that care.

1. Migration as a Normal Human Reaction

Political discourse often frames migration as an aberration. Human movement, however, is a typical human behavioral response to change one's present conditions. Most literature represent migration as "voluntary," in which individuals leave their place of origin seeking remuneration, opportunity, or a better life; or "involuntary," in which individuals flee a specific destabilizing event like localized violence, poverty, or climate disaster. In reality the motivation for migration is often a spectrum of events and possibilities, a negotiation or gamble that people take after weighing the limited options that they have. For example, it is frequently assumed that a migrant farmworker is a "voluntary" migrant because he chose to apply for a U.S. H-2A visa, a temporary visa for agricultural work, but overlapping factors beyond economics or opportunity – his community wracked by gang violence, a multiyear drought reducing crop viability for his family's plot, political corruption – left him without an option to stay home. The complexity of the choice to migrate, however, is often swept away in favor of a sterile and myopic view of migrants as a monolith of people trying to take others' opportunities or invade another people's land, categorizing all migrants into one type of people: unusual, foreign, and undeserving.

2. Migrants in the United States

Migrants are culturally, socially, economically, and politically diverse, with various skill sets, education levels, and health statuses, and carrying unique migration stories.

Migrant subpopulations can include farmworkers who move seasonally with the harvests or post-disaster workers who move into regions for clean-up, demolition, and reconstruction. Asylum seekers, another subpopulation, are those seeking refuge due to persecution in their home country based on race, religion, nationality, and/or membership of in a particular social group or political opinion.[1] After crossing the U.S. southern border and their subsequent release into the U.S., some may take work as farmworkers and post-disaster workers, or work in other industries like construction, day labor, food and restaurants, and domestic work, continuing their movements within the U.S.

The demographics of each of these subgroups are diverse, but one commonality emerges: many, if not most, migrants within these categories are Latinx. One 2019/2020 survey of non-H-2A farmworkers found that 63% of farmworkers were born in Mexico.[2] Among H-2A workers, those who arrive on a temporary agricultural work visa, in fiscal year 2021, 93% were born in Mexico.[3] Hispanics made up 30% of construction workers, higher than their 17.6% share of total employed, and significantly up from 20.3% in 2003.[4] The makeup of individuals granted asylum has shifted; in fiscal year 2000, 16,549 cases were granted, with the highest numbers arriving from the People's Republic of China, Somalia, Ethiopia, and Colombia.[5] In fiscal year 2022, when 14,481 asylum cases were granted, the People's Republic of China continued to be the country of origin of the highest percentage of individuals granted asylum at 12.5%, but Venezuela (10.1% of granted cases), El Salvador (7.2%), and Guatemala (6.4%) dominated the next three spots.[6] Encounters at the border – numbers which include repeat encounters, thereby masking the exact number of individuals – further elucidate the demographic shifts. For years, the majority of encounters have been with citizens of Mexico and the Northern Triangle countries of El Salvador, Guatemala, and Honduras. However, the percentage of overall encounters from these four countries has declined as numbers of migrants from other countries, particularly Venezuela, have grown. In December 2023, 54% of encounters involved citizens from countries other than Mexico and the Northern Triangle countries.[7]

There are limited data to illustrate the health profile of migrants, but their status as migrants and the occupations available to them due to their marginalized position increase their health risks while simultaneously reducing access to health care. Migrants en-route to their new location encounter exploitation, abuse, and human trafficking by smugglers or cartel members and suffer additional stressors such as extreme heat and cold, dehydration and poor food access, and exposure to disease in crowded facilities and shelters.

Following their migration, immigrants often find themselves working in some of the nation's most dangerous industries in the country, including agriculture, forestry, fishing, and construction. Within these sectors, immigrant workers encounter many dangers from exposure to hazardous chemicals like pesticides or industrial manufacturing products, to substantially elevated risk of injury and death compared to their U.S.-born counterparts. This heightened vulnerability may be attributed to several factors, including a lack of culturally responsive and linguistically appropriate, low-literacy training, a reluctance of to report hazardous conditions for fear of exposing their immigration status or jeopardizing employment, and a glaring lack of safety regulation. Compounding these occupational risks are numerous paraoccupational exposures and conditions. For example, substandard housing – either provided by the employer or obtained by the worker with limited means – may expose the occupant to an array of contaminants such as lead, arsenic, nitrates, persistent organic pollutants, bacteria, and other pollutants from deteriorating structures and unsafe drinking water. This situation becomes especially precarious during emergencies or disasters exacerbated by climate change.

Mobility, language, cultural differences, lack of familiarity with the health care system, limited eligibility for health coverage, transportation, poverty, and fear of deportation are significant barriers for migrants to access health care, despite the increased health risks they face.

Clinicians across the U.S. are seeking to address the health needs and access issues of migrants at health centers and health departments, community clinics, and outreach organizations, yet many lack the resources, training, and technical assistance to effectively meet migrant health needs.

3. Migrant Clinicians Network response to migrant health needs

MCN is a national nonprofit organization established in 1984 to support clinicians serving migrants, reducing barriers to health care and to improve health and well-being of mobile populations. MCN's approach centers on advancing health equity and expanding access to health care, shifting its approaches to confront the changing issues that migrants and their clinicians face. To provide practical solutions, MCN relies on its core efforts:

1) Building health provider capacity

MCN's continuing education offerings, provided in English and Spanish, include virtual webinars and learning collaboratives on a wide range of health topics affecting migrants and other vulnerable populations, including on climate change, emergency preparedness, infectious disease, chronic disease like diabetes, occupational and environmental health and mental health, with free CME and CNE to participants. Our peer group support program,

Witness to Witness, is designed to be the standard of care to promote resilience, both individually and organizationally, for people working with historically marginalized communities, allowing them to flourish despite the demands of the work. Witness to Witness provides webinars, peer support groups, learning collaboratives, and resources. Our in-person train-the-trainer efforts build health knowledge at the local level; MCN trains community and farmworker leaders on basic health education topics like heat-related illness, adverse childhood experiences (ACEs), or pesticides. Those trusted leaders then provide culturally responsive trainings in their high-risk communities. Additionally, MCN works with health centers and health departments requesting specific technical assistance and clinical consultation on issues like cultural competency and clinical systems.

Virtual case management: Health Network

Health Network, MCN's virtual case management system, connects with the patient in the language of their choice, schedules health appointments in the receiving communities, transfers medical records, and links patients to community resources like transportation, sliding scale fee application assistance, and food and nutrition programs for which they are eligible. Health Network is the only case management system for migrants of its kind in the country, and it has served as a model for other more limited virtual case management systems around the world.

Health Network was initially developed to address the need for a system of continuity of care for migrating patients with active tuberculosis. In 1996, MCN initiated TBNet, serving patients in the U.S. and Mexico. In the following years, the initiative expanded into several parallel tracks: for cancer treatment and screenings, diabetes, and prenatal care. In 2010, Health Network began offering case management to any mobile patient with any ongoing health issue, migrating from a point within the U.S. to anywhere in the world. Researchers have determined that Health Network is highly cost effective in assisting in the treatment and cure of latent tuberculosis infection in the U.S. population.[8-9] To date, Health Network has served more than 15,000 individuals who have migrated across the U.S. and to at least 120 countries. In 2018, MCN partnered with an immigration shelter at the U.S.-Mexico border to enroll pregnant asylum seekers into Health Network upon their release from detention. Health Network served 1145 patients from this shelter in 2023.

In 2020, Migrant Clinicians Network formed the Specialty Care Access Network (SCAN) to connect migrating children with subspecialty care, particularly children asylum seekers who encountered Health Network at the immigration shelter. SCAN is comprised of volunteer specialty care clinicians around the country who assist Health Network case managers in connecting patients with charity or reduced-cost subspecialty care in the communities to which the migrant patient is moving. SCAN works in conjunction with Health Network. The Health Network case manager oversees the establishment of primary care and enrollment in health insurance, while working with the SCAN volunteer to establish care in the needed subspecialty areas. In the absence of a federal or state system of care for asylum seekers, SCAN has proven highly successful in saving lives. In 2023, SCAN served 80 migrating medically fragile children with specialty care needs.

Culturally responsive and linguistically appropriate resources

MCN develops low-literacy, culturally contextual materials for patients and high-risk migrant and immigrant workers. MCN's Spanish-language comic books have been used by clinicians including Community Health Workers/*promotores* across the U.S. and Latin America.

Community engagement

While MCN staff is primarily virtual, MCN maintains offices in Austin, TX; Salisbury, MD; Chico, CA; and San Juan, Puerto Rico. MCN's national reach is augmented by local efforts to engage with migrant and immigrant communities. One example of community engagement is MCN's fiscal sponsorship of Austin's Ventanilla de Salud, the health promotion office housed within Mexican Consulates across the U.S., that provide health education and coordinate medical screenings and services. In 2023, the Austin Ventanilla office provided 2,721 health screenings.[10]

Research & evaluation

Again building solutions based on needs expressed by clinicians serving migrants, MCN developed an Institutional Review Board in 1999 to review, approve, and monitor research efforts in which vulnerable and medically underserved populations are involved. MCN also directly participates in and reports on research, like the NIOSH-

funded *Seguridad en las lecherías* project, an award-winning health and safety intervention for dairy workers.[11] Additionally, MCN acts as an evaluation hub for partners' educational and research efforts, building on an in-house evaluation team to strengthen health education for migrants and immigrants.

Advocacy

Migrants and immigrants often work in low-wage positions in industries like agriculture that have high injury risk but limited regulatory protection.[12] MCN advocates for policies to strengthen worker health and safety, breaking down structural inequities like farmworker exceptionalism, which includes a long history of excluding those working in agriculture from regulatory protections afforded to other workers.[13] MCN also advocates for stronger clinical policies like funding for TB elimination and the expansion of vaccination campaigns. MCN promotes migrants' health needs by viewing current events through the clinician's lens. For example, at the onset of the COVID-19 pandemic, MCN was vocal for increased workplace protections and COVID policies to reduce the spread of transmission among a worker class deemed "essential".

4. Migrant health needs in the future

Migration is on the rise and is expected to continue to increase over the next decade because the drivers of migration -- unstable economies, global and local conflicts, population growth, natural disasters and climate events -- are likely to persist and intensify. The landscape of migration, influenced by the demographics, receiving communities, and health status of migrants as well as the attitudes and policies in the receiving communities, is continually changing. Amidst this churn of change, MCN is dedicated to keeping health care providers informed and well equipped to meet the needs of a dynamic migrant population. MCN remains resolute in its mission to address the emerging health challenges that lie ahead. As we move into the future, MCN continues to stand at the forefront, a beacon of hope and support for migrant health, adapting and innovating to fulfill its vital role in the years to come.

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Unsettled: Migrant Health in the US

Judith Flores, MD; **Roberto Johansson**, MD; **Geraldine Luna**; **Pamela Montano**, MD; **Natalie Rubio-Torio**

This podcast provides a forum where those involved in caring and providing services for newly displaced persons can share the trials and triumphs, learn from each other and prevent feeling alone in this very important work. The goal is to develop a forum for shared experiences and lessons learned on US Migrant Health

Objectives:

1. To build community through continued meetings and to develop new contacts and ideas for content and education

2. To develop written summaries of each episode to be used as educational tools to help expand the knowledge base of medical, health education and for the community at large.

3. To develop partners in the fields of economics, criminal justice, and others by identifying individuals that are working on the issues that impact the health and wellbeing of the newly. displaced persons in the US.

Episodes:

Migrant Health from El Paso to Sanctuary Cities

This introductory episode with our core team provides a forum for shared testimonials on the current situation and issues faced by both the new migrant to the US and healthcare and other. professionals providing services.

The Voice of the Emigrant

The voices of two migrants are shared with questions and commentaries by the core health team. The migrants themselves describe their personal journeys to the US and the new challenges encountered upon their arrival in the US. Heard in their own language and words and translated by the moderators.

The Legal Journey of Asylum Seekers

An attorney from Make the Road New York, Harold Solis, JD shares his experiences and professional knowledge of the complex issues surrounding the legal system, immigration, asylum seeking.

How do we Pay for Healthcare?

The initiatives that have been developed on the national level to provide healthcare coverage for individuals that have undetermined legal status are discussed by Arline Cruz, Director of Health Programs for Make the Road New York as she describes the HealthCare COVERAGE4ALL Programs.

Health Care Delivery – Models that Work

The team was joined by Dr. Carolina Miranda, Assistant Professor of Family and Social Medicine at Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York and Dr. Carlos Salam, Professor of Medicine and Infectious Diseases at Icahn School of Medicine at Mount Sinai, New York. They both presented models that offered accessible and equitable services as well as the challenges that need to be met to continue providing this care.

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