

Influence of Hispanic Language and Culture in Technology Use, Patient Interaction, Visit Expectations, and Vaccine Hesitancy Among Community Pharmacy Patients in Yuma County

Katrin Henry, PharmD-S; Rosa Rangel, MEd; Erin Sanchez, PharmD; Danica Serrano, PharmD

INTRODUCTION: Across the United States, Spanish-speaking Latino patient's cultural constructs of friendliness, trust, family, deference play a role in framing their primary care interactions. This study focused on understanding how to reduce barriers to patient care for community pharmacy patients in Yuma County.

OBJECTIVES: We determined positive/negative predictors of speaking Spanish at home, healthcare professional language, Hispanic, and first-generation Hispanic to technology use for health; cultural constructs of friendliness, trust, family, and deference; visit expectations and vaccine hesitancy.

METHODS: The Language, Culture, and Health Assessment (LCHA) tool of 17 items was used in patient interviews by phone call in June 2021 to collect data. The patient was encouraged to ask any questions or voice comments or concerns about vaccination. The data were de-identified and graphed in Excel. Positive and negative predictors were determined as measurements of association by odds ratios (OR) at $p < 0.05$.

RESULTS: Out of the 44.0% of patients who prefer the Spanish language, only 24.0% receive pharmacy services in Spanish. Of statistical significance, Hispanic patients returned if they were treated well, even if the healthcare professional did not speak the preferred language (OR = 49.0, $p = 0.019$). First-generation Hispanic self-identification was a positive predictor (OR = 1.8) for no assistance in making online appointments. Patients who spoke Spanish at home (OR = 4.6), spoke with healthcare professional in the preferred language (OR = 1.9), self-identified as Hispanic (OR = 17.0) or first-generation Hispanic (OR = 2.7) were all positive predictors of having received at least one dose of the COVID-19 vaccine.

KEYWORDS: border health, communication barrier, cultural anthropology, digital divide, Hispanic, clinical care, Spanish (language), literacy, medical information, social determinants of health, telehealth

ABSTRACT

A pilot study within a centrally located community pharmacy in Yuma County was conducted to evaluate associations of Hispanic language and culture in technology use, patient interaction, visit expectations, and vaccine hesitancy. The present study revealed patients adhere to cultural constructs of friendliness (*simpatía*), trust (*confianza*), family (*familismo*), and deference (*respeto*) that play a role in framing community pharmacy interactions. One noteworthy result was a statistically significant positive predictor that Hispanic patients would return if treated well, even if healthcare professionals did not speak the preferred language (OR = 49.0, $p = 0.019$). Contrary to the results in the Patient Educ Couns 2020 article, lack of technology use for health was not statistically significant within the Hispanic population. Surprisingly, first-generation Hispanic was a positive predictor (OR = 1.8) for no assistance in making online appointments. Vaccine compliance was 24 out of 25 persons (96.0%) that had received at least one dose of the COVID-19 vaccine by June 1, 2021.

INTRODUCTION

The present study seeks to test the results of two previous papers for the purpose of understanding the community pharmacy customer base within Yuma County. The first idea to test is, "Online health information is underutilized among Hispanics with low English proficiency in the U.S." A Patient Educ Couns 2020 article examined the association between a unique measure of general English literacy, language use, and online health information seeking among Hispanic adults. The results showed literacy skills (odds-ratio = 1.012, $p < 0.001$) was a positive predictor, while speaking Spanish at home (odds-ratio = 0.352, $p < 0.01$) was a negative predictor of online health information seeking. Online health information providers should be aware *literacy skills and Spanish language use are barriers to online health information seeking among Hispanics*, particularly those who have both limited literacy skills and predominantly Spanish language use.

The second idea to test in Yuma County is cultural constructs. An Ethn Dis 2017 article explored the Spanish-speaking Latino patients' *cultural expectations* and the role it played in framing their primary care interactions. Key themes reflected in Latino cultural constructs: *simpatía* (harmonious relationship), *confianza* (trust), *familismo* (family), and *respeto* (deference). *Confianza* and *simpatía* in the patient-provider relationship led many participants to remain with English-speaking providers who *treated them well*. Patients with either language concordant and discordant providers reported *reliance on family or other intermediaries* to close

communication gaps. Deference to physician expertise and authority led to *visit expectations* that it is the doctor's job to know what to ask and that visits were intended to address specific, often symptom-driven problems. For our present study, *simpatía* was defined as friendliness.

METHODS

Survey

The Language, Culture, and Health Assessment (LCHA) was a 17-item survey to determine technology use in health; cultural constructs of friendliness, trust, family, and deference; visit expectations and vaccine hesitancy.

Demographic information asked about the 1) preferred language for the form, 2) patient language at home, 3) healthcare professional language during the visit, 4) race, and 5) generation in the US.

Technology Use in Health statements: 6) I search information about health issues using the internet. 7) I make online appointments without the assistance of others. 8) I prefer making appointments by phone instead of walk-in.

For the cultural construct friendliness (*simpatía*), note that the choice to return is based on treatment rather than provider language skills: 9) If I am treated well, I will return even if the provider/pharmacist does not speak my preferred language.

For the cultural construct trust (*confianza*), note that the choice to return is based on the provider's level of language skills: 10) If I am not treated well, I will return because

the provider/pharmacist speaks my preferred language. 11) I speak directly to the provider/pharmacist (no interpreter) if they speak a little bit of my preferred language.

The cultural construct family (familismo) consisted of statements: 12) A family member or other person has accompanied to assist with language. 13) A family member or other person has accompanied to assist with decision-making.

For the cultural construct deference (respeto) as indicated by visit expectations: 14) It is the healthcare professional’s job to know what to ask. 15) I came today because I am experiencing symptoms (not routine visit). 16) I would like to receive prescription and medication in one visit.

The section for vaccine hesitancy: 17) I received at least one dose of the COVID-19 vaccine. The patient was also encouraged to ask any questions or voice comments or concerns about vaccination.

Customers

Of the 250-patient base, 25 agreed to complete the survey by phone for a sample size of 10.0%. Patient demographics were 1 African American (4.0%), 18 Hispanic (72.0%), 4 White (16%), 2 Other (8.0%). A total of 8 were first generation Hispanic in the US (32.0%). Out of the 25 total, 11 customers preferred the Spanish language (44.0%).

Inclusion/Exclusion Criteria	
Inclusion	Adult (age > 18) CVS #9334 customer
Exclusion	Adult (age > 99)

Odds Ratios

Items 2-5 were factors used to find association with statements 6-17. Measurements of association were odds-ratios (OR). The OR were measurements of association which compared the odds of an event of patients in different demographic groups to the odds of an event of patients not in the groups.

	Yes	No
Demographic Group	A	B
Outside of Demographic Group	C	D

The Odds Ratio Calculator by MedCalc was used. Results were interpreted as positive predictors when OR > 1 and statistically significant at p < 0.05. An Excel spreadsheet generated the Forest plots.

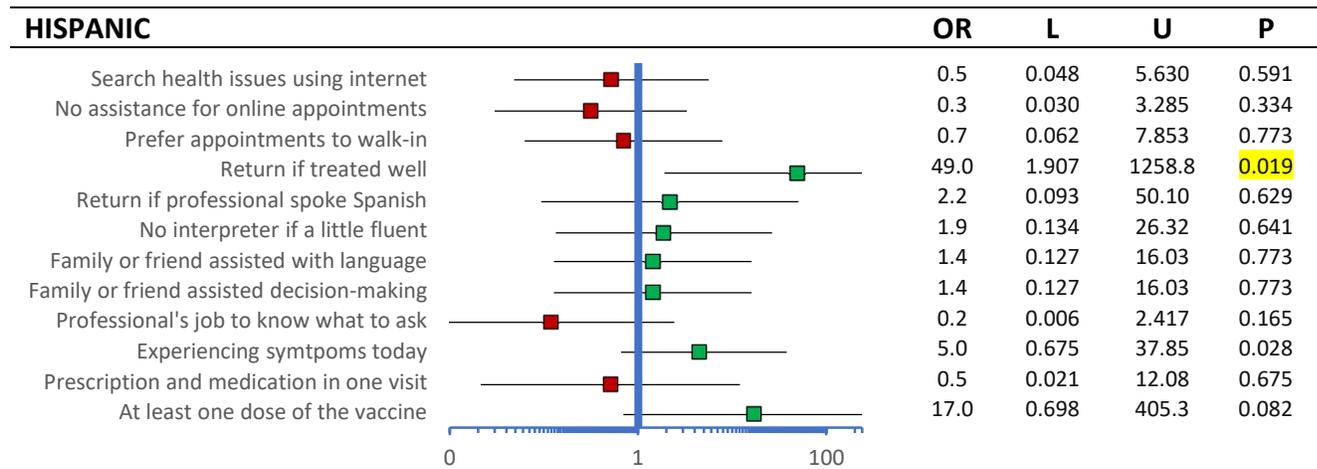
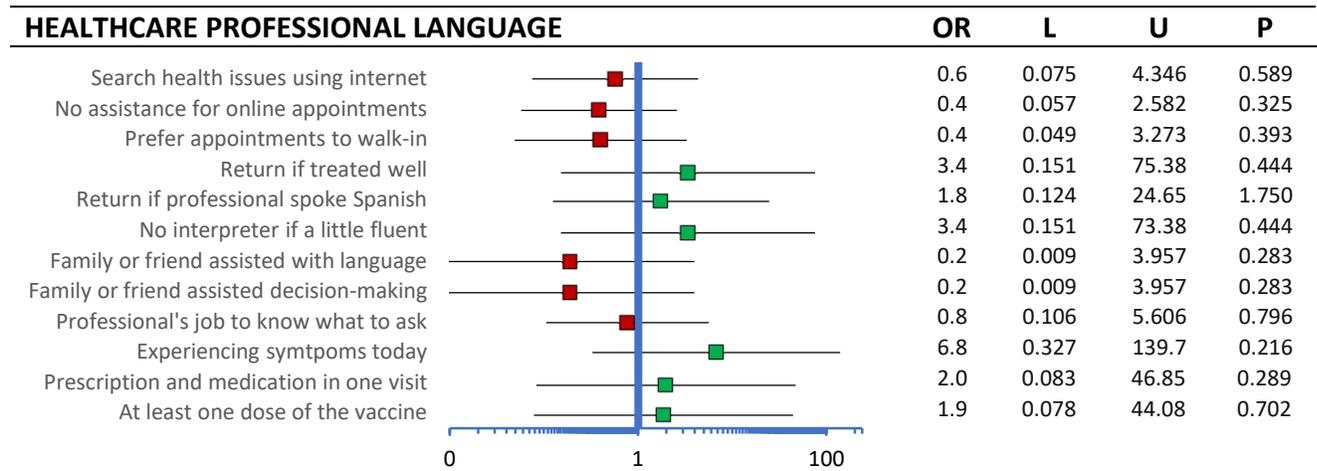
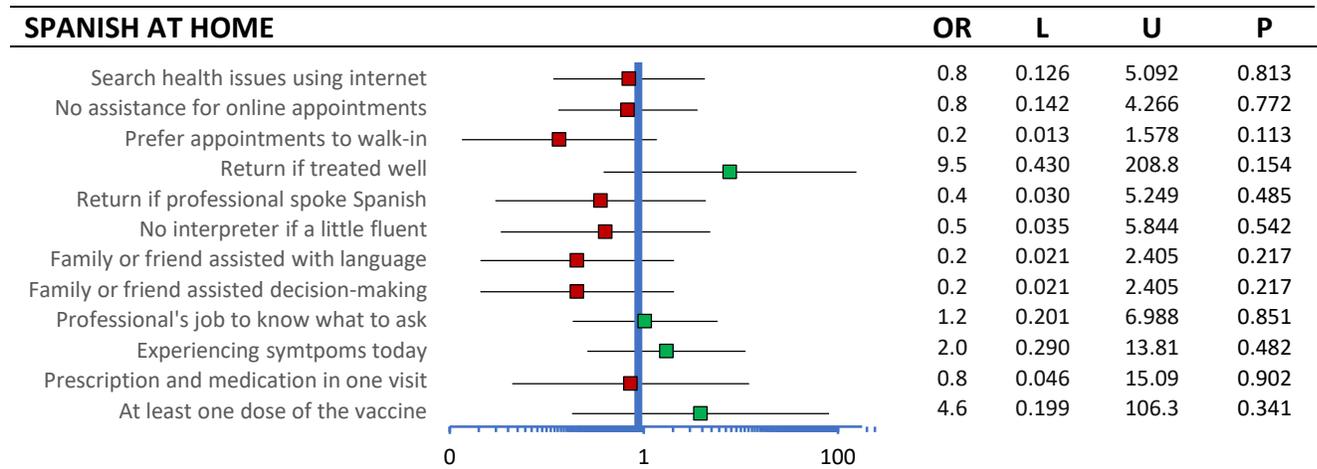
RESULTS

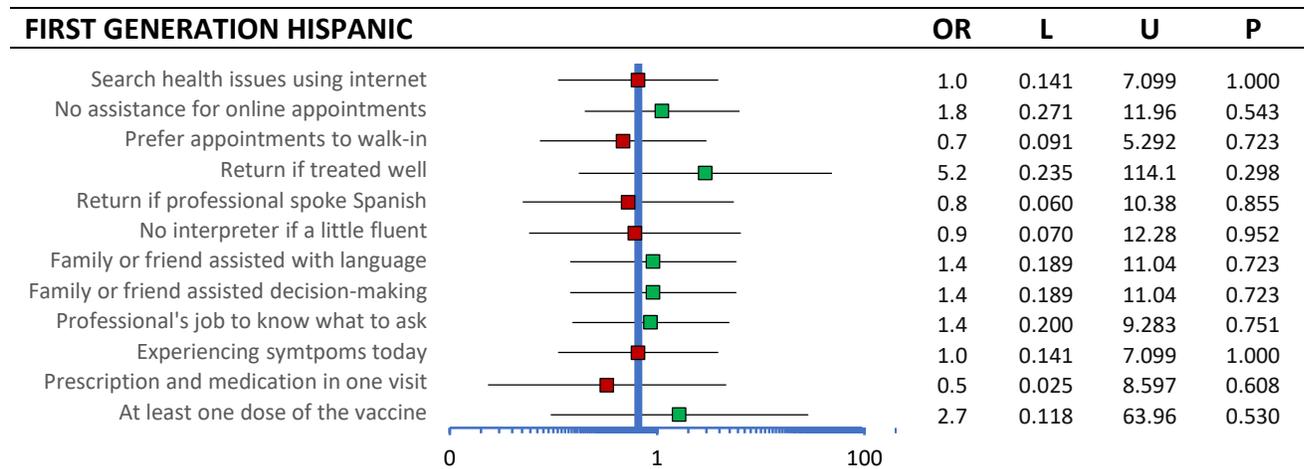
Spanish at Home

Speaking Spanish at home was a positive predictor for patients to return if treated well (OR = 9.5) (*friendliness*). The visit expectation was that it was the professional’s job to know what to ask (OR = 1.2) (*deference*). The reason for a visit was due to experiencing symptoms the same day (OR = 2.0) as opposed to a routine visit (*visit expectations*).

Patients who spoke Spanish at home was also a positive predictor of having received at least one dose of the COVID-19 vaccine (OR = 4.6) (*vaccine hesitancy*). None of the odds-ratios were statistically significant at p < 0.05.

ODDS RATIOS





Healthcare Professional Language

Patient interaction with a Spanish speaking healthcare professional was a positive predictor of response to *friendliness* and *trust*, certain visit expectations, and receiving the COVID-19 vaccine. Patients returned when treated well even if the healthcare professional did not speak their language (OR = 3.4) (*friendliness*); if not treated well, patients said they would return because a healthcare professional spoke their language (OR = 1.8) (*trust*). Patients deferred use of an interpreter if the professional spoke a little bit of their language (OR = 3.4) (*trust*). Patients visited the provider for symptoms experienced that day (OR = 6.8) and preferred both the prescription and medication in one visit (OR = 2.0) (*visit expectations*). The data suggests a patient expectation of a community pharmacy to provide same day service. Patients in this demographic was a positive predictor to receive at least one dose of the COVID-19 vaccine (OR = 1.9) (*vaccine hesitancy*). None of the odds-ratios were statistically significant at $p < 0.05$.

Hispanic

The study determined positive predictors of Hispanic self-identification and *friendliness*, *trust*, *family*, *deference* and receiving the COVID-19 vaccine. Contrary to the results in the Patient Educ Couns 2020 article, lack of technology use for health was not statistically significant within the Hispanic population. The timing of the study during the pandemic is likely the reason for widespread acceptance of technology.

Hispanic patients returned if treated well.

Of statistical significance, Hispanic patients returned if they were treated well, even if the healthcare professional did not speak the preferred language (OR = 49.0, $p = 0.019$) (*friendliness*). On the other hand, if not treated well, Hispanic patients returned because the professional spoke Spanish (OR = 2.2) (*trust*). Hispanic patients did not use

an interpreter if the professional spoke even a little bit of their preferred language (OR = 1.9) (*trust*). Notice that **friendliness** was a statistically significant cultural construct of Hispanic patients.

Hispanics relied on family or other intermediaries to close communication gaps (OR = 1.4) and assist with decision-making (OR = 1.4) (*family*). The practical application is healthcare professionals should expect to converse with the patient plus family or friends during interactions in the community pharmacy.

Hispanic self-identification was a positive predictor for a visit regarding symptoms experienced that day (OR = 5.0) as opposed to coming in for a routine visit (*visit expectations*). Although not statistically significant at $p < 0.05$, Hispanic self-identification was also a positive predictor of receiving at least one dose of the COVID-19 vaccine (OR = 17.0, $p = 0.082$) (*vaccine hesitancy*). The study suggests widespread vaccination occurred across all races who participated in the study (African American, Hispanic, White).

First-generation Hispanic

First-generation Hispanic self-identification was a positive predictor of technology use for health, *friendliness*, *trust*, *family*, *deference*, and receiving the COVID-19 vaccine. First-generation Hispanic was a positive predictor for making online appointments without the assistance of others (OR = 1.8) (*technology use for health*). Patients returned if they were treated well, even if the healthcare

professional did not speak the preferred language (OR = 5.2) (*friendliness*).

First-generation Hispanics relied on family or other intermediaries to close communication gaps (OR = 1.4) and assist with decision-making (OR = 1.4) (*family*). The practical application is healthcare professionals should expect to converse with the patient plus family or friends during interactions in the community pharmacy.

Patients believed it was the healthcare professional's job to know what to ask during a patient visit (OR = 1.4) (*deference*). The results suggest first-generation Hispanics respect the healthcare professional's ability to know what to ask so they will not voice health concerns until prompted in conversation. First-generation Hispanic was a positive predictor of having received at least one dose of the COVID-19 vaccine (OR = 2.7) (*vaccine hesitancy*).

STRENGTHS/LIMITATIONS

- Sample size of 25 out of 250 customers (10.0%).
- Customer base from a community pharmacy in Yuma County.
- Data for the survey was collected from phone calls.
- Forms were available in English or Spanish and information was collected by a bilingual healthcare professional.

DISCUSSION

Previous Study

Contrary to previous study results, seeking health information online is no longer a barrier among patients who speak Spanish at home, patients who speak Spanish during visits to healthcare professionals, Hispanics, and first-generation Hispanics. Surprisingly, first-generation Hispanic self-identification was a positive predictor for technology use in seeking healthcare. Widespread acceptance of technology was likely due to the study's timing conducted during the COVID-19 pandemic.

Pharmacy Staff

A total of 9 out of 13 (69.2%) pharmacy staff (pharmacists, intern, technicians) conversed in Spanish with Spanish-speaking patients during patient visits. The results showed a positive predictor to patients not needing an interpreter if the provider spoke a little bit of their preferred language. Patients ultimately chose a pharmacy where they were treated well (customer service) over whether the pharmacist spoke their preferred language. The study suggests healthcare providers who speak a little bit of Spanish offer *direct access* to patient care. The study suggests the pharmacy's ability to prioritize customer service is a powerful determinative factor in a *patient's decision to return*.

Preferred Language

A total of 11 out of the 25 (44.0%) customers spoke Spanish at home compared to English (56.0%). When asked about preferred language during the study, the patients who spoke Spanish at home

also opted to complete the survey in Spanish (44.0%). Of note, only 6 of the 25 in total (24.0%) or 6 of the 11 that spoke Spanish at home (54.4%) indicated access to a healthcare professional that conversed in Spanish during regular patient visits. In other words, 5 out of 11 or almost half (45.4%) of Spanish-speaking patients desire but are not able to converse in Spanish. The high percentage of Spanish-speaking patients (44.0%) who also want services in Spanish (44.0%) but receive it on a regular basis (24.0%) indicates a need for *more bilingual healthcare professionals* in Yuma County.

Patient visits in Spanish were positively correlated with two visit expectations. The first was a visit to the pharmacy because of symptoms experienced on the same day as opposed to a routine visit. The second was prescription and medication at one visit. The study suggests customers who speak Spanish during visits envision a pharmacy location offering *same day service* and build around a *clinical* model.

Barriers

Current barriers to covid vaccination were identified during patient conversations. Patients expressed a matter of personal choice to either receive or decline the vaccine. Few accepted one dose but not the second. The customers voiced safety concerns of COVID-like symptoms, blood clots, and hospitalization associated with the different vaccine manufacturers (Moderna, Pfizer, Johnson & Johnson). Access to a vaccine was a challenge for persons unable to make appointments online. Lastly, a major inconvenience for

families was finding a location that offered a vaccine for all age groups.

Patient Care Conversations

Vaccination was promoted during pick-up of medications; patients who received the COVID-19 vaccine were given a 20% discount flyer. The “Hablo Español” badge prompted patients to engage in conversation in Spanish. Both appointments and walk-ins were accepted between 10AM to 5PM.

CONCLUSION

Of statistical significance, Hispanic customers returned if treated well even if healthcare professionals did not speak the preferred language (OR = 49.0, $p = 0.019$). The result suggested the cultural construct friendliness (*simpatía*) was a critical factor for Hispanic patient interactions within community pharmacy. To bring attention to a current topic of discussion during the COVID-19 pandemic, patient compliance at 96.0% indicated vaccine hesitancy was not an issue among community pharmacy patients in Yuma County. Patients who spoke Spanish at home (OR = 4.6), spoke with healthcare professional in the preferred language (OR = 1.9), self-identified as Hispanic (OR = 17.0) or first-generation Hispanic (OR = 2.7) were all positive predictors of having received at least one dose of the COVID-19 vaccine.

FUTURE PROJECTS

Determine community pharmacy patient needs, wants, and expectations in Yuma County to improve the patient-provider relationship.

ACKNOWLEDGEMENT

Thank you to CVS for supporting pharmacist interns. Thank you to Erin Sanchez, PharmD and Danica Serrano, PharmD for guidance and everyone from CVS District 8 for launching the project through the Summer Immersion Spanish Internship (SISI) 2021. Also, thank you to Rosa Rangel for translating the questions for the Spanish questionnaire.

REFERENCES

- [1] Cindy D. Zamudio, Gabriela Sanchez, Andrea Altschuler, Richard W. Grant. Influence of Language and Culture in the Primary Care of Spanish-Speaking Latino Adults with Poorly Controlled Diabetes: A Qualitative Study. *Ethn Dis.* 2017;27(4):379- 386; [doi: 10.18865/ed.27.4.379](https://doi.org/10.18865/ed.27.4.379).
- [2] Roberto J. Millar, Shalini Sahoo, Takashi Yamashita, Phyllis A. Cummins. Literacy skills, language use, and online health information seeking among Hispanic adults in the United States. *Patient Education and Counseling*, Volume 103, Issue 8, 2020, Pages 1595-1600, ISSN 0738-3991, <https://doi.org/10.1016/j.pec.2020.02.030>.
- [3] Odds Ratio Calculator. https://www.medcalc.org/calc/odds_ratio.php

CONTACT

Primary Researcher: Katrin Henry

Email: Knhenry1@email.arizona.edu

LANGUAGE, CULTURE, & HEALTH ASSESSMENT (LCHA)			
Demographic Information			
1) Preferred Language on Form: <input type="radio"/> English <input type="radio"/> Spanish			
2) Patient Language at Home: <input type="radio"/> English <input type="radio"/> Spanish <input type="radio"/> Other			
3) Healthcare Professional Language During Visits: <input type="radio"/> English <input type="radio"/> Spanish <input type="radio"/> Other			
4) Race: <input type="radio"/> African American <input type="radio"/> Asian <input type="radio"/> Hispanic <input type="radio"/> Native American <input type="radio"/> White <input type="radio"/> Other			
5) Generation in US: <input type="radio"/> First <input type="radio"/> Second <input type="radio"/> Third <input type="radio"/> Other			
Technology Use for Health			
6) I search information about health issues using the internet.	Yes	No	N/A
7) I make online appointments without the assistance of others.	Yes	No	N/A
8) I prefer making appointments by phone instead of walk-in.	Yes	No	N/A
Friendliness (Simpatía)			
9) If I am treated well, I will return even if the provider/pharmacist does not speak my preferred language.	Yes	No	N/A
Trust (Confianza)			
10) If I am not treated well, I will return because the provider/pharmacist speaks my preferred language.	Yes	No	N/A
11) I speak directly to the provider/pharmacist (no interpreter) if they speak a little bit of my preferred language.	Yes	No	N/A
Family (Familismo)			
12) A family member or other person has accompanied to assist with language.	Yes	No	N/A
13) A family member or other person has accompanied to assist with decision-making.	Yes	No	N/A
Deference (Respeto) / Visit Expectations			
14) It is the healthcare professional's job to know what to ask.	Yes	No	N/A
15) I came today because I am experiencing symptoms (not routine visit).	Yes	No	N/A
16) I would like to receive the prescription and medication in one visit.	Yes	No	N/A
Vaccine Hesitancy			
17) I received at least one dose of the COVID-19 vaccine.	Yes	No	N/A
Comments:			
<i>The form is optional and is not dependent on treatment. This tool is used for a study conducted at CVS for a Spanish Immersion project in Yuma County. Data will be used to examine the influence of the Spanish language and culture in technology use, visit expectations, and vaccine hesitancy. All responses will remain anonymous.</i>			