

The Language Abilities of Resident Physicians

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PURPOSE:

The Joint Commission mandates that health care systems provide culturally and linguistically appropriate care for patients. Similarly, the Accreditation Council for Graduate Medical Education (ACGME) requires that resident physicians learn to communicate effectively across cultures. The purpose of this study was to analyze residents' self-report of fluency in a second language and level of training in the use of interpreters to assess the institution's preparation of residents to meet mandates regarding the delivery of cross-cultural care.

METHODS:

Seven hundred and twenty two (722) surveys were analyzed from resident physicians in 62 different ACGME accredited programs. Language ability was measured with a survey question asking about comfort providing patient care in a language other than English. Knowledge of working with interpreters was measured by a survey question asking about amount of training received. Survey questions on gender, post-graduate year (PGY), specialty, and underrepresented minority (URM) status were examined using c2 and independent samples Mann-Whitney U test. Logistic regression was used to estimate the adjusted odds ratio by variable.

RESULTS:

Fifty-five percent of all of the resident physicians endorsed feeling comfortable providing patient care in a language other than English, and Spanish was the most common language (77%). Almost 20% percent of residents reported little or no training in the use of interpreters. In bivariate analysis, race-ethnicity was associated (P-value <.001) with comfort in providing patient care in a language other than English. Primary care resident physicians had a 1.67 adjusted odds ratio (95% confidence interval [CI] 1.18, 2.37; p value = 0.004) of feeling comfortable providing patient care in a language other than English compared to resident physicians from other specialties.

CONCLUSIONS:

Primary care resident physicians are more likely to report feeling comfortable in providing patient care in a language other than English. Most residents would benefit from additional education in working with interpreters.

Background:

The Joint Commission mandates that health care systems provide culturally and linguistically appropriate care for patients.¹ Research has shown that limited English Proficient (LEP) patients have more positive medical encounters when they receive care from language concordant doctors.²⁻⁷ When there is a lack of language concordance, use of trained interpreters improves the quality of care for patients with LEP, including better understanding of medications,^{8,9,10} higher adherence to preventive care, and better ratings of doctor-patient communication.^{2,6,11-13} Understanding the language abilities and use of interpreters among physicians in training is an emerging national issue.^{14,15}

The Accreditation Council for Graduate Medical Education (ACGME) dictates the need for medical residents to learn to communicate effectively across cultures in their core competencies. The ability to communicate with LEP patients is an important component of overall competency for training programs across the country, especially for those that serve large numbers of patients with LEP. Although there are studies on medical students and practicing physicians' language abilities, the literature examining the language fluency of physician residents is limited and often focused on the last year of training.^{14,16-18}

The purpose of this study was to analyze resident physicians' self-report of use of a second language for patient care and to gauge their level of training in the use of interpreters to assess the institution's preparation of residents to meet mandates regarding the delivery of cross-cultural care.

Methods: Participants and Setting

We analyzed 722 surveys from a cross-sectional web-based study conducted in 2011 of all resident physicians in 62 different ACGME accredited programs at a major academic medical center. Residents at this center provide care in different health systems that range from private hospitals to high volume safety-net hospitals with large numbers of LEP patients.

Survey Methods:

A link to the web-based survey was sent via e-mail to all residents in ACGME accredited programs in May, 2011. The survey instrument was developed by the GME office for institutional program monitoring and evaluation. Residents were informed that results from programs with less than four participants would not be sent to program directors until multi-year data was available as an additional way to ensure the confidentiality of results. The overall survey response rate was 78%. Three percent of responses regarding PGY level were missing and 18.1% were missing for identification of race-ethnicity. Of the responses with race-ethnicity identified, 14.2% were missing ratings in the use of interpreters, and 14.7% were missing for the questions related to comfort in providing patient care in a language other than English. The study was approved by the UCLA IRB.

Measures:

The main variables of interest were comfort with language ability in a language other than English and the amount of training received in using interpreters. We measured language ability with a survey question that asked: "Do you feel comfortable providing patient care in a language other than English? If so, which language?" Response options were "Yes" or "No." We analyzed the scaled responses to the statement, "Rate the level of training you received in using interpreter services with patients who do not speak English", with response options *none*, *little*, *sufficient*, *much*, *quite a lot*. Items on gender, post-graduate year (PGY), specialty, and being in a fellowship were examined.

Specialties were put into three categories: primary care, medical subspecialties, and surgical subspecialties, as Moreno, Walker, and Grumbach did in their analysis of California physicians.¹⁹ Race-ethnicity was also measured by self-report and included the following categories: African-American, Asian-Asian American, Latino, Mixed race-ethnicity, Native American, Non-Latino White and Other. Residents that indicated they were African-American, Latino or Native American were categorized as belonging to an underrepresented minority group (URM) in medicine.

Analysis:

We used SPSS (version 20) and Stata (version 12.1) to conduct all analyses. Frequencies and distributions of the study variables were examined first. We compared the differences of physician resident characteristics by language ability, and by ratings of how much training residents received in using interpreter services with patients who do not speak English. We then conducted cross tabulations of language ability and rating of interpreter trainings. We used χ^2 and independent samples Mann-Whitney U tests to determine statistical significance between categorical variables, and a p-value of < 0.05 determined statistical significance.

We conducted logistic regression analyses to determine the adjusted odds ratio of study participants reporting that they felt comfortable providing patient care in a language other than English, our measure for non-English fluency, while controlling for different resident characteristics measured. PGY level, gender, URM designation, and specialty variables were included in the model. Finally, we compared respondents and non-respondents on language fluency using χ^2 tests.

Results:

Table 1 summarizes the overall characteristics of the resident physicians. Fifty-five percent (n=390) of the respondents stated “Yes” to feeling comfortable providing patient care in a language other than English. Of these affirmative responses, 77.1% (n=216) stated Spanish was the language they felt comfortable providing care. Table 2 notes the resident physicians’ comfort in providing patient care in a language other than English by resident characteristics. The statistically significant differences in responses we found were by race-ethnicity, ($p < 0.01$) and specialty, ($p < 0.001$). There were no statistically significant differences among responses between residents and fellows, ($p = 0.28$), between PGY levels, ($p = 0.135$, using independent samples Mann-Whitney U test to account for the ordinal variable), or by gender, ($p = 0.58$).

Table 3 provides resident physician ratings of training received in using interpreter services by resident characteristics. About nineteen percent of residents received none or little training in the use of interpreters, 38.9% felt they had sufficient training, 23.4% had much and 19.3% had quite a lot. There was a statistically significant difference by training levels, ($p = 0.03$) and specialty, ($p < 0.001$). No differences were found, by race-ethnicity, ($p = 0.11$) or by gender ($p = 0.91$). There was no statistically significant difference between residents’ self-reported comfort with providing care in a language other than English and their rating of the level of training received in using interpreter services ($p = 0.82$).

Results from the logistic regression analysis showed that primary care residents had a 1.67 adjusted odds ratio (95% confidence interval [CI] 1.18, 2.37; p value = 0.004) of feeling comfortable providing patient care in a language other than English compared to all other residents. Other variables in the model were not statistically significant (data not shown).

Discussion:

We found that half of all resident physicians at this academic medical center stated they were comfortable providing care in a language other than English. Some research has found that physician’s self-report of Spanish fluency correlates well with their patient’s report of language fluency,²⁰ hence this finding may be an indicator of residents’ provision of patient care in Spanish. Given the relatively small number residents that are likely native speakers of a non-English language, we need to explore further when and where these residents

acquired their language skills. More importantly, it is not known what level of fluency is appropriate for the provision of care under the many possible scenarios encountered in routine and non-routine clinical care.²¹⁻²³

This study is the first that we are aware of that examines non-English fluency among residents across all PGY levels and specialties in a large academic medical center. We found that being a primary care resident was independently and significantly associated with higher levels of perceived comfort with providing care to patients in a language other than English. This finding is in agreement with other similar studies that focus on primary care residents,²⁴ residents from selected specialties in their final year of training, and practicing physicians in California.¹⁹

This study also revealed that there was a significant difference in reported comfort levels in providing patient care in language other than English by PGY level. One might expect that comfort in using a commonly spoken second language (e.g. Spanish) would increase over training years as a result of continuous exposure to its use, but this is not supported by our results. Our results suggest that variation in language fluency in “a language other than English” by training year may be due to training program (as primary care residencies are only three years and PGY1-3s have higher rates of “comfort.” Another explanation may be that the difference between PGY levels may point to residents’ comfort level prior to entering their training programs (either in high school or college) or through exposure to the language during international rotations. In a recent study, medical students who participated in international medical immersion programs were able to improve their Spanish.²⁵ Hence, it may be necessary to inquire about language exposure and training received prior to entering residency to better understand this finding.

Lastly, results from this study revealed that almost one out of five of our residents perceived they received little or no training in the use of interpreters.¹⁴ This is lower than that reported in a similar study of residents in their last year of training.²⁶ The medical center where this study was conducted provides interpreter services for both in-patient and out-patient services, so further studies will need to look into what the barriers to use are, and how best to train our residents across PGY levels and specialties to access these services. A recent study found an association between receipt of skills training during residency and self-perceived skill in using interpreters during the last year of training.²⁷ Physician residents are graduates of different medical schools and enter their training programs with varying experiences. Our finding may be reflective of the variation in training received during medical school or variation in services/training provided at clinical sites depending on specialty.

Our study has limitations. It was conducted at one large academic medical center, which may not be generalizable to other training sites or institutions, and is based on data from one year. We did not have data on medical school attended or other potential confounders. We used self-reports which are subject to bias. We did not measure language fluency objectively but used a subjective proxy instead; although there is evidence to support that physician self-reported data on fluency may be a good indicator of actual assessed fluency.^{18,28}

Our study has policy implications. Many academic medical centers serve significant numbers of non-English speaking patients or are affiliated with public hospitals. This fact coupled with the belief that academic medical centers should train physicians that will provide

high quality care to all patients in their communities,²⁹ supports the premise that second language (e.g. Spanish) learning programs for medical residents should be well developed and institutionalized in some medical centers,³⁰ and especially in medical centers located in metropolitan areas where there are large numbers of non-English speaking people.³¹ Graduate Medical Education programs may also need to explore further when and where their resident physicians acquired their language skills, as these might be home-acquired, from courses in high school or from immersion experiences. Finally, because of the sizeable literature that links language barriers to receipt of poor quality of care,^{32,33} medical centers and residency programs should consider increasing their number of qualified under-represented minorities that are fluent in a second language, incorporate fluency in more than one language as an important skill that is part of a holistic approach to recruiting and retaining residents and physicians and provide physician residents with language training opportunities.

This study was an important first step in assessing the institution's preparation of resident physicians to meet the Joint Commission and ACGME mandates regarding the delivery of cross-cultural care. Although further study is needed to assess the actual fluency of the residents, these results provide a baseline and hope for this health delivery systems given the positive health outcomes associated with providing linguistically appropriate patient care and the need for bilingual physicians. They also present the challenge of preparing half of the resident physicians to feel comfortable in providing recommended care.

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Table 1. Characteristics of resident physicians

Resident characteristics	n (%)
Total sample	733
Training level (n=747)	
PGY ¹ 1	199 (26.6)
PGY 2	194 (26.0)
PGY 3	173 (23.2)
PGY 4	93 (12.4)
PGY 5+	88 (11.8)
Fellow	195 (26.3)
Gender (n=773)	
Female	367 (50.8)
Specialty (n=747)	
Primary care ²	173 (23.9)
Medical subspecialty ³	393 (54.4)
Surgical subspecialty ⁴	156 (21.6)
Race-Ethnicity (n=659)	
White, non-Latino	339 (51)
Asian	255 (38.3)
URM ⁵	43 (6.7)
Mixed/other	28 (4.2)
African American	16 (2.1)
Hispanic/Latino	37 (5.1)
Comfort in providing care in a language other than English (n=722)	
Yes	396 (54.8)
Languages other than English used (n=280)	
Spanish	216 (77.1)
Chinese ⁶	16 (5.7)
Korean	11 (3.9)
Other ⁷	25 (8.9)
Training ratings in the use of interpreters (n=758)	
None	37 (4.9)
Little	103 (13.6)
Sufficient	295 (38.9)
Much	177 (23.4)
Quite a lot	146 (19.3)

¹PGY = Post-graduate year²Primary care includes: family medicine, general internal medicine and general pediatrics³Medical subspecialties include: allergy and immunology, anesthesiology, dermatology, emergency medicine, cardiology, endocrinology, geriatric medicine, gastroenterology, hematology oncology, infectious disease, nephrology, pulmonary critical care, rheumatology, neurology, nuclear medicine, ophthalmology, pain medicine, pathology, pediatric sub-specialties, psychiatry, radiology, radiation oncology, sports medicine⁴Surgical subspecialties include: head and neck surgery, obstetrics and gynecology, orthopedic surgery, plastic surgery, general surgery, thoracic surgery, urology⁵URM: African-American, Hispanic/Latino, and Native American⁶Includes both Mandarin and Cantonese⁷Other languages include: Arabic, Armenian, Czech, Farsi, German, Hebrew, Hindi, Italian, Portuguese, Romanian, Russian

Table 2. Comfort in providing patient care in a language other than English by physician resident characteristics

Resident characteristic	Comfort in providing patient care in a language other than English		P Value
	Yes n (%)	No n (%)	
Training level (n=722)			.135
PGY ¹ 1	111 (58.4)	79 (41.6)	
PGY 2	106 (55.8)	84 (44.2)	
PGY 3	90 (54.2)	76 (45.8)	
PGY 4	46 (50.0)	46 (50.0)	
PGY 5+	43 (51.2)	41 (48.8)	
Fellow (n=190)	110 (57.9)	80 (42.1)	.28
Gender (n=722)			.58
Female	205 (55.9)	162 (44.1)	
Specialty (n=722)			<.001**
Primary care ²	114 (65.9)	59 (34.1)	
Medical subspecialty ³	186 (47.3)	207 (52.7)	
Surgical subspecialty ⁴	96 (61.6)	60 (38.5)	
Race-Ethnicity (n=659)			<.001
White, non-Latino	177 (52.7)	159 (47.3)	
Asian	147 (58.3)	105 (41.7)	
URM ⁵	30 (69.8)	13 (30.2)	
Mixed/other	15 (53.6)	13 (46.4)	
Rating of training received in using interpreter services (n=720)			.72
None/Little	67 (50.4)	66 (49.6)	
Sufficient	157 (56.1)	123 (43.9)	
Much	94 (55.9)	74 (44.1)	
Quite a lot	77 (55.4)	62 (44.6)	

Independent samples Mann Whitney U test

¹PGY = Post-graduate year²Primary care includes: family medicine, general internal medicine and general pediatrics³Medical subspecialties include: allergy and immunology, anesthesiology, dermatology, emergency medicine, cardiology, endocrinology, geriatric medicine, gastroenterology, hematology oncology, infectious disease, nephrology, pulmonary critical care, rheumatology, neurology, nuclear medicine, ophthalmology, pain medicine, pathology, pediatric sub-specialties, psychiatry, radiology, radiation oncology, and sports medicine⁴Surgical subspecialties include: head and neck surgery, obstetrics and gynecology, orthopedic surgery, plastic surgery, general surgery, thoracic surgery, and urology⁵URM: African-American, Hispanic/Latino, and Native American⁶Statistical significance test compares primary care versus non-primary care (medical subspecialty and surgical subspecialty combined)

Table 3. Resident physician ratings of training received in using interpreter services with patients who do not speak English by resident characteristics

Resident characteristic	Training received in using interpreter services					P Value
	None (%)	Little (%)	Sufficient (%)	Much (%)	Quite a lot (%)	
Training level (n=745)						.03
PGY ¹ 1	17 (8.5)	37 (18.6)	76 (38.2)	45 (22.6)	24 (12.1)	
PGY 2	9 (4.6)	24 (12.4)	77 (39.9)	41 (21.2)	42 (21.8)	
PGY 3	6 (3.4)	21 (12.1)	67 (38.7)	46 (26.6)	33 (19.1)	
PGY 4	2 (2.2)	12 (13.0)	34 (37.0)	24 (26.1)	20 (21.7)	
PGY 5+	2 (2.2)	6 (6.8)	37 (42.1)	18 (20.5)	25 (28.4)	
Fellow (n=195)	11 (5.6)	26 (13.3)	78 (40.0)	51 (26.2)	29 (14.9)	.39
Gender (n=722)						.91
Female	21 (5.2)	54 (13.5)	160 (40.0)	92 (23)	73 (18.3)	
Male	16 (4.5)	39 (10.9)	145 (40.5)	85 (23.7)	73 (20.4)	
Specialty (n=722)						<.001
Primary care ²	4 (2.3)	19 (10.9)	72 (41.1)	52 (29.7)	28 (16.0)	
Medical subspecialty ³	29 (7.1)	68 (16.6)	159 (38.8)	86 (21.0)	68 (16.6)	
Surgical subspecialty ⁴	3 (1.9)	13 (8.1)	60 (37.5)	36 (22.5)	48 (30.0)	
Race-Ethnicity (n=663)						.12
White, non-Latino	16 (4.7)	44 (13.1)	144 (42.6)	66 (19.5)	68 (20.1)	
Asian	11 (4.3)	35 (13.8)	88 (34.6)	65 (25.6)	55 (21.7)	
URM ⁵	0	7 (16.3)	17 (39.5)	16 (37.2)	3 (6.9)	
Mixed/other	3 (10.7)	2 (3.6)	10 (35.7)	10 (35.7)	3 (10.7)	

¹PGY=Post-graduate year²Primary care includes: family medicine, general internal medicine and general pediatrics³Medical subspecialties include: allergy and immunology, anesthesiology, dermatology, emergency medicine, cardiology, endocrinology, geriatric medicine, gastroenterology, hematology oncology, infectious disease, nephrology, pulmonary critical care, rheumatology, neurology, nuclear medicine, ophthalmology, pain medicine, pathology, pediatric sub-specialties, psychiatry, radiology, radiation oncology, and sports medicine⁴Surgical subspecialties include: head and neck surgery, obstetrics and gynecology, orthopedic surgery, plastic surgery, general surgery, thoracic surgery, and urology⁵URM: African-American, Hispanic/Latino, and Native American