



Bridging the Language Gap in Medicine: Quality Improvement for Interpreter Services at JayDoc Free Clinic

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Abstract

Background: JayDoc Free Clinic (JayDoc) is run by medical students at the University of Kansas School of Medicine. Many patients seen at the clinic have limited English proficiency (LEP) and are assisted by volunteer medical interpreters. Formal training for working with interpreters has not previously been part of JayDoc's volunteer orientation.

Methods: An intervention emphasizing education in interpreter standards of practice, effective use of interpreter services, and culturally competent communication were presented to all incoming JayDoc volunteers (i.e., first-year medical students [MS1s]) during their volunteer orientation. Three months post-intervention a voluntary online survey was distributed to assess perceived improvement in effective interpreter partnerships and cultural communication. The survey was administered to MS1s and second-year medical students (MS2s). Responses were stratified using a two-tailed t-score distribution to analyze the impact of the educational intervention on the MS1 group in comparison to the MS2 group that did not receive the intervention.

Results: There were one hundred and five respondents (52 MS1s, 53 MS2s). MS2s had a significantly higher average number of interpreter-facilitated patient encounters (MS2 6.38, MS1 2.54, $p=0.001$). MS1s had a significantly higher average of perceived importance of interpreter training (MS2 4.56, MS1 4.81, $p=0.031$). All other survey parameters of cultural competency and interpreter-provider best practices were ranked as important by both MS1s and MS2s, without a significant difference between the responses of the two groups.

Conclusions: An educational intervention focused on interpreter-provider partnerships and cultural competency resulted in the higher perceived importance of the training session among students.

Introduction

JayDoc Free Clinic (JayDoc) is a medical student-run clinic founded in 2003 that provides non-emergency care to the uninsured and under-insured populations of greater Kansas City, Kansas. Volunteer medical interpreters are vital to clinic functioning, as approximately 50% of patients seen do not speak English fluently. Limited English proficiency (LEP) is correlated with reduced access to preventive health services and decreased likelihood of follow-up care. In addition, studies have shown that patients with LEP are at higher risk of adverse health outcomes.¹

Use of professional interpreters is intended to increase patient satisfaction, improve adherence, and reduce adverse outcomes.² However, research suggests that practitioners and interpreters experience numerous difficulties in their collaboration that can negatively affect service to patients with LEP, many of whom are immigrants.² Increased immigration has led to significant growth in the number of cross-linguistic medical encounters taking place across the United States. For this reason, members of the healthcare team must receive training in best practices on collaboration with professional interpreters to ensure positive health outcomes.³

Educational interventions targeted toward using interpreters with patients with LEP have been shown to improve self-reported measures of empathy and humanism in medical students.⁴ Such research is the foundation of a standardized patient simulation for first-year medical students (MS1s) at the University of Kansas School of Medicine (KUSoM) in which students work with an interpreter to communicate to a standardized patient with LEP.

JayDoc functions three nights a week, providing care for patients presenting with both urgent and chronic conditions. Primary care and specialty services are offered including women's health, diabetes, musculoskeletal, ophthalmology, dermatology, and radiology. JayDoc is run by medical student volunteers at KUSoM and supervised by attending physicians. In 2018, JayDoc saw 1,173 patients, 51% of whom were fluent in English, 43% whose primary language was Spanish, 0.6% Mandarin, and 4.6% other (Arabic, Burmese, Tagalog, French, Hindi, Korean, Nepalese, Portuguese, Swahili, Tamil, Urdu). With approximately half of JayDoc's patient population speaking a primary language other than English, the clinic relies heavily on the services of volunteer interpreters recruited from the local community.

Methods

In August 2019, approximately 120 MS1s seeking to volunteer at JayDoc underwent mandatory training and orientation. Not all students who received the training returned to volunteer at the clinic, and some of those who did return did not have the opportunity to work with an interpreter. As MS1s were the first to receive the mandatory training, their survey results were compared to those of MS2s who had not received training. Third- and fourth-year medical students were excluded from this study, as they had already begun clinical rotations and may have received training for working with interpreters outside of JayDoc.

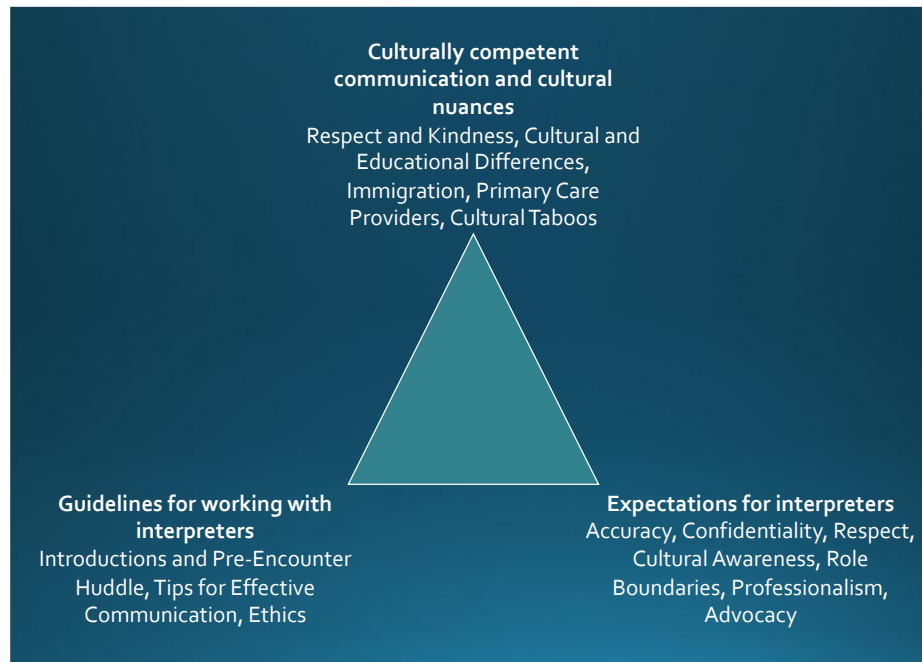
This training was a 15-minute in-person classroom-style PowerPoint module focused on appropriate interpreter collaborations and practicing cultural empathy when working with patients. These topics were decided on by the JayDoc Interpreter Co-Coordinator in collaboration with

advising faculty from the University of Kansas Medical Center Student Diversity Council and professional interpreters and bilingual faculty from Children's Mercy Hospital, Kansas City, Kansas Faculty advisors for JayDoc interpreter services work within the University of Kansas Medical Center Office of Diversity and Inclusion and are involved in the coordination of interpreter services at the University of Kansas Medical Center. The intervention was modeled to emulate the training given to all third-year medical students when entering clinical rotations. The following topics, as depicted in Figure 1, were covered in the module:

1. Expectations for interpreters: accuracy, confidentiality, respect, cultural awareness, role boundaries, professionalism, advocacy
2. Guidelines for working with interpreters: frequent pausing, unambiguous language, interpreter positioning
3. Culturally competent communication and cultural nuances: respect and kindness, cultural and educational gaps, immigration, primary care provider, cultural sensitivity regarding sexual history, sensitive exams, mental health, and machismo, a Spanish term for ingrained cultural masculine pride

Post-evaluations of the required training were performed for quality improvement purposes for the medical interpreting program at JayDoc. After the initial training, a voluntary electronic Google survey questionnaire (Version 0.8, Google, Mountain View, California, USA) was distributed to the entire MS1 and MS2 classes at KUSoM in November 2019. Each class of 200 students has roughly 100 JayDoc volunteers. Only students who had volunteered at JayDoc and worked with an interpreter as self-reported were eligible to participate. A raffle for two \$100 Amazon gift cards was used to incentivize participation. All data were stored in Microsoft Excel (2019, Microsoft Corporation, Redmond, Washington, USA). The timeline allowed three months for MS1s to work with an interpreter at least once before taking the survey. MS1s served as the experimental group, given they had all undergone the required training. MS2s served as the control group, as the mandatory interpreter/cultural empathy training had not been in place when they began volunteering at JayDoc.

Figure 1. Interpreter training module topics



Highlights of a training module for working with interpreters provided at JayDoc's volunteer orientation to all incoming first-year medical student volunteers.

All survey questions, except for the number of patient encounters, utilized a Likert scale format of 1 to 5 (1 = lowest confidence or not important at all, 5 = highest confidence or very important). Survey results from MS1s were compared to those of MS2s to assess for differences in interpreter utilization techniques, perceived importance of cultural awareness, and self-ranked confidence in interpreter-facilitated encounters. Survey questions can be found in the Online Appendix. Internal Review Board (IRB) clearance for this project was provided by the University of Kansas Medical Center IRB.

Data Analysis

Likert scale numerical data was averaged separately for MS1s and MS2s for each survey question. Averages for each group were compared using a two-tailed t-score distribution for each question. The significance level was set to 0.05, with p-values were calculated using Microsoft Excel.

Results

One hundred and five medical students at KUSoM responded to the online survey out of 200

MS1 and MS2 JayDoc volunteers in total. Of the respondents, 52 were MS1s and 53 were MS2s, yielding roughly a 50% survey completion rate per class. All numerical results are reported in Table 1. MS2s had an average of 2.54 encounters ($p=0.001$). When queried about the importance of speaking directly to the patient instead of the interpreter, using simple language in interpreter-facilitated encounters, and the importance of pausing frequently to allow for interpretation, MS1s and MS2s did not differ significantly in their responses (Table 1). The two groups did not differ significantly when queried about the importance of introducing oneself to the interpreter, briefly describing the case before seeing the patient, and appreciating and considering the differences and similarities between their patients' culture and their own. The two groups did not differ significantly when ranking the positivity/negativity of their own experiences utilizing interpreters, nor did they differ significantly when ranking their confidence in working with interpreters. When queried on the importance of medical students receiving training on how to work with interpreters, MS2s averaged 4.57 and MS1s averaged 4.57 and MS1s averaged 4.81 ($p=0.031$).

Table 1. Perceived improvement in effective interpreter partnerships and cultural communication

Categories	MS1	MS2	P-Value
Number of encounters	2.54	6.38	0.001
Speaking directly to patient	4.81	4.91	0.214
Using simple language	4.65	4.77	0.234
Pausing for interpretation	4.79	4.79	0.963
Pre-encounter check-in	4.54	4.62	0.498
Cultural awareness	4.88	4.75	0.106
Training for work with interpreters	4.81	4.57	0.031
Confidence working with interpreters	4.00	3.98	0.902
Overall experience with interpreters	4.48	4.40	0.542

For all categories other than number of encounters, used Likert scale responses [1 = not at all important, 2 = not important, 3 = neutral, 4 = important, 5 = very important]. Please see appendix for full questions.

MS1: first-year medical student; MS2: second-year medical student

Discussion

The JayDoc Interpreter Coordinators are tasked with training and screening volunteer interpreters for language fluency, medical vocabulary, ethics, and professionalism to improve patient safety. However, patient safety is also contingent on the ability of healthcare providers to utilize medical interpreter services effectively. For this reason, in August 2019, the JayDoc Interpreter Coordinators implemented a mandatory training session for all incoming medical student volunteers on how to properly work with an interpreter when communicating with patients. This training focused not only on the development of skills in working with interpreters during patient interactions at JayDoc but also aimed to educate students on the ethics and laws involved in appropriate interpreter use and cultural empathy. This training is now mandatory for all new medical student volunteers before volunteering at JayDoc.

The purpose of this study was to assess medical students' perceived importance and confidence in cultural communication and collaboration with interpreters after receiving this mandatory training. We hope this study will provide valuable information about the efficacy of this intervention and help inform how volunteer training could be improved in the future. By improving how medical students use interpreter services, we sought to promote patient safety and ensure that both interpreters and healthcare providers feel comfortable and confident in their

collaborative efforts. To our knowledge, no similar interventions exist at other student-run free clinics, based on available research data.

This study analyzed the efficacy of an educational intervention utilizing a survey distributed to MS1s that received the intervention as part of their required JayDoc volunteer training and MS2s that did not receive the training. Preliminary data demonstrated that MS2s had more interpreter-facilitated patient encounters than first-year medical students. A likely explanation for this difference is that there are more volunteer opportunities for senior-level medical students, as MS1s are restricted to volunteering once a month. Both groups assigned similar importance to best practices in working with interpreters, such as direct speaking, simple language, pausing, and pre-encounter introduction. One possible explanation is that through direct clinical experience working with interpreters, MS2s developed similar attitudes as the group receiving the educational intervention.

MS1s assigned somewhat greater importance to appreciating and considering differences and similarities between their patients' culture and their own. This is interesting given that the intervention group had a significantly lower number of interpreter-facilitated encounters than the control group. This may indicate that the cultural competency component of the intervention had an impact on MS1s in their awareness of and attention to patients' cultures. However, this aspect of the study warrants further research, as current data do not show a significant difference

between experimental and control group responses.

There was no statistical difference in perceived confidence for working with interpreters between research groups. However, given that MS1s had significantly fewer patient encounters than MS2s, the fact that they ranked similar confidence levels in working with interpreters is encouraging to us. Considering differences in the degree of clinical experience between groups, we speculate that the intervention may yield improved student comfort and confidence in working with interpreters early on in students' medical training.

Both MS1 and MS2 groups ranked their overall experiences working with JayDoc interpreters as mostly positive, but MS1s ranked it as slightly more positive, although this was not statistically significant. This may indicate that the intervention improves medical students' overall perception of interpreter-facilitated patient encounters. Most notably, MS1s rated the importance of healthcare providers receiving training on working with interpreters as significantly more important than MS2s. This indicates that the group receiving the intervention believed it to be a necessary component of training for healthcare providers. It would be interesting to investigate the implications of this finding in future research such as whether the investment of time in training was sufficient motivation for students to assign more value to it.

Limitations of this study include small sample size and potential confounding from greater access to volunteer opportunities among MS2s. As responding to the online survey is voluntary, there is also the potential for confounding due to selection bias. One significant confounder includes MS2s having participated in a standardized patient experience with an interpreter at the end of their first year of medical school. This further emphasizes the MS2s' higher level of educational exposure and, therefore, highlights the MS2s advanced competency and confidence in working with interpreters despite their lower levels of clinical exposure. Future quality improvement research for JayDoc interpreting might reduce confounding by excluding MS2s and focusing exclusively on MS1s. A follow-up study might separate MS1s into intervention and controls

(who received the intervention after the study) or consist of a pre- and post-intervention assessment of the same cohort. Out of approximately 100 JayDoc volunteers per class, about half responded to the online survey. This is likely because only volunteers who had worked with interpreters at JayDoc were able to respond to the questionnaire, while those who did not respond had likely not worked with an interpreter. Further research may address this limitation by expanding the pool of research participants to include third- and fourth-year medical students and stratifying research participants by the amount of experience working with interpreters at JayDoc. This study is still valuable because it speaks to growing need and conversation surrounding changing MS1 and MS2 curricula to better position students for clinical practice.

Many possibilities exist for continued research concerning medical interpreter services at JayDoc. Future directions for research may involve collecting feedback from patients who use interpreter services at JayDoc. It would be interesting to see their perspective, especially regarding how they perceive the use of interpreters by medical students. Questions for patients might include, "How effectively do you believe the medical student worked with the interpreter to communicate with you?" and "What do you think could be taught to medical students to improve interpreter-facilitated communication in the clinic?" Such feedback could be used to improve volunteer training in a way that is more patient-centered and meaningful. Another direction for future research might include collecting feedback from volunteer interpreters at JayDoc. Finally, we hope to continue data collection on our intervention to assess how it impacts medical students' clinical clerkship rotation experiences during their third and fourth years.

Conclusion

Medical students at JayDoc understand the importance of best practices when working with interpreters. The intervention group believed educational training to be significantly more important than the non-intervention group, which may indicate the effectiveness of this intervention in teaching medical students the

importance of effective collaboration with interpreters. We believe that the findings of this study make a strong case for continued quality improvement research and hope patients, students, and interpreters alike will reap the benefits of these efforts in the years to come.

Disclosures

The authors have no conflicts of interest to disclose.

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