

Exploring the Quality of Communication during Interactions Between Medical Students and  
Standardized Patients Portraying Communication Disorders

Margaret Després

A thesis

submitted in partial fulfillment of the  
requirements for the degree of

Master of Science

University of Washington

2017

Committee:

Michael Burns

Carolyn Baylor

Kathryn Yorkston

Program Authorized to Offer Degree:

Speech and Hearing Science

©Copyright 2017  
Margaret Després

University of Washington

**Abstract**

Exploring the Quality of Communication during Interactions Between Medical Students and  
Standardized Patients Portraying Communication Disorders

Margaret Després

Chair of Supervisory Committee:  
Michael Burns, Ph.D., CCC-SLP  
Lecturer and Researcher  
Department of Speech and Hearing Sciences

Communication is important in healthcare because it is linked to patient safety. Patients with communication disorders are vulnerable to medical error due to increased communication breakdowns. The University of Washington created a seminar for training medical students how to effectively communicate with patients who have communication disorders. The purpose of this study was to identify the key behaviors of competent communication with patients with communication disorders to inform modifications to the current measurement tool for medical students' competency of communication. This study employed two focus groups, in which participants viewed medical students conducting brief interviews with standardized patients portraying communication disorders and discussed helpful and unhelpful communication behaviors. A convenience sample of participants were recruited from the University of

Washington graduate speech language pathology program. Analyses of focus group discussions revealed 9 key behaviors for competent communication, which were based on the frequency with which behaviors were mentioned participants' discussions about the importance of behaviors. These results will inform future changes to the rating tool for medical students' communication competence with communication impaired patients. It also may be used to re-evaluate the content of the training seminar for medical students, and could be a resource provided to speech language pathologists to help them educate colleagues in effective patient provider communication with patients with communication impairments.

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS.....</b>	<b>7</b>
<b>INTRODUCTION.....</b>	<b>8</b>
<b>The Importance of Communication in Health Care.....</b>	<b>8</b>
<b>Training Patient-Provider Communication with the Communication-     Impaired Population .....</b>	<b>12</b>
<b>Measuring the Effectiveness of Patient-Provider Communication Training.....</b>	<b>15</b>
<b>Research Question.....</b>	<b>17</b>
<b>METHODS.....</b>	<b>18</b>
<b>Participant Recruitment and Demographics.....</b>	<b>18</b>
<b>Data Collection.....</b>	<b>19</b>
<b>Data Analysis.....</b>	<b>22</b>
<b>RESULTS.....</b>	<b>23</b>
<b>Familiarize yourself with the patient’s preferred method of communication.....</b>	<b>24</b>
<b>Respectful Communication helps build the patient-provider relationship.....</b>	<b>25</b>
<b>Be flexible with strategies.....</b>	<b>27</b>
<b>Be consistent with strategies.....</b>	<b>27</b>
<b>Overly restrictive strategies can be detrimental to communication and rapport.....</b>	<b>28</b>
<b>Body language communicates important information.....</b>	<b>29</b>
<b>Slow down the rate of communication.....</b>	<b>30</b>
<b>Confirming understanding is vital.....</b>	<b>32</b>
<b>Don’t forget general interview skills.....</b>	<b>33</b>

<b>DISCUSSION.....</b>	<b>35</b>
<b>Study Limitations.....</b>	<b>36</b>
<b>Future Directions of this Research.....</b>	<b>38</b>
<b>CONCLUSION .....</b>	<b>39</b>
<b>REFERENCES.....</b>	<b>41</b>
<b>APPENDIX A: Recruitment Email.....</b>	<b>45</b>
<b>APPENDIX B: Consent Form.....</b>	<b>46</b>
<b>APPENDIX C: Code Book.....</b>	<b>49</b>
<b>APPENDIX D: Most Frequently Mentioned Communication Behaviors.....</b>	<b>51</b>

## **ACKNOWLEDGEMENTS**

I would like to give special thanks to my thesis advisor, Michael Burns, Ph.D., CCC-SLP, for his incredible assistance throughout my thesis project. I would like to show gratitude to the other two members of my thesis committee, Carolyn Baylor, Ph.D., CCC-SLP and Kathryn Yorkston, Ph.D., BC-NCD, for their guidance throughout the study.

I would like to thank my study participants for their time and engaging discussion. Finally, I would like to thank my family for their unconditional love and support, I could not have accomplished this without you.

## INTRODUCTION

Communication in healthcare is important and has been linked to patient safety. Researchers Makary and Daniel (2016) reported that “communication breakdowns, diagnostic errors, poor judgment, and inadequate skill” (p. 1) can directly lead to patient harm, including death. In fact, medical error is currently the third leading cause of death in the United States, and individuals with communication disorders are at three times higher risk of experiencing adverse health care events due to breakdowns in communication with healthcare providers (Bartlett, Blais, Tamblyn, Clermont, & MacGibbon, 2008; Makary & Daniel, 2016). Creating a safer environment for communication-impaired patients should include training healthcare providers how to effectively communicate with this population. Very few doctors are trained in patient-provider communication with communication-impaired patients despite evidence it is effective and benefits patients (Yorkston, Baylor, Burns, Morris, & McNalley, 2015). The University of Washington has created a seminar to train medical students how to communicate effectively with communication-impaired patients to improve patient-provider communication and reduce the risk of patient harm (Burns, Baylor, Morris, McNalley, & Yorkston, 2012). The aim of this study is to identify the key qualities of effective communication with communication-impaired patients in order to create a more sensitive measurement tool.

### **The Importance of Communication in Healthcare**

Medical error is defined as “an unintended injury or complication caused by the delivery of clinical care rather than by the patient’s condition” (Bartlett et al., 2008, p. 1555). A review of scientific literature by Makary and Daniel (2016) stated that 78% of medical errors are preventable, and that these statistics likely underestimate the true number due to data collection methods for cause of death. While “human error is inevitable,” (p. 2) these statistics are

alarming when considering patient safety. A safer healthcare system must be implemented to decrease the risk of patient harm due to medical error (Makary & Daniel, 2016).

Creating a safer system for medical practice should include identifying the causes of medical errors and taking steps to reduce their occurrence. Poor patient-provider communication has been shown to decrease patient adherence to treatment recommendations, comprehension of diagnosis, and understanding of treatment options (Baile et al., 2000; Sheldon LK, 2005). It can also lead to increased medical costs from prolonged hospital stays or unnecessary tests following a misdiagnosis or medical error. Poor communication has been linked to increases in healthcare provider changes by patients, stress experienced by physicians, and rates of malpractice lawsuits filed against physicians. This can consequently lead to decreased job satisfaction and burnout for physicians (Mauksch, Dugdale, Dodson, & Epstein, 2008).

In comparison, research about the role of communication between doctors and patients shows that effective communication is a core component of successful medical encounters (Hemsley & Balandin, 2014). Studies show that better communication improves patient satisfaction with services, recall of information, and adherence to treatment plans. This increase in adherence to treatment plans stems from an increased understanding of the risks and benefits of treatment and having more support in decision making and implementation of treatment plans (Zolnierek & DiMatteo, 2009). These findings are supported by a systematic review of 55 studies by Doyle, Lennox, & Bell (2013), which found a relationship between patient satisfaction, safety, and clinical effectiveness. It is hypothesized that effective patient-provider communication has these benefits because there is an increased chance of a correct diagnosis, and doctors can create a plan of care that better suits their patient's needs (Yorkston et al., 2015).

People with communication disorders are at higher risk of experiencing adverse medical events for a multitude of reasons. The World Health Organization (WHO) recognizes that disabled people often experience problems with medical care when they have trouble understanding their diagnosis or treatment plan (Hemsley, Werninck, & Worrall, 2013). Communication disorders can negatively affect one's comprehension, which increases the risk of not understanding discussions with physicians about diagnosis or treatment plans. Communication disorders can also affect one's expression. People with such deficits have reported being unable to communicate quickly enough with physicians during rushed appointments (Burns et al., 2012). These reports are supported by research that shows physicians interrupt the majority of patients within 18-23 seconds of their opening statement (Teutsch, 2003). This is limited time to communicate complicated medical information for someone with an expressive communication deficit such as aphasia, apraxia, or dysarthria (Yorkston et al., 2015). Adults with communication disorders have also reported physicians "not seeming receptive to trying to communicate with someone with a communication disorder," (p. 674) and physicians not understanding the nature of their disorder, making communication difficult (Burns et al., 2012)

The communication skills of doctors have historically been expected to develop with experience, an assumption that Yorkston and colleagues warn against (Yorkston et al., 2015). Aspergen and Lonberg-Madsen (2005) reported that after 10 or more years of clinical experience, doctors who had not received training for communication skills could not demonstrate important basic communication skills. Successful patient-provider communication requires many skills such as active listening, asking open ended questions, periodically summarizing information, and expressing sympathy. These skills are necessary for many routine

tasks, including patient interviews, discussions of treatment options, and explanations of procedures. It is estimated that in a career, physicians will conduct approximately 120,000-160,000 patient interviews (Brown, 2008). It is therefore important to teach physicians how to communicate effectively rather than to assume these skills will develop over time.

Due to the importance of effective communication between patients and physicians for positive patient health outcomes, communication and inter-personal interaction skills has become one of six core skills in the medical education curriculum alongside skills such as medical knowledge and patient care (Yorkston et al., 2015). Training for communication skills has increased in importance in the medical education curriculum (Yorkston et al., 2015), and the effectiveness of this training is supported by research. For example, an analysis of 12 different systematic reviews on communication skills training for physicians found that opportunities for participants to “practice-oriented teaching strategies” (p.162) were the most effective in creating behavioral changes (Berkhof, van Rijssen, Schellart, Anema, & van der Beek, 2011). These opportunities included role-playing and small group discussions. Furthermore, the analysis also found traditional teaching methods, such as lectures, reading, and observation, were ineffective when used alone, and students needed opportunities to practice materials taught traditionally (Berkhof et al., 2011).

Results of the 2011 Berkhof and colleagues study supported findings from interviews of medical students at the University of Nottingham, UK, after they received training for communication skills. Student participants provided mixed reports regarding the effectiveness of traditional instruction methods such as lecture when teaching communication skills (Rees, Sheard, & McPherson, 2004). Students reported preferring “experiential methods of learning” (p.121) in which they could practice communication skills with real or simulated patients (Rees

et al., 2004). Video recorded role-playing opportunities were reportedly found to be the most helpful because students could re-watch patient encounters and identify strengths and weaknesses in their communication skills. Regarding practice with real patients, students reported they often underestimated how difficult effective communication with patients would be and valued these experiences (Rees et al., 2004).

### **Training Patient-Provider Communication with the Communication-Impaired Population**

Current literature suggests that effective patient-provider communication can be taught to healthcare providers of various disciplines and plays a key role in the safety and satisfaction of communication-impaired patients. In an experiment by Legg et al. (2005), a group of medical students received didactic and experiential training for patient-provider communication with patients with aphasia in comparison to a control group of doctors receiving traditional training with only didactic material. The control group made no improvements, and significant improvements were found in the experimental group's abilities to elicit information about patient problems, create structured medical encounters, develop rapport, acknowledge and reveal patients' competence, and utilize communication strategies such as drawing, writing, and asking yes/no questions (Legg, Young, & Bryer, 2005). An experiment by Simmons-Mackie et al. (2007) trained healthcare professionals and staff in three unrelated settings - acute care, rehabilitation, and long-term care settings - how to more effectively communicate with patients with aphasia to increase this population's "communicative access to information and decision making" (p. 39). Results indicated employees in each setting had increased knowledge of facilitative communication strategies, altered perception of patients' communicative participation, communicative access, and their responsibility to facilitate communication. Researchers also found differences in the greater healthcare models in two of the settings-

rehabilitation and long-term care- which indicates that targeting healthcare systems rather than specific healthcare providers may be effective as well (Simmons-Mackie et al., 2007).

Despite evidence that training is effective in improving patient-provider communication with communication-impaired patients, few medical students and doctors receive this training. Effective communication with the communication-impaired population is a complex task, and requires knowledge of communication disorders and each patient's unique communication features (Yorkston et al., 2015). It also requires dismissal of any preconceptions or assumptions that communication disorders are a sign of cognitive impairment, and recognition of patient autonomy and competence when making medical decisions. Finally, effective communication requires knowledge of communication strategies such as speaking at a reduced rate and using simple utterances (Yorkston et al., 2015). With the use of communication strategies, the competence of people with communication disorders, which is often "masked," (p.812) can be revealed to improve their communicative participation (Kagan, 1998).

The University of Washington is an example of a medical school that has incorporated training in patient-provider communication with communication-impaired patients into their program (Yorkston et al., 2015). In 2010, researchers in the Rehabilitation Medicine Department of the University of Washington created a seminar for teaching medical students how to effectively communicate with communication-impaired clients. This seminar is titled, "Patient-Provider Communication for Patients with Communication Disorders" (PPC-CD). The PPC-CD seminar consists of two stages. First, students complete a brief online training review of different types of communication disorders. Next, students attend a two-hour in-person seminar which includes a combination of didactic lecture, videos, demonstrations of communication strategies, and opportunities to obtain hands-on practice role-playing communication strategies with

standardized patients (SP). Speech-language pathology students trained to portray a patient with specific communication disorder symptoms serve as the SPs (Yorkston et al., 2015).

During the PPC-CD seminar, students are taught the FRAME mnemonic, which is a tool for remembering some general communication strategies for communication-impaired patients (Burns et al., 2012; Yorkston et al., 2015). FRAME stands for Familiarize, Reduce rate, Assist with communication, Mix communication methods, and Engage the patient. The key principle of familiarization is getting to know how a patient prefers to communicate before beginning a medical encounter, which helps physicians provide information in a reliable form. Reducing rate focuses on slowing speech down, pausing between phrases, allowing extra time to respond, etc. This provides patients extra time to process and respond to information. Assisting with communication involves actively helping patients communicate with strategies such as rephrasing misunderstood questions and acknowledging when communication breakdowns have occurred so they can be addressed. Mixing communication methods refers to not limiting communication to verbal expression, but also using methods such as gestures, writing, and pictures to communicate more effectively. Finally, the key principle of engaging the patient is respecting their autonomy and rights to speak for themselves by speaking directly to them, only involving family with the patient's permission, and not speaking condescendingly to these patients (Yorkston, Baylor, & Burns, 2016). Students are taught that these principles can be used in any order and with any patients that have communication disorders (Yorkston et al., 2015).

During opportunities for hands-on practice with implementing the FRAME strategies, medical students divide into groups of 5-6 and rotate through stations with SPs with various communication disorders. At each station, groups problem-solve about which strategies would be effective for the client and then attempt to implement them. Students then receive feedback

from the SPs about their performance. Each interaction lasts 10-12 minutes. Following this seminar, students self-rate their competence in communicating with communication-impaired patients, their attitudes toward working with this population, and their knowledge of the strategies taught (Yorkston et al., 2015).

Students who have participated in the PPC-CD training seminar report the training improved their understanding of communication disorders (Yorkston et al., 2016). One student stated it was “[good to have] the reminder that an inability to communicate doesn’t always indicate any further cognitive disability” (Yorkston et al., 2016, p. 50). Reports also indicated attitudes toward working with this population improved. For example, a student stated “patients feel bad about ‘wasting’ our time! I felt awful; I didn’t understand them when they were working so hard” (Yorkston et al., 2016, p. 50). Finally, reports indicated students’ behaviors changed during interactions with communication-impaired patients. Students reported being previously “unaware of the tools available to help communication and [finding] these very helpful” (p.50) and struggling to communicate with patients until “I remembered to use a writing board and picture cards. They are very helpful” (Yorkston et al., 2016, p. 50).

### **Measuring the Effectiveness of Patient-Provider Communication Training**

It is important to measure the effectiveness of training patient-provider communication skills to ensure communication skills are significantly improved following the training. In previous studies measuring the effects of patient-provider communication training, various qualitative and quantitative outcome measures have been utilized. A study by Simmons-Mackie et al. (2007) used qualitative interview and focus group data, in which each source’s data was catalogued separately then merged to examine overarching themes in discussion content such as knowledge of aphasia, knowledge of communication facilitation strategies and barriers, observed

changes, etc. Researchers Legg et al. (2005) used a combination of qualitative and quantitative measures. The quantitative measure used was the Modified Supported Conversation Analysis, which was used to evaluate participants' abilities to support conversation with communication strategies. The qualitative measures included a modified version of the Calgary Cambridge Observation Guide, which was used for observations of communication skills when collecting case histories, and a visual analog scale rating by both the participants and their patients to better understand both perceptions of interactions (Legg et al., 2005). Boissy et al. (2016) used quantitative self-report surveys to measure change. These measures included doctor reports with the Jefferson Scale of Empathy, the Maslach Burnout Inventory, and patient reports with the Clinician and Group Consumer Assessment of Healthcare Providers and Systems and the Hospital Consumer Assessment of Healthcare Providers and Systems surveys.

To evaluate the effectiveness of the University of Washington PPC-CD training program, a research study was conducted with quantitative measures of the pre- and post-training communication skills of second year medical students in medical interactions with communication-impaired clients (Baylor et al., 2017). Students were video recorded before and after training conducting brief, 10-minute interviews with SPs trained to portray either aphasia or dysarthria from Parkinson's Disease. Analyses were conducted on the changes in the quality of communication and number and types of strategies students used before and after training. Measurements of types and number of strategies used were based on the FRAME mnemonic taught to the medical students. The changes in quality of communication were measured using a visual analog scale (VAS). The VAS consisted of a line 100 mm in length, with the farthest left rating (0mm) representing skills significantly below expectation, the center rating (50mm) representing skill level at expectation, and the farthest right rating (100mm) representing skills

exceeding expectation. Raters drew a vertical line on the scale representing a ‘score’ for their performance. Using a ruler, these ratings were then calculated to the closest millimeter (Baylor et al., 2017).

Results of the analyses indicated that there was a significant change in the quality of communication and the number and types of strategies most medical students used following the training seminar (Baylor et al., 2017). However, results also suggested that some medical students made no significant changes in number or types of communication strategies used before and after training, but did improve in quantitative measures of overall quality of communication from VAS scores (Baylor et al., 2017). The possible implications of this finding are that the current measurement tool is not capturing some of the qualitative changes to medical students’ communication skills following training.

The aim of this study was to better define medical student competence in communication when interacting with patients with communication disorders by identifying the key behaviors of effective communication. We planned to identify these key behaviors of communicative competence by exploring the differences in communication in interactions between medical students and SPs trained to portray communication disorders that received the highest and lowest ratings for quality of communication in the Baylor et al. (2017) study referenced above. Identifying these salient characteristics could potentially guide revisions to the current instrument to create a more sensitive measure of communication competency in medical students when working with communication-impaired patients.

### **Research Question**

What are the key behaviors of competency demonstrated during communication with patients with communication disorders?

## **METHODS**

This study employed two focus groups comprised of graduate speech language pathology (SLP) students at the University of Washington. Members of each focus group were shown a series of videos of brief medical student interactions with professional SLPs trained to portray communication disorders. The medical students' communication skills in these videos had previously been rated as the highest or lowest quality from a previous research study. Participants in each focus group were asked to discuss the helpful and unhelpful communication behaviors demonstrated by medical students within and across the videos. This study also employed a survey to collect demographic information and to follow up with participants about discussions on communication strategies during the focus groups. This study was approved by the University of Washington Institutional Review Board (ID STUDY00001526) on February 27<sup>th</sup>, 2017, prior to initiation of the study. This study was exempt from requiring participant consent forms by the Review Board.

### **Participant Recruitment and Demographics**

A convenience sample of participants were recruited, who were 18 years of age and older and enrolled in the University of Washington graduate speech language pathology program. Participants were also required to be proficient in English to participate in the focus group discussions and complete the survey. Participants under the age of 18 or who were not proficient in English were excluded from the study.

Participants were recruited via email and through in-class announcements. Recruitment announcements and emails were distributed by the lead researcher, and included the name and

details of the study, as well as that participation was voluntary and would have no influence on academic standing in their graduate program (see appendix A for the recruitment email).

A total of 14 individuals participated in focus groups for this study, with 7 participants per focus group. Demographic characteristics for participants are summarized in Table 1.

---

**Table 1.** Participant Demographics

---

Number of Participants	14
Age Range	23-46
Year in Graduate Program	Four 1 <sup>st</sup> Year Students, ten 2 <sup>nd</sup> Year Students
Sex	2 Men, 12 Women

---

### **Data Collection**

Two focus groups were conducted, with each comprised of seven participants and lasting approximately 2.5 hours. Both focus group sessions were audio recorded with a digital audio recorder and a USB microphone-to-computer recorder, and were later transcribed verbatim for analysis. The same three researchers were present for both focus groups, including the lead researcher. Each researcher took one of 3 roles: moderator and discussion leader who asked initial questions and facilitated the discussion, secondary moderator who asked supplementary questions, or recorder who took field notes and ensured that both focus groups were audio recorded. Despite each researcher having one primary role, all researchers also took field notes and asked supplementary questions during the focus group discussions. Prior to each focus group, participants were sent the consent form via email to review (see Appendix B for consent form). Participants were provided the opportunity to ask questions either via email or in person prior to the start of their respective focus group.

Each focus group began with a 10-minute introduction which included the following: a reminder of the study's purpose; a summary of what participation entailed; a restatement that

participation was both voluntary and had no influence on academic standing in their graduate program; and time to review the consent form again and ask questions. Just prior to watching the first video in each focus group, participants were also instructed to comment only on medical student behaviors (not SP portrayals), use discrete and measurable (i.e. observable) terms when describing medical student communication behaviors, take turns speaking in order for all comments to be heard and recorded, and to refrain from holding side conversations during discussions of the videos.

During both focus groups, participants were presented with four, 10-minute videos depicting medical students interviewing SPs portraying communication disorders. Medical students in half of the videos had received the lowest ratings for communication quality using a 100mm visual analog scale (VAS) and the other half had received the highest ratings for quality of communication during a previous study related to this line of research. Additionally, half of the videos depicted SPs portraying aphasia and the other half SPs portraying Parkinson's Disease. Participants were blinded to quality ratings the videos had previously received (i.e. high vs. low quality ratings). Each focus group viewed and discussed three unique videos, and one video was viewed and discussed by both groups. There was an even distribution of videos across focus groups for quality of communication and diagnosis portrayed by standardized patients. The videos selected included two rated highly for medical student quality of communication and two rated low for quality of communication. Within the two pairs of high and low rated videos, there was one with a SP portraying aphasia and one with a SP portraying Parkinson's Disease. These videos were selected for the greatest variability across videos.

After each video was presented, participants took turns stating one helpful communication behavior they observed the medical student perform during the interview, and

then discussion was opened up to the group about additional helpful behaviors. Next, students took turns stating one unhelpful communicative behavior they observed the medical student perform, and then discussion was opened up to the group about any additional unhelpful behaviors they observed. After the first two videos were viewed and discussed, a 10-minute break was provided. Once all videos were viewed and discussed, participants in each focus group were asked to compare and contrast any helpful or unhelpful medical student communication behaviors that were observed across all videos.

Finally, participants in each focus group were asked general wrap-up questions. However, the wrap up questions were modified from focus group 1 for focus group 2 based on the discussion content. For example, wrap up questions from focus group 1 included having participants describe how one demonstrates communication competence with people who have communication disorders, and to list which behaviors they considered most helpful for communication with people who have communication disorders. In the second focus group, participants were instead asked questions related to measuring communication behaviors they observed. Examples of wrap-up questions for focus group 2 included: what anchor points they would assign to a VAS scale measuring appropriateness of communication strategies used by medical students; whether frequency of picking strategies is an appropriate measure of effective use of communication strategies; and finally when measuring appropriateness of time provided to patients to respond, whether to base judgments off client reactions or what the clinician is doing. To conclude, both focus groups were asked whether there was anything they wanted to add that researchers had not already asked and if they had any additional comments or questions.

## **Data Analysis**

Audio recorded data from the two focus groups were transcribed verbatim by the lead researcher in Microsoft Word. One of the three secondary researchers (MB) reviewed approximately 20% of the transcribed data to check for inter-rater reliability. While focus group data were being transcribed, an analysis of the most commonly mentioned helpful communication behaviors by medical students across both focus groups was conducted by the lead researcher using the audio recordings and transcribed discussions. The list of most commonly mentioned communication behaviors was used to create an initial code book following the completion of transcription (see appendix D for list of 11 most mentioned helpful communication behaviors).

The lead researcher and one of the secondary researchers (MB) created an initial code book. The initial code book was subsequently tested on the first 10 pages (37%) of the transcript for focus group 1 by the lead researcher and the same secondary researcher. Codes were then revised and finalized based on discussions between the lead researcher and the secondary researcher in an effort to capture and code the maximum amount of data from the transcripts (see Appendix C for the finalized code book). The transcripts were then uploaded into Dedoose™ software for data management, coding, and analysis. All transcribed data were then coded by the primary researcher using the updated code book. Once coding was complete, one of the secondary researchers (MB) reviewed approximately 20% of the coded transcripts for consistency. Any discrepancies in coding were discussed and resolved.

Once coding of the transcripts was complete, the lead researcher organized the data across focus groups by code (e.g. all excerpts coded for “rate”), and exported the data into separate documents for each code. The lead researcher then performed a content analysis for

each code document. Summary statements of trends within and across videos and focus groups were created by the lead researcher based on excerpts for each code. The same secondary researcher then reviewed all of the summary statements from these code documents to verify the accuracy and consistency of the lead researcher's summary statements based on the excerpt data. Any discrepancies between researchers were discussed and resolved.

## **RESULTS**

Medical students exhibited several communication behaviors that participants described as effective for PPC in the videos. However, nine key behaviors for competent communication with patients with communication disorders were identified from the focus group discussions, which are summarized in Table 2 and then described below. The behaviors are listed sequentially as they would likely occur during a medical encounter, not by order of importance. The behaviors were identified based on the frequency with which they were mentioned and participants' statements about their importance. These behaviors included a focus on the specific communication strategies medical students used, as well as how they used these strategies when interacting with the SPs. In addition, participants discussed at length how medical students presented themselves during the interviews and general interview skills they demonstrated in the videos in regards to effective PPC with patients with communication disorders.

---

**Table 2.** Key Behaviors for Effective Patient-Provider Communication

---

1. Familiarize yourself with the patient's preferred method of communication.
  2. Respectful Communication helps build the patient-provider relationship.
  3. Be flexible with strategies.
  4. Be consistent with strategies.
  5. Overly restrictive strategies can be detrimental to communication and rapport.
  6. Body language communicates important information.
  7. Slow down the rate of communication.
  8. Confirming understanding is vital.
  9. Don't forget general interview skills.
- 

### **1. Familiarize yourself with the patient's preferred method of communication.**

Participants discussed the importance of medical students asking patients about their preferred method of communication as part of effective PPC, stating “you might not know what the patient is capable of.” Familiarization with the patient's preferred method of communication is a strategy taught in the PPC-CD seminar as part of the FRAME mnemonic, and participants reported that most medical students remembered to ask this question. For example, one participant stated “I think almost all of them asked if there was a way you communicate best which is great.” Participants said it was important for this to be “the first question you ask.” For example, one participant stated “[the medical student] did a good job at the beginning asking preferred communication modality.”

Participants discussed that the main challenge that medical students experienced concerning this communication behavior was allowing patients to use their self-identified preferred communication method as much as was appropriate. Participants also suggested this could indicate respect for the patient. One participant spoke positively of a medical student who “let the patient respond in his primary mode of communication before jumping in to use different

strategies... respecting his primary mode of communication.” Participants also mentioned that the preferred method of communication may not be the most appropriate communication method throughout the interaction, and that medical students must recognize when it is no longer helpful to use this method. One participant stated “I think the first question you should ask is preferred communication modality and then they should hold onto that and work through [other strategies] hierarchically.” If a patient is struggling or unable to communicate with their preferred method, participants said medical students can present patients with different options, allowing them to select what they believe will help. One participant spoke positively of a medical student who presented multiple alternatives for communication and “said ‘Is this helpful to you?’ and they could say yes or no and that seemed really helpful.”

## **2. Respectful communication helps build the patient-provider relationship**

Participants discussed the importance of medical students demonstrating respectful communication when interacting with patients with communication disorders. Participants reported a key part of being respectful to this population was “seeing the patient, not the disorder.” “Normalizing the interaction,” and interacting with patients with communication disorders like any other patients were emphasized for promoting effective PPC. Participants' characterization of respectful communication behaviors they observed in the videos included what medical students said to patients, as well as how they said it; medical students' body language and intonation; and medical students' honesty about acknowledging communication breakdowns. Participants discussed the importance of using clear and simple statements “without being overly simplified or patronizing” when speaking to patients. They also talked about the need for medical students to be mindful of how they word statements. For example, one

participant mentioned that “when [the medical student] didn’t understand the patient, he said ‘let’s go to the basic questions’ which was very condescending.”

Participants discussed the majority of medical students demonstrating respectful body language, which consisted of maintaining appropriate eye contact, facing the patient, and leaning toward the patient to demonstrate engagement in the conversation. Appropriate body language was said to increase the patient’s motivation to participate. One participant stated medical students should “make eye contact [and] be respectful. It’s going to be a lot harder for [the patient] to keep trying if they feel like everything is going poorly all the time.” Another participant mentioned that a medical student “made a lot of good eye contact with the patient, which I think people can be intimidated by someone with a communication disorder so I appreciated that.” In contrast, participants reported that abnormal facial expressions and body language medical students used made encounters “awkward.” One participant discussed a medical student “smiling while the patient’s struggling to say something” and that this was “not a normal time to smile in general” which may make the situation uncomfortable.

Participants also discussed the importance of medical students maintaining a “neutral” intonation, which “gives the adult client dignity.” One participant mentioned they liked that a medical student kept “a neutral face, and looked like she was trying to think of the word with the patient” to show she was still engaged in the conversation. Participants cautioned against “overly excited [reactions] or a marked change in affect when you guess or land on something correctly,” which “can really be insulting.”

Also, participants discussed the importance of asking patients for permission prior to doing things with the client. For example, one participant mentioned that a medical student

should have “asked if she could put her hands on [the patient’s] face or get closer” because this “just felt a little intrusive” and was not respectful of personal boundaries.

Finally, participants discussed the importance of medical students being honest when communication breakdowns occur. One participant said they felt most of the medical students were “acknowledging when [they] don’t understand the patient” and “being honest and upfront about that instead of just pretending to guess what they said.” Rather than pretending to understand, participants spoke about demonstrating respect for patients by “making it a problem solving moment.” Participants talked about working together to repair the breakdown rather than “relying on the patient to do all the work.” This strategy of making communication a team effort puts “more pressure on you and off of [the patient]” which can build rapport and respect.

### **3. Be flexible with strategies.**

Participants discussed the need for medical students to be flexible with their use of communication strategies until they find a strategy that is successful. For example, one participant stated “[the medical student] did really well at noting when a strategy wasn’t working and changing to try something else to get the message.” Participants identified flexibility as a challenge for medical students. One participant stated they noticed a pattern of “perseveration of the medical student on a strategy instead of realizing a strategy is not working and trying something else.” Another student stated the medical students were “not taking time to explore what works best for [the patient] or what they’re capable of.” Instead, medical students “try one thing and it works, and [they] assume that’s the best way to get all of the answers.”

### **4. Be consistent with strategies.**

In addition to being flexible with strategies they use, participants discussed the importance of medical students being consistent with implementing useful communication

strategies with their patients. For example, one participant spoke positively of a medical student who “made a valiant effort at setting up a system that would work for him to get the information... and sticking with that.”

Participants identified this as a challenge for all medical students. One participant said “I think with all of them there’s an issue of consistency... using a strategy.” Participants also warned that strategies may only help communication for a limited period of time, and that medical students should monitor the effectiveness of strategies throughout an entire medical encounter with periodic checks for reliability of answers. For example, one participant commended a medical student who “realized open ended questions were not going to work so she used yes no throughout and that she verified the system.” In contrast, one participant talked about a medical student who “used open ended questions pretty consistently throughout even though it was too broad of an option rather than realizing this is too much, we need to narrow it down and sticking with that.”

##### **5. Overly restrictive strategies can be detrimental to communication and rapport.**

Participants acknowledged that most medical students they observed attempted to use some type of supportive communication strategies during the interviews, but that often the strategies chosen were more restrictive than the patients needed. One participant stated “[the medical student] said to the patient ‘you can just say yes or no.’ But what if he wants to say more than that?... Why does it need to be drilled down to yes and no?” Participants stated that medical students were sometimes “taking the communication deficit too far” and that “just because you have [a strategy] doesn’t mean you need to use it” because sometimes the patient “could clearly verbalize” more complex answers. Participants warned that when medical students use overly restrictive strategies, it can potentially damage rapport and decrease the efficiency of

communication. For example, one participant stated a medical student “was just asking yes/no questions and... I feel like he could have easily verbalized it and it would have saved her time and could have also come across as condescending.”

Participants discussed a possible solution to assist medical students with avoiding this problem. They suggested having medical students follow a hierarchy of least to most restrictive communication strategies, depending on the severity of the patients’ communication disorders. Participants stated that if the training seminar could “provide [the medical students] with some general hierarchy,” they could “establish a flow of how [they’re] going to do things” within an interview and would be less likely to resort to overly restrictive strategies.

#### **6. Body language communicates important information.**

Participants discussed the importance of medical students being aware of their body language, as well as that of their patients, as it can communicate meaningful information beyond respect for the patient. Participants talked about medical students maintaining appropriate body language to show they were “engaged and genuinely trying to listen and understand” during interviews. Appropriate body language included “a lot of good eye contact,” facing the patient, and “sitting forward”. Participants warned that poor body language, such as “really intense... staring” eye contact, excessive gestures, and “leaned back” body posture can be perceived as “patronizing or awkward” and impede communication. For example, participants reported medical students being “overwhelming with the gestures” and using “excessive head nodding” to indicate they understand. Also, one participant described a medical student that “had inappropriate facial expressions when communicating” such as “scrunching her face up and being quite awkward” when “she knew [the communication] wasn’t going well.”

Participants discussed that medical students also needed to monitor the body language of their patients because “this is a population that might be using a lot of gestures so it is good to pay attention to what they’re communicating physically and not just audibly.” For example, one student stated that when they are determining the appropriate time to step in and provide communication support, they “gauge it off the patient... I’m looking at their facial expressions... and you can look at their mouth like are they going to speak or are they using their hands to gesture some.” One participant said you can see if a patient is “actively trying to say something or... actively pointing to something.” All of these parts of body language can communicate information or demonstrate that a patient is still attempting to communicate. In comparison, participants said patient body language such as “a vacant stare” can indicate when the patient has expressed their message or is ready for the medical student to help them communicate. Participants said that sometimes medical students were not attending to the patient’s body language and were missing important information. For example, one participant mentioned a medical student who did not “watch the patient’s facial expressions for signs of confusion” and “sometimes went on to the next thing or didn’t follow back up with additional key word writing or visual cues to get that correct answer and establish a reliable answer.”

## **7. Slow down the rate of communication.**

Participants discussed the benefits of medical students decreasing the rate of conversation for improving the patient’s comprehension of information and ability to express themselves. One participant spoke positively of a medical student who “maintained a slower rate of speech with questions [and] comments throughout,” stating they felt “that was a good pace.” In addition to speaking at a slower pace, participants mentioned it was vital for medical students to provide enough time for patients to process information and formulate a response. One participant spoke

positively about a medical student who had “pretty good wait time” and who “let the patient communicate first and process.”

Participants discussed “chunking information” into pieces by asking one question or providing one piece of information at a time as another helpful communication strategy for decreasing the rate of communication by allowing more time for patient comprehension. Participants said this was a helpful strategy because it “delineated what the topic is and [moved the conversation] forward in an organized way.” Participants spoke positively about students who “used shorter sentences” and were “chunking a [topic] into two things and starting with half.” One participant mentioned that a medical student “was good at waiting for the patient to respond... she would ask a good question and observe the patient for several moments before deciding to interject again.”

Participants mentioned chunking information was a challenge for many medical students, who reportedly “shared a lot of information at once” and used “longer statements and multiple step directions.” One participant stated “I don’t think [the medical student] was giving the patient enough time to process some of that, and then she was firing with multiple questions right after so that definitely didn’t help that situation.” Participants stated that the key to chunking information was to “wait, get an answer, slow down, and see [what] the patient is trying to get across before moving on.”

Participants suggested that an appropriate pace of conversation “depends on the patient.” A strategy participants discussed for determining a good rate was considering the patient’s type(s) of disorder. One participant stated “allowing time for processing is obviously more important for aphasia than it would be for dysarthria” since aphasia more typically causes

deficits in language comprehension than Parkinson's Disease, which often primarily affects speech.

### **8. Confirming understanding is vital.**

Participants discussed the importance of medical students confirming that they understand information the patient is communicating to prevent miscommunications, and to not pretend to understand when communication breaks down do occur. Participants said this was important because "it helps the client to know that [the medical student] is really listening and that [they] get it." One participant also stated they found it helpful when a medical student "did a nice summary at the end [of the interview] to kind of clarify that they were on the same page."

Strategies for confirming understanding that were discussed by participants included "summarizing at the end and... confirming what [the medical student] heard throughout;" immediately "repeating back what [they] understood the patient say;" and "rephrasing" the patient's message back to them for confirmation. Participants also discussed checking for understanding once throughout a session is not enough. One participant stated "most of [the medical students] do checks for understanding. It's just an issue of how frequent and consistent that those happen." Participants warned that students not checking for understanding could decrease the accuracy of information being communicated and damage rapport with patients. One participant stated "[the medical student] didn't confirm what the client was saying before writing notes, and I think that as a patient I might be worried 'What are you writing if you don't know what I just said?'"

In addition to medical students confirming they understand the patient, participants discussed the importance of medical students confirming that patients understand them to ensure the patient is understanding their treatment plan. One participant said medical students appeared

to be “focused more on their own comprehension of what the patient was coming there for but there wasn’t a ton of checking in...to make sure the patient was leaving the session knowing what happened.” One participant mentioned that medical students should look for signs that the patient does not understand and “follow back up with additional key word writing or visual cues to get that correct answer and establish a reliable answer.”

### **9. Don’t forget general interview skills.**

Participants discussed the importance of medical students maintaining the use of general interview skills they had previously learned in their medical education when working with patients with communication disorders. These skills help medical students organize the conversation and build rapport. General interview skills are skills that also apply to interviews with patients without communication disorders.

One potential problem participants discussed that caused the medical students to forget to use general interview skills was having a large “cognitive load involved in having to get information from your patient.” This “cognitive load” was reportedly causing medical students to “forget to give the nice, robust explanations you would usually give to a patient about what’s going on... or the options that are available to them.” This led to “a paucity of information given to the client” which may have decreased the quality of medical encounter. This large “cognitive load” also reportedly led to disorganized conversations. One participant stated:

[Medical students are] so focused on using these communication strategies or trying to communicate that they not holding onto information they’re collecting and then they’re asking the same question or asking a question that doesn’t matter if they could remember what the patient told them.

Participants also talked about medical students having a disorganized progression of their conversations and “jumping between... one topic to the other without announcing [a topic change].”

Participants mentioned a helpful organization strategy was taking “notes for [oneself] to kind of outline what had crossed of [their] list in terms of getting information from the patient.” Participants also said taking notes helped medical students “more effectively move through the conversation.” One medical student was highlighted for using her own notes discretely as a form of key word writing. The medical student said to the patient “I’m going to make some notes for myself” and a participant stated “she didn’t make it about the fact that this [strategy] is to help [the patient] understand, it was very conscious of the person’s feelings and she took the weight of it.”

Participants also related the use of general interview skills to respectful communication and “normalizing the interaction” by not treating patients with communication disorders differently from other patients. One skill that was reportedly important for “normalizing the interaction” was introducing oneself clearly. Participants spoke positively of one medical student for “a really nice introduction of who she was and why she is here” and another medical student who “shook [the patient’s] hand at the beginning of the interaction.” Another skill that participants discussed for building rapport was providing a clear conclusion with a summary of the plan of care, which is respectful and helps ensure the patient leaves with a clear understanding of their medical encounter. Participants spoke positively about medical students who “confirmed that [they] could help the patient” and at the end of the interviews asked, “Is there something else you want to tell me?” to check whether the patient had something else to discuss.

## DISCUSSION

The primary purpose of this study was to identify key communicative behaviors medical students use to demonstrate competence when communicating with patients with communication disorders. Identifying these salient communication behaviors can then aid researchers in modifying the existing measurement tool for communication competence to improve its reliability and validity, and to make it more efficient to administer. The results of this study suggest nine key behaviors contribute to demonstrating communicative competence when interacting with patients with communication disorders.

Results of this study also indicated that certain communicative behaviors are the foundation of a successful medical interaction with patients with communication disorders, including use of general interview skills and respectful communication. These foundational skills help medical students build rapport and follow a logical flow of information with the patient. Other identified communication behaviors are also important for facilitating effective PPC, but will be less effective without this foundation of communicating respect and remembering to use general interview skills. Thus, participants in this study suggested that some of the skills needed to demonstrate communication competence with patients with communication disorders are those that medical students are already learning to demonstrate with any patient they encounter.

Some of the difficulties participants noticed medical students experiencing could indicate that medical students are unfamiliar with their patient's communication abilities or the strategies available for supporting communication. For example, medical students often used strategies that were overly restrictive communication strategies which indicates they were unfamiliar with their patient's communicative abilities. Also, results suggest it may be

beneficial to re-evaluate the content of the PPC-CD training seminar, as some of the nine key communicative behaviors are not included in the FRAME mnemonic that is taught during seminar, including avoiding overly restrictive strategies and confirming understanding. While evaluations of medical students' communication indicated this training seminar is effective, adding the key communicative behaviors that are missing from FRAME to the curriculum could further increase the overall quality of communication of medical students following the seminar.

This research may also be useful for speech-language pathologists. Speech-language pathologists are tasked with advocating for patients with communication disorders and educating colleagues in other professions about how to effectively communicate with these patients. The nine key communicative behaviors identified from this study as contributing to communicative competence with patients with communication disorders could serve as an educational resource when SLPs or student SLP clinicians provide in-service meetings or trainings for colleagues in other disciplines who also work with patients with communication disorders. By improving the communication skills of a facility's staff, SLPs can also improve patient safety and satisfaction with their healthcare services.

### **Study Limitations**

This study had a few key limitations. First, study participants were provided a limited amount of medical student interview content to discuss. Only four medical student interview videos were presented per focus group, and different key communication behaviors may have been identified with more video examples. Also, the videos presented had standardized patients portraying only two communication disorders. Had there been additional types or severity levels of communication disorders portrayed, medical students may have demonstrated different communication behaviors when interacting with them. However, maintaining a small number of

interview videos allowed more time for discussion during the focus groups. This may have led to a more rich discussion than if there were more videos to watch and discuss in the same amount of time.

The medical student videos presented also represented a more limited set of medical interactions than occur in a typical medical encounter. During interviews with standardized patients, the medical students' goal was to support the communication of the standardized patient so this patient could express a medical concern. This was a challenging task, but did not require medical students to provide diagnostic information or treatment options to the patient. It is possible that with medical students also required to explain diagnostic and treatment information to standardized patients with communication disorders, that participants would have identified different key communication behaviors to represent competence interacting with the standardized patients. Despite this limitation, some of the communication strategies taught such as key word writing, slowing down communication speed, and familiarizing oneself with the patient's preferred method of communication can be used to support verbal expression and auditory comprehension throughout a medical encounter. Thus, key communication behaviors identified by participants may not have been drastically different than those identified in the current study.

Finally, this study was limited by the sample of participants used. Participants in this study represented a convenience sample who all attend the same university graduate program and live in the same area, which could create biases in the key communication behaviors identified. Also, this study recruited graduate SLP students, not fully licensed SLPs. Had this study been conducted using SLPs with several years of clinical experience working with people with communication disorders as participants, the discussion content and key communication

behaviors identified may have been different. However, this was a preliminary study exploring the key behaviors involved in demonstrating communicative competence and the level of expertise of graduate students was determined to be sufficient for identifying general behavioral trends across medical students and it provided useful information to inform the modification of the existing measurement tool.

### **Future Directions of this Research**

Results of this study can be used to modify the existing rating tool to create a more sensitive and efficient measure of medical students' competence in communicating with patient with communication disorders. However, there are challenges that will accompany the modification of the rating tool. First, researchers will need to operationalize the communicative behaviors being measured. This means creating a discrete and measurable definition of the target behavior so it can be reliably observed and measured within and across raters. This is a challenging task considering the appropriateness of certain behaviors can vary between patients. For example, rate of conversation should be slower for patients with auditory comprehension deficits, but it may be appropriate to maintain normal conversational pace for people without comprehension deficits out of respect for their communicative abilities. Once defined, researchers must determine how to best measure these key behaviors. The previous rating tool implemented a checklist of observed behaviors, and a VAS to measure the overall quality of performance with communication skills taught during the training seminar. This method was inefficient for raters to complete, and the tool was not sensitive enough to capture the cause of some increases in medical students' quality of communication; researchers will need to determine a more reliable and time-efficient measure of skills.

Once a new measurement tool has been developed, the reliability and efficiency of this tool will need to be evaluated. One initial step in evaluating the revised instrument is cognitive interviewing. Cognitive interviewing is an interview strategy in which the interviewee is provided prompts and allowed to answer questions with minimal interruptions, and interviewers ask follow up questions after their responses (Baylor, Burns, Eadie, Britton, & Yorkston, 2011). The purpose of cognitive interviewing is to allow interviewees to provide thorough responses. Cognitive interviewing may involve participants using the modified instrument to rate the communicative competence of medical students in the same types of video clips as used in this study, and then researchers asking them about the use of the instrument. Questions may include how easy it was to use, whether it was effective in capturing communicative competence, and what they would change about the tool. Results of cognitive interviewing will be used to assess and made additional modifications to the rating tool.

## **CONCLUSION**

Effective patient-provider communication has been linked to patient safety and satisfaction with healthcare services. Patients with communication disorders are at three times higher risk of experiencing adverse effects from breakdowns in communication with healthcare providers than patients without communication disorders. However, few medical students and other health care providers receive training in how to communicate effectively with this patient population. The University of Washington has created a training seminar for medical students focused on patient-provider communication with patient who have communication disorders. Results of this study identified nine key behaviors that indicated communicative competence with this patient population. These key behaviors should be used to create a more sensitive and

efficient tool for measuring the communicative competence of health care providers interacting with patients with communication disorders.

## REFERENCES

- Aspegren, K., & Lønberg-Madsen, P. (2005). Which basic communication skills in medicine are learnt spontaneously and which need to be taught and trained? *Medical Teacher*, 27(6), 539–543. <https://doi.org/10.1080/01421590500136501>
- Baile, W., Buckman, R., Lenzi, R., Glober, G., Beale, E., & Kudelka, A. (2000). A six-step protocol for delivering bad news: Application to the patient with cancer. *The Oncologist*, 5(4), 302–311.
- Bartlett, G., Blais, R., Tamblyn, R., Clermont, R. J., & MacGibbon, B. (2008). Impact of patient communication problems on the risk of preventable adverse events in acute care settings. *CMAJ : Canadian Medical Association Journal*, 178(12), 1555–1562. <https://doi.org/10.1503/cmaj.070690>
- Baylor, C., Burns, M., Eadie, T., Britton, D., & Yorkston, K. (2011). A Qualitative Study of Interference With Communicative Participation Across Communication Disorders in Adults. *American Journal of Speech-Language Pathology*, 20(4), 269–287. [https://doi.org/10.1044/1058-0360\(2011/10-0084\)](https://doi.org/10.1044/1058-0360(2011/10-0084))
- Berkhof, M., van Rijssen, H. J., Schellart, A. J. M., Anema, J. R., & van der Beek, A. J. (2011). Effective training strategies for teaching communication skills to physicians: An overview of systematic reviews. *Patient Education and Counseling*, 84(2), 152–162. <https://doi.org/10.1016/j.pec.2010.06.010>
- Boissy, A., Windover, A. K., Bokar, D., Karafa, M., Neuendorf, K., Frankel, R. M., ... Rothberg, M. B. (2016). Communication Skills Training for Physicians Improves Patient Satisfaction. *Journal of General Internal Medicine*, 31(7), 755–761. <https://doi.org/10.1007/s11606-016-3597-2>

- Brown J. (2008). How clinical communication has become a core part of medical education in the UK. *Medical Education*, 42(3), 271–278.
- Burns, M. I., Baylor, C. R., Morris, M. A., McNalley, T. E., & Yorkston, K. M. (2012). Training healthcare providers in patient–provider communication: What speech-language pathology and medical education can learn from one another. *Aphasiology*, 26(5), 673–688. <https://doi.org/10.1080/02687038.2012.676864>
- Doyle, C., Lennox, L., & Bell, D. (2013). A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*, 3(1). <https://doi.org/10.1136/bmjopen-2012-001570>
- Hemsley, B., & Balandin, S. (2014). A Metasynthesis of Patient-Provider Communication in Hospital for Patients with Severe Communication Disabilities: Informing New Translational Research. *Augmentative and Alternative Communication*, 30(4), 329–343. <https://doi.org/10.3109/07434618.2014.955614>
- Hemsley, B., Werninck, M., & Worrall, L. (2013). “That really shouldn’t have happened”: People with aphasia and their spouses narrate adverse events in hospital. *Aphasiology*, 27(6), 706–722. <https://doi.org/10.1080/02687038.2012.748181>
- Kagan, A. (1998). Supported conversation for adults with aphasia: methods and resources for training conversation partners. *Aphasiology*, 12(9), 816–830.
- Legg, C., Young, L., & Bryer, A. (2005). Training sixth-year medical students in obtaining case-history information from adults with aphasia. *Aphasiology*, 19(6), 559–575. <https://doi.org/10.1080/02687030544000029>
- Makary, M. A., & Daniel, M. (2016). Medical error—the third leading cause of death in the US. *BMJ*, 353, i2139. <https://doi.org/10.1136/bmj.i2139>

- Mauksch, L. B., Dugdale, D. C., Dodson, S., & Epstein, R. (2008). Relationship, Communication, and Efficiency in the Medical Encounter: Creating a Clinical Model From a Literature Review. *Archives of Internal Medicine*, *168*(13), 1387–1395. <https://doi.org/10.1001/archinte.168.13.1387>
- Rees, C., Sheard, C., & McPherson, A. (2004). Medical students' views and experiences of methods of teaching and learning communication skills. *Patient Education and Counseling*, *54*(1), 119–121. [https://doi.org/10.1016/S0738-3991\(03\)00196-4](https://doi.org/10.1016/S0738-3991(03)00196-4)
- Sheldon LK. (2005). Communication in oncology care: the effectiveness of skills training workshops for healthcare providers. *Clinical Journal of Oncology Nursing*, *9*(3), 305–323. <https://doi.org/10.1188/05.CJON.305-312>
- Simmons-Mackie, N. N., Kagan, A., O'Neill Christie, C., Huijbregts, M., McEwen, S., & Willems, J. (2007). Communicative access and decision making for people with aphasia: Implementing sustainable healthcare systems change. *Aphasiology*, *21*(1), 39–66. <https://doi.org/10.1080/02687030600798287>
- Teutsch, C. (2003). Patient–doctor communication. *Medical Clinics of North America*, *87*(5), 1115–1145. [https://doi.org/10.1016/S0025-7125\(03\)00066-X](https://doi.org/10.1016/S0025-7125(03)00066-X)
- Yorkston, K. M., Baylor, C. R., & Burns, M. I. (2016). Simulating Patient Communication Strategies. *ASHA Leader*, *21*(3), 46–51.
- Yorkston, K. M., Baylor, C. R., Burns, M. I., Morris, M. A., & McNalley, T. E. (2015). Patient Provider Communication: Roles for SLPs and Other Health Care Professionals. In *Patient Provider Communication: Roles for SLPs and Other Health Care Professionals* (pp. 37–69). San Diego, CA: Plural.

Zolnierak, K. B. H., & DiMatteo, M. R. (2009). Physician Communication and Patient Adherence to Treatment: A Meta-Analysis. *Medical Care*, 47(8), 826–834.

## **APPENDIX A: Recruitment Email**

Hi SLP grad students,

I am a second year grad student looking for participants in my thesis study. The study is titled "Exploring the Quality of Communication during Interactions between Medical Students and Standardized Patients Portraying Communication Disorders." I am investigating what key behaviors indicate medical students are competent communicators when speaking with communication-impaired patients.

If you are interested, participation entails attending one 2-3 hour focus group during which you will see videos of medical students conducting brief interviews with standardized patients portraying communication disorders, and then discuss the key features of competent communication. I know this is a long time so snacks will be provided! Following the focus group session, I will send out a brief survey to follow up on our discussion. Please note that participation will not affect your academic standing.

My goal is to conduct 2 focus group sessions with 7 participants each (14 participants total). The focus groups will be held on April 19th and April 26th beginning at 2:30 PM. If you would like to participate, please email me at (email) or text/call me at (phone number) with your name, email, and the focus group you would like to participate in. Let me know if you have any questions.

Thanks!

## APPENDIX B: Consent Form

### UNIVERSITY OF WASHINGTON CONSENT FORM

#### Exploring the Quality of Communication during Interactions between Medical Students and Standardized Patients Portraying Communication Disorders

Investigators	Title	Department	Address	Email	Phone
Michael Burns, Ph.D., CCC-SLP	Lecturer and Researcher, Primary Investigator	Speech and Hearing Sciences	Box 354875	<a href="mailto:mburns@uw.edu">mburns@uw. edu</a>	206-685- 3355
Margaret Despres, B.S.	Graduate Student, Contact person for subjects	Speech and Hearing Sciences	Box 354875	<a href="mailto:mdepres@uw.edu">mdepres@u w.edu</a>	206-685- 3355
Carolyn Baylor, PhD, CCC-SLP	Acting Assistant Professor, Study Coordinator	Rehabilitation Medicine	Box 356490	<a href="mailto:cbaylor@uw.edu">cbaylor@uw. edu</a>	206-221- 3563
Kathryn Yorkston, PhD, BC-ANCDS	Professor	Rehabilitation Medicine	Box 356490	<a href="mailto:yorkston@uw.edu">yorkston@uw .edu</a>	206-543- 3345

#### **Researchers' statement**

We are asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the purpose of the research, what we would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When we have answered all your questions, you can decide if you want to be in the study or not. This process is called "informed consent." We will give you a copy of this form for your records.

#### **PURPOSE OF THE STUDY**

Effective communication between doctors and their patients is important for improved patient health and satisfaction. It also helps decrease medical costs and malpractice claims. However, it is currently unclear which communication behaviors are the most important and effective for

health care providers to demonstrate to ensure high quality interactions with patients who have communication disorders. The purpose of this study is to explore communication during mock medical interactions between medical students and standardized patients portraying communication disorders to begin to identify effective, high-quality communication behaviors to inform the development of a communication skills training program and communication measurement tool.

### **STUDY PROCEDURES**

If you decide to be in this study, you will participate in a focus group. This focus group will consist of a single session lasting approximately 2-3 hours, and will involve up to 7 members (including you) as well as the researchers listed above. The focus group will occur in the UW Speech and Hearing Clinic.

During the focus group, you will be asked to watch a series of 4-6 pre-recorded mock medical interviews (lasting approximately 10 minutes each) between medical students and standardized patients portraying communication disorders. You and the other focus group members will then be asked to discuss the communication behaviors you observed medical students demonstrate, including those that you would consider to be effective or high-quality, and those that would be considered ineffective or low-quality. Examples of questions you will be asked include, “For this specific video, what worked for successful communication? What didn’t work?” and “What were the similarities and differences in communication you noted across all interviews?”

You do not have to answer every question during the focus group. There are no right or wrong answers to any of the questions. The focus group is expected to last no more 3 hours, with a scheduled break. However, you can take breaks during the focus group whenever you need them.

We would like to audio record and then transcribe discussions from this focus group to have accurate information. The recordings will be kept in a secure location until we have completed all of the focus groups and gathered all of the information. These recordings will be destroyed no later than one year after they are collected, or by December 31, 2018.

Once we have collected all of the information during the focus groups we are conducting, we will send you a link to an online survey to complete as part of this study (within approximately 1-2 weeks of your participation in the focus group). This survey will ask you to rank a list of effective communication behaviors developed from the focus groups to indicate which behaviors you feel are the most important for effective, high-quality communication. This survey will take approximately 5-10 minutes to complete.

### **RISKS, STRESS, OR DISCOMFORT**

Some people may feel self-conscious when taking part in a focus group. There are no right or wrong answers to the questions. You do not have to answer every question. Some people may feel self-conscious being audio recorded.

### **ALTERNATIVES TO TAKING PART IN THIS STUDY**

You can choose not to take part in this study. You can also choose to provide answers only for certain questions and not others. You can also choose to end your participation in the focus group at any time, or take breaks as needed.

## **BENEFITS OF THE STUDY**

You may not directly benefit from taking part in this study. We hope the results of this study will help to identify important effective communication behaviors to train health care providers to use when communicating with patients with communication disorders, as well as measure before and after this training.

## **CONFIDENTIALITY OF RESEARCH INFORMATION**

Only researchers involved in this study will have access to identifiable information you provide as part of the study. We will keep this information confidential. We will assign a unique study code to your responses. We will keep personal identifiers in a secured location, separate from the study data until no later than one year after your focus group is completed, at which time we will destroy the link. If the results of this study are published or presented, we will not use your name. We will not use audio recordings in public presentations.

Government or university staff sometimes review studies such as this one to make sure they are being done safely and legally. If a review of this study takes place, your records may be examined. The reviewers will protect your privacy. The study records will not be used to put you at legal risk of harm.

## **OTHER INFORMATION**

You may refuse to participate and you are free to withdraw from this study at any time without penalty or loss of benefits to which you are otherwise entitled. Participants will not be compensated for participation in this study.

## **RESEARCH-RELATED INJURY**

If you think you have a medical problem or illness related to this research, contact Michael Burns at 206-685-3355 or email at [mburns@uw.edu](mailto:mburns@uw.edu) right away. He will refer you for treatment. If it is an emergency, please dial 9-1-1 immediately.

## **Participant's Statement**

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later about the research, or if I have been harmed by participating in this study, I can contact one of the researchers listed on the first page of this consent form. If I have questions about my rights as a research subject, I can call the Human Subjects Division at (206) 543-0098 or call collect at (206) 221-5940. I will receive a copy of this consent form.

## APPENDIX C: Code Book

<b>Name</b>	<b>Description</b>
General Interview Skills	Concepts: preparedness, introduction at beginning of interview, note taking, organization, asking well worded questions
Respectful communication	The medical student acts or communicates in a respectful manner towards the patient
Body Language	The medical student's body language, including eye contact, orientation to the patient, and positioning
AAC Use	Use of alternative/augmentative communication devices (e.g. alphabet board, picture board, white board)
Multimodal Communication	The medical student's use of multiple forms of communication at once (e.g. verbal expression paired with key word writing or gestures)
Confirming Understanding	The medical student attempts to confirm they understand the patient and the patient understands them with recasting and summarization
Using patient-specific methods	The medical student uses/consistently uses a strategy that has worked for that patient
Repairing Breakdowns	The medical student attempts to repair breakdowns through rephrasing, using lay terms, and recasting, simplification of information
Confirming reliability of answers	The medical student checks the reliability of the patient's responses for yes/no questions and more open ended questions
Familiarization with Preferred Communication Method	The medical student asks about the patient's preferred method of communication or follows through with the patient's requested primary mode of communication
Rate	The medical student adjusts the rate of the conversation, including slowing down their verbal expression and providing extra processing or response time
Chunking Information	The medical student speaks in short sentences with pauses; asks one question at a time

---

Comparison	Participants make comparisons between behaviors of different medical students
Good Quotes	Notable quotations from participants during the focus groups

---

## **APPENDIX D: Most Frequently Mentioned Communication Behaviors**

11 most frequently mentioned behavior throughout the 2 focus groups, in order of most to least frequent.

1. Flexibility with use of communication strategies
2. Summarizing/recasting periodically
3. Familiarizing with the patient's preferred method of communication
4. Using respectful and engaging body language (e.g. eye contact)
5. Providing extra time for patients to process information and respond
6. Confirming understanding of information
7. Rephrasing and repairing communication breakdowns
8. Adjusting rate of speech to meet client's needs
9. Using AAC methods as indicated/necessary
10. Using gestures in conjunction with speech (verbal language)
11. Chunking information; asking one question at a time