ABSTRACT

INTRODUCTION: Assessing and addressing possible deficiencies in medical school training is important for residency programs. Due to virtual rotations and low patient volumes, the COVID-19 pandemic disrupted medical students’ opportunities to practice patient communication. Communication skills are essential for medical students and residents. Continuous participation in communication training can increase the self-efficacy of healthcare professionals. Due to the likely impact of COVID-19, we designed and implemented a tailored workshop that focused on increasing 16 incoming family medicine interns’ level of comfort communicating with patients and their families.

METHODS: Sixteen incoming family medicine interns participated in the workshop during orientation in summer 2021. Workshop activities included personalized communication results, open-ended discussions about breaking bad news and improving health literacy, a medical jargon game, and teach-back method scenarios interacting with mock patients and mock patient’s family members. Pre- and post-assessment surveys were administered electronically. Communication apprehension (PRCA-24) and preferred style of communication (CSM) were measured in the pre-assessment. Satisfaction with the workshop was evaluated post-assessment.

RESULTS: Interns demonstrated average communication apprehension pre-assessment. The most common (n=12) communication style was friendly. Post-assessment findings revealed that most respondents rated the workshop as useful (n=5) and somewhat useful (n=5). Many (n=5) respondents recommended this training. Responses for individual questions ranged from 9 (56%) to 12 (75%) of the 16 interns. Interns suggested future workshops include increased time for the teach-back method scenarios.

CONCLUSION: Interns whose medical school training was impacted by the COVID-19 pandemic found communication training useful. Future workshops should assess changes in communication outcomes post-assessment to determine the impact of the training. Additionally, future studies should consider incorporating a communication theory as a framework to determine appropriate communication activities that can address medical students, interns, or residents’ communication apprehension.

KEYWORDS
communication apprehension, communication training, family medicine interns

INTRODUCTION

Due to low patient volumes and virtual rotations during the COVID-19 pandemic, extensive clinical training for medical trainees was impacted.1,2 Specifically, constraints resulting from the pandemic (e.g., work pace, over-extended hours, physical barriers) have negatively affected communication with patients and minimized communication instructional opportunities for trainees.1,3 Addressing this challenge is necessary to help medical trainees develop effective patient-provider communication,
which is vital for high-quality healthcare. The Accreditation Council for Graduate Medical Education (ACGME) and the Association of American Medical Colleges (AAMC) recommend additional assessment of personal competencies and potential programmatic and/or experiential gaps to support medical trainees’ transition from graduate to post-graduate medical education. It is important for residents across all specialties to acquire interpersonal and communication skills based on the guidelines provided by ACGME and AAMC; however, competencies in these areas are often underdeveloped.

Medical programs can help trainees cultivate self-awareness of their interpersonal and communication skills by engaging in reflection. Reflection involves reviewing, interpreting, and understanding experiences and has been considered from many theoretical perspectives, with premises from Schon’s theory of reflection-in-action. Reflective practices help trainees understand patient experiences, foster professional development, and provide additional empathy to patients. Graduate medical education can help foster reflective awareness in trainees’ communication skills by implementing critical thinking activities.

Medical trainees are often taught to focus on their technical skills; however, communication apprehension (i.e., fear or anxiety communicating with others) is not prevalent addressed to improve trainees’ communication skills with patients, despite studies indicating communication curriculum increases medical student knowledge and skills. Curriculum focusing on clear communication through didactics, demonstrations, and role play has been shown to improve internal medicine residents’ knowledge and skills and increase patient satisfaction scores. Peer role-play in communication curriculum for medical trainees has also been highly received and useful for understanding the patient’s perception of receiving medical care. A previous workshop incorporated role-playing scenarios to improve general surgery residents’ communication skills with cancer patients. Similarly, senior medical residents portrayed a patient when paired with medical trainees during an advanced communication workshop, where trainees had to self-reflect on their communication.

Although previous studies report the benefits of communication curricula and reflection, few studies have implemented validated measurement tools to assess interns’ communication skills before enrolling in residency. Using evidence-based communication scales can help improve medical trainees’ understanding of their baseline communication skills. An analysis of pre-assessment communication skills and implementation of communication curriculum can provide tailored support for medical trainees. Therefore, the training workshop we created utilized a person-centered approach to encourage reflection on an individual’s pre-assessment regarding communication competencies.

It is important to address communication competencies, as previous research reported that the COVID-19 pandemic affected clinical training for medical trainees transitioning from graduate to post-graduate education. We developed and implemented a personalized communication workshop for incoming family medicine interns in Summer 2021. We utilized validated communication assessments in a group of medical trainees whose communication training was limited due to COVID-19 and who may have had communication apprehension with patients and patient’s family members. Our study aimed to describe the design and implementation of a personalized communication workshop that addressed incoming family medicine interns’ communication apprehension through reflective and interactive activities. We also reported the findings of the pre-assessment communication scores for the sample of medical interns and their post-assessment satisfaction scores with the workshop.

**METHODS**

**Preliminary Workshop Preparation**

A workshop was developed and delivered in person during an intern orientation in June 2021 by a family physician educator and an experienced interpersonal health communication educator trained in implementing communication.
assessments. Therefore, the facilitators did not undergo workshop training due to their clinical background and previous experience educating various populations on improving communication skills. The facilitators met twice to discuss the planning and implementation of the workshop before workshop implementation. Two facilitators searched for communication measurement scales, reviewed literature pertaining to previous communication workshops, and drafted a pre-assessment and post-workshop evaluation during the workshop planning meetings (Appendix A). The first meeting focused on selecting 2 appropriate communication measurement scales (Appendix B, D), discussing potential activities, and finalizing the pre-assessment survey that would be electronically distributed to the interns before attending the workshop. After the first meeting, the facilitators analyzed the interns’ responses from the pre-assessment survey and developed individualized reports (Appendix I) to distribute at the workshop. In the second meeting, the facilitators discussed the pre-assessment survey results, selected tailored activities for the workshop based on the results, and established an agenda for the workshop (Appendix J).

To implement the workshop, the facilitators reserved a classroom in the medical residency program’s building containing tables configured for interns to work together in groups of 4 to 6. Interns safely interacted and collaborated with peers in a comfortable space. The classroom contained technological equipment (i.e., projector and computer) used to show an internet-based video; however, we primarily used paper and pencil for most of the workshop. Overall, minimal resources were utilized, enabling a low-cost workshop implementation.

**Workshop Activities**

The workshop described in this paper was implemented at a large, public Southeastern university. The 1-hour workshop included 4 interactive, educational activities to foster reflection: 1) discussion of the interns’ pre-assessment results; 2) open discussions about breaking bad news and improving health literacy; 3) medical jargon game (Appendix F); and 4) teach-back role play scenarios (Appendix G). All workshop activities are outlined in Appendix J. The workshop participants included all 16 incoming interns and the 2 facilitators. During the first 5 minutes of the workshop, the facilitators introduced themselves, highlighting their credentials to deliver the training, and provided a brief overview of the workshop. For the first workshop activity, interns received their personalized communication results from the pre-assessment using separate envelopes with unique codes the interns created when completing the pre-assessment survey. Once the interns received their results, the facilitators described the purpose of the communication assessments and explained how to interpret the results for 5 minutes as interns reviewed their personalized reports.

For the second activity, the facilitators selected 2 case studies from a communication textbook about breaking bad news and improving patients’ health literacy. They had emailed the case studies to the interns prior to the workshop. The activity lasted 10 minutes and involved an open-ended discussion with participants about the case studies, their previous experiences breaking bad news to patients, and how they improved their patients’ health literacy. Breaking bad news is an important topic to discuss since it is common in the clinical setting. Most providers report learning how to deliver bad news through mistakes and observations, which can cause limited opportunities to build rapport with patients. Previous research also reports that providers were unable to identify when their patients had low health literacy, which is further problematic when assisting patients and can cause ineffective patient-provider communication.

The third activity in the workshop was a medical jargon game. We wanted to directly examine the interns’ communication skills on simplifying complex medical terminology with the assumption that their patient had low health literacy. We requested the interns to collaborate in groups of 4 to complete this activity. The medical jargon game lasted 15 minutes and included two 2-minute rounds and a 5-minute open discussion about their challenges and strategies to rephrase medical jargon terms. Medical jargon terms were distributed through separate worksheets per round. The first worksheet (Appendix F) listed 25 terms related to health conditions (i.e., pneumonia, diabetes, celiac disease). Interns were
directed to explain each health condition simply by using plain language and writing no more than 5 words. The second worksheet (Appendix F) listed 28 terms associated with medical procedures (i.e., dialysis, biopsy, PICC line) and disease symptoms (i.e., edema, palpitations, murmur). The same instructions were provided for the second worksheet. The family physician educator scored each group's explanations for the use of plain language and medical accuracy to provide feedback and declare a winning team for the game.

The fourth activity in the workshop was a teach-back role play that lasted 20 minutes. The teach-back activity enabled interns to apply what they learned from the 3 previous activities. We explained teach-back method procedures and had a 3-minute discussion on how to incorporate this strategy with patients. Interns watched a 2-minute video example of a clinician using the teach-back method as a reference. Prior to the workshop, we developed characters and role-play scenarios (Appendix G). The characters were listed on strips of paper and placed in an envelope. Characters included: “Dr” for doctor, “Pt” for patient, and “F” for family member. Interns selected a strip of paper from the envelope and a descriptive sheet of their characters’ names and personality details (i.e., adherent, skeptical) to learn their chosen roles before each round.

We created 2 rounds to allow additional practice and the interns to serve in multiple roles. In the first round, interns were divided into pairs; one intern was a doctor, “Dr,” and the other was a patient, “Pt.” The first round consisted of explaining the patient’s blood pressure medication using a worksheet (Appendix H) as a guide. Interns were divided into groups of 4 for the second round, where 1 was a doctor, “Dr,” 1 was a patient, “Pt,” and the remaining 2 were family members, “F.” The second round included discussing starting the patient on insulin with a mock apprehensive patient and the patient’s family members. After both rounds, we discussed the challenges the interns experienced and the level of difficulty between the 2 rounds (i.e., one-on-one with the patient versus discussions with the patient and family members). The remaining 5 minutes of the workshop were allotted for questions and closing remarks.

Pre-and Post-Assessment

Prior to orientation, an electronic pre-assessment survey was administered to measure the interns’ 1) experience interacting with patients/family members, 2) communication apprehension interacting with patients/family members, and 3) communication style. The survey also assessed generalized communication apprehension and communication style among interns using the Personal Report of Communication Apprehension (PRCA-24) and Communicator Style Measure (CSM), respectively. Table 1 includes additional details about the PRCA-24 and CSM scales. Anonymity was maintained by requiring interns to create a unique code that did not include personal identifying information (i.e., name and date of birth). Participants received their PRCA-24 and CSM results confidentially via envelope at the beginning of the workshop.

Three weeks post-workshop, we sent a post-assessment evaluation via an anonymous online survey that measured interns’ responses to questions about the workshop’s: 1) appropriateness for their level of training; 2) usefulness; 3) difficulty level; 4) overall satisfaction; and 5) suggestions for improvement. Items in the post-workshop survey contained open-ended and closed-ended responses. The University’s Institutional Review Board panel deemed the assessment and workshop exempt from review prior to data collection and implementation.

RESULTS

Pre-Assessment

Communication Apprehension

The PRCA-24 assessment yielded information about the interns’ (n = 16) communication apprehension scores prior to the workshop (Table 1). Table 2 contains the participants’ PRCA-24 scores. The overall PRCA-24 score should range from 24 – 120. Low communication apprehension is 24 - 49, moderate communication apprehension is 50 – 79, and high communication apprehension is 80 – 120. Participants’ scores ranged from 40 to 81; however, the overall mean PRCA-24 score was 53.31 (SD=11.29), indicating moderate communication apprehension among the interns.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Items and Scaling</th>
<th>Example Items</th>
<th>Sub-Scales</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Report of Communication Apprehension (PRCA- 24)(^{20})</td>
<td>• 24 items</td>
<td>“While participating in a conversation with a new acquaintance, I feel very nervous.”</td>
<td>Meetings: Interacting with new patients</td>
<td>PRCA Total: Ranges from 24-100</td>
</tr>
<tr>
<td></td>
<td>• 5-point Likert scale (strongly agree=1; strongly disagree=5)</td>
<td>“Communicating at meetings usually makes me feel uncomfortable.”</td>
<td>Interpersonal: Provider and patient interaction</td>
<td>• &lt;51 = low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Group Discussion: Interacting with the patient and family member at the same time</td>
<td>• 51–80 = average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Public Speaking: Interaction between patient, several family members, and colleague(s) at the same time</td>
<td>• &gt;81 = high</td>
</tr>
<tr>
<td>Communicator Style Measure (CSM)(^{21})</td>
<td>• 51 items</td>
<td>“I really like to listen very carefully to people.”</td>
<td>Communication Styles</td>
<td>PRCA Sub-Scales</td>
</tr>
<tr>
<td></td>
<td>• 5-point Likert scale (strongly disagree=1; strongly agree=5)</td>
<td>“Regularly, I tell jokes, anecdotes, and stories when I communicate.”</td>
<td>1. Friendly</td>
<td>• Meetings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Impression</td>
<td>Low &lt;13; High &gt;20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Relaxed</td>
<td>• Interpersonal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Contentious/Argumentative</td>
<td>Low &lt;11; High &gt;20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. Attentive</td>
<td>• Group Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. Precise</td>
<td>Low &lt;11; High &gt;20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. Animated/Expressive</td>
<td>• Public Speaking</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8. Dramatic</td>
<td>Low &lt;14; High &gt;24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9. Open</td>
<td>• Communication Image</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10. Dominant</td>
<td>• Communication style(s) with the highest score indicate an individual’s preferred communication style</td>
</tr>
<tr>
<td>Communication Image = Personal perception of ability to communicate</td>
<td></td>
<td></td>
<td></td>
<td>• Scores range from 5-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Higher score indicates higher perceived ability to communicate</td>
</tr>
</tbody>
</table>

**TABLE 1:** Description of Measurement Scales Used in the Pre-Assessment
Additionally, PRCA-24 measured communication apprehension related to 4 subgroups: group discussion, meetings, interpersonal, and public speaking. Group discussion measured interns’ communication apprehension interacting with the patient and family members simultaneously, where low communication apprehension was <11 and high communication apprehension was >20. Meetings measured interns’ communication apprehension interacting with new patients, where scores <13 indicated low communication apprehension and scores >20 indicated high communication apprehension with new patients. Interpersonal measured interns’ communication apprehension with patients they see routinely, where scores <11 indicated low communication apprehension and scores >18 indicated high communication apprehension. Public speaking measured interns’ communication apprehension when simultaneously interacting with colleagues, a patient, and the patient’s family members, where scores <14 indicated low communication apprehension and scores >24 indicated high communication apprehension. Mean scores for group discussion (M=13.06; SD=2.62), meetings (M=13.81; SD=2.95), interpersonal (M=13.00; SD=2.94), and public speaking (M=15.44; SD=4.27) demonstrated moderate to low communication apprehension in
each communication context.

**Communication Style**

The CSM assessed the interns’ perceived ability to communicate (i.e., communicator image) and preferred communication style prior to the workshop (Table 1).21 Mean communicator image score was 16.69 (SD=2.50), indicating moderate perceived ability to communicate. Interns were categorized into preferred communication style(s) based on their highest-scored style(s). Some interns exhibited high scores in multiple communication styles. The most preferred style was friendly (75%), followed by animated expressive (19%), relaxed (19%), and precise (19%). Table 3 includes additional CSM Results.

**Post-Assessment**

Twelve of the 16 interns in the family medicine residency program responded to the post-assessment survey (75% response rate). Responses for individual questions ranged from 9 (56%) to 12 (75%) of the 16 interns. Five rated the workshop as “useful,” 5 as “somewhat useful,” and 1 as “not useful.” All respondents rated the workshop as “just right” regarding appropriateness for their level of training. The interns felt various aspects were most helpful, including receiving pre-assessment results, working in teams, learning patient-provider communication from a different perspective, and role-playing. The main challenge identified by the interns was not having adequate time for the teach-back scenarios. Ten interns responded to the Likert scale items (1=extremely unlikely; 5=extremely likely) in the post-assessment. Among the respondents, the average score for recommending communication training to other interns was 3.2 (SD=0.87), participating in another communication workshop was 3.1 (SD=1.04), and using the information learned was 3.7 (SD=0.90).

**DISCUSSION**

We developed and implemented an interactive and reflective communication workshop during the summer 2021 orientation for incoming family medicine interns attending medical school during the COVID-19 pandemic. Based on pre-assessment scores, trainees showed that communication apprehension was moderate, which indicated this skill should be addressed. Throughout the workshop, interns reflected on experiences and skills necessary for patient-provider communication. Interns received their pre-assessment scores, learned about their communication styles, and practiced exercises to help address the challenges of communication apprehension. The interns indicated that the workshop was useful and appropriate for their level of training based on overall communication workshop evaluation scores. The interns also felt they would utilize communication suggestions from our workshop training in future patient interactions.

Our review of communication apprehension literature indicates that moderate levels of communication apprehension are present among trainees,9 and health care professional trainees must continuously participate in communication training to increase their self-efficacy.22 Our workshop represents a novel contribution to addressing communication apprehension during the COVID-19 pandemic. While other medical curriculum addresses this issue by increasing trainees’ perception of their communication,22,23 and interprofessional skills,24 we provided our trainees the opportunity to be aware and reflect on their personal communication skills through the delivery of a pre-assessment and individualized report before participating in our workshop. The interns believed that it was helpful to receive personalized scores.

Our training was unique because we utilized validated communication scales20,21 to measure perceived communication apprehension20 and style of communication21 among interns before attending the workshop. With these results, we implemented tailored activities to address their unique needs regarding patient-provider communication. Additionally, it is possible that a personalized pre-assessment communication score can encourage interns to reflect on their communication styles prior to the training,4 thereby potentially increasing their engagement with the curriculum content during the workshop. We included critical thinking and reflective open-ended discussions about prior clinical experiences to encourage engagement with the workshop material and provided resources such as case studies15 for future resources. We also incorporated interactive activities associated with
health literacy and applied scenarios where they had to communicate with mock patients and their mock family members. However, interns who participated in our workshop recommended additional time for teach-back scenarios. Therefore, the authors recommend that future workshops consider interns’ limited schedules during orientation and implement additional communication discussions and activities in separate workshops. Separate workshops for communication discussions and activities may allow interns additional time to engage in teach-back scenarios.

Although we conducted the workshop during the COVID-19 pandemic, we believe we produced a budget-friendly, effective, and safe workshop. In developing the workshop materials, the facilitators found previous literature regarding communication workshops to be helpful, with consideration that the impact of the workshop could vary because of the context (i.e., different medical specialties, variety of training levels such as PGY-1, PGY-2, or higher). One limitation of our study was a smaller sample size. However, our sample size represents the entire cohort (n=16) of incoming family medicine interns for a single program, comparable with the standard medical residency match programs. Still, our results are limited in their generalizability. Another limitation of the present study is that while interns generally felt they would utilize their new skills, we did not observe if they utilized them in practice after attending the workshop.

Additionally, peer-to-peer feedback and reflection were encouraged after each activity; however, we did not provide direct feedback during the teach-back method exercise. Instead, we provided the trainees with indirect feedback during open conversations at the end of each activity. We refrained from direct supervision during the workshop to minimize increased communication apprehension among interns; therefore, they self-selected their partners and provided direct peer-to-peer feedback. Based on feedback in the post-evaluation, it may be helpful for future workshops to include direct feedback from facilitators during the teach-back scenarios so trainees can adjust their communication strategies between rounds of the teach-back exercise. Additionally, we did not incorporate a theoretical framework; however, it is recommended that future workshops consider using a communication theory as a framework for creating workshop activities pertaining to communication apprehension. Future studies could also expand our training to other groups or levels of medical interns and residents and involve follow-up assessments to determine if they use the communication skills they learned from workshops in future patient interactions.

CONCLUSION

Communication training is warranted, useful, and applicable for incoming medical interns. Findings from our workshop show that implementing communication training for future incoming interns may help address communication apprehension. A continuous communication curriculum for post-graduate medical trainees is essential for improving future patient interactions. We recommend creating communication workshops and trainings after the residents’ skills have been evaluated to help develop tailored training sessions that continue to address identified areas that need improvement. Our study provides insight into a communication workshop’s impact on interns’ communication apprehension; however, additional communication workshops are warranted to increase the quality of future patient-provider interactions. Continuous communication training is essential as we combat the adverse effects of the COVID-19 pandemic resulting from reductions in patient interactions and an increase in virtual clinical rotations, which impacts traditional healthcare training for medical trainees and patient-provider communication.

DISCLOSURE

This study received exemption from the University of Alabama Institutional Review Board (IRB).

AUTHOR AFFILIATIONS

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2. University of California - Davis, Davis, California
3. University of Alabama at Birmingham, Birmingham, Alabama
4. The University of Alabama, Tuscaloosa, Alabama
REFERENCES


Appendix A. Pre-Assessment and Post-Workshop Evaluation

Note to Facilitator: The information below was inserted in Qualtrics and a link was distributed to the interns to complete.

Please see Appendix B and D for the survey items for PRCA-24 and CSM.

Pre-Assessment Survey

Communication Survey: Thank you for taking the time to volunteer to complete this survey. First, you will be asked questions about the timeframe of your most recent interaction with patients and their family members. Secondly, you will be asked to complete two parts of the survey: 1) Personal Report of Communication Apprehension (PRCA-24) and 2) Communicator Style Measure (CSM). Please respond to each statement honestly. Your identity and responses will remain anonymous and confidential. To conceal your identity, you will be required to write 3 random letters and numbers (i.e., BcZ137) in the text box on the next page. Do not provide the initials of your name or use the example "BcZ137" as your response. Please make sure that you do not share your code with anyone. Your results will be shared using an envelope. Your sealed envelope will be placed on a table at an upcoming workshop with your specific code written on the outside, so please be sure to hold on to the code so that you can pick up the correct envelope.

Specific Code

Please create a specific code (i.e., using 3 random letters and 3 random numbers)
**Patient Interaction**

We understand that some residents might have experienced limited interactions with patients due to COVID-19.

When was the last time you interacted with patients?

- Less than one month (1)
- Less than three months (2)
- Less than six months (3)
- Less than one year (4)
- More than a year (5)
- Never interacted with patients (6)

**Family Interaction**

We understand that some residents might have experienced limited interactions with the patient's family members due to COVID-19.

When was the last time you interacted with the patient's family members?

- Less than one month (1)
- Less than three months (2)
- Less than six months (3)
- Less than one year (4)
- More than a year (5)
- Never interacted with patient’s family members (6)

Did you mainly interact with patients face-to-face or virtually?

- Face-to-Face (1)
- Virtually (2)
- Did not interact with patients (3)

Did you mainly interact with the patient's family members face-to-face or virtually?

- Face-to-Face (1)
- Virtually (2)
- Did not interact with patient’s family members (3)
Post-Workshop Evaluation

We are always open to improving our workshops! Please provide your feedback on the recent intern orientation. Please comment on the usefulness, appropriateness, and redundancy of sessions, and give additional feedback. It would be especially helpful to know if you found sessions to be too long or too short, disorganized, etc. If you state that something is "not useful," please leave feedback about why the specific activity was "not useful." If you state that something is "overly redundant," please leave feedback about the activities that should be removed from future workshops. All comments are anonymous and will be used for us to improve future workshops!

<table>
<thead>
<tr>
<th>How useful did you find the 'Communication Workshop' to be?</th>
<th>How would you describe the workshop activities?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Useful (1)</td>
<td>Somewhat useful (2)</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Additional Feedback about Workshop:

Feedback for Workshop Facilitators:

The following questions pertain to the 'Communication Workshop.' Please answer the following questions below:

Describe what was most helpful about the communication workshop.

________________________________________________________________________________

________________________________________________________________________________

Describe what was most challenging during the communication workshop.

________________________________________________________________________________

________________________________________________________________________________

Describe what you think should be included in a future communication workshop.

________________________________________________________________________________

________________________________________________________________________________
Using a scale from 1-5 (1 = Extremely unlikely; 2 = Unlikely; 3 = Neutral; 4 = Likely; 5 = Extremely likely), please answer the following questions:

| How likely are you to recommend this communication training to other medical residents? |
|-----------------------------------|---|---|---|---|---|
| 1 - Extremely unlikely | 2 - Unlikely | 3 - Neutral | 4 - Likely | 5 - Extremely likely |
| ○ | ○ | ○ | ○ | ○ |

| How likely are you to participate in another communication workshop if it is offered? |
|-----------------------------------|---|---|---|---|---|
| 1 - Extremely unlikely | 2 - Unlikely | 3 - Neutral | 4 - Likely | 5 - Extremely likely |
| ○ | ○ | ○ | ○ | ○ |

| How likely are you to use the information you learned in the communication workshop in your future interactions with patients and their family members? |
|-----------------------------------|---|---|---|---|---|
| 1 - Extremely unlikely | 2 - Unlikely | 3 - Neutral | 4 - Likely | 5 - Extremely likely |
| ○ | ○ | ○ | ○ | ○ |

Using a scale from 1-5 (1 = Not at all satisfied; 2 = Slightly satisfied; 3 = Moderately satisfied; 4 = Very satisfied; 5 = Extremely satisfied), please answer the following question:

| How satisfied were you with the communication workshop? |
|-----------------------------------|---|---|---|---|---|
| 1 - Not at all satisfied | 2 - Slightly satisfied | 3 - Moderately satisfied | 4 - Very satisfied | 5 - Extremely satisfied |
| ○ | ○ | ○ | ○ | ○ |
Appendix B: Personal Report of Communication Apprehension (PRCA-24)\textsuperscript{10}

** Items were revised from the original scale for this workshop. **

This instrument is composed of twenty-four statements concerning feelings about communicating with others. Please indicate the degree to which each statement applies to you by marking whether you: \textit{Strongly Disagree} = 1; \textit{Disagree} = 2; \textit{Neutral} = 3; \textit{Agree} = 4; \textit{Strongly Agree} = 5.

1. I dislike interacting with patients and their family members at the same time.
2. Generally, I am comfortable while interacting with patients and their family members at the same time.
3. I am tense and nervous when interacting with patients and their family members at the same time.
4. I like to get involved in conversations with patients and their family members at the same time.
5. Engaging in a group discussion with new patients and their family makes me feel tense and nervous.
6. I am calm and relaxed when interacting with patients and their family members at the same time.
7. Generally, I am nervous when I have to interact with patients and their families at the same time.
8. Usually, I am comfortable when I have to interact with patients and their families.
9. I am very calm and relaxed when I am sharing medical information with patients and their family members.
10. I am afraid to express myself with patients and their family members.
11. Communicating during medical appointments usually makes me uncomfortable.
12. I am very relaxed when answering patients and family members’ questions during a medical appointment.
13. While participating in a conversation with a new patient, I feel very nervous.
14. I have no fear of speaking up in conversations with patients.
15. Typically, I am very tense and nervous in conversations with patients.
16. Typically, I am very calm and relaxed in conversations with patients.
17. While conversing with a new patient, I feel very relaxed.
18. I am afraid to speak up in conversations with patients.
19. I have no fear of presenting medical information to patients.
20. Certain parts of my body feel very tense and rigid when presenting medical information to patients.
21. I feel relaxed when presenting medical information to patients.
22. My thoughts become confused and jumbled when I am presenting medical information to patients.
23. I feel confident giving medical advice to patients and their family members.
24. When presenting medical information to patients and their family members, I get so nervous I forget facts I really know.
Appendix C. Explanation of PRCA-24 Scores\textsuperscript{20}

PRCA-24 measures overall communication apprehension related to communication apprehension using four subgroups (i.e., Group Discussion, Meetings, Interpersonal, and Public Speaking). The overall PRCA-24 score should range from 24 – 120. The lower the score, the more likely the respondent has low communication apprehension (meaning they are comfortable communicating with others). On the other hand, the higher the score, the more likely the respondent has high communication apprehension (meaning they are uncomfortable communicating with others).

**Low Communication Apprehension Score Range:** 24 – 49

**Moderate Communication Apprehension Score Range:** 50 – 79

**High Communication Apprehension Score Range:** 80 – 120

However, the scores measuring each subgroup (see table below) will vary. For the purposes of our workshop, we altered the definitions for each subgroup.

**Group Discussion:** Interacting with the patient and family member at the same time

**Meetings:** Interacting with new patients

**Interpersonal:** Provider and patient interaction

**Public Speaking:** Interaction between patient, several family members, and colleague(s) at the same time

The table below indicates scores that reflect high and low levels of communication apprehension per subgroup. For example, scores that are between the low values and high values (i.e., Group Discussion values of 12-19), means that the respondent has an average level of communication apprehension related to Group Discussion.

<table>
<thead>
<tr>
<th>Subgroups</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Discussion</td>
<td>&gt; 20</td>
<td>&lt; 11</td>
</tr>
<tr>
<td>Meetings</td>
<td>&gt; 20</td>
<td>&lt; 13</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>&gt; 18</td>
<td>&lt; 11</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>&gt; 24</td>
<td>&lt; 14</td>
</tr>
</tbody>
</table>

*Any sub-score above 18 indicates some degree of communication apprehension.*
Appendix D. Communicator Style Measure (CSM) Scale

People typically have their own unique way of communicating with others. The impressions that you make when interacting with others will depend on your communication style. This survey will focus on exploring the way you communicate with others.

There is no “correct” style of communication. Therefore, none of the following items has a right or wrong answer. Please do not spend too much time on a question. Try to answer as honestly as possible. All responses will be strictly confidential.

Please indicate the degree to which each statement applies to you by marking whether you: Strongly Disagree = 1; Disagree = 2; are Neutral = 3; Agree = 4; Strongly Agree = 5

1. I am comfortable with all varieties of people.
2. I laugh easily.
3. I readily express admiration for others.
4. What I say usually leaves an impression on people.
5. I leave people with an impression of me, which they definitely tend to remember.
6. To be friendly, I intentionally acknowledge the contribution from others in a verbal manner.
7. I am a very good communicator.
8. I have some nervous mannerisms in my speech.
9. I am a very relaxed communicator.
10. When I disagree with somebody, I am quick to challenge them.
11. I can always repeat back to a person exactly what they meant.
12. The sound of my voice is very easy to recognize.
13. I am a very precise communicator.
15. The rhythm or flow of my speech is sometimes affected by my nervousness.
16. I come across as a relaxed speaker when under pressure.
17. My eyes reflect exactly what I am feeling when I communicate.
18. I dramatize a lot when I speak.
19. I always find it very easy to communicate on a one-to-one basis with strangers.
20. Usually, I deliberately react in such a way that people know that I am listening to them.
21. Usually, I do not talk people much about myself until I get to know them well.
22. I regularly tell jokes, anecdotes, and stories when I communicate.
23. I tend to nonverbally gesture when I communicate.
24. I am an extremely open communicator.
25. I am a vocally loud communicator.
26. In a small group of strangers, I am a very good communicator.
27. In arguments, I insist on using very precise definitions.
28. In most social situations, I generally speak very frequently.
29. I find it extremely easy to maintain a conversation with a member of the opposite sex whom I have just met.
30. I like to be strictly accurate when I communicate.
31. Because I have a loud voice, I can easily break into a conversation.
32. Often, I physically and vocally act out what I want to communicate.
33. I have an assertive voice.
34. I readily reveal personal things about myself.
35. I am dominant in social situations.
36. I am very argumentative.
37. Once I get wound up in a heated discussion, I have a hard time stopping myself.
38. I am always an extremely friendly communicator.
39. I really like to listen very carefully to people.
40. Very often, I insist that other people document or present some kind of proof for what they are arguing.
41. I try to take charge of things when I am with people.
42. It bothers me to drop an argument that is not resolved.
43. In most social situations, I tend to come on strong.
44. I am very nonverbally expressive in social situations.
45. The way I say something usually leaves an impression on people.
46. Whenever I communicate, I tend to be very encouraging to people.
47. I actively use a lot of facial expressions when I communicate.
48. I frequently use verbal exaggerations to emphasize a point.
49. I am an extremely attentive communicator.
50. As a rule, I openly express my feelings and emotions.
51. Out of a random group of six people, including myself, I would probably have a better communicator style than (select one choice):
   3 of them; 4 of them; 5 of them; 6 of them; None of them
Appendix E. Explanation of CSM Scores

The Communicator Style Measure (CSM) evaluates individuals based on ten distinct types of communication styles, and their overall perception of their communication style (i.e., Communicator Image). CSM provides information pertaining to the most dominant style(s) the respondent prefers to use when communicating with others. The style(s) that the respondent scores the highest, represents their preferred communication style(s).

10 Types of Communication Styles and Definitions

- **Friendly** = being unhospitable and intimate with others
- **Impression Leaving** = manifests a visible or memorable style of communicating
- **Relaxed** = an absence of tension or anxiety
- **Contentious/Argumentative** = communicating in a negative, combative manner
- **Attentive** = making sure others know that they are being listened to
- **Precise** = accuracy and correctness when communicating
- **Animated/Expressive** = using physical, nonverbal cues (i.e., gesturing hands when speaking)
- **Dramatic** = communicating in a way that highlights or understates content
- **Open** = being conversational, possibly outspoken, extroverted
- **Dominant** = tendency to take charge in social situations

**Communicator Image**

The communicator image score represents how the respondents perceive their ability to communicate. For example, if their communicator score is low, then that means they perceive themselves to have a low ability to communicate with others. The overall score ranges from 5 – 25.
Appendix F. Medical Jargon Game Worksheets

Facilitator Instructions:
- Divide interns into teams of 3-5.
- Briefly discuss the importance of avoiding medical jargon when talking to patients, especially with lower health literacy.
- Explain that you will give the interns sheets with medical terminology, and they will be given 2 minutes to write down how they would explain the term to a patient with low health literacy using plain language.
- Interns should try to write out plain language explanations for as many terms, as quickly as possible.
- Discuss with the interns that their answers will be reviewed and scored for both plain language and medical accuracy.
- Give each team the Round 1 sheet face down.
- Start the clock and let them flip the sheet over.
- After 2 minutes, signal that they need to stop writing and hand in the sheets.
- Hand out Round 2 sheets.
- Repeat, starting the clock for Round 2.
- Facilitators should score Round 1 sheets during Round 2. Give a point for each term that interns accurately described with plain language. (e.g., atrial fibrillation would not get a point for “arrhythmia” (another medical term) or “heart stopping” (medically inaccurate))

Tally scores for each group for each round and declare a winner for each round.

<table>
<thead>
<tr>
<th>ROUND 1</th>
<th>ROUND 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pneumonia</td>
<td>1. Dialysis</td>
</tr>
<tr>
<td>2. Diabetes</td>
<td>2. Intubation</td>
</tr>
<tr>
<td>3. Myocardial infarction</td>
<td>3. NPO</td>
</tr>
<tr>
<td>5. Atrial fibrillation</td>
<td>5. Metastasis</td>
</tr>
<tr>
<td>6. Sprain</td>
<td>6. PICC line</td>
</tr>
<tr>
<td>8. Aneurysm</td>
<td>8. Malignant</td>
</tr>
<tr>
<td>9. Autoimmune disorder</td>
<td>9. PRN</td>
</tr>
<tr>
<td>11. Diverticulitis</td>
<td>11. Hemiparesis</td>
</tr>
<tr>
<td>12. GERD</td>
<td>12. Hypertrophic</td>
</tr>
<tr>
<td>13. Congestive heart failure</td>
<td>13. Idiopathic</td>
</tr>
<tr>
<td>14. COPD</td>
<td>14. Palpitations</td>
</tr>
<tr>
<td>15. Pulmonary embolism</td>
<td>15. Systolic</td>
</tr>
<tr>
<td>16. Sepsis</td>
<td>16. HDL</td>
</tr>
<tr>
<td>17. Cirrhosis</td>
<td>17. LDL</td>
</tr>
<tr>
<td>18. Migraine</td>
<td>18. Cholesterol</td>
</tr>
<tr>
<td>20. Angina</td>
<td>20. Unsaturated fat</td>
</tr>
<tr>
<td>21. Celiac Disease</td>
<td>21. EKG (electrocardiogram)</td>
</tr>
<tr>
<td>22. Vertigo</td>
<td>22. Murmur</td>
</tr>
<tr>
<td>23. Osteoporosis</td>
<td>23. Insulin</td>
</tr>
<tr>
<td>24. Eczema</td>
<td>24. Dysphasia</td>
</tr>
<tr>
<td>25. Anaphylaxis</td>
<td>25. Tonsils</td>
</tr>
<tr>
<td></td>
<td>26. Hives</td>
</tr>
<tr>
<td></td>
<td>27. BID = twice daily</td>
</tr>
<tr>
<td></td>
<td>28. Prosthetic</td>
</tr>
</tbody>
</table>
Appendix G. Teach Back Role Play Character Information

Instructions for Facilitator for Round 1

1. Pair up interns.
2. Have each intern of each pair choose a piece of paper that identifies them as the doctor or the patient.
3. Give assigned scenario prompts to the appropriate intern based on their character (i.e., patient, doctor).
4. Give the patient the medication checklist (Appendix H) to use with the scenario.
5. Give interns 5 minutes to play out the scenario.
6. Stop the interns after 5 minutes and discuss their experience with the scenario.
   a. How did the scenario feel for the doctor? For the patient?
   b. Did the doctor utilize the teach back method? How did it go?
   c. Did the doctor cover all aspects of the medication checklist with their patient?
7. Give the medication checklist (Appendix H) to those playing the doctor role to use in the future.

Doctor

You are the PCP for Mr./Ms. G, a 50-year-old with no chronic medical problems. Their blood pressure has been elevated to the 150s/90s for the past 2 visits and you want to start them on Zestril (lisinopril) 10mg daily. Please tell the patient about this new prescription and counsel them about its use.

Patient (Mr./Ms. G)

You are a healthy 50-year-old who takes no medications. You have seen your PCP regularly. Last visit, your PCP mentioned that you have elevated blood pressure, but did not start you on any medications. You returned today for a follow up visit. You have never taken chronic medication and are reluctant to do so. You have only taken a few antibiotic pills in your life. As your PCP tells you about a medication that they want to start you on, use the attached checklist (Appendix H) to see if they cover all important aspects of the medication.

Instructions for Facilitator for Round 2

1. Have 2 pairs now join into groups of 4.
2. Have members draw pieces of paper to assign their roles (i.e., doctor, patient, family member)
3. Give assigned scenarios to the appropriate intern based on their character. Give groups 5 minutes to play out the scenario.
4. Stop the groups after 5 minutes and discuss their experience with the scenario.
   a. How did the scenario feel for the doctor? For the patient? For the family member?
   b. Did the doctor utilize the teach back method? How did it go?
   c. How did this scenario feel compared to the last one without family members present?
   d. What was most difficult for the doctor?
   e. What are some good techniques that the doctor utilized?
Doctor
You are the PCP for Mr./Ms. P who is a 68-year-old diagnosed with Type 2 Diabetes who lives with their 2 children. The patient is taking Metformin and their Hgb A1c is 10 today so you want to start the patient on a long-acting insulin. You want to start Lantus 10 units every evening. The patient has their 2 children with them today who will be administering the insulin due to the patient’s arthritis, poor eyesight, and fear of needles. Discuss starting this medication with the patient and their family.

Mr./Ms. P
You are a 68-year-old living with Type 2 Diabetes who is seeing their PCP. You live with your 2 children who came to the visit with you today. Your children help you with your medications. You have bad arthritis and poor eyesight and you hate needles. Your PCP will recommend insulin to you today, but you are not willing to give the shots to yourself and would rather one of your children administer it. You want your children to understand what to do based on what your doctor suggests so that they are comfortable with your medications.

Patricia/Patrick
You are Mr./Ms. P’s child. You came to the appointment today to understand more about your parent’s medical care. You feel like your parent’s doctor is always changing medicines unnecessarily when your parent seems totally fine, and your sibling always goes along with the changes, which frustrates you. You would like the doctor to stop prescribing medicines for diabetes for your parent. You do not know a lot about medicines and do not take any medicines yourself. You have a friend that has had diabetes since they were a child, and they are always taking shots and need dialysis. You think the shots make your friend sicker and is likely why they need dialysis.

Jackie/Joseph
You are Mr./Ms. P’s child. You always come to your parent’s appointments and are always arguing with your sibling about your parent’s medical care because they never agree with the changes that are made. You like and trust your parent’s doctor and though you do not know much about medicine, you trust that your parent’s doctor is making good decisions. You cannot read well, but never tell anyone about it because you are ashamed of it. You often ask a lot of questions to compensate for this, to make sure you understand directions fully.

CharacterLabels

Instructions for Facilitator for Round 1
1. Cut around each ‘Dr’ and ‘Pt’ label.
2. Fold each ‘Dr’ and ‘Pt’ label so that the interns cannot see the letters.
3. Place each folded strip on the table for interns to grab from the table to determine their character for this scenario.

*Dr = Doctor
*Pt = Patient

CharacterLabels for Round 1

<table>
<thead>
<tr>
<th>Dr</th>
<th>Dr</th>
<th>Dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr</td>
<td>Dr</td>
<td>Dr</td>
</tr>
<tr>
<td>Dr</td>
<td>Pt</td>
<td>Pt</td>
</tr>
<tr>
<td>Pt</td>
<td>Pt</td>
<td>Pt</td>
</tr>
<tr>
<td>Pt</td>
<td>Pt</td>
<td>Pt</td>
</tr>
</tbody>
</table>

Instructions for Facilitator for Round 2
1. Cut around each ‘Dr,’ ‘Pt,’ and ‘F’ label.
2. Fold each ‘Dr,’ ‘Pt,’ and ‘F’ label so that the interns cannot see the letters.
3. Place each folded strip on the table for interns to grab from the table to determine their character for this scenario.

*Dr = Doctor
*Pt = Patient
*F = Family

CharacterLabels for Round 2

<table>
<thead>
<tr>
<th>Dr</th>
<th>Pt</th>
<th>Dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt</td>
<td>Dr</td>
<td>Pt</td>
</tr>
<tr>
<td>Dr</td>
<td>Pt</td>
<td>F</td>
</tr>
<tr>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
</tbody>
</table>
### Appendix H. Medication Checklist

<table>
<thead>
<tr>
<th>D</th>
<th>Drug Name, Dose, Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What is the name of the prescription drug?</td>
</tr>
<tr>
<td></td>
<td>What is the dose?</td>
</tr>
<tr>
<td></td>
<td>How long should it be taken?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Route, Refills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How do you take this medication?</td>
</tr>
<tr>
<td></td>
<td>How many refills do you have?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U</th>
<th>Use or Underuse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What is the purpose of this medicine?</td>
</tr>
<tr>
<td></td>
<td>Do you take medications regularly?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do you have generic medications?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th>Side effects, Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What are the side effects of the medicine?</td>
</tr>
<tr>
<td></td>
<td>How often should you take the medicine?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>Allergies, Alternative Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Are you allergic to any of the medicines?</td>
</tr>
<tr>
<td></td>
<td>If yes, is there an alternative medication?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P</th>
<th>Pharmacy Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What is the name and address of the pharmacy to where the prescription is sent?</td>
</tr>
</tbody>
</table>
Appendix I. Individualized Report Distributed to Interns
Unique Code: d2f3g4

Personal Report of Communication Apprehension Score (PRCA-24)
- Group discussion Score __17__
- Meetings Score __20__
- Interpersonal Score __15__
- Public Speaking Score __16__
- Total Score (Overall Communication Apprehension, CA) __68__

*Your sub scores (i.e., group discussion, meetings, interpersonal, and public speaking) indicate that you have elevated communication apprehension in group, meetings, and interpersonal, but average communication apprehension in public speaking.*

*Total scores between 51 – 80 represent people with average CA. Average CA means that you have an average level of fear or anxiety about communicating with patients and their family members (considered within the normal range).*

Communication Style Measure (CSM) *The style(s) that you scored the highest in represents your preferred communication style(s).*

Friendly (being unhostile and intimate with others) __14__

Impression Leaving (manifests a visible or memorable style of communicating) __13__

Relaxed (an absence of tension or anxiety) __15__

Contentious/Argumentative (communicating in a negative, combative manner) __9__

Attentive (encouraging others by listening carefully) __12__

Precise (accuracy and correctness when communicating) __12__

Animated/Expressive (using physical, nonverbal cues (i.e., gesturing hands when speaking) __11__

Dramatic (communicating in an exaggerate manner to emphasize a point) __11__

Open (being conversational, possibly outspoken, extroverted) __10__

Dominant (tendency to take charge in social situations) __9__

Communicator Image (your perception of your ability to communicate; (i.e., low score = low perceived ability) __14__
Appendix J. Communication Workshop Agenda

1. Introduction / Overview of Workshop (5 minutes)

2. Brief Explanation of Results from Survey (PRCA-24 & CSM) (5 minutes)

3. Open Discussion about Patient-Provider Communication and Health Literacy
   - Breaking Bad News (5 minutes)
     1) What are examples of bad news that you have personally seen or experienced?
     2) Did you notice if the bad news was delivered effectively or ineffectively?
     3) What aspects made this a good interaction?
     4) What makes you most uncomfortable with delivering bad news?
   - Patient Low Health Literacy (5 minutes)
     1) What signs might clue you in that a patient has low health literacy?
     2) What are strategies that you have seen used for helping patients understand medications?
     3) What are some examples of when you had to previously help educate a patient with low health literacy?
     4) What are some strategies you would try If you had to educate patients on Type 2 Diabetes self-management who have low health literacy?

4. Medical Jargon Game (15 minutes)
   - Two rounds (2-minute timer for each round)
   - Discussion about thought process for using plain language

5. Teach-Back Method (20 minutes)
   - Explain/watch teach-back method video (5 minutes)
     o 2 min video
     o 3 min conversation about what went well during the encounter
   - Role play
     o Scenario 1 (5 minutes): 2 interns per group (1 doctor, 1 patient)
     o Scenario 2 (5 minutes): 4 interns per group (1 doctor, 1 patient, 2 family members)
     o Discussion/reflection on challenges experienced (5 minutes)

6. Questions / Closing Remarks (5 minutes)