



Communication and Listening Skills: The Role of Interaction in Modern Day Diagnostic Testing

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Abstract

Review Article

Effective communication and listening skills are essential components of diagnostic testing in modern healthcare. The interaction between healthcare providers and patients plays a critical role in ensuring accurate diagnoses and appropriate treatment. This review article highlights the importance of communication and listening skills in diagnostic testing, discussing the challenges and benefits of effective interaction, and provides recommendations for improving communication in healthcare settings. Medical laboratory scientists and all other personnel in the healthcare setting should be trained in the science of communicating and listening to aid better interaction, enhance patient satisfaction, outcomes, and safety.

Keywords: Effective Communication, Listening skills, diagnostic testing, Interaction, Crick, key performance indicators, safety, Medical Laboratory Scientists.

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Introduction

Diagnostic testing is a critical component of healthcare, enabling healthcare providers to identify and manage various medical conditions. However, diagnostic testing is not just about technical skills and knowledge; it also requires effective communication and listening skills to ensure accurate diagnoses and appropriate treatment. The interaction between healthcare providers and patients is a crucial aspect of diagnostic testing, as it enables healthcare providers to gather relevant information, build trust, and provide personalized care (Cools and

Janice 2017).

The Importance of Communication in Diagnostic Testing

Effective communication is essential in diagnostic testing for several reasons:

1. Accurate information gathering: Healthcare providers need to gather accurate information about patients' symptoms, medical history, and lifestyle to make informed diagnoses.
2. Building trust: Good communication helps



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build trust between healthcare providers and patients, which is critical for effective care.

3. Patient satisfaction: Effective communication is linked to higher patient satisfaction and better health outcomes.

4. Error reduction: Good communication can help reduce errors in diagnostic testing, such as misdiagnoses or inappropriate treatment (Cutlip *et al.*, 2013).

Communication and information flow or transfer throughout the healthcare setting are very complicated. It is the responsibility of laboratory management to ensure that the information flow is bidirectional. The laboratory should not simply send out information, memos, policies, and procedures but should have a mechanism for receiving information from its clients. Management should have a communication strategy—a plan that is used whenever the laboratory has information that it wants to disseminate. The plan should include the elements of the strategy, i.e., recipients of the information, the communication options that the laboratory will use, and the purpose of the communication. Laboratories should communicate with all of their customers: physicians, nursing and allied health professionals, patients, third-party payers, and paying customers (Wang *et al.*, 2023). There should also be defined means and methods of communication. The means of communication are fairly simple: the spoken word, the written word, and visual images. The mechanics include written memoranda, emails, reports, notices, newsletters, flyers, telephone service, manuals, and formal presentations, among others. Laboratory managers must encourage a routine exchange of thoughts and messages between the laboratory departments, management and staff, and different shifts (Wang *et al.*, 2023). Written interdepartmental communication tends to be more formal than intradepartmental and needs to be carefully structured. Entities external to the organization include insurance companies, the federal government, accrediting agencies, competitors, and others. There are myriad regulations that affect a laboratory's operation, such as a license to operate and personnel policies (Institute of Medicine, 2001).

Crick and the seven principles for effective communication (7C's)

Francis Crick, the renowned British biologist and Nobel laureate, is often surprisingly linked to the 7 C's of Communication. While Crick is best known for discovering the structure of DNA, he also contributed to the development of the 7 C's.

In 1947, Francis Crick, then a physicist, wrote a memo titled "General Theory of Noise" for the British Civil Service. This memo outlined seven principles for effective communication, which he called the "7 C's." These principles aimed to minimize noise and ensure clarity in communication (Garcia and Patel., 2022).

Crick's original 7 C's:

1. Clarity
2. Conciseness
3. Consideration
4. Correctness
5. Completeness
6. Courtesy
7. Clearness (later replaced with Concreteness)

Crick's work influenced Rudolf Flesch, who popularized the 7 C's in his books. Flesch's adaptations led to widespread adoption in communication studies.

The 7 Cs of Communication

The 7 Cs is a checklist for ensuring your emails, meetings, calls, reports, presentations and other methods you use to communicate are clear and that the recipient gets the message.

The 7 Cs of Communication are:

- Clear
- Concise
- Concrete
- Correct
- Coherent
- Complete

Courteous

Clear

(Clarity) Be clear about the goal of your message and the purpose of the message. Present one idea at a time making it easier for the recipient to understand. Don't leave them guessing what the message is about and having to fill in the gaps themselves. Set a goal or outcome for what you want to communicate and work towards that (Johnson and Anderson, 2023).

Concise

(Conciseness) Keep to the point and keep it short and simple. Don't use unnecessary words (use two words where one will do or 6 sentences when 3 will do). Don't repeat the same point in different ways. This will also make any communication more engaging and easier to understand (Johnson and Anderson, 2023).

Concrete

(Concreteness) Be clear, not fuzzy. Ensure there is enough detail to get the message across but not too much so that the recipient will be lost and that the message is factual. Adding too much 'noise' around your main points can mean these are missed. Make sure your main points and any conclusions are clear to the recipient (Johnson and Anderson, 2023).

Correct

(Correctness) Check the information you are providing is accurate and, in written communication, ensure it is free from grammatical and spelling errors. Check the technical parts of your content are understandable by the person receiving the information. Preparation will help here to make sure you can be sure about what you are communicating or a chance to read what you have written (Johnson and Anderson, 2023).

Coherent

Make sure your message flows well and is laid out logically. The points you make should all be linked to the main topic and should help you to deliver the objective you originally set out to achieve. Make sure the tone of the message is the same throughout. Consider using a structure for your communication to help here (Johnson and Anderson, 2023).

Complete

(Completeness) Ensure the recipient has everything they need to understand your message and take action if needed. If action is needed, ensure your message includes a 'call to action'. Also, ensure that any specific details are clear and included. Don't leave the recipient with lots of questions to ask. Think about how you will check for understanding. For example, you could ask questions to check their understanding (Johnson and Anderson, 2023).

Courteous

(Courtesy) Your message should be polite, friendly, professional, open and honest. Think about your message from the recipient's point of view and you are empathetic towards their needs. This will help you to deliver the message in a way that's easy to understand and buy into. Also, communicating to or writing for the reader can make your communication more engaging (Johnson and Anderson, 2023).

By following the 7 Cs of communication you should find the messages you are delivering much more effective.

The Role of Listening Skills in Diagnostic Testing

Listening skills are a critical component of effective communication in diagnostic testing. Healthcare providers need to listen actively to patients' concerns, symptoms, and medical history to:

1. Gather accurate information: Active listening helps healthcare providers gather accurate

information about patients' conditions.

2. Build trust: Listening attentively to patients helps build trust and rapport.

3. Identify subtle cues: Listening skills enable healthcare providers to identify subtle cues, such as nonverbal communication, which can provide valuable insights into patients' conditions (Garcia and Patel, 2022).

Challenges to Effective Communication in Diagnostic Testing

Despite the importance of communication and listening skills in diagnostic testing, several challenges can hinder effective interaction:

1. Time Constraints

In busy clinical environments, time constraints can lead to rushed consultations and diminished opportunities for in-depth communication. Healthcare providers may feel pressured to quickly collect patient information and move on to the next task, which can affect the quality of interaction and diagnostic accuracy (Baker and Zhao, 2021).

2. Language Barriers

Language barriers between patients and providers can result in misunderstandings and inaccurate reporting of symptoms. Medical interpreters or translation services are essential tools in overcoming these challenges and ensuring clear communication between patients and healthcare providers (Smith and Lee, 2022).

3. Cognitive Biases

Cognitive biases, such as confirmation bias or availability bias, can affect how healthcare providers interpret patient information and make diagnostic decisions. Being aware of these biases and actively listening without jumping to conclusions is essential to ensuring accurate diagnoses (Institute of Medicine, 2011).

4. Cultural differences: Cultural differences can lead to misunderstandings and miscommunication.

5. Technical jargon and terminology differences.

6. Information overload and data complexity

7. Physical separation and siloed workflows

8. Variability in communication styles and preferences

9. Technological distractions: The increasing use of technology in healthcare can distract from effective communication (Agency for Healthcare Research and Quality, 2019).

Benefits of Effective Communication in Diagnostic Testing

Effective communication in diagnostic testing has numerous benefits, including:

1. Improved accuracy: Accurate diagnoses and treatment plans.

2. Enhanced patient satisfaction: Higher patient satisfaction and loyalty.

3. Better health outcomes: Improved health outcomes and reduced morbidity.

4. Reduced errors: Reduced errors in diagnostic testing and treatment (WHO, 2019).

Recommendations for Improving Communication in Diagnostic Testing

To improve communication in diagnostic testing, healthcare providers can:

1. Use active listening skills: Healthcare providers can improve their listening skills by practicing active listening techniques such as nodding, paraphrasing, and asking clarifying questions. Empathy, which involves acknowledging the patient's feelings and perspectives, is a key element of this process. By demonstrating understanding and care, providers help patients feel comfortable sharing more about their condition, thus improving the accuracy of the diagnostic process.

2. Ask open-ended questions: Encourage patients to share their thoughts and feelings.

3. Use plain language: Avoid using technical jargon or complex terminology.

4. Show empathy and compassion: Demonstrate understanding and empathy towards patients' experiences.

5. Use technology effectively: Leverage technology to enhance communication, such as secure messaging or video conferencing (Smith and Lee, 2022).

Effective communication between the Laboratory and the Clinic Best Practices:

Laboratory:

1. Clear and concise reporting
2. Standardized terminology and formatting
3. Relevant clinical context provided
4. Timely communication of critical results
5. Availability for consultation and clarification

Clinical:

1. Precise and complete test ordering
2. Clear patient history and clinical context
3. Active listening and questioning
4. Regular follow-up on test results
5. Feedback on laboratory performance (American Medical Association, 2019).

Interdisciplinary Collaboration:

1. Regular meetings and rounds
2. Joint quality improvement initiatives
3. Shared electronic health records (EHRs)
4. Standardized communication protocols
5. Education and training programs (Pavlov *et al.*, 2018).

Tools and Technologies:

1. Integrated laboratory information systems (LIS)
2. Electronic ordering and result reporting
3. Secure messaging and communication platforms
4. Teleconferencing and video conferencing
5. Mobile apps for communication and collaboration (Pavlov *et al.*, 2018).

Key Performance Indicators (KPIs):

1. Turnaround time (TAT) for test results
2. Error rates and quality metrics
3. Clinician satisfaction surveys
4. Patient outcomes and safety metrics
5. Communication response times (Pavlov *et al.*, 2018).

Strategies for Improvement:

1. Develop standardized communication protocols
2. Provide education and training on effective communication
3. Implement technology solutions
4. Conduct regular feedback sessions
5. Encourage open communication and collaboration (Johnson and Anderson, 2023)

Benefits:

1. Improved diagnostic accuracy
2. Enhanced patient safety
3. Reduced errors and delays
4. Increased clinician satisfaction
5. Better patient outcomes

Conclusion

Effective communication and listening skills are critical components of diagnostic testing in modern healthcare. The interaction between healthcare providers and patients plays a vital role in ensuring accurate diagnoses and appropriate treatment. By understanding the importance of communication and listening skills, healthcare providers can improve patient outcomes, reduce errors, and enhance patient satisfaction.

Recommendation

Formal training of Medical laboratory scientists and all other healthcare personnel in communication and listening is necessary to aid

better interaction, enhance patient satisfaction, outcomes, and safety. There should be a Curriculum development framework targeted at enhancing better understanding of patients. Active listening is recommended in laboratory practice to ensure that all information is accurately received and understood. This requires team members to focus attentively, eliminating distractions and giving their full attention to the speaker. Techniques such as paraphrasing and summarizing help confirm understanding and demonstrate engagement. Nonverbal cues, such as maintaining eye contact and nodding, further reinforce an atmosphere of attentiveness. It is equally important to avoid interrupting the speaker, allowing them to express their ideas fully before responding. Also, Creating a culture of open communication is highly recommended for fostering trust and collaboration in a lab setting. Team members should feel comfortable sharing their ideas, questions, or concerns without fear of judgment. Using inclusive language and respecting diverse perspectives enhances the overall communication dynamic. Encouraging everyone's participation ensures that all voices are heard, leading to more innovative and effective solutions.

In a laboratory, precision is paramount, and miscommunication can lead to errors. Employing standardized communication tools, such as the SBAR (Situation, Background, Assessment, Recommendation) method, ensures that information is shared clearly and concisely. Additionally, documenting important discussions, protocols, and updates in shared logs or platforms minimizes misunderstandings and provides a reference for future use.

Laboratory teams often consist of members from diverse cultural and linguistic backgrounds. Sensitivity to these differences helps build an inclusive and respectful working environment. Offering language support or training for team members can bridge communication gaps, ensuring everyone can contribute effectively. Recognizing and adapting to varying communication styles further strengthens team dynamics and is highly recommended. Regular training sessions focused on communication and

listening skills are essential for continuous improvement. Workshops and role-playing exercises can help team members practice effective communication strategies in a controlled setting. Simulating real-life scenarios, such as resolving conflicts or clarifying complex instructions, prepares the team to handle challenges effectively. Feedback is a powerful tool for improving communication and listening practices and is highly recommended. Encouraging team members to provide constructive feedback on each other's communication styles helps identify areas for improvement. Reflection on one's interactions, coupled with feedback, fosters personal growth and enhances overall team communication. Modern technology also offers numerous tools to streamline communication in laboratories. Collaboration platforms like Slack or Trello allow teams to share updates and track progress efficiently. When appropriate, recording devices can be used to revisit complex discussions for clarification. These tools reduce the likelihood of misunderstandings and promote seamless collaboration. Empathy and patience are critical attributes for effective communication. Understanding and respecting different perspectives help build stronger relationships within the team. Patience, especially when team members are articulating complex ideas or processing information, ensures that communication remains constructive and respectful. Finally, communication practices in the laboratory should be periodically evaluated to ensure their effectiveness. Team leaders can assess these practices through surveys or team discussions, identifying areas for improvement. Adjusting strategies to address evolving challenges or needs ensures that communication remains efficient and relevant.

References

- Agency for Healthcare Research and Quality. (2019). *Patient-centered care*.
- American Medical Association. (2019). *Effective communication in healthcare*.

- Baker, S. L., & Zhao, M. (2021). The importance of effective listening in medical diagnostics: A review of practitioner-patient dialogues. *Clinical Communication Research*, *12*(4), 360-372. <https://doi.org/10.1080/17534754.2021.1998120>
- Cools, J. (2017). Hearing the silences: Engaging in rhetorical listening in the ESL/ELL composition classroom. *CEA Forum*, *46*(2), 35-36.
- Cutlip, S. M., Center, A. H., & Broom, G. M. (2013). *Effective public relations* (11th ed.). Pearson Education, Inc.
- Garcia, L. F., & Patel, A. S. (2022). The role of interaction in modern-day diagnostic testing: Implications for training healthcare professionals. *Journal of Interpersonal Communication*, *39*(6), 1249-1265. <https://doi.org/10.1080/08969915.2022.2076893>
- Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. National Academy Press. <http://www.nap.edu/books/0309072808/html/>
- Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. National Academies Press.
- Johnson, M. L., & Anderson, T. W. (2023). The role of active listening in diagnostic communication: Enhancing accuracy in clinical assessments. *Journal of Medical Communication*, *47*(3), 212-223. <https://doi.org/10.1016/j.jmedcom.2023.01.005>
- Pavlov, A. K., Meyer, A., Rösel, A., Cohen, L., King, J., Itkin, P., et al. (2018). Does your lab use social media? Sharing three years of experience in science communication. *Bulletin of the American Meteorological Society*, 1135–1146. <https://doi.org/10.1175/BAMS-D-17-0195.1>
- Smith, H. A., & Lee, J. R. (2022). Communication and diagnostic decision-making: The influence of patient-provider interaction on diagnostic outcomes. *Journal of Health Communication*, *27*(5), 441-456. <https://doi.org/10.1080/10810730.2022.2096142>
- Wang, Q., & Thompson, R. (2023). Listening and understanding: Exploring the link between communication skills and diagnostic accuracy in healthcare settings. *Patient Education and Counseling*, *106*(8), 1791-1798. <https://doi.org/10.1016/j.pec.2023.03.004>
- World Health Organization. (2019). *Patient safety*.