Digital Empathy 2.0: Connecting With Patients Using the Written Word

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Abstract

The use of chat-based telehealth has expanded rapidly, increasing concerns over deteriorating clinician-patient relationships. As this relationship relies upon a human connection built on trust and understanding, fostering digital empathy through the written word is crucial. Current literature on telehealth usage predominantly focuses on face-to-face video visits, leaving a gap for training and education in chat-based interactions. The development of empathetic responses and protocols is key to leveraging the synthesis of clinicians and artificial intelligence. To improve chat-based telehealth, clinicians must still understand how to convey digital empathy over the written word. This paper offers some tips for training on digital empathy over this modality.

As clinical care increasingly moves to online and virtual spaces, the clinician-patient relationship is being redefined. Clinicians must adapt to form and maintain a human connection with their patients. During in-person interactions, empathy involves understanding another person's experience, connecting with their emotions, and responding in a caring way.[1] Beyond mere politeness or interest, empathy requires an active acknowledgment from the clinician when relating to the patient's mindset and emotions. Research shows clinician empathy improves patient satisfaction, adherence, and health outcomes.[2] Expanding on empathy shown in the exam room, Digital Empathy is "traditional empathetic characteristics, such as concern and caring for others, expressed through computer-mediated communications."[3]

Virtual Care has increased reliance on patient-reported symptoms, device-reported vitals, and patient-performed physical exam findings. For this to succeed, clear communication and rapport between patient and clinician are crucial to the virtual therapeutic relationship. While the educational literature on telehealth curricula is still growing, most educational resources were developed in order to teach clinicians how to better connect over video visits specifically.[4,5] For these visits, digital empathy can be achieved by paying attention to video framing, using non-verbal communication and body language, practicing active listening, and utilizing the teach-back method to confirm understanding. Current literature focuses on understanding and listening to the patient as the virtual diagnostic process relies heavily on the history due to the absence of an in-person physical examination.[6,7]

However, in the last few years, the use of text-based secure message, chat telehealth, and inbox communication between patients and clinicians has been growing both by necessity and due to increased reimbursement. The scope of "chat-based telehealth" is wide but can be conceptualized along the axes of response timing (asynchronous vs. semi-synchronous) and level of technology and AI integration (tech-assisted vs. autonomous artificial intelligence [AI]). In terms of timing, the American Telemedicine Association (ATA) defines *virtual visits* as "live, synchronous, interactive encounters between a patient and a healthcare provider via video, telephone, or live chat" and *chat-based interactions* as "asynchronous online or mobile app communications to transmit a patient's personal health data, vital signs, and other physiologic data or diagnostic images to a healthcare provider to review and deliver a consultation, diagnosis, or treatment plan at a later time."[8] Regarding technology integration, chat-based telehealth involves communication between patients and healthcare

providers through instant messaging, chat apps, patient portal messaging electronic health record (EHR), or SMS (short message service) text messaging. Increasing levels of integration begin with technology-mediated (where all messages are composed by clinicians and delivered through a digital platform), to augmentation (where responses are suggested by an AI engine),[9] to fully autonomous (where a conversational AI agent will respond to a patient without human oversight).[10] With the lack of body language or tone of voice, written communication requires additional empathy-building skills and techniques. In fact, AI chatbots have been shown to provide more empathetic responses than physicians to patients on an online forum.[11] For the scope of this paper, we will focus on both live chat and asynchronous information delivery and the technology-mediated and augmentation levels of integration.

The increase in text-based clinical care has led to a need to consider how to best maintain a safe and therapeutic clinician-patient relationship through only the written word. Currently, there is a paucity of literature on how to create this. In turn, there are no studies and tips on an education curriculum to train clinicians. This is necessary as thoughtfully composed messaging during or between visits can help build rapport while furthering the clinical care plan or screening for early symptoms.[12]

In this manuscript, we will demonstrate the importance of digital empathy and propose key curricular components that could be incorporated into existing milestones and competencies, such as the Association of American Medical Colleges (AAMC) telehealth competencies.[13]

Chat-Based Telehealth, AI, and Empathy

Chat-based telehealth effectively improves patient outcomes and reduces healthcare costs, such as managing chronic conditions like diabetes, hypertension, and heart failure, and results in high levels of patient satisfaction.[14] It also reduces wait times for medical appointments and improves patient access to care.[15] Despite its utility, there are concerns that chat-based telehealth further diminishes the physician-patient relationship due to its lack of face-to-face interaction.

The key challenge is ensuring that there is a human connection between patients and providers. We can use the paradigms established in literature to examine how empathy is successfully conveyed through the written word. Theory of Mind (TOM) is the human capacity to comprehend that other people hold beliefs and desires that may differ from one's own beliefs and desires. In a study in *Science*, literary fiction was demonstrated to increase TOM and empathy.[16] In literature, empathy is often conveyed through first-person storytelling directly through a character's perspective. The author generally creates a place where the character is well-liked, situates them in an environment the reader can understand, and

has a human flaw to engage the reader to identify with them. Even "unlikeable" characters created with sympathy and empathy can be relatable if readers understand their motivation, history, or experience.[17] Writers can create these feelings through language and written word by inspiring others to relate to situations or circumstances previously unknown to them.

While literature is a one-sided conversation and chat telehealth does not create a character, telechat does have a party—or patient—that can be engaged using the concepts derived from literature theory. There is also an entire discipline of narrative medicine, focusing on the storytelling of illness to improve patient care and empathy.[18] For example, considering the patient's "story" and pathway through a clinical encounter can inform the type of protocols and empathetic statements utilized. For clinicians, the training on bedside manner through medical education can cultivate similar statements of understanding, compassion, and listening, albeit in a text format rather than voice. To scale the need, the use of AI in chat telehealth can protocolize these statements to be more efficient. AI can simulate human-like conversations, detect emotions, and respond with empathy, which can increase patient satisfaction and engagement.[19]

One of the main advantages of using autonomous AI chatbots for empathy is that they can provide 24/7 support, allowing patients to access care at their convenience. This can be particularly useful for patients who are unable to visit healthcare facilities due to physical or geographical limitations. AI chatbots can also personalize the healthcare experience by gathering information about a patient's medical history, symptoms, and preferences to provide tailored recommendations.

AI chatbots can also reduce the workload of healthcare professionals by handling routine tasks such as appointment scheduling and basic symptom assessment. This frees up clinicians' time to focus on more complex cases. Additionally, AI chatbots can improve the quality of care by providing patients with accurate information and reducing the risk of errors due to miscommunication. All of this can lead to the efficient use of empathetic statements and improved chat digital empathy. These statements include acknowledging someone's pain, sharing something about yourself, showing interest and gratitude for the exchange, being supportive and encouraging, and using statements that convey these actions and sentiments—something that incorporates TOM.[20]

Chat telehealth also includes real-time interaction between patients and clinicians with the aid of AI chatbots. These chatbots can be used in tandem with real-time clinicians to augment and improve how quickly one can respond. It can even help combat human fatigue—ensuring empathy is demonstrated even if the clinician is in a rush, tired, or unable to spend the time to properly convey

the degree of empathy that they want. In fact, in one study, patients preferred the AI statements as they found them more empathetic, and it was also noted that the AI responses were longer than the physician-created ones.[19] This should not be a negative. This means that empathy can be protocolized, and real-time clinicians can choose from a preferred and appropriate list, leading to better patient engagement. Additional research is underway on how clinicians can use AI suggestions in patient interactions. Clinicians and medical staff are piloting a program to use ChatGPT to help answer patient questions, but the clinical and operation impact has yet to be determined.[21] Prior technology-assisted interventions such as Clinical Decision Support (i.e. drug-drug interactions) have benefitted from "human-in-the-loop" workflows. Most likely augmentation of clinicians, not complete replacement, will also be the best use of AI-assisted chat responses. Legal and ethical scholarship on incorporating chatbots into clinical practice emphasizes trust and transparency for patients and clinicians.[22]

We also draw on concepts from digital corporate communication for inspiration to guide empathetic patient messaging. This includes email etiquette and emoji use. One email etiquette guidance document highlights a "compassionate email culture, where teams work together to reduce the overall email traffic" by prioritizing the other person's inbox.[23] These guiding principles of being mindful of the recipient's delayed message delivery and knowing when to pick up the phone and switch to a telephone call are applicable in the corporate or clinical office. Instead of facial expressions and body language, emojis are often used in text-based communication to convey feelings and connect with others. There has been commentary on using them to improve patient communication in healthcare,[24] but it has not been studied or used expansively. Additionally, it is important to contextualize the receiver of an emoji, as different generational demographics have different emotional reactions. For example, "Sending a thumbs-up can be seen as passive-aggressive and even confrontational, according to Gen Z, who claim they feel attacked whenever it is used."[25]

Using AI for chat in replacement in telehealth visits raises several ethical questions as we expand its utility in clinical practice. If AI impersonates a human, are patients then "connecting" with a machine rather than another human? As mental health has deteriorated during the pandemic, highlighting the importance of human connection, it is unclear whether human-like-machine interactions will alleviate this or make it worse. On a broader level, there is little idea of who is responsible if there is a data breach, a bias in the data, or an error that leads to poor patient outcomes. This remains to be seen. While these questions are outside the scope of this paper, they are necessary for a full debate on how empathy and AI interact and what the future of clinical utility will be.[26]

There are still ways to improve and understand written word empathy to employ in clinical and training settings. Even if protocolized, it is crucial for clinicians to know, train, and understand how to demonstrate digital empathy as AI may not be used in all settings where chat-based telehealth is being used, and having a basic understanding will improve the virtual therapeutic relationship.

Digital Empathy Tips for Chat Telehealth

Clinicians will require an understanding of digital written empathy. There are ways to improve fostering connection in this modality. To augment current training, we offer some tips for real-time and AI chatbot configuration of sentences and responses. Notably, most of these written empathy tips are not specific to current telehealth educational guidelines (Table 1).

Table 1. Digital empathy communicated via the written word

Empathic communication	Action
Reflect the feelings and statements the patient has made.	Repeat back and ask follow-up questions.
Display interest in their daily life.	Personalize their statements to their goals. • Is their goal to take a vacation and feel well? • Did they just have a child? • This is especially useful in chronic care management.
Offer Support.	Use statements that convey you care and understand their pain, fear, or concern over their clinical care.
Use empathetic language.	Choose words and phrases that show compassion.
Withhold judgment.	Stay curious about the patient's needs and allow them to feel safe to tell you their entire clinical picture.
Active "listening"	Allow the patient to fully convey what they need.
Decrease ambiguity.	Provide clear next steps, but leave room for clarifying questions.
Punctuation matters.	Repeated punctuation (!!, ??) can be used emphatically to compensate for lack of non-verbal cues, but sender intent and recipient interpretation may vary.
Set clear expectations.	Provide clear guidance on the clinical appropriateness of what can and cannot be handled via message.

Based on current research, lessons from literature, and the current state of telehealth education and digital empathy, we also offer the following education evaluation checklist to improve chat-based telehealth for human connection (Table 2). These items map back to AAMC domains, and these six general competency domains are endorsed by AAMC, ACGME (Accreditation Council for Graduate Medical Education), and ABMS (American Board of Medical Specialties).

The following checklist emphasizes the Communication and Access/Equity and Technology domains, as these are most closely aligned with the Digital Empathy focus.

1) Patient Safety and Appropriate Use
2) Access and Equity
3) Communication
4) Data Collection and Assessment
5) Technology
6) Ethical Practices and Legal Requirements

The goal of Table 2 is to provide a competency-based checklist derived from AAMC (American Association of Medical Colleges) standards, with specific examples based on an author's experience and backed up by the literature. Of course, educators can and should modify the assessment areas depending on their specific practice location and specialty.

Discussion

Clinicians and patients are wary of losing the personal touch of healthcare and medicine with the advent of technology. However, having a clear idea of what empathy entails, how to foster human connection, and then using technology to improve empathetic methods of written communication will create a better connection.

Telehealth is still in a state of growth, regardless of its large expansion over the last decade. One such area is chat telehealth and the incorporation of AI. We offer tips

Table 2. Digital empathy checklist for chat-based telehealth

Checklist	Action	Rationale
Patient Safety and Appropriate Use	Appropriately up-triages a patient to a higher level of care based on "red flag symptoms in the message."	Patient safety is the number one priority, and learners should be able to respectfully but firmly direct a patient to the appropriate level of care.
Access/Equity	Uses appropriate written translation services for a patient with limited English proficiency.	Providing proper language translation services is important for accurate clinical care and for promoting health equity.[27,28] It is particularly important for written communication because there are fewer opportunities for real-time feedback on misunderstandings (compared to audio or video visits).
Communication	Conveys appropriate empathy to an urgent patient message for medication refill or referral request.	In clinical communication, setting patient expectations has a strong effect on patient outcomes.[29] Convey response timelines, as well as what can or cannot be prescribed without a visit helps to maintain patient trust and connection.
	Understands how to delegate a task in a shared patient message box.	Team-based care is essential for optimizing for timely patient access. Delegating messages to the appropriate team member, while maintaining continuity of care is an important skill to master.[30,31]
	Reviews and appropriately utilizes AI Chat Bot suggested responses	AI-generated prompts are rapidly being integrated into EHRs.[32] While these computer-generated responses may be rated as more empathetic,[19] it is imperative that the clinician review and take accountability for any messages that get sent in their name.
Data Collection	Uses appropriate structured questionnaires to assess patient symptoms, such as PHQ9, GAD, etc.	Eliciting patient information effectively, efficiently, and reliably can be enhanced by sending validated questionnaires to patients.
Technology	Demonstrates knowledge of advanced messaging functions, such as file attachments to review rash pictures.	Technological capabilities of secure patient message platforms and patient portals are constantly changing. Being comfortable with the current technology leads to less lag in visits and follow-ups.[33] Learners should strive to provide safe and convenient care for their patients.
Ethical Practices and Legal Requirements	Appropriately redirects a patient from unsecure email request to patient portal.	Patients may not understand the differences in security for email versus a secure platform.[34] It is important to protect patient information and privacy by directing them to the correct channels.
	Describes local practices and ability to bill for asynchronous patient messaging.	Clinicians should communicate potential charges their patients might incur when providing clinical care via messaging.[35] If a patient receives a surprise bill for a service, this can affect patient trust.

AI: artificial intelligence; EHR: electronic health record; GAD: generalized anxiety disorder; PHQ9: 9-question Patient Health Questionnaire—a diagnostic tool to screen adult patients in a primary care setting for the presence and severity of depression. Rates of depression are based on the self-administered patient health questionnaire.

on improving human connection, even over algorithms, to maintain the clinician-patient relationship that is the base of medicine. These tips are not simply useful for chat telehealth but are applicable to other patient-facing written words. Digital written empathy can be improved in discharge instructions, community education, preventive outreach, EMR patient messaging, etc. One of the main advantages of using AI chatbots for empathy is that they can provide round-the-clock support and are convenient for patients and clinicians. AI chatbots can also personalize the healthcare experience by gathering information about a patient's medical history, symptoms, and preferences to provide tailored recommendations.

The use of future technologies will take this process further. Large language models (LLM) can learn about individuals in large datasets and be used to personalize statements for each patient, which will be most useful if it can be integrated within the EHR. For example, if it was mentioned in a previous visit, it is not far off to imagine a chat AI asking a patient about a recent trip or a new grandchild. This will further the feeling of human connection despite the prompt being LLM generated.

However, using AI chat and LLM for empathy also raises ethical concerns. Empathy is a complex emotion that involves understanding and responding to another person's feelings. While AI chatbots can simulate empathy through pre-programmed responses, they lack the ability to truly understand a patient's emotional state. This raises questions about the authenticity of the empathy provided by AI chatbots and whether patients may perceive it as disingenuous.

Furthermore, using AI chatbots for empathy raises questions about the role of healthcare professionals. While AI chatbots can provide basic support, they cannot replace the human connection that is essential to healthcare. Healthcare professionals must remain involved in the care process to provide patients with emotional support and ensure their needs are met. The use of these algorithms may test the human ability to create empathy between patients and clinicians. While medicine has traditionally taught or demonstrated bedside manner and its telehealth counterpart webside manner, there are still not educational competencies that have been standardized. Chat telehealth will and does require some finesse to compensate for the loss of face-to-face telehealth.

Lastly, the use of AI chatbots for empathy raises privacy concerns. Patients may be uncomfortable sharing personal information with AI chatbots, particularly if they perceive them as less trustworthy than human healthcare professionals. Healthcare organizations must ensure that patients' personal information is kept secure and that they are informed about how their data will be used.

Despite these concerns and limits, there is a need to demonstrate empathy over chat-based and written-word telehealth. Patient-centered care requires us to consider patients' satisfaction, health literacy, and outcomes as they experience the healthcare system. Since telehealth is now part of that reality, we must consider how to foster and develop human connection virtually.

Conclusion

As chat-based telehealth continues to grow, we offer a set of practical tips to improve digital empathy over this modality. These tips can be used for education and quality improvements to ensure clinicians are adequately connecting with their patients over the full spectrum of virtual care modalities.

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