How to Promote Healing ‘Beyond the Scalpel’: A Doctor-Patient Communication Model

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In the rehabilitation process, a patient’s physical restoration is inextricably linked to the psychological aspects of healing. A doctor’s approach to communication significantly impacts their ability to garner essential diagnostic information and insight into the patient’s emotional state. Despite the evident importance of productive communication, research shows a disparity between physicians’ self-impression of their efficacy and empathy in conversation and clients’ expectations of their caregiver’s demeanor (Stewart, 1995). Additionally, there is a lack of consensus in the medical community over the most important aspects of communication to teach physicians (“Communication in Medicine,” 1999). Accordingly, in this study, we determine the best practices for doctor-patient communication and create an original model for physician consultations that optimizes patient outcomes. The framework will integrate research from a variety of fields investigating the elements of communication that enhance long-term rehabilitation both in physiological markers and in subjective ‘perception’ of treatment success. For our model, we will focus on three main components:

- Patient Participation;
- Information Flow: Trust, Informational Support and Emotional Support;
- Emotional Regulation: Clinical Empathy and Cultural Recognition.

In the hospital setting, effective communication may be a key determining factor for a patient’s recovery prospect. In February of 2017, I witnessed the outcomes of a life-altering traumatic event befall a loved one. I first received the message through a cryptic text: “Your brother was in a car accident.” No further details. After several hours, I learned about his rapid extrication from the scene, emergent transport to the emergency room, and numerous urgent procedures that followed in the ICU. For days, my brother, the lone survivor of the accident, was treading the line between life and death, undergoing numerous tests, procedures, evaluations and high-stake decisions. Miraculously, my brother achieved a complete recovery, and throughout the process, he attributed his resilience to the doctors who provided expeditious treatment and the empathetic communication that permeated his recuperation. His poignant narrative and the stories of many unlikely recoveries speak to the core of communication’s potential and the need to study the optimal manner to approach the doctor-patient interaction.

My brother’s traumatic event instigated a protracted physical and psychological healing process marked by extended time in the hospital and perpetual medical attention. Every day, countless individuals must face similar challenges. Because of the hospital’s nearly ubiquitous role in modern life, every person in need of healing, every person has a stake in the quality of treatment that is provided; as such, we want to ensure that health providers engage with patients in the most effective manner. Moreover, to augment the standard of care across our health system, any citizen dependent on healthcare services needs to be aware of the best practices in the clinical setting and understand the reciprocal nature of the doctor-patient relationship.

Throughout healing process, patients must work to restore both their physical vigor in addition to their psychological and emotional well-being [1]. (See Figure 1)

In the clinical setting, doctors constantly communicate with their patients to diagnose issues and to

Figure 1. Graphical depiction of care factors affecting health outcomes. Beyond just physical healing, patients also require multiple dimensions of psychological and emotional care from hospital staff [1].
provide the appropriate treatment. But the additional purpose of this interaction is to give therapeutic instruction and to foster a productive, mutual relationship. Despite the evident importance of the doctor-patient relationship, many doctors “in general are trained to conceptualize the mind and body as separate entities, thereby establishing an artificial dichotomy” [2]. As a result, communication remains a secondary feature of medicine and an aspect of care that often fails to meet the requirements of patients. Therefore, in our research, we will strive to answer the fundamental question: What are the best practices for doctor-patient communication that measurably improve immediate and long-term patient outcomes?

Our study will begin with an overview of the widespread problems impeding effective communication. Subsequently, we will aim to resolve the lasting complications with the doctor-patient relationship by exploring the fundamentals of an effective interaction, and then integrating insight from numerous disciplines into a unified model for physicians. Additionally, I conducted interviews with two experts in the fields of biomedical ethics and medical school curricula to help enhance our understanding of the best communication practices. In order to narrow the focus for our communication framework, we will utilize case studies on trauma patients that illuminate the best conversational practices. Traumatic rehabilitation poses many of the gravest and most complicated situations faced in the hospital, and the severe nature of these cases will help us create the most effective framework. The main categories that we will investigate are:

1) Patient Participation;
2) Information Flow;
3) Emotional Regulation.

Our analysis will conclude with the anticipated clinical outcomes of our model based on previous research. Although our framework is created for doctors, because every citizen is a stakeholder in medical practice, it is beneficial for everyone to understand their privileges and their roles in a superlative relationship.

**CURRENT PROBLEMS WITH DOCTOR-PATIENT COMMUNICATION**

Numerous studies show that effective doctor-patient communication is paramount in the healing process for traumatic injuries [1][4][5]. Yet, there are fundamental issues with physicians’ general conversational practices described in one report as “problems of diagnosis, a lack of patient involvement in the discussion or the inadequate provision of information to the patient” [3]. Because of the medical discipline’s dependence on empirical data and evidence, many doctors neglect to reinforce skills for dialogue and consequently overestimate their ability to communicate effectively. In one survey-based study, 75% of orthopedic trauma surgeons self-reported ‘satisfactory’ communication, but only 21% of the patients concurred that the doctor conversed effectively [5]. Many physicians’ fruitless conversational conditions pose grave consequences for the evaluation and treatment of patients involved in serious trauma. For instance, questionnaire-based investigations find that up to 54% of patient concerns are not addressed in consultations, 50% feel uninformed, and over half of the time, the doctor and the client do not even agree on the main problem [3]. There is also a recurring issue with physicians’ approach to relationships with their patients. According to a recent report, using “Subjective evaluation of medical treatment outcomes” (SEMTO) survey scores from rehabilitating trauma victims, a staggering 20% of patients feel like their physicians are “not so empathetic” and almost half report dissatisfactory empathy scores [6]. (See Figure 2)

In post-treatment interviews, patients undergoing invasive long-term interventions consistently desire productive relationships with their doctor, but are often absent the basic gestures of empathy, emotional recognition or incentives to participate in decisions [6]. There is a broad variety of causes for these issues. Two main contributors are: varied medical school curriculums and a competitive physician environment [7].

![Figure 2. “Subjective evaluation of medical treatment outcomes” (SEMTO) scores are patient surveys that evaluate the quality of interaction with physicians on a five-point scale. The graph shows a distribution of SEMTO scores from trauma patients after discharge from the hospital. 20% of the values fall in the “not so empathetic” range and over 50% below “satisfactory” (set at score of 3.5) [6].](image-url)
VARIED MEDICAL SCHOOL CURRICULAS

In North America, medical schools adopt a predominantly information-based curriculum, prioritizing clinical knowledge over bedside manner [8]. While most programs implement some type of communication component into the course of study, the time on the subject is early in training and often integrated into practice of other skills. Medical schools nationwide are actively striving to amend their course curricula to account for the gap in the doctor-patient relationship. While individual schools are making strides to improve programs, there is still no standardized structure for doctor-patient interaction. Merely 31% of North American medical schools report integrating an accepted “model” for communication instruction [8]. Experts in communication training assert that “without a framework to help structure and focus attention on communication, the teaching is likely to be inconsistent and ineffective” [8]. To learn more about how medical schools are trying to counteract communication deficiencies, I conducted an interview with a curriculum specialist at Stanford Medical School. The interviewee explained that Stanford’s medical program aims to incorporate both a classroom ‘patient interaction’ component in the first two years called “Practice of Medicine” and a clinical-based communication training for the final three years (M. Sow, personal communication, November 27, 2017). The goal of this structure is to give students the skills and the language to converse with patients early in their experience before expecting them to garner information from real people. Stanford’s approach to training sets an important precedent for promoting effective communication and our model will help enhance similar existing practices.

COMPETITIVE MEDICAL SCHOOL ENVIRONMENT

Following doctors from the start of their career, longitudinal studies of self-assessed empathy scores in medical school students consistently show a significant decline in quantitative empathy metrics [9]. Why do we observe a pattern of waning empathy from physicians? A review by the Association of American Medical Colleges describes a phenomenon called the “hidden curriculum” that forces students to experience distress in order to improve as physicians [9]. After any person endures adverse conditions - which in medical school and residency includes demeaning and abusive treatment by superiors, low standard of living, burnout and depression - people tend to lose the capacity for empathizing with others who suffer [9]. According to a recent hypothesis, through cynicism and callousness, the ‘mirror neuron’ effect -the ability to physiologically mimic another’s emotional experience - can diminish [10]. In effect, the individual loses the neurological capacity to physiologically experience what others are feeling.

The effect of diminishing empathy is compounded by the general psychological strain of trauma surgery. Without consistent reinforcement of communication principles, interactive skills tend to regress. In interviews with trauma surgeons nationwide, doctors commonly report feel inadequately prepared to address emotional issues for patients and thus avoid the topic altogether [5]. While the circumstances that curtail communication skills are diverse and multidimensional, ultimately, many of the problems can be resolved by achieving one central goal: applying the primary elements of the doctor-patient relationship into a cohesive model.

CREATING A DOCTOR-PATIENT COMMUNICATION MODEL

After facing severe trauma, patients in need of acute life-saving treatment must encounter a rapid succession of life-saving tests and procedures. Succeeding the initial stage of physical rehabilitation, they must also work to renew the mind and the body. In any situation, when determining the best treatment, doctors need to remember the poignant aphorism: “each illness is unique” [2]. This paradigm for healing extends beyond the restoration that occurs ‘under the scalp’ and stresses the importance of emotional mitigation derived from human interaction. Because of the prognostic complexity and diverse patient circumstances, trauma cases present some of the hardest interactions in the medical setting. Accordingly, we will use studies of communication in trauma to frame the most effective model.

INTRODUCING THE COMPONENTS OF EFFECTIVE COMMUNICATION

Before narrowing the focus of our model, we will define the general components of an effective interaction based on previous research into hospital communication. Accounting for the multi-dimensional nature of recuperation, the study, “How does communication heal?” explores both the direct effects of conversation in healthcare - which include comfort and information - in addition to secondary outcomes such as cultivating trust, nurturing agreement and improving self-care. The article evaluates several pathways that emerge from productive communication and lead to measurable, positive outcomes. The authors contend that remedial avenues materialize when clinicians and patients “present and understand one another’s perspectives, find common ground, reconcile differences, achieve consensus on treatment” and when differences cannot be reconciled, “negotiate a mutually acceptable plan” [11]. Based on the study’s themes, the authors’ seven-fold framework can be consolidated into four main categories that will be the main components in our communication model:

1) Patient Participation: Educating the patient to make informed decisions.
2) Information Flow: Engaging in clinical deliberation by integrating medical logic with patient preference.
3) Emotional Regulation: Helping the patient overcome negative emotions.
4) Logistical Assistance: Navigating the monetary considerations of the health care system and building a support group to offer assistance, to ensure continuity of care and to prevent abandonment.

Although “Logistical Assistance” is also a category in our framework, the
component does not necessarily have to come from the physician. Therefore, in the following sections, we will just focus on the three determinants directly tied to the doctor: patient participation, information flow and emotional regulation. To refine the focus for our study, we will use the context of trauma rehabilitation.

PATIENT PARTICIPATION

When dealing with a traumatic event, psychological studies show that patients respond best when the dialogue with their doctor is viewed as a negotiation [12]. When both parties contribute and find common ground, the resulting decision resolves accomplishes a greater variety of goals. In order to deepen our understanding of the effects of the doctor-patient relationship, I conducted an interview with David Magnus, a preeminent leader in bioethics at Stanford University. In his extensive research, Magnus finds that the physician should not spend a majority of the time talking. He advocates the use of the evidence-based “Ask-Tell-Ask” technique, which is a three-fold process: a) Determining the patient’s emotional state and openness to discuss results or treatment; b) Delivering the information in a clear and concise manner; and c) Evaluating the patient’s response to the new information or decision (D. Magnus, personal communication, November 30, 2017). The crux of the “Ask-Tell-Ask” progression is a feedback loop for the physician that helps confirm or refute any preconceptions about the patient’s emotional condition. A medical anthropology review finds that when doctors prevent patient participation and rely on individual instinct or machines, essential diagnostic information is likely to be missed [2].

In our interview, Magnus also described three effective conversational roles for physicians. In the decision process, a doctor can act as a “director” who chooses for the patient, a “facilitator” who addresses differing values and offers treatment options, or merely an “informant” who gives necessary information for the client to decide (Magnus). The communication strategy is about empowering the patient. In a large survey-based study with rehabilitating trauma victims, the authors determine that people who are healing “do not benefit from the physician’s abdication of power but, rather, from engagement in a process that leads to an agreed management plan” [3]. If patients in the most acute danger are better assisted by actively participation, then we should promote involvement for all parties of a medical decision. However, before expecting fertile discussion, a viable relationship needs to be established - one that allows a seamless flow of information and guidance in all aspects of care.

INFORMATION FLOW AND THE “TRUST” FACTOR

At its core, medicine is characterized by a perpetual circulation of information. Doctors and patients must convey empirical particulars such as test results and physiological responses in addition to normative facts like symptoms and mental state. Applying psychology backgrounds to the clinical setting, a systematic review entitled “The Influence of the Therapist-Patient Alliance” investigates whether techniques that therapists use to reach their clients can be employed to individuals rehabilitating from trauma. The data show that an increased ‘alliance’ score corresponds to vastly improved health, indicated by improved ability to perform tasks for daily living, reduced pain, increased treatment compliance and satisfaction with care [12]. The authors note that in any medical profession, “trust is seen as a global attribute of treatment relationships” and a requisite for successfully exchanging knowledge and counsel [12]. It is evident that trust is a primary determinant in cultivating an effectual communication conduit. So how do we augment the level of confidence in the doctor-patient relationship?

In a study on “Trust, social support and patient type,” medical researchers delineate the elements of communication that build a ‘trusting’ relationship and improve outcomes for severely injured patients. For the analysis, the investigators examine responses from post-trauma patients to the Cologne Patient Questionnaire (CPQ), a standard list of targeted questions to help patients self-assess rehabilitation success. After reviewing the data, the authors propose that “social support” is predicated upon “active listening, how information [is] given and the offer of emotional support” [13]. The literature review adds to previous research by finding that “emotional” and “informational” support are greatest factors in producing trust, accounting for 30-40% of variance in ‘trust’ values [13].

“Informational” support is defined as assisting a patient understand pertinent medical knowledge and skills that relate to the healing process. A physician is expected to clearly state how he or she wants to be understood and to give extensive information to the patient in simple language. When discussing a diagnosis and treatment, doctors need to relay information using common terms and explicitly ask the patient to repeat and explain both the problems and the reasons for the specific action plan. Bioethicist Magnus explains that physicians also need to consider how certain phrases will be interpreted. For instance, by calling an illness or injury “treatable,” patients may assume that they have high chances for recovery; conversely, the doctor may really mean to convey that the problem can be only ‘curtailed’ or ‘delayed.’ By misinterpreting a doctor’s words, a patient can acquire inflated expectations for recovery, leading to diminished satisfaction with treatment in the long-run. Magnus contends that more investigations need to explore the pragmatic effects of specific words in addition to their literal semantic interpretation (Magnus, personal communication). In a review of subjective post-treatment patient surveys, researchers learn that people also value honesty [6]. Trauma poses a wide spectrum of expected outcomes. But by acquiring a realistic impression of their reality, trauma patients can alter their expectations of future physical abilities and correspondingly view their treatment and relative improvement with more positivity. Because of the inherent complication of many medical cases, open and honest information exchange is imperative for any functioning doctor-

More investigations need to explore the pragmatic effects of specific words in addition to their literal semantic interpretation.
patient relationship. Lastly, in order to adequately absorb the information, an individual must feel that doctor is genuinely investing time in the interaction. Physicians Strathern and Stewart describe the story of a woman who saw her doctor for lower abdominal pain. Upon introduction, the physician told her “I only have seven minutes per patient.” With the limited time and rushed atmosphere, the doctor rushed through the consultation and missed an ectopic pregnancy which is fatal in 60% undiagnosed patients. The woman was lucky to survive [2]. The physicians’ anecdote refutes the notion that conversations can be artificially reduced for efficiency; each patient needs and deserves sufficient recognition and attention to address every concern.

In terms of “emotional” support, ‘trust’ is established when physicians inquire not only about physical problems but also “feelings and concerns, understanding of the problem, expectations of therapy and perceptions of how the problem affects function” [3]. Because of its inherently complicated nature, we will now engage in a more thorough review on the idea of empathy and emotional regulation.

EMOTIONAL REGULATION: CLINICAL EMPATHY AND THE ROLE OF MEDICAL ANTHROPOLOGY

“Clinical empathy” (CE) is an increasingly prevalent focus in medical research addressing a patient’s emotional state [14]. Renowned physician Halpern defines CE as “the act of correctly acknowledging the emotional state of another without experiencing that state oneself” [15]. The medical community generally concurs that empathetic communication is elemental to healing. Yet, many researchers doubt that CE is teachable, practical or can be replicated. In response to the lively debate on empathy, many contemporary researchers strive to provide logical structure for CE and to streamline its implementation in conversational instruction.

In a review called “The Role of Empathy,” authors Blane, Jani and Mercer delineate a four-step approach to CE that is associated with improved patient outcomes:

1) Emotive: Subjectively sharing another’s psychological state;
2) Moral: Complying with an intrinsic motivation to help;
3) Cognitive: Crafting an objective intervention;
4) Behavioral: Executing a communicative response to convey understanding [13].

Of course, many people are not necessarily open to sharing their emotions and feel reluctant to disclose sensitive information to a medical care provider. In this case, clinicians can facilitate the conversation by being clear and honest, “by showing interest in the patient’s life, by attentively listening, and by validating patient’s expressions of feelings,” even if that ‘expression’ means not relating emotions [11]. Additionally, in life-threatening situations like trauma, “assessing the patient’s needs and motivation to survive and recover may be crucial” [13]. Halpern describes an encounter with a dialysis patient who lost the will to live because of a difficult divorce and passed away from non-compliance with her treatment. The doctor reflects that by asking about patient’s emotional feelings and distress, she can better prevent similar tragic misunderstandings [16].

People also utilize a cultural lens when assessing injury and illness. Consequently, every individual will respond to emotional regulation in a drastically different manner. Various circumstances inhibit communication such as differences in speech, social context, contrasting value systems and cultural distrust in medicine. Ultimately, patients will not heal if they disagree with the cause of illness or injury and do not adhere to treatment [1].

To solve the quandaries regarding cultural responses to communication of emotions, the field of medical anthropology develops novel approaches to medical conversation that account for a patient’s unique situation. In the medical anthropology textbook, “Curing and Healing,” Strathern and Stewart explore a conversational system that addresses these cultural factors. To reconcile dissimilarities of perspective, a physician first needs to establish the breadth or narrowness of knowledge on the patient’s condition and ask if his or her stated concerns are being addressed. After clarifying the baseline

![Figure 3](https://example.com/figure3.png)

**Figure 3.** Graph comparing self-reported ‘quality of life’ metrics six months post-treatment between patients with ‘high’ and ‘low’ level of perceived interaction quality. Data show statistically significant improved scores for pain management, anxiety, and control after discharge for the group with higher interaction quality scores [4].
of information, the next step is to paint a picture of the patient’s agency and to determine how it can be enhanced. Does the individual understand how to improve his or her condition? What details will help clarify the reasons for treatment? Strathern and Stewart’s pathway accounts for the cultural considerations that affect the enactment of empathetic communication, and through a medical anthropology lens, “empathy can more or less be used consciously and with a specific purpose” [17].

Emotional regulation and cultural consideration is an inherently complicated and subjective facet of communication, but its role lies at the core of enhancing a patient’s psychological health. A plethora of research is dedicated to adding structure to emotional regulation. For example, an app called “Vital Talk” provides tools, systems and direct language that physicians should utilize in various situations such as giving bad news (Magnus, personal communication). With standardized techniques, doctors can learn to evoke an empathetic disposition and cultivate a fruitful relationship that helps expedite and augment recovery.

EXPECTED LONG-TERM OUTCOMES OF EFFECTIVE COMMUNICATION

We just delineated the components for a unified model designed to guide physicians towards practicing effective communication. Under our framework for thoughtful, thorough and empathetic conversation, what are the expected outcomes and consequences for the doctor-patient relationship?

In the late 1990s, the medical community issued a consensus statement on physician-patient interaction, declaring that “effective communication between doctor and patient is a central clinical function that cannot be delegated” [3]. For the long-term restorative process, communication significantly influences the perceived results of health care. A medical literature review from 2008 explores the effects of the doctor-patient relationship beyond the preliminary stages of healing, revealing the “importance of interaction quality for the success of rehabilitation” [4]. The researchers construct an evidence-based questionnaire that appraises the quality of a physician-patient interaction. Consistently, a high ‘quality’ rating corresponds directly with improved health markers and an enhanced attitude towards remedial progress. (See Figure 3)

Numerous additional studies examine the results of high ‘quality’ interactions with patients. One long-term report that surveyed trauma patients post-care reveals that better communication from doctors promotes increased patient disclosure - encompassing symptoms, questions and concerns - greater diagnostic accuracy, a higher degree of “satisfaction” and quality of life scores [18]. Although the article and similar studies use subjective ‘quality’ scores to determine the effectiveness of communication, in future evaluations, our model can serve as the basis for the core components of a productive interaction.

OUTCOMES OF CLINICAL EMPATHY

In any recovery, but especially traumatic rehabilitation, no factor may be more important than empathy; because of its unique importance, we will now explore the direct outcomes of CE for patients. A 2009 medical review cites a neurophysiology study that correlates CE to amplified activity from a specific nerve cell called ‘mirror neurons’ that subconsciously mimic another’s emotions. In essence, a person can feel joy just by witnessing the emotion [19]. Addressing empathy’s clinical utility, a study exploring the “Determinants and patient-reported long-term outcomes of physician empathy” seeks to create an impact model of CE by interviewing patients succeeding invasive treatments. The authors’ framework shows that empathetic communication enhances the information flow between doctors and patients, improves long-term psychological health, and helps address every concern [17].

Investigating CE’s importance in the “Short and long-term subjective medical treatment outcomes of trauma surgery patients,” researchers determine that physician empathy scores - based on a qualitative survey - are the greatest determinant of patient reported outcomes after 12 months [20]. The research method depends on standardized survey-based scales to calculate “subjective evaluation of medical treatment outcome” (SEMTO). The SEMTO is measured using the CPQ, which asks clients to assess four basic markers of successful rehabilitation: a) Satisfaction with care; b) Treatment effectiveness; c) Quality of life; and d) Reduction in suffering. The self-reported results tend to decline over time because people often do not match their expectations for recovery. However, proper communication curtails the effects because empathy influences “perception of the treatment efficacy, treatment satisfaction, and treatment effect on quality of life” [20]. The results show that even though the medical field is skill-based and empirically-driven, “interpersonal treatment aspects such as emotional care is associated to a more positive evaluation of the medical treatment and its effects” [6]. Empathetic communication has the potential to profoundly augment outcomes in the hospital, and as such, CE warrants special attention for our communication model.

CONCLUSION

When patients enter the hospital, we want to ensure that they will experience positive outcomes by promoting the best practices from care providers. An experience with trauma or illness launches more than just physical rehabilitation. The restorative process necessitates careful emotional and psychological healing, candid information and a positive yet realistic attitude. Communication is the bridge to reveal a person’s true condition, from diagnostic information and patient history to mental health and emotional outlook. Accordingly, in this study, we aimed to enhance the doctor-patient relationship by integrating contributions to conversational practices from various fields into a consolidated communication framework. In our investigation, we focused on trauma cases because they create some of the most complicated situations in the hospital. Through engaging in three main components of effective communication – patient participation, information flow, and emotional regulation - we created a model of best practices for communication that optimizes the health outcomes for rehabilitation patients. (See Figure 4)
Our physician-based framework will help elevate interactions throughout the medical field, and every participant in the healthcare system will benefit from more effective relationships.

Now that we have a unified framework for doctor-patient communication, the next stage of investigation is to determine the optimal manner to teach the model to doctors. In developing a philosophy for communication training, research shows that “90% of what a physician knows comes from experience with patients after the training of formal education” [2]. However, many scholars, including Magnus, still question how to standardize instruction and how to consistently evaluate physicians’ conversational skills. In my interview with the Stanford Medical School curriculum specialist, I investigated the current frontiers of communication education. The expert remarked that the school seeks to provide experiential learning, encouraging students to learn communication skills in a variety of interactive formats. Initially, medical students study sensitive subjects such as “sex, gender and sexuality” in a traditional lecture setting followed by group discussions over how to approach difficult situations. Prospective doctors also participate in standardized patient tests in which each person is evaluated on a ‘whole picture’ basis to ascertain the physicians’ ability to acquire necessary diagnostic information, tendency to convey empathy, and propensity to help patients understand their condition. The medical school also strives to have students cultivate a longitudinal relationship with an individual. Accordingly, they are matched with real patients in a clinic to assess and treat over time. Stanford Medical School is currently attempting to add earlier clinical experience for students to practice genuine interactions before relying on medical knowledge to carry a conversation (M. Sow, personal communication, November 27, 2017). As we continue to improve the learning environment, the Stanford Medical School curriculum stands as a salient example of how to instruct interactive techniques.

Hopefully, with the common model for communication presented in our research, we can effectively emphasize the doctor-patient relationship in education and advance the physical and psychological outcome for manifold patients.

**Figure 4.** Original flow chart model for doctor-patient communication based on synthesized research.
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REFERENCES

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