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## Knowing versus doing: The value of behavioral change models for emotional communication in oncology

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### Abstract

Responding to emotion is a central function of communication in medicine. However, many clinicians miss opportunities to engage their patients' emotions, and these lapses can negatively affect the patient's relationship with the clinician. As such, responding to emotion serves as a useful example of communication challenges in cancer care. The clinician's response to emotion is likely influenced by cognitive, social, economic, and cultural factors. In psychology, models of behavioral change seek to understand and predict how individuals will act in specific circumstances by incorporating these multiple determinants. However, behavioral change models have not been applied specifically or rigorously to clinicians' communication behaviors in oncology. In this article, we argue that applying such models in oncology can provide benefits to clinicians and communication researchers. To frame this argument, we will apply the Information–Motivation–Behavioral Skills (IMBS) model of behavioral change to communication about emotion in oncology. We will then propose specific ways in which applying behavioral change models to communication can benefit clinicians and patients. Improving communication behaviors requires more than commonsense solutions. Behavioral change models might support the enactment of communication skills and knowledge, bridging the gap between “knowing” and “doing.”

### Keywords

Communication; Oncology; Behavioral change; Health behavior; Physician-patient relationship

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Dr. Smith walks into the hospital room. Her patient, James, is a 36-year-old father of three who had initially presented with painless jaundice. A CT scan showed a mass involving his pancreas. He underwent biopsy and the results show advanced pancreatic cancer, which

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carries an extremely poor prognosis. Dr. Smith has just finished disclosing the diagnosis and prognosis. Upon hearing the news, he begins to cry and says, “I’m going to die. Oh my god. What about my kids? What am I supposed to do?”

Emotional distress is common for patients with serious illness, especially advanced cancer [1]. This distress can be expressed explicitly or implicitly [2], and sometimes only through non-verbal mannerisms [3]. Responding to this emotional distress has been associated with decreased patient anxiety and depression [4], and a socioemotional approach to communication can positively impact the perceived quality of communication [5]. Given the demonstrated importance of emotional communication, a National Cancer Institute consortium in 2007 defined “responding to emotions” as a core function of patient-centered communication [6]. While many patients with cancer prefer their clinicians to offer sensitive, exploratory, acknowledging, and supportive statements [7], oncologists often miss these opportunities [7,8]. Many physicians respond to only a minority of negative emotional disclosures with empathic or open language [8], often failing to partner with patients after these expressions [9]. We argue that responding to emotions is a communication practice that relies on the clinician’s intentional behaviors. Therefore, improving communication outcomes will require sustainable changes to clinicians’ communication intentions and behaviors.

In this introductory scenario, Dr. Smith can either engage or bypass James’ emotional expression. Her intentions and behaviors will likely be influenced by cognitive, social, economic, and cultural factors [10,11]. In psychology, models of behavioral change have sought to understand and predict how individuals will act in specific circumstances because of these multiple influences. In recent years, these theories of behavioral change have increasingly been applied to complex clinician behaviors, such as antibiotic stewardship and prescribing practices [12,13]. However, behavioral change models have not been applied specifically or rigorously to clinicians’ communication behaviors. We argue that communication behaviors should be viewed similarly to these other complex clinician behaviors. Certainly, several communication models already exist and some have incorporated domains related to behavior. For example, the Comprehensive Model for Information Seeking includes these domains: demographics, direct experience, salience, beliefs, and characteristics of information [14]. However, only some of these domains are modifiable, and the included behavioral domains are explored less explicitly than in behavioral change models. Furthermore, this model was developed to explain the patient’s information seeking, not the clinician’s response. As such, it is unclear whether such a model is a useful heuristic for understanding clinicians’ communication behaviors. We argue that the field of communication research would benefit from further integration of behavioral change models into the design and implementation of interventions. Depending on the study, behavioral change models might supplement or even supplant currently used communication models. Although many models exist, we will explore one model for explanatory purposes.

## 1. Dr. Smith’s communication behavior

If Dr. Smith engages with James’ emotional expression, she could respond with silence, offer a tissue, and then use a statement that continues the discussion of emotion: “This must

be so hard to hear. I can't imagine what you are feeling right now." Or she might bypass the emotion, responding with a statement that terminates discussion of emotions and pivots toward more comfortable topics: "The good news is that we have several treatment options, and there are new clinical trials that you might qualify for. Here is the treatment plan that I think is best ... "

One could argue that Dr. Smith will respond to the patient based on her understanding of what he needs. In this simplistic model, if Dr. Smith fails to identify or fulfill these needs, this deficiency results from her ignorance of James' needs or lack of ability to meet them. Thus, education and skills training should be the only interventions needed to improve communication in this scenario.

Such a simple conceptualization of behavior, however, does not fully represent the complex reality. Education is important, but often insufficient to lead to persistent behavioral change. The need for additional levers of change beyond education is the conceptual basis for all behavioral change models, quality improvement scholarship, and the field of dissemination and implementation research [15,16]. The Information–Motivation–Behavioral Skills model (IMBS) of behavioral change is one model that was developed to address such complexities, positing that an individual's health behaviors are affected by three fundamental determinants: health-related information, motivation, and behavioral skills. This model has been validated and applied to a wide range of populations at risk of becoming infected with HIV [17–25]. This model has also been successfully applied to clinician behaviors unrelated to HIV, such as prescribing practices [26,27].

Although many behavioral change models exist, none have been specifically tested or validated in oncology communication. We will focus on IMBS because its behavioral determinants are readily understandable and easily applied to clinical scenarios. Additionally, this model incorporates abilities and beliefs, as well as biases and heuristics, thus providing a rich understanding of potential inputs to communication behavior. Whether this model will effectively predict communication behaviors is an unanswered empiric question. As such, we will explore IMBS to demonstrate how one *could* apply behavioral models to communication behaviors of clinicians, acknowledging that utility of this model requires study. Our goal is to promote the concept that many behavioral determinants affect communication practices, and that behavioral change models might be a useful tool for identifying and targeting these determinants.

### 1.1. Information

IMBS proposes that information pertinent to the targeted behavior is a prerequisite to enacting the desired behavior [19,28]. In other words, understanding the importance and relevance of a particular behavior increases the likelihood of enacting that behavior. This behavioral information is dichotomized into specific facts, as well as myths and heuristics. According to IMBS, Dr. Smith will be more likely to engage with her patient's emotion if she understands several specific facts. First, she should understand that many patients desire a response to their emotional expressions [7]. She should also understand the difference between responses that encourage or discourage further exploration of the patient's emotion. If she fails to understand this difference, she might inadvertently terminate the emotional

discussion by attempting to offer reassurance: “The numbers aren’t great, but statistics apply to a population, not an individual. We don’t know how your cancer will respond.” She also might need to understand that empathic responses only prolong clinic visits by an average of 21 s [8], and that unacknowledged emotions might lead to the patient’s dissatisfaction with care and worse psychological outcomes [29].

Beyond these specific facts, Dr. Smith’s personally held myths and heuristics can lead to biases about responding to emotions. Heuristics are simple rules that all humans employ to draw conclusions and make decisions, often thought of as cognitive shortcuts or “rules of thumb.” These heuristics are the engines that generate bias. In their foundational work, Kahneman and Tversky found that individuals routinely act based on preconceived heuristics [30]. While this fast-thinking mode of decision making often produces acceptable results, occasionally heuristics can lead to massively flawed decisions [31].

In considering the current scenario, Dr. Smith must determine how James wants her to respond. Instead of thinking slowly and deliberately through the problem, she might employ a subconscious bias or stereotype, perhaps that “men do not want to talk about emotion.” Although James is crying, this bias could prevent her from engaging with his emotion. If James had instead appeared calm despite this news, Dr. Smith might have employed the rule of thumb that “people who appear calm are not feeling emotional angst,” despite studies showing that external demeanor is a poor predictor of internal angst [32]. Recognizing her biases might encourage her to ask about James’ emotional state even if he presents a stoic demeanor.

## 1.2. Motivation

Motivation is another fundamental determinant of behavior. The first step in communicating well is *wanting* to communicate well. IMBS categorizes this motivation as either personal or social.

Personal motivation is an individual’s beliefs and attitudes towards the proposed outcome and the particular behavior. Suppose Dr. Smith views communicating about emotion as “the nurse’s job,” and views her role as primarily technical — providing safe and effective treatment. When her patient says tearfully, “I am going to die,” Dr. Smith might view this expression as interfering with the rational approach to treating his cancer. It is easy to see how this personal belief could lead to a terminating statement that redirects to practical matters. Alternatively, if Dr. Smith views this role as a core professional responsibility, she will more likely engage his emotion. In each case, the oncologist is trying to fulfill her perceived duty to her patient, but different personal beliefs lead to opposite behaviors.

Social motivation is the second category of motivation in IMBS, and includes social support to change or maintain a given behavior. Social, cultural, and institutional norms can affect social motivation. Suppose Dr. Smith’s institution received negative press recently due to stories about insensitive physicians and nurses. In response, the institution has recently launched a “patient-centered care” awareness initiative throughout the health system. In this institutional culture, Dr. Smith might feel supported (or pressured) to further engage with

James' emotions. Conversely, if the leadership primarily prioritizes revenue generation, Dr. Smith might feel pressured to avoid deep conversations that are not billable.

### 1.3. Behavioral skills

The final component of IMBS is behavioral skill, composed of perceived self-efficacy and objective abilities. Self-efficacy is one's belief in his or her ability to perform a specific behavior. This perception affects goal setting and behavior because individuals are more motivated to pursue an action if they feel confident in their ability to perform that action. For example, some oncologists avoid discussing psychosocial issues with patients because they are unsure what to do with the responses [33]. Similarly, discomfort with death and dying can create barriers to discussing end-of-life care [34]. This discomfort is exacerbated when clinicians identify with patients or their personal situations [34,35]. For example, an oncology nurse in one study commented that:

“Death is still taboo, even though we encounter it almost every day, in a way, it is still difficult to talk about. Moreover, it is maybe especially difficult to talk about because these are women in a similar situation as yourself, right. Because then ‘it could also be me’, right?” [36]

If Dr. Smith is near 36 years old and has young children at home, she may experience pain and anxiety in responding to her patient's emotions.

Self-efficacy can also be blunted by practical barriers, such as overbooked clinic schedules and burdensome service obligations. In several studies, clinicians repeatedly identify time pressure as a barrier to effective communication [37–40]. Such time pressure can decrease the priority of communication in favor of writing notes, refilling prescriptions, reviewing lab tests, and sundry other tasks. Practical barriers can thwart the best of intentions.

However, objective abilities are also required to enact behaviors. Beyond confidence, Dr. Smith's actual ability to utilize empathic phrasing, employ silence when appropriate, and make eye contact are skills that support effective responses to emotion. If she has not developed these skills, she might be less likely to engage with James' emotions, or she might engage the emotions in a less supportive manner.

In summary, IMBS postulates that Dr. Smith's response to James' emotion will be affected by her knowledge that most patients desire and benefit from open engagement, and by her personal heuristics and biases about who wants to engage in emotion. This behavior will also be influenced by social and institutional norms about the physician-patient interaction, as well as her personal beliefs about the physician's role in communication. Lastly, her approach to communication will be influenced by her perceived and actual ability to engage effectively with emotion.

## 2. Benefits of behavioral change models for clinicians and patients

Clinicians who understand behavioral change models will better understand that their communication practices are influenced by internal and external factors. For example, Dr. Smith might recognize that she holds underlying assumptions about her patients'

communication preferences based on gender, age, race, or outward expression of emotion. By addressing these assumptions before difficult communication encounters occur, she can better prepare for emotional interactions with patients like James.

Similarly, an understanding of IMBS might encourage Dr. Smith to reflect on times when she has been less motivated to communicate effectively. This might include times when her schedule was full, at the end of a busy day, or when conversations were emotionally fraught. This self-reflection matters because clinicians sometimes navigate conversations in communication autopilot, not realizing the implications of small communication decisions they make [41]. For example, Dr. Smith might respond to James' emotional outpouring with a terminating statement because she is uncomfortable, or simply out of habit. In either case, she has missed an opportunity to support and express concern. Ultimately, this understanding of IMBS will be beneficial if it encourages clinicians to change their communication behaviors to improve the patient's experience and health outcomes.

### 3. Transforming communication research and training using behavioral models

If we are to follow our own advice, we must recognize that educating clinicians about behavioral change models is likely insufficient to consistently modify communication behaviors. Applying the principles of behavioral change models to the development of communication interventions, however, *could* change these behaviors. Currently, most communication intervention studies describe the development of communication skills workshops and educational sessions [42], which primarily target communication skills, knowledge, and self-efficacy. If we want to change communication behavior, the IMBS model suggests that we might additionally address motivation, myths, and heuristics, as well as institutional norms and priorities. In essence, we need to target the multiple barriers that can prevent a knowledgeable and skilled clinician from engaging with a patient's emotion. Without more broadly targeting behavioral levers, communication interventions will likely struggle to reach their full potential for lasting change. Using IMBS as an example, we have listed potential interventions that might target specific behavioral determinants in Table 1.

Part of the challenge is that educational interventions might preferentially target clinicians who are already open to engaging in communication. If so, these interventions are unlikely to improve communication behaviors of clinicians who do not view effective communication as an essential professional responsibility. For example, if Dr. Smith views emotional support as a role for the nurses, she will be less likely to meaningfully engage in a communication workshop focused on the importance of emotional response. She might skip the session if it is optional, or feel resentment if she is mandated to attend. As such, training sessions are unlikely to change the priority of communication for unmotivated communicators. Similarly, educational interventions will be of limited value if institutional norms and practices create significant barriers to effective communication, such as clinic scheduling practices, large patient volumes, and lack of reimbursement [33,36,43–45]. In considering the many influences on communication behavior, it becomes clear that effective interventions must target multiple behavioral determinants simultaneously.

Behavioral change models can also inform the design of study outcome measures, maximizing the chances that a study will yield useful results even if the primary aim fails. For example, Tuthill et al. utilized IMBS as a framework to evaluate a motivational interviewing counseling session to promote exclusive breast feeding to HIV-infected mothers [46]. The results did not show a statistically significant difference in exclusive breast-feeding after the intervention. However, by developing outcome measures that were informed by IMBS, they identified that high levels of self-efficacy were significantly predictive of breast feeding initiation. From this failed experiment, they learned that future interventions should more directly target self-efficacy. The authors pulled a small success from an experiment that failed in its primary aim. By similarly employing behavior change models in the development and design of communication intervention studies, researchers can maximize the utility of experiments, which supports better utilization of resources and more rapid development of effective communication interventions.

#### 4. Conclusion

“I’m going to die. Oh my god. What about my kids? What am I supposed to do?” Dr. Smith recognizes that she is uncomfortable with heavily emotional encounters, but she prepared for James’ response before she entered the room by anticipating her personal discomfort and planning to sit silently and reassuringly with her patient. She takes a deep breath, leans forward to hand James a tissue, and says, “I am so sorry to give you this news. It must be really shocking to hear. I can’t imagine what you are going through right now.” She then places her hand on James’ shoulder and sits silently, allowing James to momentarily control the agenda. “Okay,” James says 30 s later, breaking the silence. “What happens now?”

Responding to emotions is a core function of communication in oncology that often goes unfulfilled. In this article, we used response to emotions to demonstrate how applying a behavioral change model to communication behaviors might provide benefits for clinicians and communication researchers. For Dr. Smith, understanding the contribution of behavioral determinants on her actions allowed her to anticipate her discomfort during the disclosure conversation. She expected feelings of uneasiness, but she had prepared herself to lean forward into the difficult emotion and allow James to set the communication agenda, deferring her authority. In the end, James shifted the discussion toward treatment options without the urging of Dr. Smith. All of this required an investment of personal discomfort and 30 additional seconds.

Responding to emotions, however, is only one function of communication. Others include fostering healing relationships, supporting decision making, enabling patient self-management, exchanging information, and managing uncertainty [6]. One could apply behavioral change models equally to any of these other functions. For example, biases about patient preferences might affect the extent of prognostic disclosure, or the amount of decisional authority employed by the oncologist. Communication is a complex and multifaceted process. Effectively targeting and improving communication will require more than commonsense solutions. Incorporating behavioral change models into clinical practice and intervention development could help to drive the field of communication toward a more

complete and nuanced understanding of how to best support cancer patients, bridging the gap between “knowing” and “doing.”

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## Abbreviations:

<b>IMBS</b>	Information–Motivation–Behavioral Skills
<b>HIV</b>	human immunodeficiency virus

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**Table 1**

Behavioral constructs of the Information–Motivation–Behavioral Skills model.

Behavioral construct	Clinician’s perspective on engaging with emotion	Potential interventions targeting construct
Specific facts	“Patients don’t want me to talk about their emotional distress.” -OR- “My patient didn’t seem to be upset during our conversation.”	<ul style="list-style-type: none"> <li>• Educational intervention</li> <li>• Patient-directed communication coaching or question prompt list to make emotional concerns more explicit</li> </ul>
Myths and heuristics	“Men don’t want to talk about their emotions.”	<ul style="list-style-type: none"> <li>• Clinician self-assessments to identify biases</li> <li>• Educational seminars</li> <li>• Real-time patient-reported communication preferences from the clinician’s own patients</li> </ul>
Personal motivation	“Talking about emotions is important, but I have too many other things to accomplish in this short visit.” -OR- “This is not my job.”	<ul style="list-style-type: none"> <li>• Patient testimonials about importance of acknowledging their emotions</li> <li>• Increased reimbursement for counseling patients with serious illnesses</li> </ul>
Social motivation	“None of my colleagues are doing this, so why should I?” -OR- “My department chair doesn’t care about this, so why should I?”	<ul style="list-style-type: none"> <li>• Scorecard for clinician’s performance based on patient report</li> <li>• Open reporting of scorecard results within medical division with appropriate incentives and/or mandates</li> <li>• Patient-reported communication outcomes considered as contributor to promotion decisions</li> </ul>
Objective abilities	“I don’t know what to say or how to act when a patient starts crying.”	<ul style="list-style-type: none"> <li>• Communication coaching</li> <li>• Communication checklists for providers to review prior to difficult discussions</li> <li>• Recurrent training sessions with standardized patients</li> </ul>
Perceived self-efficacy	“I’m just not good at talking about emotions.”	<ul style="list-style-type: none"> <li>• Communication skills training with direct performance feedback</li> <li>• Anonymized feedback from patients</li> <li>• Intermittent recordings of clinical encounters with directed feedback</li> <li>• Training for team-based approach to difficult communication</li> </ul>