

Challenges in Communication about COVID Medical Risks: A Speculative Educational Template

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Abstract

Recent descriptions of the pandemic's effect in medical offices and hospitals depict unprecedented scenarios. The impact of COVID-19 on individuals sick enough to seek professional healthcare highlights the importance of communication skills. We propose an educational framework for pre-service and in-service healthcare professionals to improve communication skills during this crisis. Clinicians need to be mindful that the perception of the seriousness of the consequences of treatment vary greatly between individual patients and families. The four-quadrant scheme we offer is a way to help providers prepare to speak effectively about medical choices related to COVID. While most situations demand more than one type of communication competency, the focus here is on what might be advisable as the primary or "lead" skill. One of the most important elements in managing COVID-19 is to empower patients with appropriate information and emotional support. Additionally, we hope this model will inspire health professions faculty to think in new ways about teaching and coaching options in the practice-based learning of communication skills.

Keywords: *communication, COVID risk, learning skills*

Introduction

Caring for monumental numbers of COVID patients has highlighted the importance of clinicians' communication choices with patients and their loved ones. We hope that the pandemic and the toll it has taken on healthcare providers has not altered the core of compassionate care. Despite the stress on relationships in healthcare, a review by Wittenberg et al. (2021) shows the lack of resources to support clinician-patient communication. This article is written with the

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accompanying belief that “no amount of distance or PPE will diminish the power of human connection” (Houchens & Tipirneni, 2020, p. 439).

Excellent provider communication skills result in increased patient satisfaction with treatment and enhanced ability to participate in joint decision-making (Epstein & Street, 2011). Risk of litigation is often predicted by the clinician’s inability to maintain rapport (Schleiter, 2009). It is clear that “health outcomes depend not only on the medical skills and knowledge of the physician, but also on his or her effective communication and emotional support” (Lown et al., 2011, p. 1773). The presence of empathy improves adherence with treatment recommendations, which is an important determinant of outcomes (Howick et al., 2020), especially if COVID patients are ambulatory.

This paper provides a template to improve how practitioners talk about risks related to COVID medicine. This model may be useful as a reference in developing communication skills training. It details the design of a four-quadrant schematic and presents examples that demonstrate what is referred to here as the lead communication skill suggested for each COVID scenario within the four possible treatment conditions. We concede that there is more informal conjecture in this paper than the typical academic thesis. Based on the insights of an experienced physician and health communications scholar, this is an attempt to open a conversation that may inform clinical educators preparing themselves and students to converse with COVID patients and their families.

During episodes of complicated acute or chronic long COVID care, patients are at risk of misapprehending their treatment plan. Insufficient understanding can lead to feelings of anxiety and being overwhelmed (Tulsky et al., 2017). For example, patients who negatively appraise the uncertainty surrounding COVID treatments might experience excessive worry and a desire to reduce ambivalence. However, feelings of disequilibrium motivate some people to maintain determination. Optimism can encourage patients to maintain an active response to their illness (Mondloch et al., 2001). In contrast, false hopes about treatments (e.g., “just give me those experimental drugs that President Trump got”) can lead some patients to ignore risks.

Laypeople and experts alike tend to simplify and use mental shortcuts, or heuristics, when interpreting risk information. Patients may reduce probabilistic information into two broadly polarized views, e.g., “I will get better” or “I will get worse” (Hornig & Grady, 2003). People may not always respond in adaptive ways to the provision of complex probabilistic information because risk decisions are largely intuitive (Politi et al., 2007). Gillick (1988) identifies identified styles of reasoning used by patients, which included moralistic thinking, magical thinking and biased weighting. Unfortunately, these cognitive processes can distort risk assessment of COVID outcomes. For example, moralistic thinking often highlights outcomes that the patient thinks ought to occur, especially if they feel virtuous about self-care (e.g., “I’m in great shape, I should be able to get past this quicker than a seasonal flu”). Magical thinking often minimizes or denies the outcomes that a patient dreads (e.g., “some convalescent plasma should perk me right up”). Biases are introduced to the weighting process by a number of factors including media exposure, personal experiences and the emotional vividness of data (“the TV news said that even young and healthy people are dying of COVID now”).

Clinicians must be prepared to address concerns like these while also paying close attention to how they present and discuss a range of COVID related medical risks. For instance, because some patients do not automatically perceive numerical equivalents accurately, some providers use analogies to other scenarios in daily life (e.g., “your chance of having a bad reaction to the COVID vaccine is much less than the chance you will have a car accident on your way to the vaccination clinic”). Distortions and inconsistencies in translating verbal descriptors of frequencies (such as rarely versus often versus sometimes) into numerical ones have been well documented and would be expected to play a role in perception of vaccine safety (Bütcher et al., 2014). Clinicians must not only assess patients, they must also monitor themselves to diagnose ineffective conveyance of information about risk. Without direct attention to how communication strategies are being used,

there is a reduced chance that providers and patients can formulate a truly collaborative treatment plan (Wintle et al., 2019).

Development of the quadrant scheme

The two key parameters in any risk communication are the likelihood of an outcome occurring, or the patient’s perception of that probability (Zipkin et al., 2014), and the consequence of the possible outcome, or the patient’s perception of such (Bogardus et al., 1999). Combinations of these two variables require different communication approaches (Burkell, 2004). The four-quadrant schema is offered as a way to help providers orient themselves to the task at hand and prepare to speak effectively to the patient and family members about medical choices related to COVID (Table 1). Most situations demand more than one type of communication competency, but our focus is on what might be advisable as the primary or “lead” skill. Examining each quadrant will clarify how the framing structure can be used to educate pre- and in-service clinicians.

Table 1:

Explanations of the components in the quadrants

	HIGH IMPACT CONSEQUENCES	LOW IMPACT CONSEQUENCES
HIGH LIKELIHOOD	<p>A</p> <p>Key competency here will be <i>empathic acknowledgement</i>—for <u>the fear</u> created in COVID patients and family when they realize that only the most aggressive medical treatments may be lifesaving</p>	<p>B</p> <p>Key competency here will be <i>information verification through effective expository skills</i>—to increase comprehension of common treatment choices</p>
LOW LIKELIHOOD	<p>C</p> <p>Key competency here will be <i>perceptual alignment---</i> because patients who lack cognitive complexity or language skills may distort incoming messages that equivocate</p>	<p>D</p> <p>Key competency here will be <i>ethical influence through development of credibility and trust ---</i> to help the patient become more favourable towards the intervention</p>

Quadrant A high likelihood of an undesirable or catastrophic outcome.

The popular media have featured many headlines about the role of the ECMO (extra-corporeal membrane oxygenation) machine in COVID treatment. Some stories have heralded it as a miracle: “*New Mexico Baby Recovers from COVID After Being Placed on Heart-Lung Machine*” (Jones, 2022) and others bemoan what could have been: “*Study shows young, healthy adults died from COVID-19 due to ECMO shortage*” (Vanderbilt University Medical Center, 2022). This technology is used when other forms of heart and lung support have failed. There is much uncertainty amongst healthcare professionals who seek

to offer ECMO treatments without fully established guidelines to optimize the provision of care, if, in fact, a machine is available ([Short et al., 2022](#)).

ECMO is reserved for the sickest COVID patients with the expectation that significant adverse events may occur. The average mortality rate in this population has been reported at about 53% for patients over 50 years of age ([Nguyen et al., 2021](#)). Given the graveness of the patient's situation, the decision to fully consent to ECMO will always be made in a highly emotional climate. Clinicians may have to discuss with family members whether they understand how rapidly their loved one has deteriorated. Without the lead skill of empathy, the raw emotionality will be overwhelming, making it difficult to comprehend the informational briefing. In situations such as the need for ECMO intervention, with an accompanying high likelihood of high impact consequences, empathy must be employed for effective communication ([Stevens et al., 2020](#)).

There is sparse research on how frontline clinicians' communication skills are sustained in the traumatic new world of COVID care. However, in a study on talking with patients about advanced lung cancer (a feared disease with a poor prognosis like severe COVID), physicians rarely responded empathically to statements by patients regarding potential mortality or treatment limitations. Physicians seemed more comfortable providing empathy when the patient was lamenting a difficulty with the impersonal business side of the healthcare system ([Morse et al., 2008](#)). These interactions frequently occur in brief moments outside the patient's room, or through a quick phone call or virtual screen interaction ([Rimmer, 2020](#)). Interestingly, clinicians under COVID stress have started turning to palliative care professionals to improve their skills in empathic communication ([Ankuda et al., 2020](#)).

If patients and families perceive a lack of emotional supportiveness during these life-altering moments, it cannot be compensated for by simply providing more information. No matter how horrible the news, patients and families expect high levels of both empathy and technical knowledge ([Munoz Sastre et al., 2011](#)). If clinicians lack empathy at such a devastating time, it may be because ignoring tears while presenting hard facts allows the evasion of poignant questions like: "How could our loved one have gotten this sick?" It is not surprising that clinicians might try to perform less emotional labor. A recent survey by Mental Health America ([2020](#)) documented that the pandemic is taking a toll on the mental health of medical professionals. Mass media like the *New York Times* have featured articles on how the COVID era means that doctors and nurses are under increasing duress ([Wu, 2020](#)).

Family members feel more secure discussing their concerns when empathy is present. Without this relational faith, they might be afraid to ask if the ECMO machine will cause unintended side effects like a stroke, because they may worry that such a question could be interpreted as an insult to the clinician's judgment. When potentially adverse outcomes are under discussion, consultations are frequently characterized by unasked questions ([Barry et al., 2000](#)).

Educational training can make a significant difference in response skills as demonstrated by both observer ratings and other measures of physician empathic behavior ([Bonvicini et al., 2009](#)). Even before the emotionally depleting COVID era, there was a wide variability in empathic expression for families with members in intensive care. One study indicated that there were no empathic statements made in one-third of the conferences, but a clear association between empathy and higher family satisfaction exists ([Selph et al., 2008](#)).

A benefit of the educational model presented here is that it focuses attention on COVID medical scenarios that have a high probability of a high magnitude of impact. It is minimally a useful reminder for clinicians that lead care teams. Having a loved one transitioned to an ECMO may create feelings of shock for family members. This critical step can shatter visions of shared longevity. Empathy in medical settings has been linked to a lessening of anxiety ([Derksen et al., 2013](#)). Leading with empathy will enhance family members' understanding of the dire medical situation. Empathy is not something that happens spontaneously, it is a choice to pay careful attention and to formulate a humane response.

Quadrant B high likelihood of a very manageable (low consequences) medical issue

Clinicians frequently use azithromycin (AZM) to assist with the pneumonia-like complications in some COVID patients. These patients are likely to be awake and conversational at the point that physicians initiate AZM which is usually well tolerated, but can cause secondary fungal infections, that can be easily treated with antifungal medicines that also have few side effects.

A lead communication competency here would be a layperson's level of verbal explication of the two drugs' mechanisms of action. AZM is a broad-spectrum agent with a high degree of tissue penetration (will neutralize both bad and favorable bacteria) in the lungs and anti-fungal drugs work through steroidal inhibition that interferes with cell wall synthesis (non-clinical analogy: the drug makes holes in cell membranes so that the unwanted fungal content harmlessly passes out of the body). It is very common for patients and family members to have had experiences with antibiotics and antifungal drugs. In this scenario, the clinician needs to say why they recommend the particular treatment and offer some additional objective information. Ideally, if time were not at such a premium, the conversation could continue until the patient and family members can define the drugs, explain usage, and say why they should work and express faith in the course of action.

All introductory textbooks in speech and oral communication include the essential elements of verbal exposition. The four components of informative speech are definition, demonstration (or instruction), description and explanation (Turner et al., 2018). Clinicians should use a framework based on these elements to self-assess their presentations of information about these types of medications. After having a therapeutics briefing, patients should be able to answer the definitional question: "what is this medication?" The instructional information will answer: "how will this drug work?" The descriptive inquiry: "why was this particular drug selected?" And the issue of any additional explanatory information such as: "who in addition to you can provide me with credible information about this medication?" At the end of the consultation, the clinician should perform one of the traditional "teach-backs": For instance: "just to make sure I have been clear, could you please tell me how this medication should help you?" While the COVID patient is hospitalized, teams of nurses and pharmacists will implement and monitor adherence. However, most COVID patients are discharged while still on a number of drugs and the success of their outpatient treatment depends on an understanding of and adherence to their regimen. About a fifth of all patients are at a higher risk of non-adherence if their physician communicates poorly (Haskard Zolnierok & DiMatteo, 2009).

The goals of any informative speaker are to impart knowledge, enhance understanding, or enable application (Grice & Skinner, 2004). It does not appear that clinicians and affiliated academics have drawn from these basic tenets of speech communication. A review of the core lessons would provide a useful self-diagnostic checklist. Techniques to make information clear and interesting to patients include adjusting the complexity, avoiding jargon, using concrete images, limiting information to what is most relevant, linking testimony to what the patient already knows, and making the evidence memorable through personalization (Brown et al., 2016). It is likely that clinicians who make their living explaining treatment options have not learned the classic informative speaking methods that could boost their communication skills. Communication scholars can assist health professionals in recognizing what they already do well and what they can do to be more effective (Rowan, 2003).

There are four qualities that should characterize any form of informational speaking: clarity, association of new ideas with familiar ones, coherence, and motivation of the listener. Clarity results from the careful selection of vocabulary and effective organization of sentences, e.g., "unlike some antibiotics you may have been on in the past, this is a medication that we prefer to give with a secondary medication at the same time." Patients grasp new facts more easily when they associate them with what they already know: "there probably have been times when you have taken more than one drug at a time, like both an antihistamine and a decongestant... we want to try a similar two medication plan for you now." Coherence involves finding a pattern for the sub-points to fit together in a meaningful way. Imagine the provider who says something like this:

I've had patients who were worried about taking two drugs at a time and they were reassured by hearing that neither of them is more potent than the other, but rather, the second drug reduces the already very small chance that you would have a reaction to the first drug.

Motivating patients to listen to drug information involves using elements of attention-getting to engage. Capturing and retaining concentration must tap into the patient's sense of self-interest: "I'm pleased that I can offer you this drug combination. When I first practiced in medicine 20 years ago these two useful products were not yet on the market" (McKerrow et al., 1999).

Universities have offered classes in communication and rhetorical theories for centuries. Clinicians would benefit from a review of the principles derived from the classic humanities. As rhetorician Marie Nichols reminded us: "humanities without science are blind, but science without humanities may be vicious" (Nichols, 1963, p. 18). We hope that clinicians will widen their attention to include this essential knowledge.

Quadrant C low likelihood of serious consequences, but if they do occur, could prompt catastrophic outcomes

Because a blood-clotting complication has killed many coronavirus patients, hospitals have been giving patients small doses of blood thinners as a preventive measure and may increase doses for the seriously ill. Higher doses increase the danger of the patient bleeding out (Cha, 2020). Blood thinners can prevent clots in the brain and lungs, but use needs to be balanced against the small risk of hemorrhages. This process called *anti-coagulation* often engenders emotional consternation because patients are incurring increased risk now for a decreased risk later. It is frightening to think about bleeding internally. It makes for a "tough sell" for stroke prevention to some patients and family members. The lead skill here is analogous to effective cross-cultural communication. Without the ability to bridge the potential mismatch, the patient may hardly hear the first cognitively simple part of the message (this is unlikely to happen) and could become emotionally fixated on the more complex part (if it happens, a catastrophe may be the outcome). *Therefore, this quadrant reminds clinicians to create clear and simple explanations for patients.*

People perceive reality in terms of the vocabulary they have at their disposal. Language-based constructions of phenomena form personal lenses through which people view and interpret their world. Language plays a role in creating perceptions of reality (Hussein, 2012). Additional education can help patients develop more sophisticated psychological constructions of medical reality and move past simplistic black-and-white interpretations. Unsurprisingly, an international study confirmed that more educated individuals tend to have higher levels of literacy skills than do less-educated individuals (Park & Kyei, 2011). Research by The Organisation for Economic Co-operation and Development (OECD) indicates an average of 18.9 percent of adults in OECD countries have low literacy skills and 25 percent of adults have low numeracy skills (OECD, 2016).

Experts have recommended the adoption of health literacy "universal precautions," whereby providers make all medical information easier to understand, confirm comprehension, and minimize the risk of miscommunication (Liang & Brach, 2017). Also, people with lower levels of health literacy are more likely to believe the accuracy of television, social media, blogs or celebrity webpages as sources of health information. These patients were less likely to trust information presented by doctors and medical specialists (Chen et al., 2018). These factors add up to an elevated chance of miscommunication even with drugs that have a low-risk side effect profile.

Luria became famous almost a century ago for his studies of low-educated and low-income populations. His subjects demonstrated different psychological performance levels than their contemporaries, who

were more affluent and schooled (Luria, 1976). These participants displayed what is now labelled “concrete reasoning,” making decisions on the literal meaning of single pieces of information. Patients with low levels of literacy have difficulty with formulating abstractions. This concrete thinking leads to processing isolated pieces of information (e.g., thinking “something horrible could happen to me if I’m on a blood thinner”) rather than abstracting information about the medication’s mechanism of action to assess its overall value.

It is difficult for low literacy patients to combine disparate pieces of information to draw higher-level judgments and this struggle can prevent a deeper understanding of abstract concepts like “preventative medicine.” Because profound differences in worldview are often dictated by literacy levels, some patients may hear the first cognitively simple part of the message “this is very unlikely to happen” but may or may not process the second part “but if it did happen, it would be catastrophic.” This is not to suggest that more literate and cognitively complex individuals always adequately understand ambiguous messages, but it does mean that they are more capable of doing so (Delia et al., 1979).

Clinicians can sometimes sense a miscommunication is happening, but they do not know what to do to improve the quality of the interaction. Imagine the patient with the “googling skills” to learn on their smart-phone that anti-coagulants are commercially available as rodenticides. The consultation could turn very quickly into a tense encounter.

If there is a perceptual mismatch, neither party will feel satisfied with the medical counseling, and it is easy for low-literate patients without a clinical background to polarize information about the unwanted effects of medicines. This process is analogous to comparing novices with experts. Individuals with more developed cognitive schemas demonstrate greater information-processing abilities. For example, figurative language (e.g., similes and metaphors) creates comparisons by linking the concrete to abstract ideas. In essence, words or phrases are used in a non-literal way for a particular effect. Patients with low literacy have a poor understanding of figurative language (Muscat et al., 2016). Therefore, it is not good to default to figures of speech (e.g., if a clinician said: “Adding extra blood thinners to poorly clotting blood is nothing like adding water to ruin an already thin soup.”)

An understanding of differences in worldview as reflected in theories of literacy and cognitive complexity may reduce the negative back-and-forth dynamics that can occur in polarized discussions. Clinicians sometimes claim they were merely beginning to discuss the level of uncertainty and the patient or family member suddenly seems to be distorting, overgeneralizing, or dwelling on negative or minor details. Patients may discount the benefits by jumping to conclusions and catastrophizing. Misunderstandings of this nature seem to reflect what researchers have referred to as cognitive complexity (Burlison, 2007). And, of course, “black and white” thinking can be present in both patients and providers. Those who have high levels of cognitive complexity are more expert when it comes to understanding the people and events in their social world. People expand their intellectual repertoires through challenging interactions with others, in addition to the maturational process itself (Perry, 1981). Developmental models can provide guidance to help clinicians be more reflective about their own and their patients’ current levels of functioning.

Quadrant D low probability of low magnitude outcomes.

The US public has been repeatedly informed that the Food and Drug Administration agency ensures the safety and potency of vaccines. In spite of this, in February 2021, a survey found of 10,121 U.S. adults, only 69% of the unvaccinated were committed to receiving a COVID shot (Funk & Tyson, 2021). The Centers for Disease Control and Prevention (CDC) is preparing materials to boost “vaccine confidence” that rely on personal messaging and storytelling through social media (Centers for Disease Control and Prevention, 2021). Advocates and clinicians need an influential narrative to counter the Trump administration moniker *Operation Warp Speed* which echoes the anti-vaxers’ belief that vaccines are rushed to the market without enough scrutiny. Creative ways to ethically persuade the worried public on an emotional level are more important than fact-filled presentations. The lead communication skill that clinicians must master should be drawn from theories of credibility and social judgment in psychology.

Most people can understand that COVID vaccine reactions are somewhat comparable to flu shots. The majority will experience mild reactions (e.g., short-term muscle soreness at the site of injection). Thus, a LOW likelihood of LOW impact consequences of common side effects exists. The benefits of COVID vaccination might include visiting grandparents again and not worrying as much about shopping when others are unmasked. Still, attempts to influence adherence with public health recommendations always raise questions of ethics. Clinicians in such situations may feel great internal pressure to persuade their patients to comply because the benefits of vaccination seem to be substantial and the risks of not vaccinating are grave.

Healthcare professionals can easily cross the line from supplying information to exercising persuasion. Patients are not likely to comply if they feel like they were talked at, rather than talked with. A collaborative verbal dialogue is particularly important because about one third of American adults have difficulty understanding health information (Cutilli & Bennett, 2009). People with limited health literacy skills are also frequently caregivers to seniors, who are a targeted group for vaccine acceptance (Lindquist et al., 2011).

Whether knowingly or not, clinicians often turn to strategies of rhetoric—the use of oral communication to achieve specifiable goals. Persuasive communication in healthcare may employ rhetorical appeals to logic, ethics or emotions, as Aristotle described (Kennedy, 1991). Unfortunately, many healthcare professionals try to inspire adherence primarily by giving rote factual information. If this tactic does not make an impact, they simply reemphasize the benefits. If the patient still seems disinclined to cooperate, the scare tactics and moralizing begin (Peters et al., 2013). It is easy for clinicians to damage their own credibility in the eyes of patients.

People become less open to persuasion when they believe the clinician is making a covert attempt at influence. Ironically, a simple strategy of contracting to persuade might be helpful, e.g., “would you give me just five minutes to tell you why I think this is a really good vaccine,” allows the influencer’s credibility to remain intact. The patient feels less manipulated. Frequently, damage comes from overloading the message, for example, “if you don’t come back exactly on the three-week date for your second vaccine, you may cause yourself a lot of problems.” When the patient knows something is improbable or the clinician fails to acknowledge their savvy, credibility is lost. Perhaps clinicians should think carefully about the possible continuum of their patients’ beliefs. For example, they could be very positive or very negative about the evidence supporting a vaccine (Figure 1):

Figure 1:

Supporting evidence for a vaccine

- ++++ The new mRNA science behind these vaccines is awesome
- +++ The FDA process keeps us completely safe
- ++ I’m looking forward to getting one of the single shot brands
- + I’m thinking that it is likely to be as helpful as my annual flu shot
- 0 I’ve been thinking about whether or not I should get vaccinated
- My cousin told me that her arm hurt for a few days
- The vaccine may set-off my immune system and make me sicker than COVID
- Only true faith in Jesus will heal anyone with COVID
- My friend told me that the vaccine is used to implant a micro-chip that can track me

Imagine a clinician saying: “Don’t worry, there have been no bad side effects to speak of...” to the person who believes the most negative conspiratorial idea about controls being implanted through a shot. Another way that a clinician could misjudge would be to speak at length about side effects to patients who have already convinced themselves that the vaccine is a true breakthrough. People who believe that the FDA does a good job with drug safety are already more than halfway towards convincing themselves to pursue the vaccine. Assessing before repeating a tired old trope is advisable. Social judgment theory explains why some persuasive messages are accepted and other messages are rejected (Sherif & Hovland, 1980). All people immediately categorize incoming messages in relation to their own beliefs. For example, patients exposed to discomforting influence strategies may agree in the heat of the moment, then decide later not to have that second booster shot because they felt they were not actively collaborating in the decision. Social judgment theory speculates that, in addition to a range of attitudes that will be rejected, there is some leeway for acceptance in which presented information gets close enough to the patient’s original perceptions to be assimilated. The solution lies in finding the sweet spot, which make the information “hearable” and salient, but different enough from the existing attitude to exert a shift.

One function “anti-science” beliefs might have is to indicate skepticism of consensus views. These patients may be motivated to reject unanimity (like “immunization is helpful for all people”) as a shorthand way of communicating a nonconformist identity to themselves and others (Hornsey et al., 2018). Trying to convince vaccine-hesitant patients by simply providing facts far from their range of acceptance will likely backfire and make them even more resistant. Motivational Interviewing (designed to strengthen commitment to a specific goal by eliciting the person’s own reasons for change in an atmosphere of acceptance and compassion) might be paired with insights from Social Judgement theory as a way to move patients along their continuum of beliefs (Gagneur, 2020).

Conclusions

This article is speculative. There is insufficient research regarding the barriers to effective provider-patient communication in the COVID-19 epidemic. Therefore, our article applies broader healthcare communication principles and psychological theories to the current situation.

The four-quadrant model presented here can help both junior and senior clinicians apply the lead communication skill called for in any given COVID treatment scenario. To assist COVID patients and their family members, clinicians need to be mindful of the ways that their perceptions of the likelihood of certain outcomes and the impact of the consequences vary for each patient. Both patients and clinicians have many causes and remedies for faulty thinking about COVID medical risk (Kahneman et. al., 2021).

There are limitations in trying to capture plentitudinous communication, psychological and rhetorical theories in such a brief encapsulation as is attempted here. Each quadrant conveys only a small piece of the applicable concepts. However, whether the knowledge is derived from social scientific or humanistic theories, it should be clear that clinical skills education is well served by embracing these liberal arts traditions to improve human relations in COVID medicine. With the COVID crisis ongoing, it is not time to suggest that skills training will have a magical effect on the intense distress, exhaustion, and grief felt by healthcare professionals. But scholar-practitioners on the front lines of COVID care have reminded us that good communication is an essential part of what clinicians will need to survive (Back et al., 2020).

A complete examination of all possible communication choices in COVID medicine is beyond the scope of this article. But we are offering some basic advice, to think through the medical scenarios and discern what might be the “lead” skillset. This instructional model has the potential to raise consciousness and counter a tendency to lapse into patterns more reflective of the technical medical agenda instead of the interpersonal. There is much more work to be done, especially because it has been documented that medical schools fail to teach human relation skills in a comprehensive interdisciplinary manner (see Meldrum & Apple, 2019, and Meldrum & Apple, 2020). Our contribution should allow more effective training of healthcare providers in the challenging COVID crisis. Further application of relevant

scholarship in will prove helpful to providers struggling to communicate about the risks of COVID treatment options.

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NOTE: The essence of the quadrant scheme was presented by Meldrum and Hardy in 1994 at the conference *Communicating risk to patients*. Rockville, MD: U. S. Pharmacopeia Convention. All illustrations pertained to primary care for that unpublished version. Some of the information in Quadrant B is also mentioned in: Meldrum, H. (2005). Counseling Patients on ACM Medications: Synthesizing Communication and Rhetorical Theory. *Alternative & Complementary Therapies*, *11*(4), 191-196.