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Abstract

Purpose
Strong verbal communication skills are essential for physicians. Despite a wealth of medical education research exploring communication skills training, learners struggle to become strong communicators. Integrating basic science into the curriculum provides students with conceptual knowledge that improves learning outcomes and facilitates the development of adaptive expertise, but the conceptual knowledge, or “basic science,” of patient–provider communication is currently unknown. This review sought to address that gap and identify conceptual knowledge that would support improved communication skills training for medical trainees.

Method
Combining the search methodology of Arksey and O’Malley with a critical analytical lens, the authors conducted a critical scoping review of literature in linguistics, cognitive psychology, and communications to determine: what is known about verbal communication at the level of word choice in physician–patient interactions? Studies were independently screened by 3 researchers during 2 rounds of review. Data extraction focused on theoretical contributions associated with language use and variation. Analysis linked patterns of language use to broader theoretical constructs across disciplines.

Results
The initial search returned 15,851 unique studies, and 271 studies were included in the review. The dominant conceptual groupings reflected in the results were: (1) clear and explicit language, (2) patient participation and activation, (3) negotiating epistemic knowledge, (4) affiliative language and emotional bonds, (5) role and identity, and (6) managing transactional and relational goals.

Conclusions
This in-depth exploration supports and contextualizes theory-driven research of physician–patient communication. The findings may be used to support future communications research in this field and educational innovations based on a solid theoretical foundation.

High-quality communication between patients and physicians has been shown to improve treatment adherence and diagnostic accuracy,1,2 reduce delays in diagnosis and treatment,3 build trust between patients and physicians has been shown to improve treatment adherence and diagnostic accuracy,1,2 reduce delays in diagnosis and treatment,3 build trust,4 reduce errors,5 and facilitate healing experiences.6 While communication is a difficult skill to master,7,8 strong verbal communication skills are essential for physicians. Despite a wealth of medical education research exploring communication skills training, learners struggle to become strong communicators. Integrating basic science into the curriculum provides students with conceptual knowledge that improves learning outcomes and facilitates the development of adaptive expertise, but the conceptual knowledge, or “basic science,” of patient–provider communication is currently unknown. This review sought to address that gap and identify conceptual knowledge that would support improved communication skills training for medical trainees.

Within the literature, relatively, minimal focus is given to verbal communication and interaction (i.e., what words are spoken), despite its clear role in influencing patients’ experiences of communication and care,8,9 and providing psychological benefits for patients and providers.10 Yet the quality of communication is complicated by emotions, personal and cultural values, and wide variations in health literacy. Physicians must learn to recognize and respond to their patients’ needs, even when these needs are not clearly expressed. While the link between provider communication and patient outcomes is firmly established,11 there is little consensus about what successful communication means, how to teach it, or how to assess it.12

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“indeterminate zones of practice” that are value conflicted, uncertain, unique, and dynamic. Adaptive expertise is the “process of innovating in practice, which necessarily involves the creation of new knowledge as clinicians ‘break free of old routines and discover new ideas’ to address arising problems.” In the same way expert diagnosticians benefit from adaptive expertise when facing new and novel clinical scenarios, expert communicators demonstrate adaptive expertise to navigate unique and challenging patient interactions in practice. The integration of conceptual knowledge underpinning medicine into the clinical curriculum supports the development of adaptive expertise. This kind of integrated curriculum also produces improved learning outcomes in medical learners. We theorize that a similar approach may be useful in communication training.

Yet, this question remains: what is the conceptual knowledge, the basic science, of verbal, patient–provider communication? Biochemistry and anatomy are both basic sciences that support clinical reasoning and diagnostic accuracy, but a different kind of conceptual knowledge is needed to inform patient–provider communication. Defining the basic science of that communication would (1) address knowledge gaps with regard to the role of verbal communication in patient–physician interactions and (2) provide a foundation to teach adaptive, responsive, and patient-centered communication.

To address the above question, we drew on literature from linguistics, psychology, and communications, in addition to medicine and medical education, to conduct a critical scoping review. We sought, specifically, to determine conceptual knowledge that underpins expert communication, with the goal to advance the teaching of communication in health professions education.

Method
We drew on both critical and scoping review methodologies. Our review uses the scoping methodology developed by Arksey and O’Malley in the search design and extraction procedure. Given the volume of work in this area and our focus on conceptual contributions, we borrowed from the critical review methodology as described by Grant and Booth to inform the interpretation of our results. A critical review offers the opportunity to evaluate the current body of literature and acts as a “launchpad” for conceptual development; evaluation of articles focuses on conceptual contribution to the field, rather than purely quality assessment. Thus, the scoping review search and extraction approach followed by the critical review output aligned with our research objectives to identify the conceptual knowledge of verbal communication.

Consistent with scoping review standards, our search was designed to be both exhaustive and replicable. To capture a breadth of conceptual knowledge, we searched in databases that included relevant medical and social science disciplines. The databases used included MEDLINE, PsycINFO, and LLBA. Search categories included terms associated with physicians and linguistic variation. Two screeners examined all articles at the level of title and abstract, and articles were explored if they examined interactions between real patients and physicians (or medical students), where both interactants were competent conversing in English. Studies were only selected where the focus of the work was verbal communication and word choice. Through iterative discussions with the research team, additional parameters were introduced at the level of full-text screening, and communication intervention studies were excluded from the final review, as well as articles written before 1995. This date was chosen to coincide with a renewed focus on patient–provider communication brought on by the introduction of the CanMEDS roles, as well as a concern with the natural shift in language use over time. All included articles were drawn from peer-reviewed journals.

Information from included articles was extracted using a standardized form that focused on theory use and theory contribution as well as study results. Throughout the data extraction process, patterns in theory use and broad conceptual groupings were iteratively identified and refined. Ultimately, 6 groupings were identified, into which results were charted. In extracting and interpreting the data, our focus was not on how frequently a concept appeared but on accurately representing and reflecting the scope of theoretical contributions and conceptual knowledge from the literature. This synthesis focuses on the conceptual knowledge provided by theory, and the article findings provide additional support and examples to illustrate how these concepts will benefit medical education and practice.

Results
Our initial search identified 17,028 articles across the 3 databases (MEDLINE: 11,159, PsycINFO: 4,201, LLBA: 1,668). After de-duplication using EndNote software, 15,851 articles remained and titles and abstracts were screened independently by 2 screeners, using Covidence. One thousand eight hundred sixty-six full-text articles were each reviewed by 2 of 3 independent screeners. Any conflicts during the screening process were resolved through discussion and agreement by 2 screeners. The final review includes 271 articles, and data were extracted by a single researcher (J.F.). See Figure 1 depicting review process and results.

Of the included articles, 237 are empirical research, 9 are reviews, and 25 are purely theoretical papers.

Our 6 conceptual groupings draw together theories, concepts, and conceptual frameworks from across disciplines and methodologies that share similar qualities and implications for education (see Table 1). These groupings are not discrete; however, each conceptual grouping contributes an important and unique insight into fundamental principles of verbal communication.

Clarity and the quality of being explicit
The first conceptual grouping we identified in the literature was clarity and the quality of being explicit. This grouping is focused on the ways in which verbal communication choices impact how successfully a message is shared and its impact. This includes using language that is appropriate to the situation and comprehensible to the patient, along with considerations of language that is deliberately obscure (i.e., euphemisms and metaphor) that may be useful depending on the information needs of the patient and the personal values of the individual. Clarity is a fundamental component of verbal communication. For example, while ambiguous language...
Figure 1 Review process and results.

(e.g., Modal words—might, could, should) has been shown to increase anxiety,\(^\text{30,31}\) being overly explicit (e.g., simplified vocabulary or syntax, frequent repetition) may cause a patient to feel patronized.\(^\text{32}\) It has also been found that while doctors find euphemistic language to be a useful tool in managing their own discomfort in delivering distressing news, it often leads patients to be overly optimistic about their prognosis.\(^\text{3,29}\) Doctors also frequently use jargon and coded language in their interactions with patients, and patients rarely ask for clarification.\(^\text{33,34}\) Further issues arise when patients and doctors use ambiguous terms that they may believe to have different meanings. For example, a pediatrician and a parent may have very different understandings of “lethargic.” Meaning can be shaped by numerous personal and cultural factors\(^\text{35}\) that impact how an individual uses certain words. This issue can be exaggerated further when ambiguous terms are employed.\(^\text{35–37}\) Given these challenges, it is important that medical learners are taught how and when to employ medical terminology, and the role of explicit and implicit language. We identified a number of theories, concepts, and conceptual frameworks in the literature that would support learners. First are theories that deal with the comprehension capacity of the patient. This includes concepts like health literacy\(^\text{38–40}\) and numeracy.\(^\text{41}\) Additionally, the use of complex terminology impedes activation of a patient’s central processing, which is an active and critical thinking process that maximizes comprehension and is engaged when a message is clear and interesting to a patient.\(^\text{42}\) Second is the concept of framing and its impact on ambiguity, uncertainty, and informed consent. Framing refers to words used to present information that may impact the way it is interpreted (e.g., if a probability is
Table 1
Conceptual Groupings Identified in the Reviewed Literature

<table>
<thead>
<tr>
<th>Conceptual grouping</th>
<th>Description</th>
<th>Theories, concepts, and conceptual frameworks</th>
<th>Examples</th>
</tr>
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<tbody>
<tr>
<td>Clarity and being explicit</td>
<td>Language that clearly communicates information to the patient and considers their health literacy and desired level of detail. Language that communicates information explicitly avoids the use of implication, euphemism, or metaphor; explicit language may not always be appropriate depending on the communication preferences and emotional needs of the patient.</td>
<td>Health literacy,18-40; numeracy,41; central/ peripheral processing,42; framing,43-45; ambiguity/ uncertainty,10,37,105,112</td>
<td>To improve patient comprehension and information uptake, physicians can use simple unambiguous terms. And signpost information to let the patient know what part of the message is most important and when they are being asked to participate (e.g., “Now I’m getting to the most important part, and once I have explained my suggested treatment plan you will need to decide if you want to proceed today or wait and discuss it again at our next meeting.”).</td>
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<tr>
<td>Patient activation and participation</td>
<td>Language that encourages patients to be active participants in interactions with their physicians, their health care decisions, and their health behaviors.</td>
<td>Biopsychosocial model,45-50; partnership building,1,3,52; motivational approaches,53; health belief model,54-56; self-efficacy,55,113</td>
<td>Physicians can use language that casts the patient as an active participant in medical decision making and health behaviors (e.g., “I understand this is a lot of information, so we are going to go through my recommendations and I want to know what you think. If we can come up with a plan that works for you, I think you will experience significant improvement in your symptoms.”).</td>
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<tr>
<td>Epistemic access, authority, and power</td>
<td>Language that grants or denies access to knowledge about the body and illness experiences of patients. Language that reinforces or challenges the medical power and authority of the medical institution and/or the individual physician.</td>
<td>Asymmetry of power,60-62; agency,63; mutuality,71; speech act theory,74</td>
<td>Physicians can use language that highlights commonalities between patients and physicians and facilitates feelings of emotional closeness and the sharing of intimate information between patient and physician.</td>
</tr>
<tr>
<td>Affiliating language and building emotional bonds</td>
<td>Language that highlights commonalities between patients and physicians and facilitates feelings of emotional closeness and the sharing of intimate information between patient and physician.</td>
<td>Alignment &amp; concordance,63-82; synchrony,64; communication accommodation theory,72,83-85; empathy/ empathic opportunities,86-90; relationship-centered care,90,114,115</td>
<td>Physicians can use language that works to facilitate the necessary sharing of health information by managing the interpersonal relationship between patient and physician.</td>
</tr>
<tr>
<td>Role and identity</td>
<td>Language that reflects the role/identity of the patient as an individual who is healthy or unwell, or language that reflects the physician’s orientation to their professional identity.</td>
<td>Goffman-Facework,75-79; voice of the lifeworld,85-91; normativity/wellness stances,72,94,95,106</td>
<td>If a patient is concerned about making their problem doctorable, the doctor can reassure them that they are going to figure out what is going on so that you can feel better soon.)</td>
</tr>
<tr>
<td>Managing transactional and relational goals</td>
<td>Language that works to facilitate the necessary sharing of health information by managing the interpersonal relationship between patient and physician.</td>
<td>Gricean maxims of communication,104,105; politeness theory,52,93,97,102,103</td>
<td>Physicians should ensure patients feel comfortable sharing information that they may be bothered by repetitive or irrelevant (e.g., “I know you talked to the nurse already, but I’d like you to start from the beginning and let me know what brings you in here today.”).</td>
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Interpersonal Communication Skills

presented quantitatively or qualitatively. The way a physician frames information provides a foundation upon which it is interpreted and understood by patients.43 If doctors are not conscientious about their use of framing, the facts that they are attempting to communicate may be unclear to their patients.44 Framing can also be used to highlight the most salient points in a conversation.45 These foundational principles will allow learners to identify the most appropriate words to ensure that their verbal communication provides information that is clear and meets the informational needs and desires of their patients.

Patient activation and participation

Being clear not only facilitates patient understanding but also allows for patient activation and participation, which is our second conceptual grouping. In contemporary Western medicine, patients are encouraged, and often required, to be active participants in their own health care. In practice, a physician’s verbal communication choices significantly impact the engagement and participation of their patients. For example, when patients are explicitly told that they have options, they are less likely to simply accept the recommendations of their physician and more likely to act as active participants in their own care by choosing to defer treatment decisions so they may consider their options.46 Language may also disempower patients, such as when patients are grammatically constructed as passive recipients of care or when physicians employ questions that encourage submissive responses (“Do you understand?”).47

We identified theories and concepts relating to rapport and health behaviors to help students understand the kinds of verbal behavior that underpin patient activation and participation. Within the concept of rapport are the
biopsychosocial model and the concept of partnership building. The biopsychosocial model of practice focuses on interactions that are concerned with both the physical health and emotional needs of the patient.46-50 While consultations following this model still trend toward a physician-dominated interaction, they are shown to provide more balance and opportunities for patient participation.48 It is also linked to the concept of partnership building. When physicians use language that encourages patients to feel as if they are partners in their own care, including actively eliciting their perspectives or using an inclusive “we” to include patient in care discussions, patients are more satisfied and more likely to be assertive about their preferences.51,52 In addition to concepts associated with rapport, we identified conceptual frameworks that are concerned with impacting patient health behaviors, including motivational approaches,52 the health belief model,53,54 and self-efficacy.55,56 The health belief model is linked to self-efficacy through the assertion that health behavior change is linked to self-efficacy through the concept of partnership building. The biopsychosocial model and the concept of partnership building are concerned with both the physical and emotional needs of the patient that are considered unreliable and nonexpert even concerning their own bodily experiences. This denial of access to the power and authority typically conferred upon physicians and health care institutions as knowers and solvers of disease and illness.57 In practice, considerations of epistemic access, authority, and power can be seen in the ways in which physicians provide information to patients. For example, when they report only the meaning of a test result, maintaining their own interpretive authority, compared with providing the actual test result, conferring expertise upon the patient.58 Patients in either scenario may accept the attribution of authority or resist, depending on their own beliefs. However, the literature demonstrates that both patients and their providers are highly attuned to preserving the authority of the physician. Patients will downgrade their own certainty and deny understanding and awareness, regardless of their level of knowledge.60 This downgrading is often achieved lexically using hedging terms like “I think,” “maybe,” and “probably.” When patients fail to present their epistemic access in this tentative way, the knowledge is often treated as problematic by providers.61

Educating future practitioners using the strong theoretical support found within this conceptual grouping will provide them with the tools to question their assumptions about access to knowledge and the consequences of exercising medical authority and power. A dominant concept within this grouping is the asymmetry of power that is explored extensively in extant literature.60-68 Asymmetry attends to the inherent imbalance of power present in medical encounters and considers the implications for building positive relationships and empowering patients. For example, doctors who ask questions that imply no prior knowledge receive more elaborated answers. The concepts of agency and mutuality also link into this grouping.70,71 Providers must understand how patients use verbal communication in ways to enact or refuse agency to understand how to provide the kind of care that aligns best with patient values.70,72 Patients may enact agency by using medical jargon or actively requesting tests or medications. They may refuse agency by denying knowledge of their own symptoms or deferring to the doctor’s preferences.

Language often accomplishes goals in everyday life, as described by speech act theory.73 Speech acts not only represent information but also perform an action that can conform to or resist traditional patient–provider roles in a medical interaction.72 Seeing language use in this way is useful for building understanding of how patients demonstrate a desire for, or refusal of, partnership in medical interactions.74 If conceptual knowledge of epistemic access and power can be integrated into communication training programs, students will be better prepared to challenge the existing communication norms that fail to recognize where patients can contribute valuable information to their care. This nuanced communicative expertise will facilitate care that is responsive to the needs and values of the individual patient.

**Affiliating language and building emotional bonds**

While acknowledging the epistemic power of the patient is an important part of improving verbal communication between patients and physicians, it is equally important for providers to connect with patients on a personal level. This led us to our fourth conceptual grouping: affiliating language and building emotional bonds. The concepts within this grouping go beyond basic rapport into deeper levels of emotional bonding and sensitivity that helps patients and providers to share mutually satisfying interactions and relationships. Verbal communication plays an important role in the emotional connections between patients and providers, especially where it may not be possible to build a close relationship over time. On a granular level, verbal choices like the use of the first-person plural pronoun “we” are thought to promote interdependence and cohesiveness,8,75 and it has been found that when providers use “we” more than “I,” patients demonstrate better medication adherence.8 Other verbal communication strategies that have been shown to support feelings of closeness and decrease the distance between patient and provider are hearer-oriented language choices like tag questions (“That feels better, doesn’t it?”),60 colloquial language,76 and the sharing of personal stories.78 Phatic communication, “talk which is independent of any specific workplace context, atopic, irrelevant in terms of workplace business, and has relatively little referential content or information load,”79 is considered to be beneficial to building close supportive relationships. Phatic communication serves a purely social function and includes using
minimizing language to make requests less threatening (“I’m just going to take a little listen.”), using positively valenced words, and repeating patient utterances. 75

Conceptual frameworks that are most relevant to this grouping fall into 2 subgroups, affiliation through shared language and affiliation through emotional awareness and support. In the first group, it is useful to consider theories of alignment, accommodation, and concordance. Alignment and concordance of language refer to the similarity between language used by the patient and the physician. 76,80,81 Synchrony in language style is related to empathy over and above the synchrony of content. 80 This synchrony signals not only empathy but also attention and awareness. Concordance may also refer to concordance of meaning 77 or concordance of desires, 82 both of which further build emotionally satisfying relationships between patients and providers. Communication accommodation theory 82,83-85 offers another perspective on language style matching, and the potential for physicians to either affiliate with or alienate patients through appropriate accommodation that meets communication needs of the patient, or overcompensation that oversimplifies and treats the patient as less capable. 84 The second subgroup considers concepts and theories that explain affiliation through emotional awareness and support. The most dominant concept in the literature was empathy 77,78,86 and empathetic opportunities. 87,88 The literature notes that demonstrations of empathy can be broken down into cognitive empathy (showing understanding of what another is experiencing), affective empathy (demonstrating a shared feeling), sharing empathy (finding something in common), and nurturant empathy (being supportive and attentive). Understanding the ways in which empathy may be demonstrated through verbal communication and how to recognize empathetic opportunities allows providers to navigate challenging emotional interactions. The concepts of relationship-centered care 48 and trust 4 also fall within this subgroup. Relationship-centered care is focused on recognizing the role of reciprocity in the integration of biomedical and lifeworld perspectives in the medical encounter. 8 Relationship-centered care supports the building of relational trust, which goes beyond belief in the technical skills of the provider and requires a recognition of the patient's needs, concerns, and choices. 4

Role and identity
Our fifth conceptual grouping is role and identity. This grouping includes both the professional role/identity of the physician and the role/identity of the patient. We have included both role expectations of the self and of the other under this conceptual grouping. These conceptions impact both verbal communication conduct within an interaction and expectations about how the interaction partner should or will behave. During interactions with patients, doctors will perform identity work by using language to distance themselves from unqualified medical practitioners 69 (i.e., referring to the negative practices of “other” practitioners), or negative aspects of the health care system 90 (“They make us do it this way.”). At the same time, physicians will use language that aligns themselves with the authority of the institution and their expert knowledge as both a medical professional (“We are able to treat this very successfully now.”) and personal doctor to the patient in front of them 90 (“I know that you have been worried about this for a while.”). Patients perform identity work to either justify wellness or make their problems doctorable. To justify their wellness, patients may offer minimizing or normalizing characterizations of their symptoms, 74 (“It’s just a little cough.”), or exaggerated and elaborated language to distance themselves from deviant behaviors 91 (“Oh no! I don’t ever do anything like that.”).

It is useful to consider concepts and theories that explain how individuals conceive of themselves, how they portray themselves to others, and the role of “normal” in health and illness to understand how role and identity can impact communication. Goffman’s theory of facework is concerned with how individuals portray themselves in social interactions, 91-93 and it is important that physicians consider the face needs of their patients during interactions that may represent face-threatening acts (e.g., questioning a patient about risky behaviors); this will allow them to communicate in a way that is more sensitive to the identity of the patient. The concept of the voice of the lifeworld, contrasting with the voice of medicine, offers similar insight to help physicians understand the identity of the patient and its role in the health care setting. The voice of the lifeworld can be described as, “the patient's contextually grounded experiences of events and problems in her life.” 94 Physicists who are able to bring the voice of the lifeworld by grounding discussions of illness in the context of the patient’s life demonstrate a greater sensitivity to the patient as a unique individual, leaving patients more satisfied and more likely to provide elaborated details about their symptom experiences. 77,94,95 However, in eliciting information, physicians should remain aware of the power of normativity and wellness stances. Patients who are concerned that their symptoms will not be taken seriously may perform interactional work to make their problems more doctorable 95 (i.e., exaggerated language, emphasizing severity of symptoms). Conversely, patients may orient toward a desire to be seen as “normal” and “healthy,” leading them to misrepresent or underrepresent the severity of their symptoms. 85,86,96 Understanding the powerful impact of these concepts on the way that patients verbally communicate will help future physicians to work within the constraints of identity that may be a barrier to clear communication.

Managing interactional and relational aspects of communication
The final conceptual grouping dominated the literature and acts as a broader umbrella that encompasses aspects of every grouping. This conceptual grouping is concerned with theories of managing the interactional and relational aspects of communication. Interactional aspects of communication are the necessary content and information that the interactants wish to share. The relational aspects of communication are concerned with the interpersonal relationship between the 2 interactants and the ways in which it can facilitate or impede communication. For example, patients and doctors are generally eager to avoid direct conflict and will perform significant interactional labor to avoid it, including appearing to agree while persisting in their conflicting agenda. 97-98 Physicians may also avoid direct conflict through the use of verbal communication tools, like hypothetical scenarios and questions to
challenge patient views in an indirect and nonthreatening manner.2, 9,99 Physicians and patients even display an orientation toward avoiding conflict before it occurs, with physicians forecasting unfavorable news,100 and patients demonstrating preemptive resistance to dispreferred recommendations (e.g., proactively suggesting why they need to be treated with antibiotics when they believe a doctor may not wish to prescribe them).101 Mitigated directives ("If you wouldn’t mind hopping up on the table") and small talk may also be used to soften directives102 or distract patients from unpleasant aspects of the interaction, like invasive or painful examinations.103

There are many theories and models that explain how interactional and relational communication is managed during patient–provider interactions. First, it is beneficial to understand the Gricean maxims of communication and the role they play in facilitating smooth communication in any interaction.104,105 Gricean maxims stem from the pragmatic theory of Paul Grice that describes the way conversation partners, “make your contribution such as is required at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.”106 Both physicians and patients generally abide by these maxims, which may facilitate or impede information sharing. Patients may be resistant to sharing information with the doctor if they have previously shared it with a nurse, or if they are concerned it is irrelevant, so physicians may need to work harder to elicit this necessary information. Politeness theory, and the concept of hedging is also foundational within this conceptual grouping. Politeness theory explains the ways in which interactive partners work to maintain their own face, as well as the face of others, by avoiding face-threatening acts such as direct conflict or challenges to authority.32, 63, 92, 93, 107, 108

Verbal communication tools like hedging ("I believe you may have a broken arm.") are a common politeness strategy that allows interactors to speak with less certainty and authority, thereby mitigating face threats.109 When learners gain a strong understanding of the 5 previous conceptual groupings, they will benefit from the theories of interactional and relational communication to allow them to manage the balance between communication that is clear, efficient, sufficiently detailed, supportive, and considerate of the patient and their unique identity.

**Discussion**

Having synthesized the scope of the literature in this vast subject area and distilled the basic science of verbal communication down into 6 conceptual groupings, the next step must be to ask: how might this knowledge inform future directions in research and training?

To review, adaptive expertise encompasses the capacity to navigate novel and complex challenges in practice.102 The integration of conceptual knowledge drawn from basic science principles has been demonstrated to facilitate cognitive integration. Cognitive integration creates connections between clinical practice and conceptual knowledge that supports a causal understanding leading to expert-like behavior.104,111 Students who have a causal understanding of communication principles underpinning their interactions with patients may communicate more expertly and demonstrate adaptive expertise.

The work by Cheng et al11 provides an excellent example of how adaptive communication expertise could benefit both providers and their patients. In this study, medical trainees struggled during difficult conversations with the parents of critically ill neonates. Having been taught to communicate through a checklist approach, trainees found themselves unprepared in practice, often recognizing limitations of their training but unable to identify strategies to overcome these limitations. While some students successfully drew on existing communication skills, this capacity was not explicitly developed during training. Clearly, adaptive communication skills benefited the trainees in practice, but it is insufficient to assume that trainees will develop these skills incidentally; training must make this knowledge explicit. By integrating conceptual communication knowledge identified in this review into the clinical curriculum, medical educators could explicitly provide trainees with the capacity to identify novel and complex communication scenarios and the foundational knowledge that will allow them to successfully navigate these challenges.

For example, when creating a new training module aimed at improving the patient experience for virtual visits, the current approach might instruct students to use open-ended questions and communicate clearly. To improve learning outcomes, educators could incorporate basic communication knowledge to offer the verbal communication building blocks and provide students with a conceptual understanding of why these things matter. For example, open-ended questions are a tool that encourage patients to give rich detailed answers and allow them space to demonstrate their knowledge and understanding of their illness experience. This information will help the physician to accurately diagnose the issue and provide important details about the health literacy and lifeworld of the patient. Clarity is essential to ensure patients comprehend their diagnosis and adhere to their treatment plan. Providing clear information involves understanding the health literacy of the patient and balancing explicit language with nuanced and language to ensure the patient remains engaged and interested.

To reiterate, for students to benefit from cognitive integration of the conceptual knowledge outlined in this review, the knowledge must be integrated into the clinical curriculum and existing communication skills training, not taught separately from communication content.112 This knowledge is not meant to supplant existing content and sequence-focused communication pedagogy. Students will still require the clinical content that shapes their interactions and the sequencing of these interactions. This conceptual knowledge is meant to support this existing educational material and allow students to use their skills more flexibly and adaptively to meet the unique communication challenges they will face upon entering practice. Existing research in clinical reasoning has demonstrated the benefits of integrating basic science into a clinical curriculum,21 and we propose the same principle applies to communication. The knowledge synthesized in this review is not meant to stand alone but serve as a foundation of verbal communication knowledge that will support the everyday procedural work of communicating with patients.
Limitations
We made pragmatic decisions about the kind of literature that would be included and excluded from this review. While communication intervention studies were initially included, the results were dominated by studies focused on the intervention itself rather than communication principles. However, these studies would have provided more insight about pedagogical strategies to teach communication skills. The included studies were also limited to those concerning communication occurring solely in English because each language will have different linguistic and cultural conventions that govern verbal communication. Additionally, results excluded studies involving nonphysician health care practitioners, due to a consideration of how differing power dynamics would impact communication. These exclusions, while practical and logical, impact the inclusivity and generalizability of the results.

Conclusions
This extensive review draws together theory and research from across social science and medical domains to provide a broad synthesis of the scope of the literature on verbal communication in physician–patient interactions. While verbal communication is only one piece of physician–patient communication and relationships, it is an important piece that is often overlooked. It is time that verbal communication is brought back into focus during an era of increasing virtual care. This critical scoping review offers the foundational conceptual knowledge necessary to begin to reimagine how verbal communication may be integrated into communication skills training for medical trainees to support the development of adaptive communication experts capable of providing high-quality care in any environment.

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