CRA Insights
Life Sciences

June 2026

The science of credibility: Communicating complex science to diverse stakeholders

Presenters: Dr. Justin O'Rourke & Dr. Elizabeth Schwab (The Chicago School)

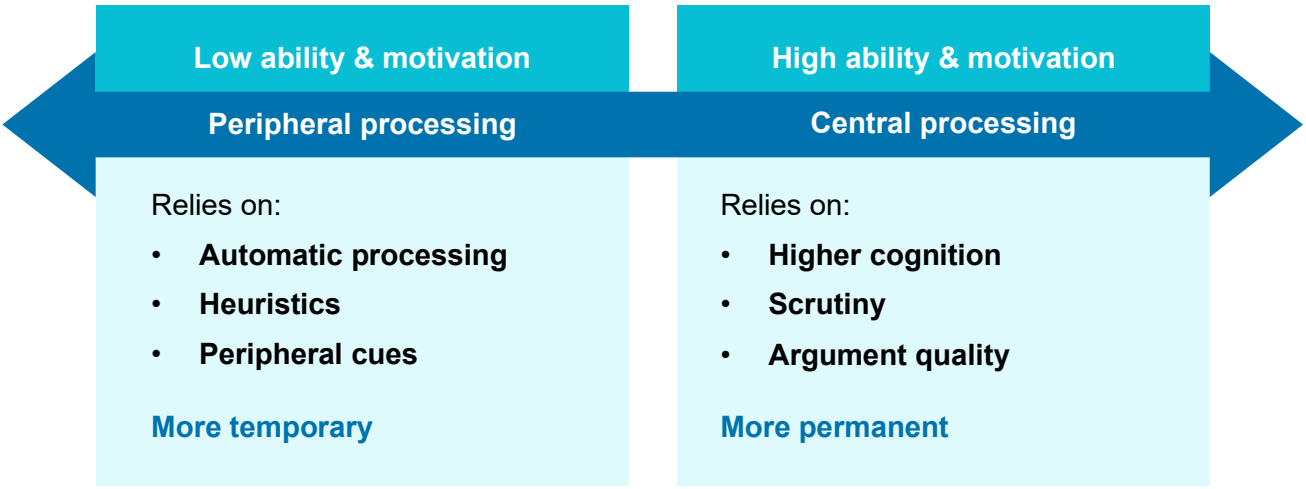
Executive summary

The adoption of scientific information depends not only on the data itself, but also on whether the source of that data is perceived as credible. Strategic communication can affect everything from a physician's decision to prescribe a drug, to payer evaluations and patient treatment acceptance. CRA recently hosted a forum to discuss the importance of credibility in communicating complex scientific information to diverse stakeholders. Drawing on principles from social psychology and behavioral economics, behavioral science experts Dr. Justin O'Rourke and Dr. Elizabeth Schwab outlined how stakeholders evaluate both scientific information and the sources that deliver it. To illustrate the practical implications, the discussion highlighted two applied examples in pharmaceutical contexts: one based on Dr. O'Rourke's original research on physicians' trust in medical science liaisons (MSLs), and another grounded in Dr. Schwab's extensive experience studying the physician–patient relationship. These same concepts can also be extended to other healthcare stakeholders (e.g., managed care payers, key opinion leaders, patient advocates, etc.).

How we process information

People process information and form judgements through two distinct routes (see Figure 1). Through the **central route**, people engage more deeply with the message's content by scrutinizing the strength and quality of the information. Using the **peripheral route**, people devote less attention to the message itself and rely more on heuristics, like source credibility and other cues, to shape their attitudes about the information. The extent to which people rely on the central vs. peripheral route depends on the individual's ability and motivation to develop an accurate judgement.

Figure 1: Information processing routes



How we trust

Trustworthiness, a central component of source credibility, consists of three dimensions: **ability, benevolence, and integrity**. Early in relationships, trustworthiness is typically driven by assessments of ability (competence) and integrity (honesty), alongside an individual's general propensity to trust others. As relationships develop, benevolence (care) becomes more salient as it is difficult to signal and must be experienced.

Putting it together

When people have both the capability and motivation to evaluate information rigorously, they scrutinize things like the trustworthiness of a source and the veracity of information. In contrast, when either capability or motivation is limited, individuals rely more heavily on heuristics and contextual cues to inform their judgements. So, when deciding whether to trust someone, individuals draw on the information they have regarding ability, benevolence, and integrity, and fill the gaps with heuristics like shared identity. Similarly, when assessing the credibility of scientific information, people compensate for constraints like time or an inability to interpret the data by relying on the source's credibility to inform their judgements.

Examples of how credibility affects the communication of scientific information

1. MSL–physician relationships

A physician's perception of an MSL's credibility is shaped by how they evaluate trustworthiness. When a discussion is highly relevant and the physician has enough time and cognitive bandwidth, they will give more attention to judging the content of the message. However, in many real-world interactions, time constraints, competing priorities, and information overload lead physicians to rely more on peripheral processing. Under such conditions, cues like perceived expertise, similarity, communication style, and institutional affiliation become more influential.

Meanwhile, physicians' trust in MSLs deviates from the norm. Rather than the influence of ability, benevolence, and integrity shifting with increased exposure, physicians' evaluations of these dimensions remain relatively stable over time. This pattern suggests that physicians form early, heuristic-based trust judgments that persist. These perceptions, in turn, shape physicians' willingness to act on information provided by MSLs.

Dr. O'Rourke's key research findings:

- Trustworthiness is a substantial predictor of a physician's willingness to act on the MSL's information.
- Physicians rely on heuristics when developing early judgements about an MSL's trustworthiness.
- The amount of contact between the two parties doesn't affect trustworthiness or physicians' willingness to act on the MSL's information.
- Physicians may, by default, assume MSLs act with integrity.

2. Physician–patient relationships

A patient's perception of a physician's credibility is also shaped by how they evaluate trustworthiness. Although patients are motivated to make accurate judgements about their health and treatment options, they often lack the expertise to do so without the guidance of a physician. As a result, trust in the physician functions as a heuristic that the patient uses to compensate for their own lack of expertise. Patients process cues like the physician's experience, time investment, interpersonal warmth, and transparency about treatment risks, to judge the physician's ability, benevolence, and integrity.

At the same time, physicians' expert opinions often compete with non-expert sources, including patients' peers and family members, online reviews, social media influencers, and even celebrities. These influences are further compounded by patients' emotions, such as fear and anxiety, as well as prior experiences with the healthcare system. Together, these factors shape how information is received and interpreted. When physicians effectively signal and demonstrate ability, benevolence, and integrity, they elevate themselves as credible information sources and mitigate negative emotions and attitudes that may otherwise hinder patients from acting on their recommendations.

Tips for communicating complex science

Understanding how you and your information are received can transform stakeholder engagement.

- **Establish credibility before complexity** – Stakeholders evaluate the source before the information.
- **Match communication to stakeholder processing** – Different audiences vary in expertise, motivation, and time.
- **Reduce cognitive load** – Clear structure and framing improve information processing.

For more information on tailoring your communications to diverse stakeholders, please contact Charles River Associates' Life Sciences Practice.

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Contacts

Kristen Backor
Vice President
kbackor@crai.com

Matt Majewski
Vice President
mmajewski@crai.com

Erika Sloan
Vice President
esloan@crai.com

Becky Davis
Principal
rdavis@crai.com