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LEADERSHIP PERSPECTIVES

COMMUNICATING SCIENCE
TO
PATIENTS, PROFESSIONALS, AND THE PUBLIC

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COMMUNICATING SCIENCE TO PATIENTS, PROFESSIONALS, AND THE PUBLIC

Three leaders at academic health centers from the United States, China, and Great Britain provide perspectives based on their experiences in communicating science. Building trusting relationships and developing collaborative partnerships are prominent, core, common themes. These three instructive commentaries offer insights on effective techniques and programs to advance communicating science to patients, health care professionals, and the public.

Featured Commentaries:

Thomas A. Boyle, DO, MBA
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Osteopathic Medicine

Linong Ji, MD
Director, Department of Endocrinology and
Metabolism, Peking University Hospital
Director, Peking University Diabetes Centre,
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Thomas A. Boyle, DO, MBA

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Midwestern University, Chicago College of Osteopathic Medicine

Communicating Science with Patients

“Medicine is an art whose magic and creative ability have long been recognized as residing in the interpersonal aspects of the patient-physician relationship.”¹ In the age of ready access to scientific information published at early stages of development, sometimes alongside medical misinformation and “expert” opinions of questionable accuracy, the development and sustenance of this relationship in the communication of science to patients has become ever more challenging. The ongoing evolution of scientific discovery with its frequent changes and course corrections adds to this challenge.

Midwestern University is a two-campus institution offering graduate health care education. The two campuses each support colleges of osteopathic medicine, dental medicine, optometry, and health sciences.

Our students have raised the question of the “best” way to engage patients to address this challenge of effectively communicating health care information in the care provider and patient relationship, especially in reference to vaccine hesitancy. While we address communication as a core competency, we have implemented additional educational activities with the goal of enhancement of communication skills for clinical faculty, residents, and students. We expect that the development of vaccine-specific academic

courses for students enrolled in programs that do not require education in immunology will provide deeper understanding for them as they counsel patients.

Medical students held a “student section” discussion at a CME event and requested a session on anti-vaccination beliefs. The common question posed was why patients may hold seemingly incomprehensible beliefs despite substantial evidence to the contrary. This led to deeper discussion, first in reference to vaccination and then to science in general, followed by a discussion of core communication principles to establish the “magic and creative ability” noted above.

The cornerstone of this relationship is trust. Trust is attained through a caring and empathetic approach, asking open-ended questions, and truly listening to the patients with eyes directed at them and away from the computer. As questions are asked about “the science,” explanations should include the frequently changing nature of scientific results, along with acknowledgment of the frustration that can accompany this. The physician should assure patients that they will always receive the most accurate information that is available at the time. The physician should understand that scientific data is released to public access far earlier than in the past, changes quickly, and can be contradictory. These changes may create the confusion that drives the patient to

untrustworthy sources from which to seek information.

Of paramount importance is taking the time necessary to thoughtfully answer questions, which is a substantial challenge in the current clinical practice environment. A missed opportunity in which the physician is perceived as dismissive may prompt the patient to explore sources that mislead them.

In communication courses across our university, students are encouraged to meet patients at their level of understanding, keep posture open, and respond to questions with sincerity, transparency, and humility. It is the hope that patients will follow the advice presented. Not all outcomes are wins, and we manage the patients' problems to the limit that they permit. A technique that may be effective regarding scientific change is discussion of change as inclusion of the patient in the health care professional's lifelong learning. If a patient has interest in the updates, then the patient joins the physician as a member of the learning community.

“The common question posed was why patients may hold seemingly incomprehensible beliefs despite substantial evidence to the contrary.”

1. Hall JA, Roter DL, Rand CS. Communications of affect between patient and physician. *J Health Soc Behav.* 1981;22(1):18-30.



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Education at Scale: Hybrid Type 1 Diabetes Summer Camp During the COVID-19 Pandemic in China

Fostering supportive, positive relationships with patients is an important step in communicating the science of disease management or prevention. Summer camps provide individuals with Type 1 diabetes (T1D) opportunities to learn self-management skills in a supportive environment, and some studies have suggested there are positive clinical outcomes associated with attending T1D summer camps.¹ However, the COVID-19 pandemic made it difficult for T1D individuals to attend summer camps. At Peking University, our T1D care providers responded to this challenge by innovatively holding two annual hybrid T1D summer camps after the COVID outbreak.² More than 400,000 participants nationwide took part in the online component of the camps.

Live broadcast is a popular form of information transmission in China, especially for youth. During the hybrid summer camp, online participants could follow and become connected with the broadcasters — who included physicians, nurses, dieticians, and T1D volunteers. Participants were encouraged to share their ideas, experiences, and talent shows with each other during the four-day summer camp. Recognizing the relative shortage of professional T1D education in China, our

summer camp included formal diabetes education sessions, during which care providers gave lectures on topics that the campers were interested in (based on their input collected in advance of the summer camp). Additionally, more informal sessions, such as sensory experience of diabetes complications, games designed for carbohydrate counting, and focus group interviewing on psychological health, were also included in the summer camp.

The hybrid summer camp was designed to integrate the online and face-to-face elements, so that online participants were able to discuss their personal experiences with the broadcasters. For example, the online participants were encouraged to prepare, cook, and eat their meals along with the broadcasters. They could also communicate with the broadcasters and the other participants. The interactions involving hands-on experiences and online communications attracted participants to remain for the whole summer camp process. To further encourage the online participants to continue the whole camp program, there was an online “lucky draw” that included prizes such as insulin pumps, needle-free insulin injectors, continuous glucose monitoring, and other supplies for diabetes care, which occurred every one to two hours.

Effectively providing high-quality diabetes education and effective communication to a large population remains a challenge, especially during a pandemic. We were delighted to see that the

hybrid T1D summer camp received tremendous responses, and the most mentioned words were “supportive” and “deeply moved.”

Telemedicine and telehealth provided us a new perspective for management of chronic disease.³ Adopting innovative and effective communication technologies should also be considered in diabetes education. Since T1D usually develops at a young age, using popular live broadcast to deliver diabetes education can be an effective communication format that may benefit some T1D patients. Our experience with the hybrid T1D summer camp proved it to be an effective education and communication tool during the pandemic. We are planning to continue with this model next year — and even post-pandemic.

“Fostering supportive, positive relationships with patients is an important step in communicating the science of disease management or prevention.”

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2. Liu W, Cai X, Zhu Y, et al. Reflections on a successful hybrid type 1 diabetes summer camp in China during the COVID-19 pandemic. *J Diabetes*. 2022;14(2):158-159.
3. Eberle C, Stichling, S. Clinical improvements by telemedicine interventions managing type 1 and type 2 diabetes: systematic meta-review. *J Med Internet Res*. 2021;23(2):e23244.



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Communicating Science With Health Professionals

The relevance of communicating science and delivering innovation is critical. Examples since the onset of COVID-19 include the success of the [RECOVERY trial](#) and the considerable efforts of [Academic Health Science Networks](#) to deploy mechanisms, at pace, for people to stay well and away from hospitals.

[Oxford Academic Health Partners](#) (OAHP) is one of eight Academic Health Science Centres currently designated by the National Health Service (NHS) and the [National Institute for Health and Care Research](#) (NIHR) in England. These partnerships, principally between top universities and NHS organizations, are exemplars of collaboration across organizational boundaries delivering a combination of research, health education, and patient care. Our perspective, therefore, is based on an ability to make the sum of the constituent parts more than they would be individually.

OAHP has five partners. Two universities, two NHS Foundation Trusts, and the Oxford Academic Health Science Network (Oxford AHSN) operate across an integrated health sciences campus close to the center of the city of Oxford.

These partners are not only close to one another; the university and NHS teams are permanently co-located. Proximity and a shared vision contributed to Oxford's prominence during the pandemic. Two

Biomedical Research Centres and a range of other infrastructure programs funded through the NIHR bring together academics and clinicians to translate lab-based scientific findings into diagnostics, medical technologies, and potential new treatments. A [Joint Research Office](#) has a vital supporting role streamlining processes, expertise, and knowledge in governance, contracts, and business development.

Sharing space and resources brings some 700 clinical academics together with natural scientists, other research staff, and health care professionals. These mixed groups have access to the facilities of the [Oxford University Clinical Academic Graduate School](#) delivering transparent and flexible career pathways from undergraduate to consultant level. Additionally, [Oxford Brookes University](#) provides core training for nurses, midwives, and allied health professionals underpinned and informed by specialist research at the [Oxford Institute of Nursing, Midwifery and Allied Health Research](#). This group has high clinical caseloads and time constraints. They may readily accept research evidence as the basis for quality improvement initiatives but are less likely to participate in research projects, so the system relies on joined-up facilitation to improve research literacy and access to training.

Communication was one of the priorities for me when I was appointed to my role. Sharing case

studies to demonstrate the added value of collective working is an effective way for health care professionals and research teams to learn together. Each program of activity benefits from a focused communications team with clear understanding of the science and the time and capability to convey it to a range of different audiences. A network of communications professionals meets regularly to identify areas for impact. They also coordinate and deliver communications training for researchers at various levels.

Embedding a partnership across different regional networks generates a rich but sometimes confusing set of messages. Our academic health science centre's mission is to champion and support cooperation, and in so doing to create improvements for students, patients, and communities, providing a framework to benefit health and care services.

With thanks to Martin Leaver, Head of Communications and Stakeholder Engagement, Oxford Academic Health Science Network.

“Sharing case studies to demonstrate the added value of collective working is an effective way for health care professionals and research teams to learn together.”
