

## PERSPECTIVE

# Language, Jargon, Culture, and Understanding...

It would be difficult to find anyone in the world has been affected by COVID-19 over the past year. Essentially everyone has found themselves isolated from their usual lives; concerned for their health and mortality; worried for the well-being of family, friends, and neighbors; and trying desperately to find a word of hope that everything will be alright, in the end.

With all of the huge changes in our culture in response to the SARS-CoV-2 virus, perhaps one of the most interesting shifts is that clinical, medical, and scientific research has assumed a new interest from citizens everywhere, up front and in the spotlight. Politicians, news media, and private citizens recite the mantra, “we must follow the science” when planning strategies to cope and prevail. Yet, as a scientist, I wonder how easy is it for those not familiar with our research to be able to follow the science?

This question has nothing to do with intelligence, education, or common-sense, *per se*. Rather, clinical, medical, and scientific research has a technical language, jargon, and culture of thought and interpretation that we, in these fields, use to view the world, comprehend what we see, and communicate our understandings to each other. Technical jargon and culture not only brings a community together through commonality of interest, but also tend to exclude others because of the esoteric nature of the un-commonality.

Let me give you an example. I have personally never been quite able to understand the intricacies of accounting. My accountant friends have tried to explain the rationale of basic accounting to me. It isn't long before they usually resort to speaking to me as if I were a kindergarten student, not out of condescension, but rather because I still cannot understand why debits are positive and credits are negative. It makes sense and works perfectly for accountants, obviously, but my simple biochemist brain cannot grasp the underlying logic structure that seems backward.

In the fact of the confusion, fear, and high stakes of COVID-19, so many people who are not schooled in clinical research have been watching the news every day, reading literature published in Google Scholar, and desiring to find the latest research findings that make sense of the pandemic. Such understanding is critical to their lives, their emotional well-beings, and their futures. However, research is not a day-to-day event. Valid research takes a good deal of time to plan, usually weeks if we are rushing. Then preparing for a study, gathering the materials (especially during COVID shortages of everything), training personnel, nailing down logistics and tactics, getting IRB approvals, lining up clinical sites, getting healthcare personnel trained and getting research materials out to them, finding subjects, settling funding, and on and on. And since research builds on previous research, the foundational work of a field has to be first be

performed, peer-reviewed, and then published. So, to expect reliable research on the etiology, mechanism, treatment, and follow-up of COVID-19 within months of its discovery is unreasonable. Researchers are aware of that. Healthcare providers know reasonable time courses. People outside of the research community cannot be expected to know the length of time necessary to produce solid, reviewed, and validated interpretations of the data from such research, and then to disseminate those interpretations into the zeitgeist of a research problem.

To make matters worse, even people within the healthcare community have been confused because of conflicting reports from the many un-reviewed pre-prints of work that have flooded the internet. Researchers are skeptical of submitted manuscripts until they have been vetted through the peer-review system, and even then researchers are still critical when reading results. We cannot expect non-researchers to know the process, or critically assess the published results. When people don't know what they don't know, they make unintentional mistakes. And that leads to a good bit of the confusion that we see around us in society today.

The confusion by all of the conflicting, often politically-driven, publications, research, and editorial commentary on COVID-19 lead people to cherry-pick the research reports that make sense to them, and are consistent with their own beliefs about the situation. This is not a new phenomenon, of course, because we have seen this sort of cherry-picking with topics such as vaccine safety, climate change, and whether human beings have ever actually landed on the moon. But with COVID, the number of conspiracy theories, distrust of government or big business, and denial that an actual crisis even exists seems to be disproportional to usual societal concerns. We see this reflected in the considerable number of Americans who refuse to receive COVID-19 vaccines because of unsupportable political or personal beliefs.

Our current cultural situation makes it clear that calls to “follow the science” are easily spoken, yet difficult to put into action. Scientists, clinicians, and researchers NEVER agree on everything. Data is not interpreted the same by every researcher who looks at it. That is the strength of research, because it leads to interactional and continuing discussion about research problems within our research community. In my field, there are many basic questions that respected researchers vary broadly in their interpretation of how to explain those questions. But that is a reflection of a healthy research arena. Still, how do individuals outside of the field interpret the heterogeneity of points-of-view?

Now is a good time for the research community to seize this opportunity to improve the means by which we communicate clearly, counsel wisely, and lead effectively, in matters that fall within our expertise.

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*Interprofessional Journal of Healthcare and Research*  
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