

Veterinary Medical Writing

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Editorial

For this special Sustainability issue of *Medical Writing*, the editorial team at Veterinary Medical Writing has decided to focus on One Health. As the global society adjusts to adopting a sustainable lifestyle, whether voluntarily or kicking and screaming, assuming a One Health mindset must go hand-in-hand with sustainable living. One Health and sustainable practice are already being incorporated into veterinary school curricula. The clinicians of the near future and many currently in practice are using One Health Medicine to help decision-making and guide sustainable choices for themselves and their animal-owning clients. Medical writers are ideally positioned to propagate One Health thinking; however, to do this, they must incorporate it into their own practice and be comfortable with communicating what is, for many, an abstract concept.

Our contributor to this issue, Dr Deborah Thomson, has pioneered teaching the One

Health concept, and she is the founder of One Health Lessons. She is also a veterinarian, an educator, and she was previously a science policy adviser in the United States Senate. Her extensive experience teaching science to a diverse audience has conferred to her unique insights into science communication, which she has shared in her book, *The Art of Science Communication*, published last year. With an excerpt from her book, Dr Thomson discusses a method to communicate controversial scientific concepts to a sceptical audience. Dr Thomson here imagines the vaccine-hesitant in her excerpt. However, this approach could also be adopted when communicating sustainability and One Health concepts, which may be equally controversial in some quarters. Dr Thomson's methods, which complement those detailed by Michelle Guillemard in her recent *Medical Writing* article: Addressing vaccine hesitancy in medical writing¹, focus on verbal persuasion. Both strategies are based on empathy, clarity and validation of the audiences'

hesitancy, whether it is based on flawed facts or not.

And we have kept with the One Health theme for this edition of *From the Horse's Mouth*, with news that a study on pet-owner microbial exchange has been green-lighted and that, in December 2021, the UK recorded the country's largest outbreak of highly pathogenic Avian Influenza. A reminder that, with the backdrop of an ongoing COVID pandemic, the threat of zoonotic disease is constant. So, whilst this is our first foray into One Health medicine, it most certainly will not be our last.

**Louisa Marcombes and
Jennifer Bell**

1. Guillemard M. Addressing vaccine hesitancy in medical writing: How has COVID-19 changed hesitancy communication, and what works? *Medical Writing*. 2021;30(4):12–6.

The need for clear health communication: From COVID-19 vaccines to the malaria vaccine

There is no such thing as a silver bullet in medicine because medicine is dependent on nature and nature evolves over time. This has been seen most recently with the development and spread of variants of SARS-CoV-2. News of the most recent variant, with its record-breaking number of mutations on the external spike protein, has sparked renewed panic and debate across our small planet. People are wondering – *What happens if this pandemic never ends?*

In October 2021, the cacophony of the COVID-19 pandemic drowned out the news of a scientific breakthrough: the development of and access to the malaria vaccine for children. According to the World Health Organization, the vaccine's impact is expected to save 1 life for every 200 children vaccinated. This was a historic

event, celebrated by scientists and humanitarians around the world, but now the most important question comes to fruition: *How will the public view the malaria vaccine, especially if there is vaccine hesitancy in the community?*

The healthcare world has seen this concern time and again, particularly since the various COVID-19 vaccines have been developed and distributed. The simple answer to the aforementioned seemingly complex question is: education. Public education is vital. However, it must be done in a way where the public is not only aware of the science, but also understands and is encouraged to act based on the science. *How can that happen when there are people who are hesitant to vaccinate either themselves or their children?*

So which strategies can medical communi-

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cators use to bring accepted biomedical science to an audience who may be sceptical about the message conveyed? Below is an excerpt from my book, *The Art of Science Communication: Sharing Knowledge with Students, the Public, and Policymakers*,¹ which details how communication techniques, extrapolated from the fields of business and leadership, can be adopted by medical writers to increase the effectiveness of medical science communication.

Four steps to change the minds of others (an excerpt)

From my personal experiences in the classroom, at the animal hospital, and in a congressional office, I will describe an effective way to not only change people's minds but also to inspire them to accept the change:

Step 1: Respect comfort zones

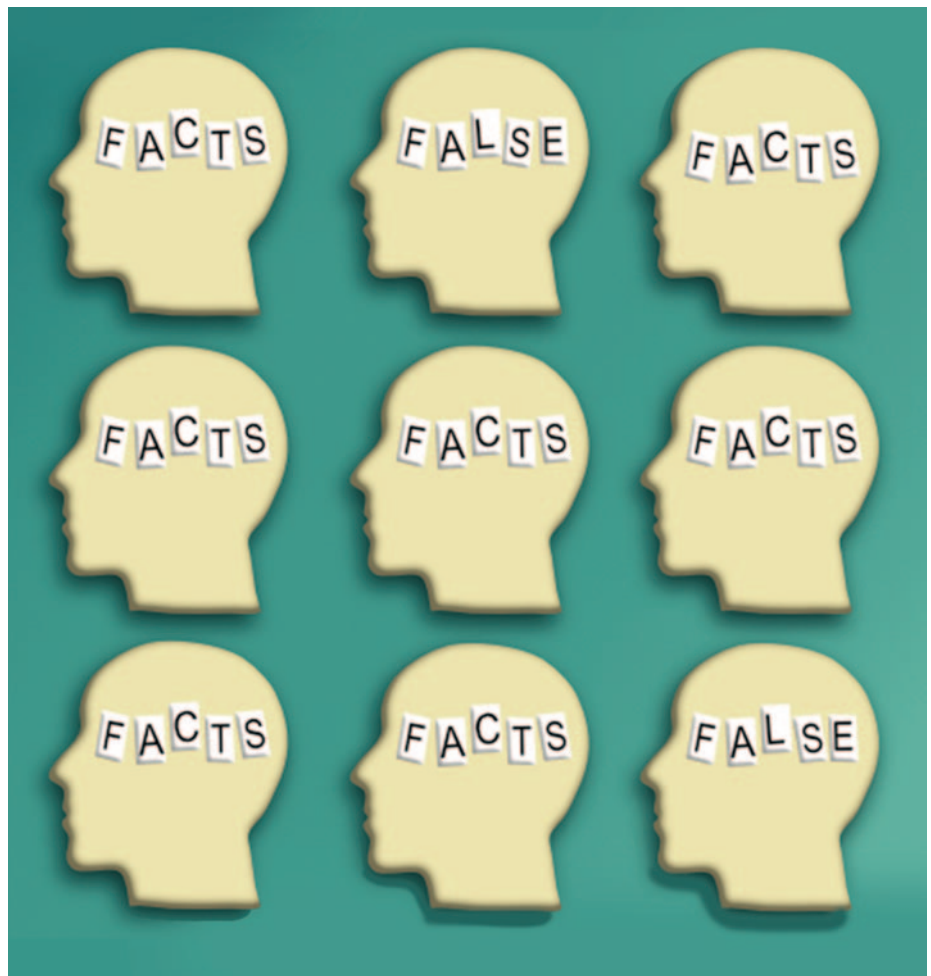
It may sound counterintuitive, but the first step to changing the minds of people is to talk about the inherent benefits of not changing. Recognise that not changing will be much simpler, and people generally take comfort in the status quo. Plus, not changing requires a lot less from people – less energy, less worry, less potential struggle.

Let's use an example of speaking with a vaccine-hesitant person. During your conversation with this person, listen to *why* they distrust the science that legitimises vaccine development and administration. In 2021, despite people being affected by the COVID-19 pandemic for over twelve months, a substantial portion of the American population has refused the COVID-19 vaccine. Instead of becoming angry and/or frustrated, scientists need to be empathetic and listen. Once a person feels heard by another, there is more opportunity to build trust in the relationship. Therefore, the first step is to actively listen and see the world from their perspective.

Step 2: Talk about the costs of changing one's mind

This also may sound counterintuitive. Why would you want to voice concerns about the cost(s) of change? (Costs can include a person's energy investment of moving outside of their comfort zone and being open to both unlearning and then learning new information.) The simple answer, that you may not want to hear is that your audience is thinking about this cost anyway, so you may as well get the topic out in the open. This also demonstrates that you share the same thoughts as your listener. Building upon the first step, this move provides you an added layer of intimacy and makes you appear more relatable.

Taking the vaccine-hesitant conversation one step further, the cost of changing would equate to having the vaccine-hesitant person actually receive the COVID-19 vaccine. It is worth voicing that the vaccine was created in record time, which is both impressive and mystifying to many. Even though the basic science behind the creation of the mRNA vaccine has been around for decades (for more information, search online for Katalin Karikó), there wasn't enough funding to complete the development of mRNA vaccines until the



Graphic: Louisa Marcobes

COVID-19 pandemic flipped the world upside down.

The cost of changing (or, in this case, of getting the COVID-19 vaccine) would address the fact that it is possible to have one or more vaccine reactions such as feeling ill for a few days to a few weeks, contingent on a person's immune system.

Depending on what type of vaccines are available, there is a chance a booster is needed. This booster further challenges the immune system and improves its strength to fight the actual virus that causes COVID-19 (SARS-CoV-2). The timing of the booster vaccine is of vital importance as well. If the person (or animal) receiving vaccines is not receiving the booster in a time period that is deemed acceptable for that particular vaccine, they may need to restart the series because of the way the immune system functions. This point bears repeating: the need to restart the vaccine series is not the fault of the vaccine; instead, it is due to the nature of the immune system. The importance of timing of vaccines and their

boosters should be discussed so that nobody feels a false sense of security and takes unnecessary risks to their own health. In addition, it is important to review those vaccines are designed to strengthen the immune system but the person (or animal receiving the vaccine) could still technically become infected and sick by the pathogen. They just likely won't die from the disease. Again, vaccine side effects can happen and are worth acknowledging. Transparency is key.

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Step 3: Address the costs of not changing

Once empathy and trust are established, advance to this step. The goal is to cajole the listener to say "that's right" at least once. Focus on the possible lost opportunities with inaction during this step.

Furthering the COVID-19 vaccine conversation, review how the world changed from 2019 to 2020. Share a story about one or several missed opportunities. Talk about what your expected future would be if not enough people got vaccinated. Would much change for

the overwhelmed hospitals and, particularly, the first responders and essential workers found in them? (Tip: Emphasising people rather than systems or buildings strengthens the message).

Review that vaccinated people could likely still catch a virus, but they would be less likely to die from the virus. Ask what the vaccine-hesitant person thinks of this idea. Talk about why you had decided to wear your mask and socially distance yourself from others outside your home for many months. Ask them why they took (or didn't take) certain actions during the pandemic. Talk about why you are tired of being afraid of a deadly virus and staying away from loved ones in order to protect them. Ask the hesitant person how they are feeling. Talk about how the only way you can stop being afraid is if more people get vaccinated. Talk about how you are tired of seeing sad news reports of the total daily COVID-19 death count. Ask them how we all can get through this together.

(At the time of writing this book, health experts say that the answer is to continue wearing face masks that cover a person's nose and mouth, keep good personal hygiene habits, and vaccinate more people.) Once you hear the vaccine-hesitant person say "that's right" at least once, you can move on to the final step.

Emphasising people rather than systems or buildings strengthens the message.

Step 4: End on a high note

This step brings hope. This is when you speak about the benefits of change. By now, the listener is in agreement with you. It is time to talk about the future in a positive light.

For the COVID-19 conversation, this is where you would ideally hear the other person volunteer to say that they will get the vaccine. However, the world is far from ideal.

Therefore, it is your job to end the conversation on a high note. Say that you live in less fear since you have been vaccinated because you know that you have strengthened your immune system in case you encountered the deadly virus. You can now see your fully vaccinated family and friends with less worry. You can now start to imagine your future beyond the pandemic, thanks to your strengthened immune system, which ultimately resulted from your decision to receive your vaccine(s).

In summary

The audience must feel immediately respected, both intellectually and personally, in order to have them exchange the favour and listen to you later in the conversation. Of course, for the medical and veterinary writing community, communication to the audience is through the

written, rather than the spoken word. Nevertheless, the principles detailed in this approach can, with a little imagination, infuse medical communications with an empathy that is essential for successfully communicating biomedical science to a hesitant or sceptical audience. Whilst not forgetting to use language appropriate for the audience: the Centers for Disease Control website has an excellent plain language summary of mRNA vaccines.² It is important to remember that a scientist can immediately appear more relatable once they acknowledge their audience's concerns. In addition, acknowledging the future opportunity cost of remaining at the status quo will shift the attention from the vaccine topic today to the projected future. Lastly, leave a positive message that provides hope if the audience does decide to change their mind, and in this case, become vaccinated and encourages others to become vaccinated as well.

Disclaimers

The opinions expressed in this article are the author's own and not necessarily shared by her/his employer or EMWA.

Disclosures and conflicts of interest

Dr Thomson is the author of *The Art of Science Communication: Sharing Knowledge with Students, the Public, and Policymakers*.



From the Horse's Mouth

The quarterly pick of the news from the veterinary world

A research grant has been awarded to the University of Pennsylvania's School of Veterinary Medicine (Penn Vet) to study the clinical significance of microbial exchanges between pets and their owners, it was reported by the *Humanimal Hub* on December 20, 2021. The grant, which has been awarded by the Human Animal Bond Research Institute (HABRI), is titled "Sharing is caring: can pets protect their owners against antibiotic-associated disruption of the gut microbiome?" Disruption of the gut microbiome is a

commonly encountered complication for antibiotic treatment. It can range from mild diarrhoea to *Clostridioides difficile* infection, and older patients are at higher risk. The study, led by, Assistant Professor of Epidemiology Dr Laurel Redding at Penn Vet, will test the hypothesis that contact with a pet can ameliorate the clinical signs associated with the owner's disrupted gut microbiome. The study will follow a cohort of pet-owning patients over 60 years of age who are on antibiotic treatment following dental implant surgery. Any

beneficial effects demonstrated would provide direct evidence of a therapeutic effect of pet-owner microbial exchange. Although, as noted by the *Humanimal Hub*, it remains to be seen if the researchers adopt a One Health approach and look for a similar effect on antibiotic-associated disruption of the gut biome in pets.

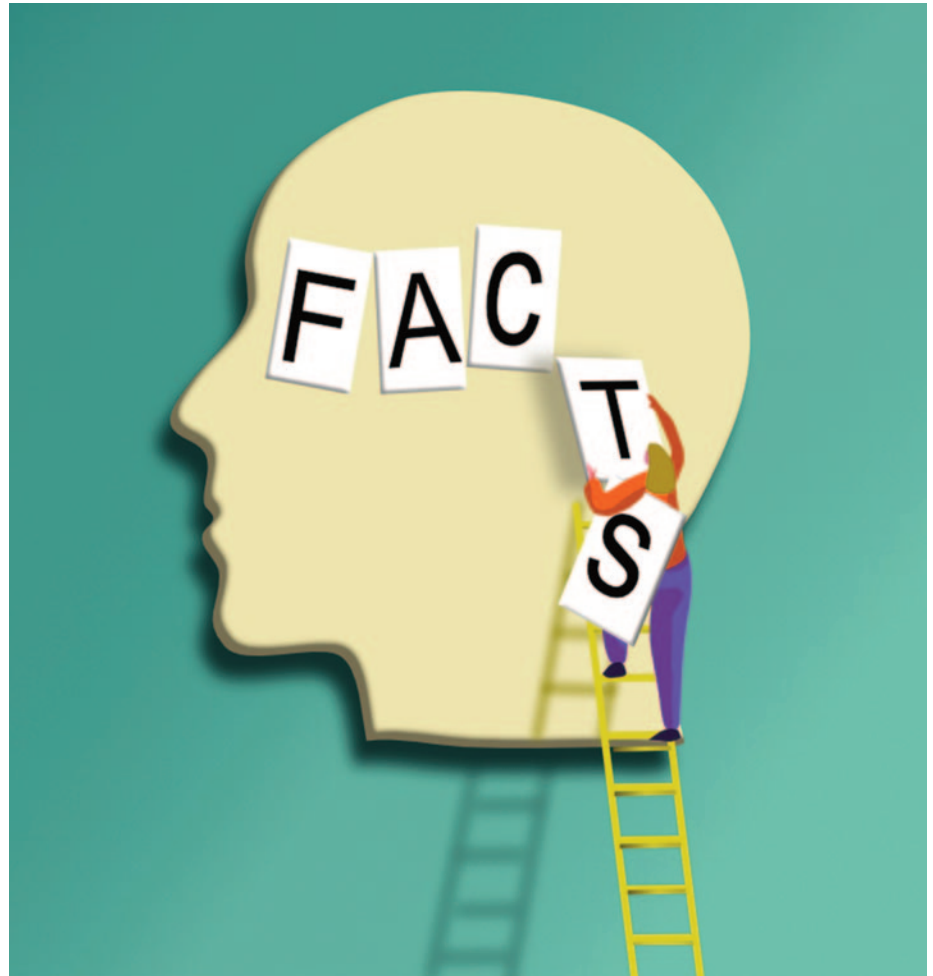
A new, free online resource has been launched as a one-stop-shop for veterinary journal publications, it was reported in the *Veterinary Times* on December 23, 2021.

References

1. Thomson D. *The Art of Science Communication*. Thomson Publishing LLC; 2021.
2. Understanding mRNA COVID-19 vaccines. 2021 [cited 2021 Dec 23]. Available at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>

Author information

Dr Deborah Thomson is a veterinarian, educator, previous science policy adviser in the US Senate, One Health consultant, internationally acclaimed speaker, and founder of One Health Lessons, a global organisation that inspires children and adults to value the interconnection between human health and the health of the environment, plants, and animals. She is the Chair of the World Veterinary Association's One Health Education Subgroup, which provides guidance to veterinary schools worldwide in their One Health educational programmes.



Graphic: Louisa Marcombes

The website, vet-lit.org, created by Dr Simon Cook, a lecturer in Veterinary Emergency and Critical Care at the Royal Veterinary College, UK, is a one-stop-shop for users to access information about the latest articles from the foremost veterinary publications. With clinical disciplines and species divided into different areas for easy navigation, there is also an open-access section, where users can access publications directly. The website features journals such as the *Journal of Veterinary Internal Medicine*, *The Journal of Small Animal Practice*, and *Veterinary Surgery*. However, the selection of journals is based on the reading list for clinical speciality, so the choice of journals drawn upon bears a clinical bias. Nevertheless, it promises to be a valuable resource for readers interested in keeping updated with the veterinary literature.

Public Health Veterinarians in the UK were dealing with the “biggest ever” outbreak of Avian Influenza (AI), according to the UK’s Animal & Plant Health Agency’s Blog on December 16, 2021. At the time of writing, 55 cases of high pathogenicity H5N1 had been confirmed across various regions of Great Britain. A nationwide AI prevention zone was implemented on November 3. From November 29, all birds were required to be kept indoors (wryly dubbed “Flockdown” by the bird-keeping community). AI outbreaks in the UK are usually linked to the arrival of migratory birds during the winter months, and cases in wild birds are first seen in late autumn. However, epidemiologists have observed that the first cases this year were found at the end of October, much earlier than usual. This, along with a greater scale of disease burden in wild birds, resulted in an elevated risk for

domesticated birds, which translated to the large number of cases recorded by the end of 2021. Bird keepers, whether commercial or hobbyists, have been ordered to adopt strict biosecurity measures, which were expected to be in place for several months. The public at large were asked to report the discovery of dead wild birds, particularly target species such as ducks, geese, swans, gulls, and raptors. This is against a background of high pathogenicity AI outbreaks confirmed in 41 countries from different regions since May 1, 2021, as reported by the World Organisation for Animal Health (OIE). Highly pathogenic H5N1 is a zoonotic disease and needs to be tackled under a One Health approach and as a priority of the OIE-FAO-WHO tripartite alliance. As the COVID-19 pandemic rumbles on, this outbreak is a timely reminder of the threat that other viral zoonotic diseases pose to public health.