OCAD University, Design for Health | Fall 2021

# CONVERSATIONS IN VACCINE CONFIDENCE

## A GUIDE & TOOLKIT

Refer to page 9 for Toolkit

# Introduction

During the pandemic, many individuals expressed disbelief about the veracity of the COVID-19 virus, refusing to take part in governmentally mandated rules including wearing masks, maintaining distance, and, now that they are available, receiving COVID-19 vaccines. This can in part be attributed to the confusion and public anxiety created by politicians and health officials that are sharing differing and hard to digest scientific knowledge to the public through authoritative declaration. As a result, many individuals take it upon themselves to find the "real truth", often employing cognitive biases when choosing what information to accept based on personal belief and values. This creates a public sphere with competing truths and truth-tellers, and often a lack of dialogue between groups.

The report proposes a communicative design solution, to address a more effective means to communicate and lessen the impact of COVID-19 post-truths. This report examines the post-truths and the moral codes of vaccine hesitancy and to get a better understanding of vaccine hesitant motivations. Using evidence-based and empathetic models, we developed a communicative toolkit with the goal of bridging the gap between vaccine confidence and vaccine hesitancy and foster understanding of true information within hesitant individuals.

### Post-truth societies:

Post-truth societies are a result of the circulation of different forms of misinformation and disinformation within the public sphere, with a focus on emotional communication over factual data.[1]

### Vaccine hesitancy:

An individual behaviour characterized by delay or refusal to vaccinate despite the availability to do so.[2]

# Post-Truths, Misinformation, & Medical Mistrust

The acceleration of post-truth societies can in part be attributed to the digital mediascape, algorithms, and hyper-partisan narratives from political parties. This creates an influx of factual and alt-factual information that is spread, leading to skepticism and distrust of authority figures and the truth-tellers of society. Furthermore, algorithms make it difficult to focus and find alternative information, forming echo chambers where relevant voices are actively excluded to engage their users.[3] Post-truth systems allow for emotional communication rather than a focus on scientifically verified facts, blurring the line between emotion and reason.[4]

In the times of COVID-19, behaviour in response to the pandemic at a political and individual level have varied widely, in part due to misinformation and changing information about the virus and its safety. Many people seem to be skeptical about COVID-19 and related branches of the pandemic. Among other things, the skepticism includes whether the virus is a hoax, whether physical distancing is effective, whether masks are dangerous, and whether COVID-19 vaccines are safe or necessary.

The issue is not that vaccine hesitant individuals are disinterested in health. In fact, studies have shown that parents who did not vaccinate their children have considerable interest in health-related issues.[5] The problem is that the resources they use for vaccine information are not reliable. Depending on where the individual falls on the vaccine hesitancy spetrum, having a trusted health care practitioner may be able to change their mind,[5] but for many at the extreme end of the spectrum, the distrust in their physician goes beyond the individual level and encompasses the healthcare field and pharmaceutical industry.

In addition, not all vaccine hesitant individuals come to their hesitancy through post-truths. Many marginalized and racialized populations may be hesitant due to distrust of the medical system from many generations of research without consent or deep religious convictions. Generational mistrust is reinforced by health systems and discriminatory events that continue to this day, resulting in a multifaceted nature of medical mistrust[6]. In some cases, vaccine hesitancy is a combination of both post-truth misinformation and generational mistrust. It is important to consider the origins of an individual's vaccine hesitancy in order to be empathetic in responding.

# Vaccine Hesitancy Influences

Anti-vaccination beliefs are a facet of vaccine hesitancy. Contrary to public belief, vaccine hesitant groups are quite diverse, and many may yet vaccinate, even if it takes some convincing. Since the pandemic began, post-truth originating anti-vaccination attitudes have expanded to attempts to refute and discredit COVID-19 vaccines.[7]

It's important to keep in mind the broader influences on vaccine hesitancy. Post-truth societies question the legitimacy of science, expertise, and medical authority[5] inevitably exerts itself in the realm of vaccines. The term "local vaccination cultures" characterizes individual decisions about vaccination and how they are influenced by: shared beliefs about disease etiology; ideas about the potency and efficacy of modern medicine; views on the need for preventative measures; local health services experiences; and vaccination settings.[8]

Unclear or untransparent information dissemination by public health services has also contributed to vaccine hesitancy and rejection. Vaccine safety systems have not been well explained to the public, and so those with questions often turn to the internet.

Individuals who delay or refuse vaccines are significantly more likely to have looked for vaccine information on the internet.[5,9] The internet and the rise of extremely accessible social media platforms gives a voice to anti-vaccination advocates to disseminate their message. The easily accessible platforms of social media sites are able to spread rumours, myths, and inaccurate beliefs regarding vaccines, which has had a negative impact on vaccine confidence and uptake.[5]

For racialized and marginalized populations, hesitancy may often stem from medical mistrust. This is a significant and sensitive topic, as mistrust of the medical system arises from past research and experiments on unconsenting populations and individuals[6,10]. Some of these studies led to illness, death, and trauma, and require more consideration beyond the guides provided in this toolkit. With care and consideration, this toolkit can be used in tandem with other clinical materials, as post-truths can also colour and exacerbate mistrust.

For more information on increasing vaccine confidence in black & racialized populations, please refer to the **LEAPS of care communication framework** from Eissa & collaborators (2021)[11] when carrying out these conversations.

This kit is tailored for conversation about vaccine hesitancy originating from misinformation and post-truths. This toolkit may help to mitigate some concerns in all hesitant populations, but to avoid essentializing vaccine hesitancy communities, keep this in mind while discussing.

# Moral Values & Foundations

There is agreement in literature that opposition to vaccination stems from "strongly held ideological beliefs".[12] Vaccine attitudes can be categorized by their varying endorsement of different morals as laid out in the Moral Foundations Theory.[13-15] The broadest category of individuals is those with tepid attitudes towards vaccines. While there is a wide variety of diversity within their range, they tend to value liberty very highly, and have moderate concerns about safety, necessity, and motives of vaccine service providers.[12]

On the other hand, the individuals with attitudes at the extreme end of the spectrum and those who reject vaccines endorse concerns about harm, fairness, purity, and liberty to a higher degree and endorse authority to a lower degree than anyone else on the spectrum. An understanding of the moral and ethical codes of these overtly rejecting attitudes may help us to understand and approach those who are ambivalent in their vaccine confidence.

# Moral Values and Foundations

**Endorsement of Harm:** concerned with violations to the safety and wellbeing of others

These concerns towards vaccination are plagued by omission bias, or the tendency to assess harmful actions as worse than harmful inactions.[5]

Perceived risks of disease can promote vaccine acceptance. However, perceived risks of vaccines (real or alleged) can outweigh perceived benefits and foster vaccine rejection.[12]

Vaccines have been said to be a victim of their own success, with cognitive biases working against the decision to vaccinate.[16]

Risks of vaccine-preventable diseases being perceived as low because of their effectiveness.[12]

**Endorsement of Purity:** concerns about impurity of body or mind and 'unnatural' acts.

Moral convictions may include the idea that "natural" is always better and healthier than artificial because of a common notion in vaccine hesitancy attitudes.

The lay theory of immunity is a holistic understanding of the immune system as central to the body's health.

This worldview about health sees vaccines as something that destabilizes rather than boosts immune systems and would interfere with a child's natural development.[5]

**Endorsement of Liberty:** a preference freedom and the rights of the individual, and is identified with liertarian ideology, which holds individualized decisions to be of vital importance.[12]

One study of Canadian naturopathic patients found that one of the main determinants of a parent's rejection of a vaccine for child was if they felt pressured by the physician to vaccinate.[17]

Those in the middle of the spectrum also highly endorse liberty as a moral value.

Many within the broad fence-sitting group believe that while vaccines are effective and beneficial for society, it is important to allow individuals to make their own decisions about vaccines.[12]

**Rejection of Authority:** a preference for traditional societal structures and deference to those in positions of power.

Moral convictions may include the idea that "natural" is always better and healthier than artificial because of a common notion in vaccine hesitancy attitudes.

The lay theory of immunity is a holistic understanding of the immune system as central to the body's health.

The goal of such an approach is to reject a proposition on which a scientific consensus exists.

# Backfire Effects

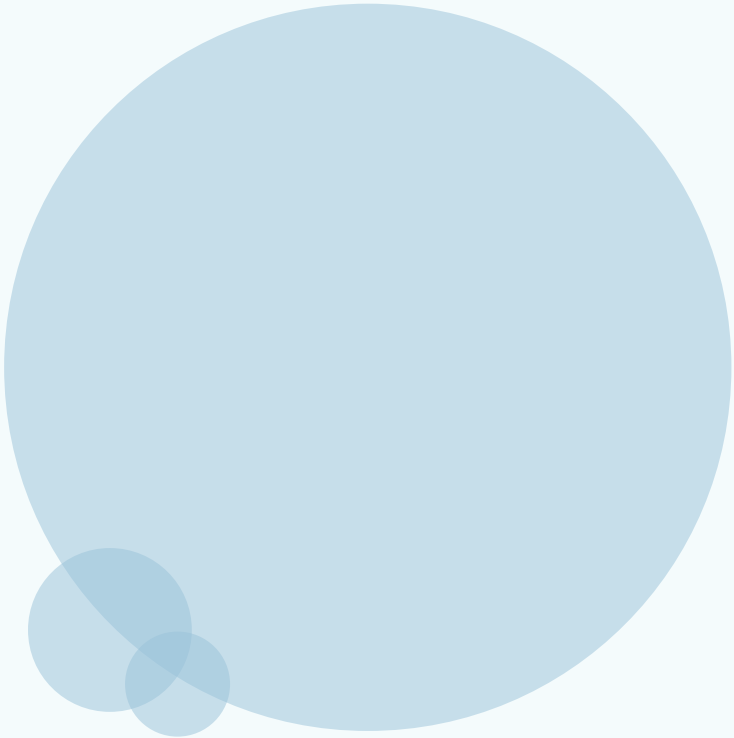
From examining the values that influence a lack of vaccine confidence, it is clear that trying to educate and approach vaccine hesitant individuals without a plan and with just the information at face value would be futile.

**Backfire effects:** attempts to correct vaccine misinformation can at times be counterproductive and reduce intentions to vaccinate amongst certain groups.[18,19]

Backfire effects can occur when

- the corrective information is at variance with the message recipient's cultural and moral values,[12] or
- if the corrective information makes the recipient feel belittled, shamed, or attacked.

Using empathy to understand the ethical concerns and values that inform vaccine hesitant attitudes puts us in a better position to communicate with the individuals holding those beliefs.



Empathy map of a vaccine hesitant individual as they consider whether vaccination is the best course of action. The map is made with the goal of understanding their motives and pain points.

## Says

- "How do I know what's actually in the vaccine?"
- "Is it still safe for me to get the vaccine if I have this condition?"
- "I'm pregnant should I still get the vaccine"
- "My cousin told me that vaccines are dangerous..."
- "Do I need to take time off work if I get the vaccine?"
- "I already got COVID, do I still need to get the vaccine?"
- "The information I saw online is different from what my doctor told me."
- "This mRNA stuff is confusing and sounds dangerous."
- "Can't my immune system protect me?"

## Thinks

- I need to get approval by my family doctor.
- My health complications prevent me from getting vaccinated.
- People might think my questions are stupid.
- Is it safe to be around my kids or other people if I have a vaccine in me?
- They stopped distribution of AstraZeneca so how can vaccines be safe?
- Infection and death rates are going down, why can't we just go back to normal already?
- Some of my friends are encouraging me to get the vaccine but other friends will shame me for it. Who should I believe?
- Has anyone died yet from getting a COVID-19 vaccine?
- Why get the vaccine if there are risks like health complications?

## Feels

- Doubtful.
- Tired.
- Angry and annoyed.
- Distrustful.
- Confused.
- Afraid.
- Upset.
- Ashamed.
- Stressed.

## Does

- Joins public forums, such as Facebook, that are discussing it and read comments.
- Listens to celebrity or online personas' opinions.
- Looks for vaccine information online.
- Asks physicians, family doctors, vaccine experts.
- ignores or loosely follow mandated rules.
- Compares what is happening in other countries and how they are handling the situation
- Clicks algorithm-suggested videos.
- Makes health decisions for family.
- Asks for and shares information and opinions with friends and family.



## KEY ISSUES

**Generalization:** Generalization of all vaccine hesitant attitudes, which labels all individuals on the vaccine hesitancy spectrum as the same.

**Attention bias:** Those with vaccine hesitant attitudes tend to pay attention to certain information sources that they have already accepted while simultaneously ignoring others.

**Confirmation bias:** Those who reject vaccines or are hesitant to vaccinate favour information that conforms to their pre-existing personal beliefs and narratives over facts.

**Anchoring Bias:** The tendency for vaccine hesitant individuals to relate any new information, research, and emerging COVID-19 facts back to the very first initial information that emerged when the pandemic was new and there was much less certainty and scientific knowledge about the virus.

**Omission Bias:** The human tendency to assess harmful ***actions*** as worse than harmful ***inactions***.[5] This leads to the belief that the real or alleged risks of vaccination are more harmful than the real risks of non-vaccination.

**Distrust:** Individuals who do their own research online may find and believe sources with mis- & disinformation, as opposed to listening to healthcare figures within the system due to their distrust of authority.

A Guide & Tookit

# Conversations in Vaccine Confidence

## Section 1: Empathy for Cultural & Moral Values

Be emotionally supportive & understanding – acknowledge that it can be scary & stressful to be a decision maker on health for oneself and others.

Understand that people are coming from a diverse background, & face barriers in terms of language, access, age, & health literacy.

Emphasize liberty & encourage choice – for example, that becoming vaccinated is a choice they're making to protect themselves and each other.

Emphasize social benefit – for example, reinforce that the decision to accept a vaccine is protective for their loved ones.

Find a consistency between their philosophical beliefs & corrective information – for example, that it's possible to reduce harm to others by vaccinating.

Appeal to core values & overarching goals that bind us together – for example, vaccination can help us return to a state of normalcy.

Do not directly question COVID skeptic individuals' motivation & values – they may find this insulting & become defensive & less receptive.

## Section 2: Language to Avoid

Accusatory, insulting, and shaming language puts the people you are trying to connect with on the defensive, making them less likely to want to understand you & more inclined to blame others.[20]

Divisive Language – imposing an othering "Us vs. Them" mentality only serves to further discordance & does nothing to foster a change of mind.[21]

Identity language – to separate the individual from their potentially harmful rhetoric, use language that describes the person's attitudes instead of identifying them with a noun that fuses their attitudes with their identity (i.e., anti-vaxxer, anti-masker).

Validating language – don't use language to describe vaccine hesitant attitudes as a "movement" as this evokes a more established and unified front.

## Section 3: Manner of Speech

Speak confidently – do not waver, as your uncertainty may be evidence enough to someone who is already hesitant to vaccinate.

Speak kindly – people are more likely to be receptive to someone they feel does not have ulterior motives.

Keep the message simple – too many statistics can be confusing, overwhelming, & not be cognitively pleasing.

Use linguistic models that are not demeaning or declarative – (see section 2: Language to Avoid).

Reflective listening - summarize & reflect what the individual has said.

## Section 4: Sharing Information

Point out tactics & techniques used to obfuscate or distort information (e.g., removing cowntext).

Do not repeat COVID-skeptical arguments themselves, simply provide the correct information.

Emphasize scientific consensus.

Narrative approach – personalized stories have a greater impact than numbers.

Repetition of credible alternate information is effective in creating understanding.[22]

Asking open-ended questions allows for open discussion and understanding of the individual's values & concerns.

Elicit-Provide-Elicit - ask permission to fill in knowledge gaps & then share & verify that the individual has understood the new information.[23]

**Objective:** The toolkit proposes language tips & steps to go about sharing reliable information to increase vaccine confidence.

SHN Scarborough Health Network

VaxFacts Clinic

OCAD University

# Conclusion

The suggested toolkit model targets the individuals with ambivalent attitudes towards vaccination to help increase their confidence through discussion. Toolkits are made to give guidance to the reader on how to accomplish a task. The key is to avoid provoking anger and making the individual feel like they are under attack.[20] Therefore, we propose a toolkit as a more effective model would benefit readers on how to approach vaccine hesitant individuals to share and promote accurate information within the community.


## Authors

**Syeda Maryem Abbas**, BSc, MDes (c)
Master of Design, Design for Health, 2022, *OCAD University*
Hon. BSc in Biology, 2019, *University of Toronto,*
Certificate in Digital Communication, 2019, *Sheridan College*

**Hannah Walsh**, BA, MDes (c)
Master of Design, Design for Health, 2022, *OCAD University*
BA in Pyschology, 2017, *Dalhousie University*
Certificate in Arts Fundamentals, 2019, *Sheridan College*



## Acknowledgement

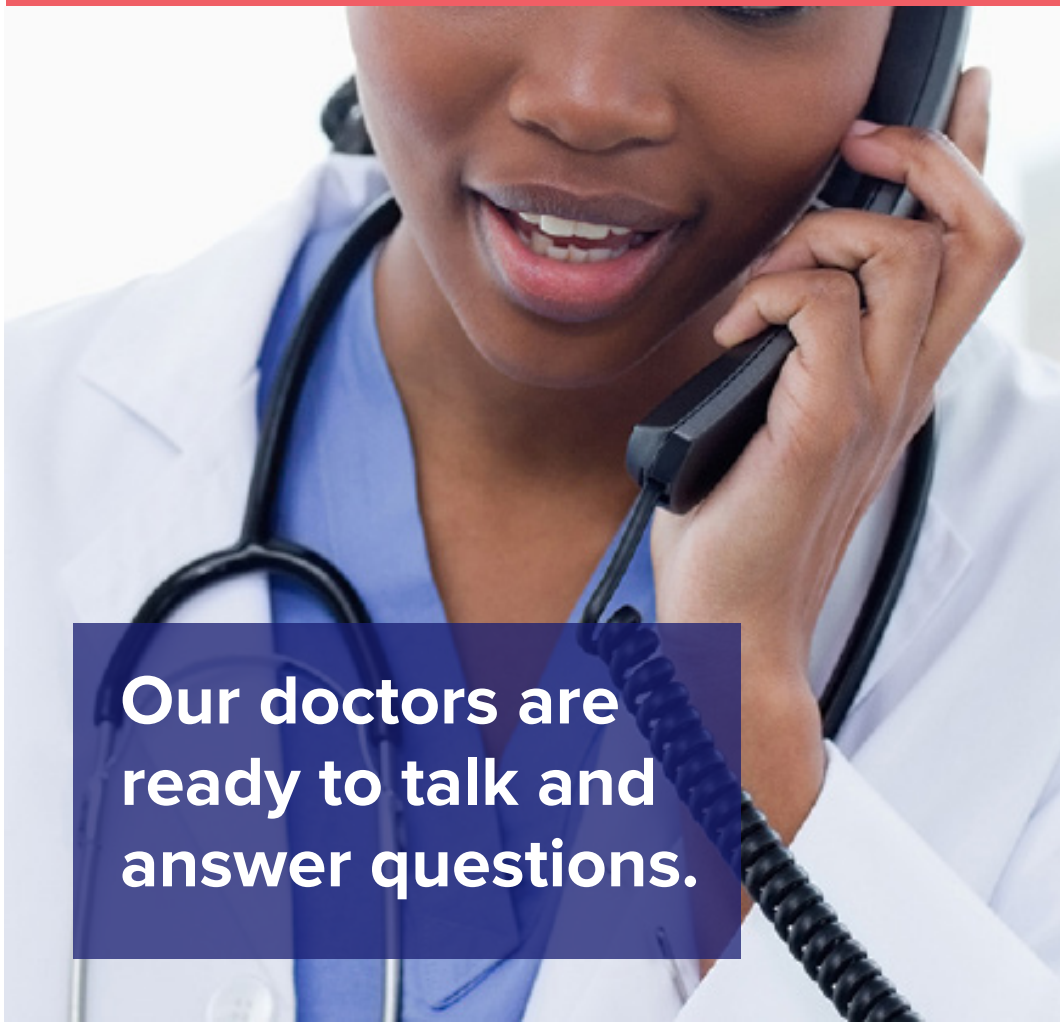
*We would like to thank Dr. Kate Sellen & Dr. Latif Murji for both of their guidance & feedback on the development of this toolkit.*



## Affiliations

*OCAD University*
*VaxFacts Clinic – Scarborough Health Network*

# Looking for a COVID-19 vaccine resource to share with your patients?




If your patients are unsure about the COVID-19 vaccine or information they've seen, our VaxFacts Clinic is here to connect them with qualified doctors who understand that people may have questions or concerns, or just want to learn more.

---

**To schedule a one-to-one phone conversation:**

**shn.ca/*Vax*Facts**

416-438-2911 ext. 5738

SHN SCARBOROUGH HEALTH NETWORK | VaxFacts CLINIC

# References


1. Harsin, J. (2015). Regimes of posttruth, postpolitics, and attention economies. *Communication, culture & critique, 8*(2), 327-333.
2. MacDonald, N. E. (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine, 33*(34), 4161–4164. doi:10.1016/j.vaccine.2015.04.036
3. Lapsley, D., & Chaloner, D. (2020). Post-truth and science identity: A virtue-based approach to science education. *Educational Psychologist, 55*(3), 132-143.
4. Berghel, H. (2017). Alt-News and Post-Truths in the" Fake News" Era. *Computer, 50*(4), 110-114.
5. Dubé, E., Bettinger, J.A., Halperin, B., Bradet, R., Lavoie, F., Sauvageau, C., Gilca, V., and Boulianne, N. (2012). Determinants of parents' decision to vaccinate their children against rotavirus: results of a longitudinal study. *Health Educ Res. 27*(6), 1069-80. doi:10.1093/her/cys088
6. Scharff, D.P., Mathews, K.J., Jackson, P., Hoffsuemmer, J., Martin, E., & Edwards, D. (2010). More than Tuskegee: Understanding Mistrust about Research Participation. *Journal of Health Care for the Poor and Underserved, 21*(3), 879–897. doi:10.1353/hpu.0.0323
7. Siddique, H., (2020, November 10). *Coronavirus: anti-vaxxers seek to discredit Pfizer's vaccine*. The Guardian. Retrieved from https://www.theguardian.com/world/2020/nov/10/coronavirus-anti-vaxxers-seek-to-discredit-pfizers-vaccine
8. Streefland P, Chowdhury AMR, Ramos-JimenezP. (1999). Patterns of vaccination acceptance. *Social Science & Medicine, 49*(12), 1705-16. doi:10.1016/S0277-9536(99)00239-7
9. Smith, P.J., Humiston, S.G., Marcuse, E.K., Zhao, Z., Dorell, C.G., Howes, C., and Hibbs, B. (2011). Parental delay or refusal of vaccine doses, childhood vaccination coverage at 24 months of age, and the Health Belief Model. *Public Health Rep. 126(*2), 135-46. doi:10.1177/00333549111260S215
10. Gilbert, S. (2013, December 9). *Canada Confronts its Own "Tuskegee" Studies.* The Hastings Center. Retrieved from https://www.thehastingscenter.org/canada-confronts-its-own-tuskegee-studies/
11. Eissa, A., Lofters, A., Akor, N., Prescod, C., & Nnorom, O. (2021). Increasing SARS-CoV-2 vaccination rates among Black people in Canada. *Canadian Medical Association Journal, 193*(31), E1220–E1221. doi:10.1503/cmaj.210949
12. Rossen, I., Hurlstone, M.J., Dunlop, P.D., and Lawrence C. (2019). Accepters, fence sitters, or rejecters: Moral profiles of vaccination attitudes. *Social Science & Medicine 224*, 23-27. doi:10.1016/j.socscimed.2019.01.038

# References


13. Haidt, J., and Joseph, C. (2004). Intuitive ethics: how innately prepared intuitions generate culturally variable virtues. *Daedalus 133*(4), 55–66.

14. Haidt, J., and Joseph, C., (2008). *The moral mind: how five sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules.* In: Carruthers, P., Laurence, S., Stitch, S. (Eds.), The Innate Mind, vol. 3. Oxford University Press, New York, pp. 367–391. doi:10.1093/acprof:oso/9780195332834.003.0019

15. Iyer R, Koleva S, Graham J, Ditto P, Haidt J (2012) Understanding Libertarian Morality: The Psychological Dispositions of Self-Identified Libertarians. *PLoS ONE 7*(8): e42366. doi:10.1371/journal.pone.0042366

16. Arede, M., Bravo-Araya, M., Bouchard, É., Singh Gill, G., Plajer, V., Shehraj, A., & Adam Shuaib, Y. (2019). Combating vaccine hesitancy: teaching the next generation to navigate through the post truth era. *Frontiers in public health, 6*, 381. doi:10.3389/fpubh.2018.00381

17. Busse, J.W, Walji, R., and Wilson, K. (2011). Parents' experiences discussing pediatric vaccination with healthcare providers: a survey of Canadian naturopathic patients. *PLOS ONE, 6*, e22737. doi:10.1371/journal.pone.0022737

18. Nyhan, B., Reifler, J., Richey, S., and Freed, G.L. (2014). Effective messages in vaccine promotion: a Randomized Trial. *Pediatrics 133*(4), e835–e842. doi:10.1542/peds.2013-2365

19. Nyhan, B., and Reifler, J. (2015). Does correcting myths about the flu vaccine work? An experimental evaluation of the effects of corrective information. *Vaccine 33*(3), 459–464. doi:10.1016/j.vaccine.2014.11.017

20. Tangney, J. (2020, April 10). *Shaming people who fail to social distance backfires, Mason professor says*. George Mason University. Retrieved from https://www2.gmu.edu/news/584756

21. Powell, J. A., & Menendian, S. (2018, August 29). *The Problem of Othering: Towards Inclusiveness and Belonging*. Retrieved from http://www.otheringandbelonging.org/the-problem-of-othering/

22. Budak, C., Agrawal, D., & El Abbadi, A. (2011, March). *Limiting the spread of misinformation in social networks*. In Proceedings of the 20th international conference on World wide web(pp. 665-674)

23. Gagneur, A. (2020). CANVax, addressing vaccine hesitancy. *CCDR, 46*(4). (ISSN)1481-8531

24. Leask, J. (2011). Target the fence-sitters. *Nature 473*, 443–445. doi:10.1038/473443a