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Welcome To The Jungle!

Surviving Misinformation In A Crisis

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Insights

- In a crisis, traditional safeguards against misinformation are lost
- Scientific journals are the last bastion of evidence against the noise of social media
- Research suggests scientific journals may be contributing to the infodemic
- The First Wave of information is dominated by opinions-most of which are untrustworthy
- Five characteristics determine Experts you can **T.R.U.S.T.**
- Leaders **T.H.I.N.K.** during an infodemic using Time, History, Intuition, Network, and Knowledge

> "We're not just fighting an epidemic; we're fighting an infodemic."
>
> **Tedros Ghebreyesus**
> WHO Director General

Warning Signs

For most of us, January 30th, 2020 was business as usual. We had no real idea how the World Health Organization's declaration of a public health emergency of international concern would impact us. Agreed, we were aware of an outbreak of a virus in Wuhan, China but it wasn't going to affect us, right? The cognitive dissonance between pretending life was normal while a novel coronavirus was ravaging through 20 countries with 9823 infections in less than 4 weeks from the incident case seems irrational, if not outright absurd. But truthfully, it is what it is. The WHO has been here before. Prior epidemics have been complicated with information overload and more serious, the propagation of misinformation. But this time, it is different. Social media is the new player in a relatively fragile but complex information ecosystem.

> "You know where you are? You're in the jungle baby"
>
> **Guns N' Roses, 1987**
> Appetite for Destruction

A Crisis Emerges

Fast forward 6 weeks. With 118,000 infected cases in 110 countries, the WHO officially declared COVID-19 a pandemic.[1] What immediately followed was a 50% surge in social media use, a 24 hour news cycle of breaking news, the emergence of conspiracy theories, false claims about transmission, and fake news about cures. And there it is-- **welcome to the jungle!** In a rapidly evolving crisis, information rules. Sometimes, it's not the highest quality voice that prevails; rather, in most circumstances it's the loudest voice that persuades. Professor Iannnidis, Stanford University, warned over 15 years that most published research findings are false.[2] While provocative, this may not be an unreasonable assertion during a pandemic of publications and views. Hot topics, conflicts of interest and small study sizes are but a few of the challenges with interpreting the literature during COVID-19.

> "The term "COVID-19" has over 3 Billion hits on a Google Search. The term "The Beatles" has a mere 158 million hits. It follows, therefore, that COVID-19 is more popular than "The Beatles"

Aren't We All Just Clout Chasing?

Our findings suggest researchers and scientific journals have not been immune to the pressures of rapid dissemination of emerging research. Over a 12-week period (Jan-March 2020), 1,741 COVID-19 focused articles were published across 59 countries and 447 unique journals with time to publications as quick as the same day as submission up to a mere 113 days.[3] With average times to publication for scientific journals beginning around 6 months (at the low end) up to 2 years (at the higher end), how is this possible? John Iannidis has warned for decades about the 'hot topic' phenomenon.[2] Coronavirus is a hot topic. Researchers understand its fame all too well. Attaching "COVID-19" to literally any issue can elevate a paper's status to "urgent" and "timely". Our research identified many examples of COVID-19 "clout chasing". For example, Osteoarthritis and women's health was made more compelling by adding "COVID-19, osteoarthritis and women's health" in one publication. It's only a matter of time before we see "MURDER HORNETs and osteoarthritis during COVID-19: A Systematic Review". I say this facetiously, somewhat. But here is the point. Scientific journals are fighting for the same share of your limited attention span as social media and 'breaking' news cycles. Journal publishers also realize that science is no match for celebrity. Scientific papers modelling the second of wave of infections are no match in the media jungle that simultaneously promotes "Keeping up with the Kardashian's takes on Coronavirus" [Vulture, April 2, 2020]. On a personal note, it's about time they weighed in. So, is it that surprising that our research found 2 of 3 published articles in peer reviewed scientific journals published expert opinion over data.[3] Of note, Journals with impact factors over 40 were more likely to publish expert opinions and commentaries than those journals with impact factors lower than 40. After all, highest impact journals can ' attract the highest impact academics and thought leaders of the world to "weigh in". Aren't we all just trying to use some form of celebrity to get the message out? The New England Journal of Medicine published a perspective by Bill Gates entitled, "responding to Covid-19 - a once-in-a-century pandemic" on April 30th, 2020.[4] On the same day, Taylor Swift and Real Housewives of New York City were competing for our attention by sharing –"feel good stories during COVID-19"- on social media. The faint cries of data insights are sadly the first to get lost in the early wave of distractions and (mis)information.

Clout Chaser:
The term is often used to mean that someone is trying to latch onto someone else's, (or in this case COVID-19) fame for their own benefit. Learn more about Clout Chasing: www.stayhipp.com/glossary/clout-chaser

Impact Factor:
The journal with the highest IF is the one that published the most commonly cited articles over a 2-year period. learn more at: https://en.wikipedia.org/wiki/Impact_factor

Surviving the First Wave of Information in A Crisis

There are many curves we need to flatten during a crisis. March 11th, 2020 heralded the exponential rise of the ***First Wave*** of information dominated by opinions and commentaries-some informed, and many misinformed. The slower and more data-driven ***Second Wave*** (i.e. data collected in controlled clinical trials and hypothesis-driven prospective studies) is understandably the minority of the signal, amidst the chatter of 'buzzwords', 'memes', 'virtue signaling' and 'so-called experts' opining over policies, cures, and predictions. Our analytics group at OrthoEvidence is carefully curating the best

evidence during the ***Second Wave***, but it's a very noisy ecosystem during a crisis [Exhibit 1: Click Here to Watch Video and Learn More About the Infodemic Waves Diagram]. Let's stay focused, however, on the ***First Wave*** of opinions. There are many many low fidelity opinions during the early stages of a crisis. However, high fidelity commentaries do exist. The hard part is knowing who to trust.

Fidelity:
accuracy in details: exactness. In this context- information that is trustworthy and accurately reflects best available evidence Learn more: www.myorthoevidence.com/Blog/Show/31

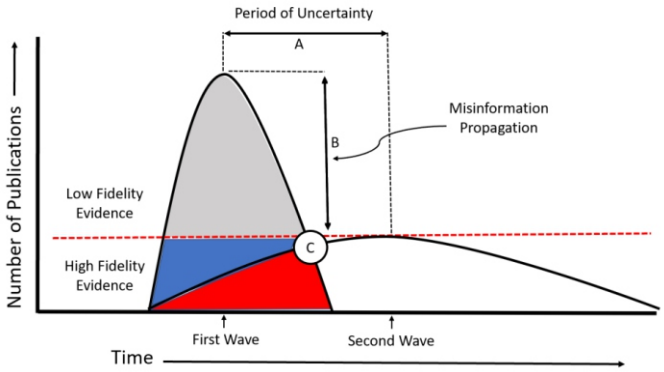

Exhibit 1: Infodemic Waves During a Crisis

A: Period of Uncertainty where opinions dominate
B: Excess in Misinformation during early phase of a Crisis
C: Intersection of declining misinformation and high-fidelity evidence

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A Matter of Trust

Our OrthoEvidence polls suggest peer-reviewed publications and experts remain trusted sources of information during a crisis. Social media (0%) and news cycles (6%) and pre-prints (3%) are bottom of the barrel in perceived trustworthiness.

Pre-Print:
A version of a scholarly or scientific paper that precedes formal peer review. It may be posted online before a paper is formally peer reviewed.

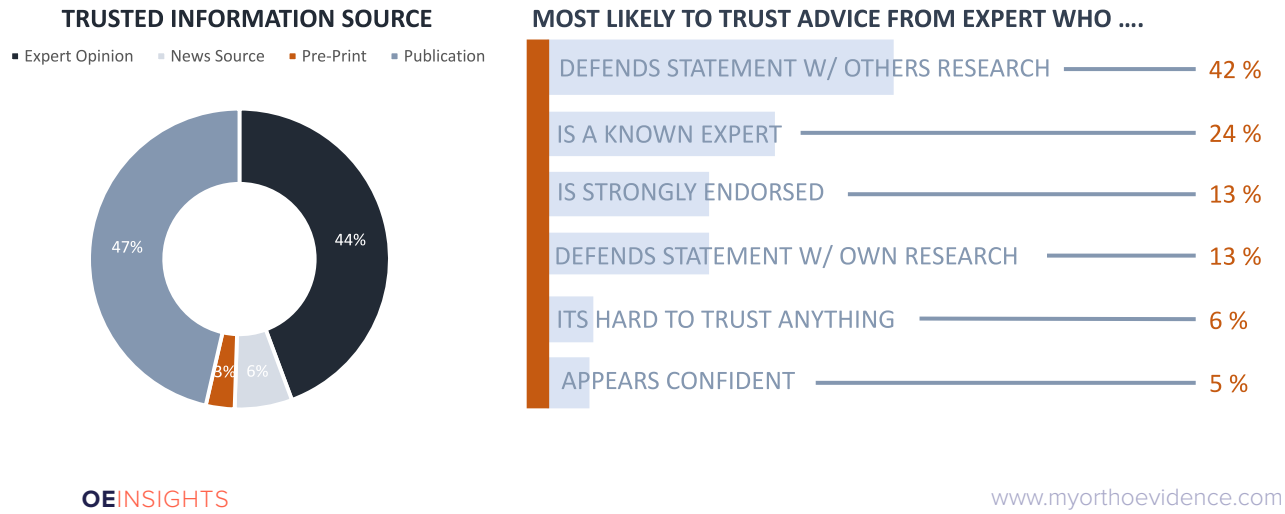

Exhibit 2: Trusting Information During the Pandemic.
OrthoEvidence Random Sampling 232 members

In (which) Experts We Trust?

Understandably, expert opinion is important during the first wave of information. Surgeons admittedly trust those experts who defend their statements with research and are known experts in their field [Exhibit 2]. Surprisingly, however, was a lower endorsement for those experts who cite their own work—possibly related to skepticism and perceived conflicts of interest. Given expertise is often attributed, in part, to their scientific work it would seem rather implausible for experts not to self-cite—at least once in a while.

While there are no absolutes, it's a fairly safe practice to consider 5 characteristics of trustworthy experts during an evolving crisis [Exhibit 3]. Before accepting an expert's testimony, consider 5 simple characteristics. These include a declaration of conflicts of interest, a strong resume of experiences and education on the topic of interest, defense of statements with references to data, affiliations with strong institutions or organizations and testimonials from other known experts in the field. The fewer the criteria met, the less trustworthy the opinion.

Exhibit 3: Characteristics of a Trustworthy Expert

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> "When the situation is uncertain, human instinct and basic management training can cause leaders — out of fear of taking the wrong steps and unnecessarily making people anxious — to delay action and to downplay the threat until the situation becomes clearer. But behaving in this manner means failing the coronavirus leadership test, because by the time the dimensions of the threat are clear, you're badly behind in trying to control the crisis"

Michaela J. Kerrissey, Amy C. Edmondson, April 2020
Harvard University

Leadership During a Crisis: Those Who Rise, T.H.I.N.K.

We often take for granted- in good times, the critical things we require during a crisis. Leaders emerge more often during a crisis than in any other time. A job well done is rarely recognized when things are going expectedly well. When do we even think twice about thanking an airline pilot for keeping us alive as we cut through the atmosphere at hundreds of miles per hour at over 30,000 feet? We learn about leadership when sudden change is thrust upon us. Kerrissey and Edmondson write "*Crises of historical proportion can make for leaders of historical distinction.*" [5] An unexpected crisis during a routine flight, surgical procedure, or a routine day of business will test leaders at all levels. Those who will rise use data, and those who do not will fall. While all leaders talk about data, most never really use it and worse, many cannot differentiate noise from signal. Why? Because it's really hard to do in a crisis especially when information is rapidly evolving in the infodemic's First Wave.

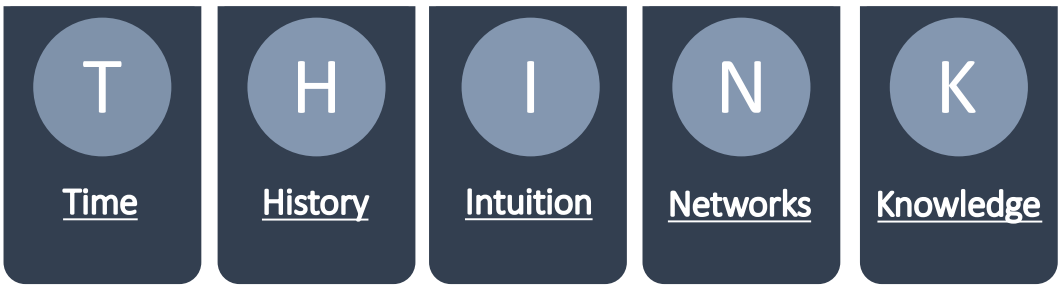

Exhibit 4: Leaders T.H.I.N.K

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While there is a tendency to react with panic or paralysis, neither are acceptable solutions-and both can result in catastrophic outcomes. While timely action is required, leaders understand they still have **Time** to carefully consider options before decisive action. A short 'thinking' pause should not be confused with action paralysis. Realizing data is crucial, they turn to **History** and learn from historical data to inform early decisions. In the case of a novel event, such as this novel coronavirus, new data will not be available nor reliable until the ***Second Wave*** matures. Leaders know to trust their **Intuition** when confronted conflicting alternatives in the absence of reliable evidence. However, before decisive action, these individuals immediately leverage their **Networks** to explore multiple perspectives and solutions. Rosalinde Torres remarks, ***"Great leaders understand that having a more diverse network is a source of pattern identification at greater levels and also of solutions, because you have people that are thinking differently than you are"***.[6] Lastly, they determine rapidly how, and by whom, high fidelity data will be acquired during the **Knowledge** acquisition phase. Leaders also share transparently and frequently any knowledge they acquire to those in their institutions and companies, and stakeholder communities. While it may appear as a gross oversimplification to narrow action to five leadership tactics during an infodemic—the alternative approach of over-complicating seems rather unappealing.

We have great opportunity to use data to learn from the missteps and successes during this COVID-19 epidemic of information. Yes, we are definitely in the Jungle! But let's not let this story end as the final lyric of Guns n' Rose's 1987 anthem Welcome to the Jungle predicted ***"It's gonna bring you down, huh!".***

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