

Combating Misinformation in Laboratory Science

or...how we (accidentally) became science communicators
and how you can (intentionally) become one too!

Association of Public Health Laboratories IDLab Conference

March 25th, 2025

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Today's Talk

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- ❖ Science communication – What is it? Why do we need it?
- ❖ How we (accidentally) became science communicators and what we've learned
- ❖ Ways science communication is a key aspect of public health (lab) work and how you too can (intentionally) be a science communicator
- ❖ Questions

Something went wrong...

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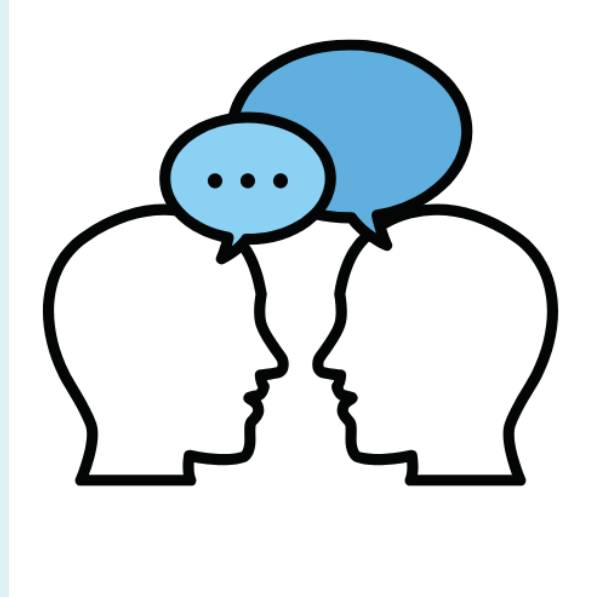
Science Communication:

What is it?

Why do we need it?



What is “communication”?



Working definition: Communication is the things we do to get an idea from our head into someone else’s head with as much fidelity as possible.

What is #scicomm?



Science communication is communicating science-related topics to non-experts.

We do this all the time—including with other scientists.

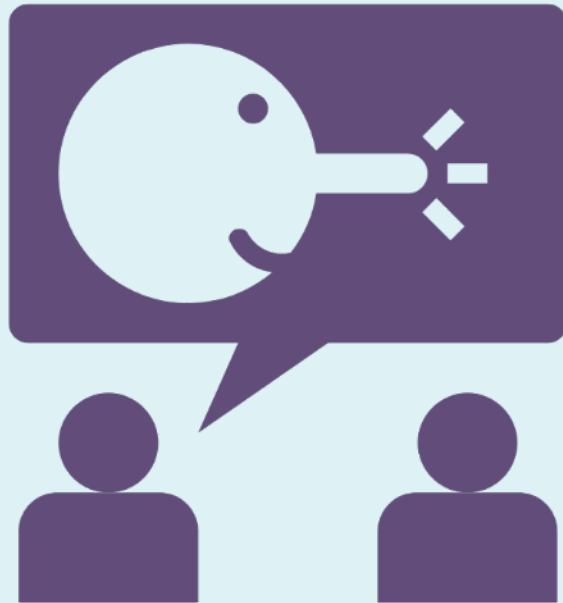
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Reload

Something went wrong...

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Misinformation and Disinformation



Misinformation

Information that is simply incorrect.

Disinformation

False information that is *intentionally* used to deceive or harm.



**Misinformation
has always
existed**

The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — Vide. the Publication

Public Health Crises are Ripe for Spread of Mis- and Disinformation



Information overwhelm
Decision fatigue

*“An **infodemic** is an overabundance of information, both online and offline... Mis- and disinformation can be harmful to people’s physical and mental health; increase stigmatization; threaten precious health gains; and lead to poor observance of public health measures.”*

– World Health Organization

Uncertainty and Misinformation

High uncertainty provides misinformation the opportunity to spread – it creates an information vacuum/data voids, generating demand and the opportunity for bad actors to fill the space with disinformation.

MARCH 15, 2024

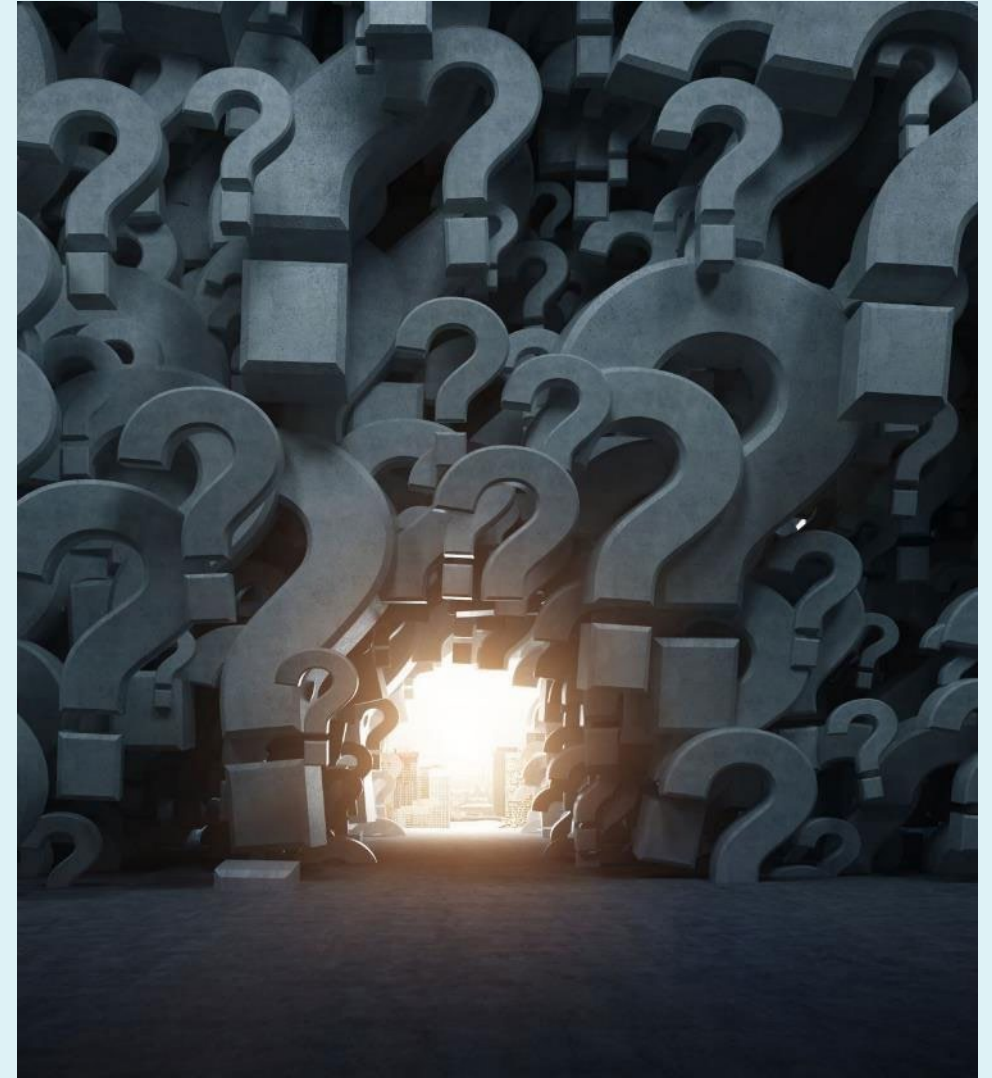
What are “data voids” and how can we avoid falling into one?

DATA LITERACY UNCERTAINTY AND MISINFORMATION

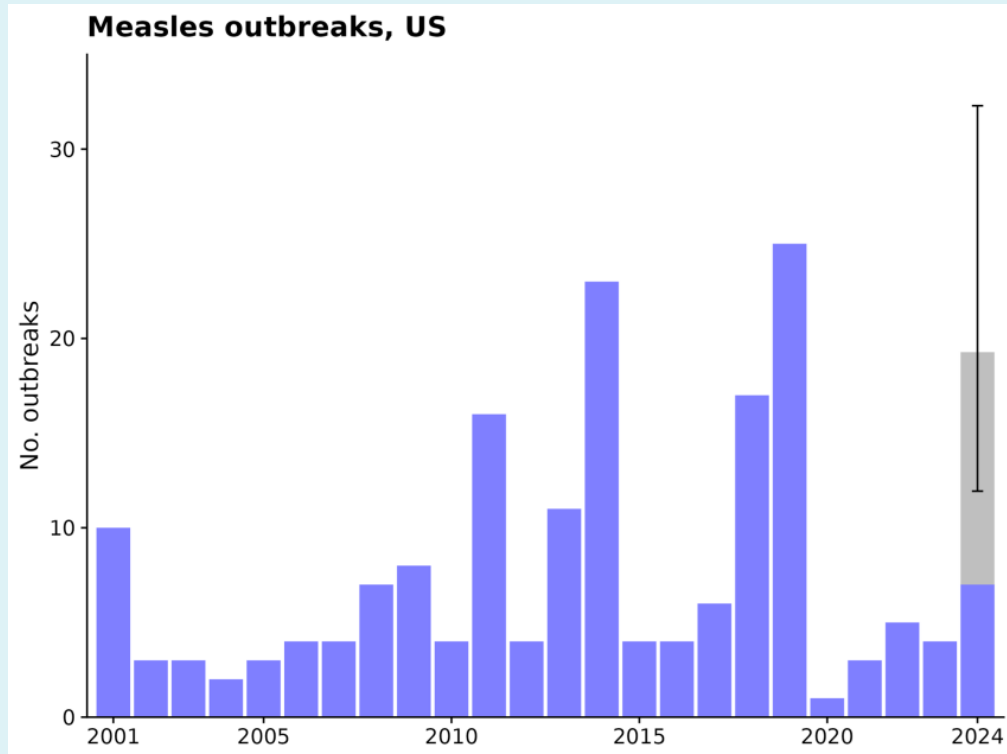


[Roopa Seshadri, PhD, AM](#)

[Data voids](#) occur when there isn't enough high-quality information to counter misleading information on a topic. Data voids are common in the context of breaking news and can lead people to believe the misinformation when they do an online search.



What's happening with measles today?



Source: CDC

The MMR vaccine is the safest way to achieve immunity against measles.

AAP debunks more misinformation about measles and the current outbreaks.

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Houston PBS Passport

HEALTH & SCIENCE

Vitamin A is not a substitute for the measles vaccine, Houston health experts say

CNN Health

Health officials prepare for measles spread as disinformation threatens already low vaccination rates

NBC NEWS

TRUMP ADMIN POLITICS LOCAL

NEWS

Anti-vaccine movement falsely blames measles shots for Texas outbreak

News | Article | March 7, 2025

Experts Raise Alarm Over Vaccine Hesitancy and Misinformation as the Measles Outbreak Spreads

Author(s): [Alexandra Gerlach](#), Associate Editor

Our information environments are determined by our political beliefs, social networks, and digital behaviors

PERSPECTIVES
SCIENCE COMMUNICATION

The chronic growing pains of communicating science online

Scientists have not yet adapted to new information environments

By Dominique Brossard^{1,2} and Dietram A. Scheufele^{1,2}

Almost a decade ago, we wrote, “Without applied research on how to best communicate science online, we risk creating a future where the dynamics of online communication systems have a stronger impact on public

ence. To be fair, this has been driven most recently by a demand from policy-makers and from audiences interested in policy and decision-relevant science during the COVID-19 pandemic.

Unfortunately, social science research suggests that rapidly evolving online information ecologies are likely to be minimally responsive to scientists who upload

of the scientific community’s more ambitious and resource-intensive efforts to communicate science online, such as science series that have been both streamed online and broadcast on television, were heavily favored by audiences that are likely to be receptive to the messages of scientists already (7). And when faced with empirical data showing that they can do better, scientists



SCIENCE science.org

11 FEBRUARY 2022 • VOL 375 ISSUE 6581 613

- Media increasingly fragmented
- Each of us has an information ecosystem based on values, networks, past behaviors
- Social media algorithms create “echo chambers” and are hard to predict, study, and escape

*“Falsehood flies, and the
truth comes limping after it.”*

– Jonathan Swift, 1710.

Misinformation in times of
uncertainty is an old problem.

Social media and other new
technology have just facilitated
its opportunity, scope and
speed!



Social media has changed diffusion of information landscape

What social media told us in the time of COVID-19: a scoping review



Shu-Feng Tsao, Helen Chen, Therese Tisseverasinghe, Yang Yang, Lianghua Li, Zahid A Butt



Lancet Digit Health 2021;
3: e175-94

With the onset of the COVID-19 pandemic, social media has rapidly become a crucial communication tool for information generation, dissemination, and consumption. In this scoping review, we selected and examined peer-reviewed empirical studies relating to COVID-19 and social media during the first outbreak, from January 2020 to November, 2020. From an analysis of 81 studies, we identified five overarching public health themes: the role of online social media platforms and COVID-19. These themes focused on: surveying public opinion, infodemics, assessing mental health, detecting or predicting COVID-19 cases, analysing the impact of the pandemic, and evaluating quality of health information in prevention education videos. The review emphasises the paucity of studies on the application of machine learning on data generated from social media and a scarcity of studies documenting real-time surveillance that was developed for COVID-19. For COVID-19, social media can have a crucial role in disseminating health information, reducing infodemics and misinformation.

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the resulting COVID-19, is a substantial international public health issue. As of Jan 18, 2021, an estimated 95 million people worldwide had been infected with the virus, with about 2 million deaths.¹ As a consequence of the pandemic, social media is becoming the platform of choice for public opinions, perceptions, and attitudes towards various events or public health

perception of disease exposure and risk behaviours.^{2,3} As information generated by users, such as social media posts, is often inaccurate, and frequently contains conspiracy theories.⁴ Hence, the need for accurate and timely information is paramount. Social media is a public about emerging threats, such as SARS-CoV-2. A systematic review explored the major approaches that were used in published research on social media and emerging

Since the onset of the COVID-19 pandemic, social media has rapidly become a crucial communication tool for information generation, dissemination, and consumption.

Generative AI amplifies mis/disinformation

- Not objective
- Summarizing all available content, regardless of source
- Fake/doctored images and videos
- Chatbots
- Deep Fakes



Our own biases also play a role

Inherent biases influence the way we seek, perceive, and use information.

Biases

- Anchoring bias
- Confirmation bias
- Commitment bias
- Framing effect
- Recency bias
- Availability bias
- Negativity bias
- Repetition bias

Other influences

- Dunning-Kruger effect
- Bandwagon effect

JULY 12, 2023

What is the Dunning-Kruger effect?

DATA AND METRICS DATA LITERACY



Sarah Whitley Coles, MD

TL;dr: The Dunning-Kruger effect occurs when someone's lack of knowledge or skill in a certain area causes them to overestimate their own ability. It also causes people who are the most competent to think less of their skill. Self-reflection, objective measures of performance, and getting meaningful feedback can help keep you from falling victim to this effect!

Ever been trapped in the car with someone who sings along to every song on the radio and is just convinced they are ready to audition for The Voice? All the while, you are stuffing your fingers in your ears to tune out that dissonant, rhythmless mess? How about that friend who is a "home gourmet" and every meal they cook turns out burnt, weird, or both?

MAY 18, 2023

What is availability bias?

DATA LITERACY UNCERTAINTY AND MISINFORMATION



Sarah Whitley Coles, MD

TL;dr: Availability bias, also called availability heuristic, is a type of cognitive bias that occurs when we rely disproportionately on the most readily available information to make decisions or judgments rather than the most representative or accurate data. Reflection and review of all available data can help us mitigate this particular bias.

Sometimes do notice it every goat yoga and t goat yoga? May new thing that big goat yoga s people who rea

DECEMBER 27, 2024

What are the Horn and Halo Effects?

UNCERTAINTY AND MISINFORMATION



Those Nerdy Girls

TL;dr: The Horn and Halo Effects are cognitive biases where our first impression influences our decision making and how we feel about someone.

This impression can be based on a single characteristic that is not actually relevant, such as their race, gender identity, or even how attractive we find someone. To break this cycle, we need to slow down, look for bias, and look for supporting or refuting evidence for our first impressions.



Repetition Bias (Illusory Truth Effect)

The Illusion of Truth

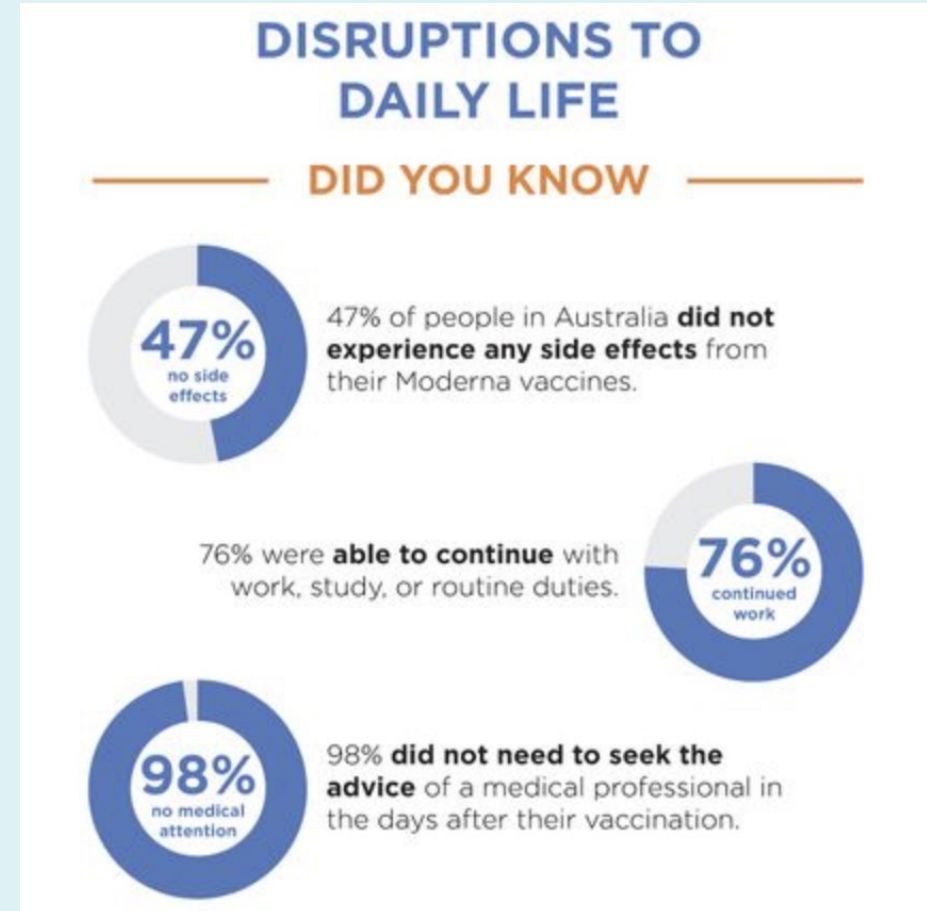
The more times a message is repeated, and the greater the number of sources repeating the message, the more believable it becomes.



Framing Effect



?



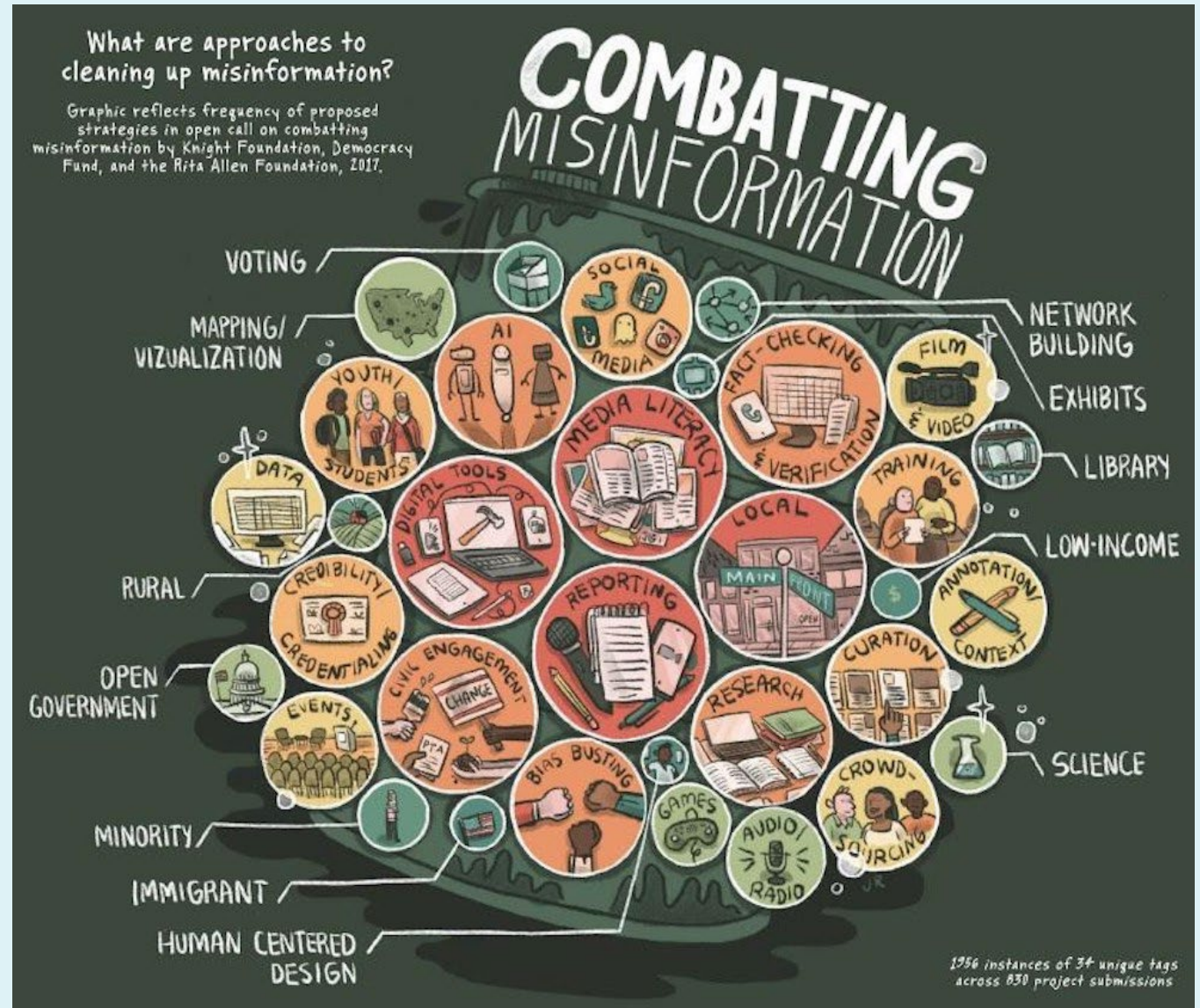
<https://doi.org/10.1101/2022.05.09.22274840>

Positive framing increased vaccine intent by at least 5 percentage points over negative framing.

Something went wrong...

Reload

So...what can we do?



How we (accidentally) became science communicators



Dear Pandemic/TNG Origin Story

March 5, 2020: CDC changed the COVID-19 case definition; Co-founder, Dr. Malia Jones wrote an email that went viral

March 7, 2020: Called Dr. Alison Bittenheim @ U Penn for help

March 8, 2020: Dr. Phil called her

March 10, 2020: *Dear Pandemic* launched on Instagram & Facebook

March 11, 2020: Taped Dr. Phil (remotely!)

March 15, 2020: Malia and Alison invited a few friends to help out “for a few weeks”

... 5 years later, it is still going!



What have we done?

- 4-14 unique content posts per week since March 2020
- Many channels!
 - *Those Nerdy Girls* on Facebook (111,000+), Instagram (21,000+), Twitter (14,600+), Threads (13,000+), LinkedIn (3,000+), BlueSky (4,300+), Substack newsletter (16,500+) and website.
- Many readers! Monthly reach of 500K
- Multiple languages!
- Take a look!
www.thosenerdygirls.org



NOVEMBER 28, 2023

Is 'Immunity Debt' Behind China's Rising Childhood Pneumonia Cases?

DATA AND METRICS INFECTIOUS DISEASES



Jennifer Beam Dowd, PhD

TL;DR: There is no "immunity debt" for individuals. But *populations* can experience a "catch-up" period after a period of low virus transmission, which is what seems to be happening in China right now. Recent reports of a high number of cases of childhood pneumonia in China definitely made epidemiologists a tad nervous. But so far, [Read more...](#)

NOVEMBER 24, 2023

Q: Why can't I get antibiotics for a cough?

INFECTIOUS DISEASES



Andrea Harmony, NP-C, PMHS

A: Taking an antibiotic when it's not needed contributes to antimicrobial resistance and can put you and others at risk of more severe infections. TLDR: Antimicrobial resistance occurs when bacteria, fungi, parasites or viruses mutate in ways that make common treatments ineffective. More and more antibiotics are losing their effectiveness due to antimicrobial resistance. so [Read more...](#)

NOVEMBER 21, 2023

Tips for a Safer Thanksgiving

FAMILIES/KIDS STAYING SAFE



Jennifer Beam Dowd, PhD

"Tis the season of SO many respiratory viruses! As we face another Thanksgiving with surging viruses, how can we enjoy precious moments with family and friends while lowering the risk of getting or spreading illness? Think in terms of harm reduction: a little bit better is a little bit better. Small steps you take to [Read more...](#)

NOVEMBER 27, 2023

Free COVID Tests Available Again Now in the US

TESTING AND CONTACT TRACING



Gretchen Peterson, Chief Operations Officer

🎉 Free COVID-19 tests are once again available in the US as of Monday, Nov 20, from covidtests.gov. ★★★★★ Each household can receive four tests. 📌 With lots of gatherings ahead and COVID cases on the rise, it's always a good idea to have tests on hand. 📌 Please share this post to spread the [Read more...](#)

NOVEMBER 22, 2023

How can I celebrate the holidays when I am grieving?

MENTAL HEALTH



Aparna Kumar, PhD CRNP MPH

Grief can feel complicated, but know that you are not alone. Many people find this time of the year difficult, especially so when they are facing the death or loss of a loved one. The holidays can bring up feelings of sadness, loss around the rituals you had, and isolation as other people may not [Read more...](#)

NOVEMBER 20, 2023

Are folic acid and folate the same thing? How much and what type should I take if I could become pregnant?

REPRODUCTIVE HEALTH



Katherine Cartwright, DO, MPH

TL;DR Folic acid is a type of folate- one of the B vitamins (B9). A total of 600 mcg of folic acid is recommended daily for anyone who is pregnant or could become pregnant. This can be difficult to get from food sources alone, so a prenatal vitamin or standalone supplement containing at least 400 [Read more...](#)

We're committed to facts.

Those Nerdy Girls are your trusted messengers for practical and factual health information. Learn more [about us](#), [subscribe](#) to our newsletter, [submit a question](#), or browse recent posts:

What we're talking about:

[DATA AND METRICS](#)[REPRODUCTIVE HEALTH](#)[STAYING SAFE](#)[UNCERTAINTY AND MISINFORMATION](#)

Search over 2,500 posts...

[BROWSE RECENT POSTS](#)

BROWSE BY CATEGORY

Aging (24)
Biology/Immunity (106)
Clinical Symptoms (81)
COVID Variants (77)
Data and Metrics (156)
Data Literacy (74)
Families/Kids (338)
General Health (168)
Health Policy (11)
Hot Health Topics (14)
Infection and Spread (297)

Infectious Diseases (188)
Long COVID (35)
Masks (94)
Mental Health (213)
Nerdy Notes (5)
Posts en Español (528)
Reopening (50)
Reproductive Health (126)
School (49)
Social and Racial Justice (65)
Socializing (98)

Staying Safe (420)
Testing and Contact Tracing (141)
Travel (36)
Treatments (101)
Uncategorized (121)
Uncertainty and Misinformation (202)
Vaccines (654)
Videos (98)
Women in STEM (46)

What have we done?

Tell us your exact question!

¿Las Nerdy Girls tambien?

How many?!!

What else did we do?

Nerdies in the News

Nerdy Girl	Publication	Title	Date
Elisabeth Adkins Marnik	HuffPost	Here's Exactly How Long It Takes To Get Sick After Being Exposed To The Flu	03/06/2025
Elisabeth Adkins Marnik	Maine Public	Uncertainty around federal funding leaves Maine nonprofits in limbo	02/10/2025
Sara Gorman	Medpage Today	'Safe and Effective' Is FDA-Speak. It's Time to Put It to Bed.	01/28/2025
Elisabeth Adkins Marnik	HuffPost UK	The Trump Administration Paused Federal Health Agency Communications — Here's Why That's Dangerous	01/24/2025
Amanda Simanek	Helix - Rosalind Franklin University	Health Equity: A Commitment to Community.	01/14/2025
Elisabeth Adkins Marnik	Mount Desert Islander	MDES and MDI Bio Lab partner for science education	12/05/2024
Amanda Simanek	AAMC News	Gathering for the holidays? Here's what to know about rising cases of whooping cough, walking pneumonia, RSV, COVID, and flu	12/05/2024

- 600+ media interviews
- Local and national outlets
- Direct links to our content and graphics

What else did we do?

Dear Pandemic: Nurses as key partners in fighting the COVID-19 infodemic

Ashley Z. Ritter PhD, CRNP¹ | Shoshana Aronowitz PhD, CRNP¹ | Lindsey J. Leininger PhD² | Malia Jones PhD, MPH³ | Jennifer Beam Dowd PhD⁴ | Sandra Albrecht PhD⁵ | Alison M. Buttenheim PhD, MBA⁶ | Amanda M. Simanek PhD, MPH⁷ | Aparna Kumar PhD, MPH⁸

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⁴Leverhulme Centre for Demographic Science, University of Oxford, Oxford, UK

⁵Department of Epidemiology, Mailman School of Public Health at Columbia University, New York, NY, USA

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⁷Joseph J. Zilber School of Public Health, University of Wisconsin-Milwaukee, Milwaukee, WI, USA

⁸Program in Public Health Department of Family, Population, and Preventative Medicine, Renaissance School of Medicine at Stony Brook University, Stony Brook, NY, USA

⁹College of Nursing, Thomas Jefferson University, Philadelphia, PA, USA

Fight Like a Nerdy Girl: The Dear Pandemic Campaign Combating Health Misinformation

Lindsey J. Leininger, PhD¹, Sandra S. Albrecht, PhD², Jennifer Beam Dowd, PhD⁴, Ashley Z. Ritter, APRN, PhD¹, Mary-Jo Valentino, MFA⁷, Malia Jones, PhD³

¹Tuck School of Business, Dartmouth College, Hanover, NH, USA

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⁴Leverhulme Centre for Demographic Science, Department of Public Health, University of Oxford, Oxford, UK

⁵NewCourtland, Philadelphia, PA, USA

⁶Zilber School of Public Health, University of Wisconsin-Milwaukee, Milwaukee, WI, USA

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⁸Applied Population Laboratory, University of Wisconsin-Madison, Madison, WI, USA

Raging alongside the COVID-19 pandemic is a swirl of information, both good and bad. Medical falsehood is not a new problem. Christakis, “everywhere you see the same lie, see right behind it the spread of lies.” Social media platforms represents a new and great information during the pandemic has including the Director-General of the World Health Organization have issued urgent calls for action. Like many other scientists, our all-wish is to see the truth. In March 2020 we launched a public campaign to fight the infodemic. Over 18 months we have refined a set of core communication principles. LET’S LEARN. We anticipate that these principles will feel intuitively familiar to health

Case Study

Lessons Learned from a Social Media-Based Communication Campaign for COVID-19 Infodemic

Sandra S. Albrecht, PhD¹, Alison M. Buttenheim, PhD², Jennifer Beam Dowd, PhD⁴, Aparna Kumar, PhD, MPH⁸, Ashley Z. Ritter, PhD, CRNP¹, Christine B. Whelan, PhD³

Journal of Health Communication, 28: 25–33, 2023

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ISSN: 1081-0730 print/1087-0415 online

DOI: <https://doi.org/10.1080/10810730.2023.2214986>

What Were the Information Voids? A Qualitative Analysis of Questions Asked by Dear Pandemic Readers between August 2020-August 2021

RACHAEL PILTCH-LOEB^{A,B}, RICHARD JAMES^C, SANDRA S. ALBRECHT^{B,D}, ALISON M. BUTTENHEIM^{B,E}, JENNIFER BEAM DOWD^{B,F}, APARNA KUMAR^{B,G}, MALIA JONES^{B,H}, LINDSEY J. LEININGER^{B,I}, AMANDA SIMANEK^{B,J}, and SHOSHANA ARONOWITZ^{B,E}

PLOS ONE

RESEARCH ARTICLE

Dear Pandemic: A topic modeling analysis of COVID-19 information needs among readers of an online science communication campaign

Aleksandra M. Golos^{1*}, Sharath Chandra Guntuku^{2,3}, Rachael Piltch-Loeb^{4,5}, Lindsey J. Leininger⁶, Amanda M. Simanek⁷, Aparna Kumar⁸, Sandra S. Albrecht⁹, Jennifer Beam Dowd^{10,11,12}, Malia Jones¹³, Alison M. Buttenheim^{1,3,14}

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Routledge
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Check for updates

Who did it?



Those Nerdy Girls are your
trusted messengers for practical
and factual health information.
WWW.THOSENERDYGIRLS.ORG

65+ people in
total at some
point over the
past 5 years!

→ **MK Haber,**
FNP-C, IBCLC
Executive Director

All-volunteer* collaboration.
Thousands and thousands of hours.

What are we doing now?

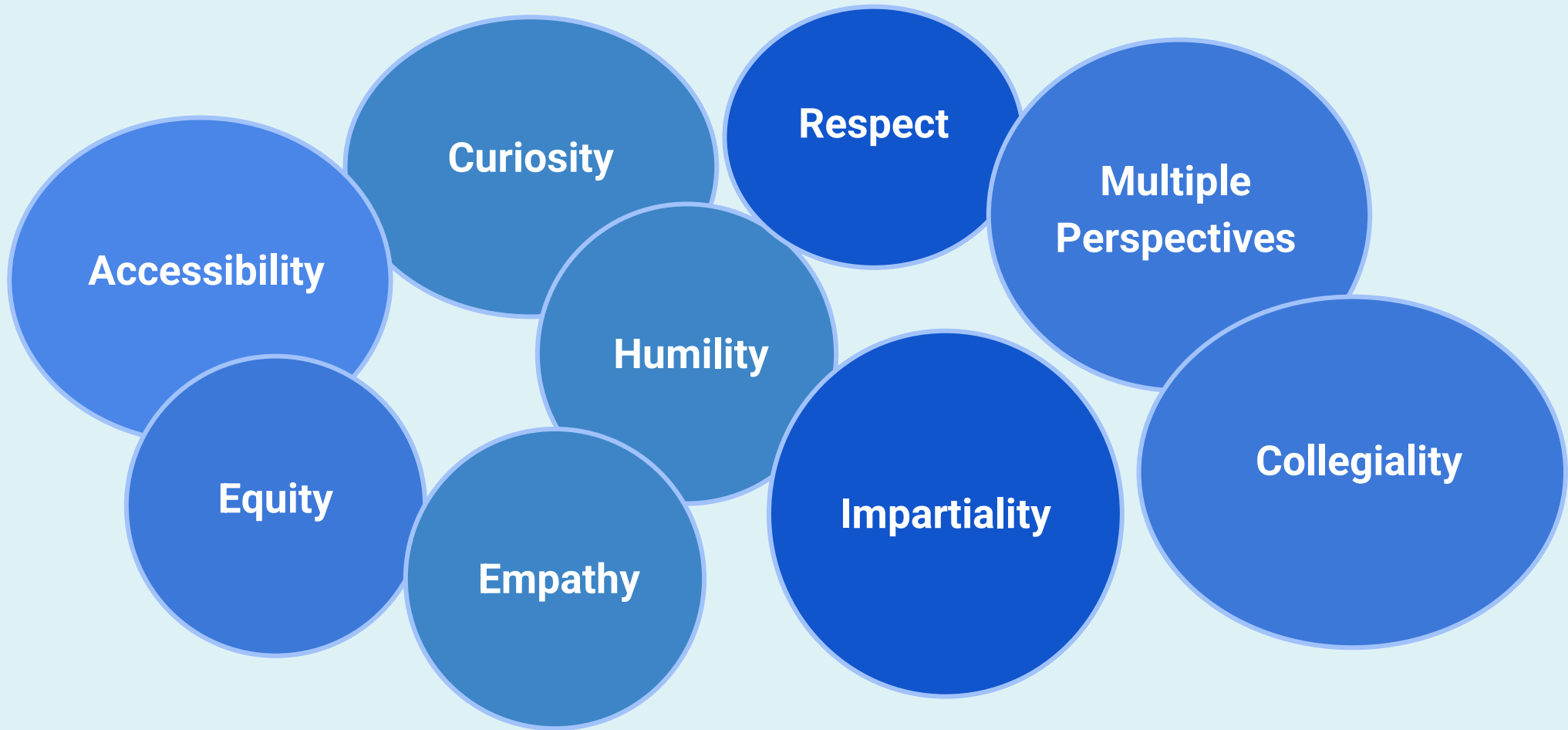


Mission: TNG helps our readers make better health decisions by providing practical and factual health information. As trusted messengers, we build readers' confidence in navigating health information and sharing their knowledge with others.



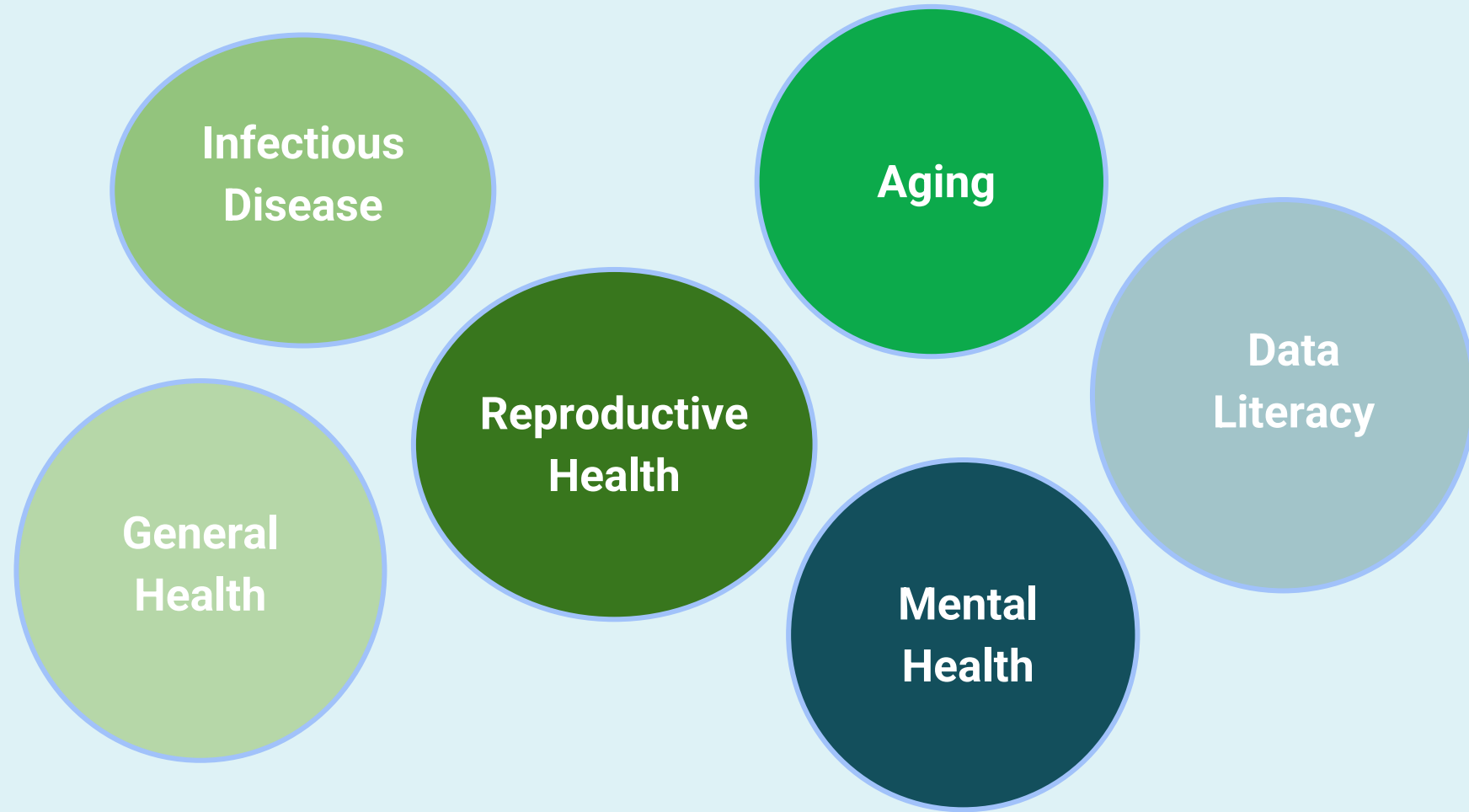
Vision: We envision a world in which everyone has the tools and confidence to make evidence-informed health decisions.

What are we doing now?



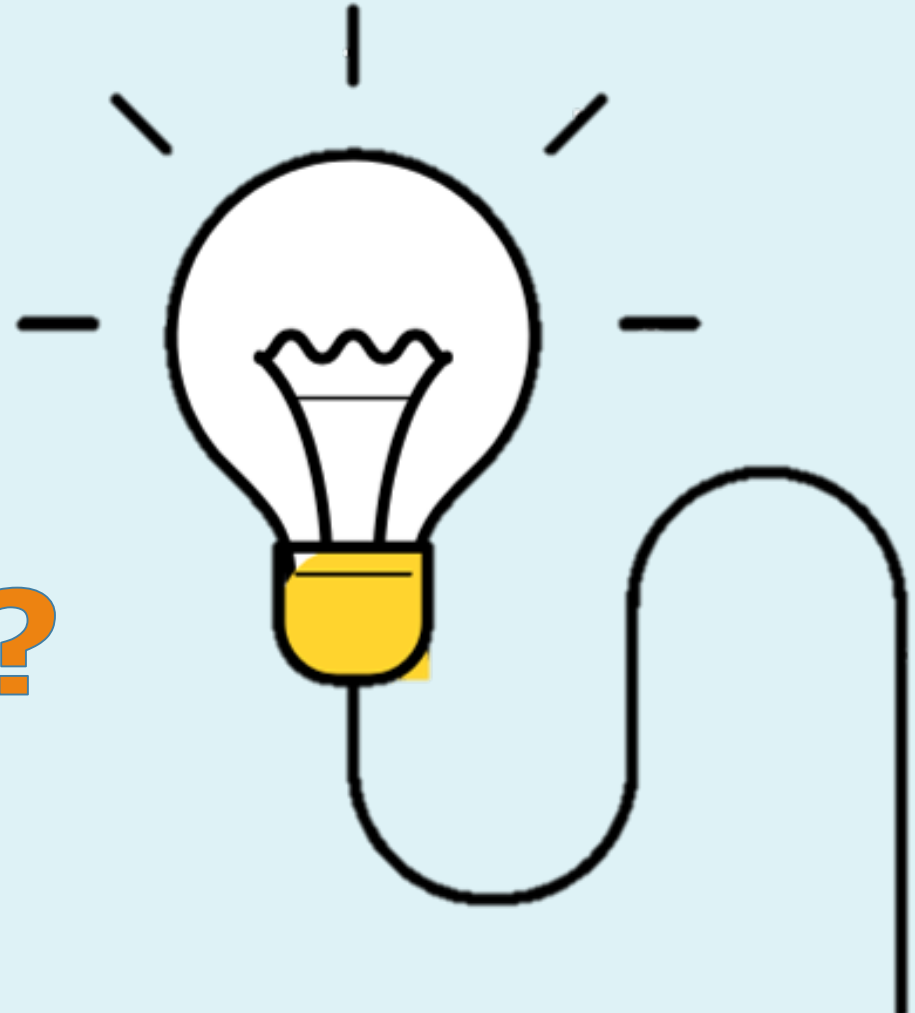
Our Values

What are we doing now?



Our Topics

**What
did
we
learn?**



Trust is Central

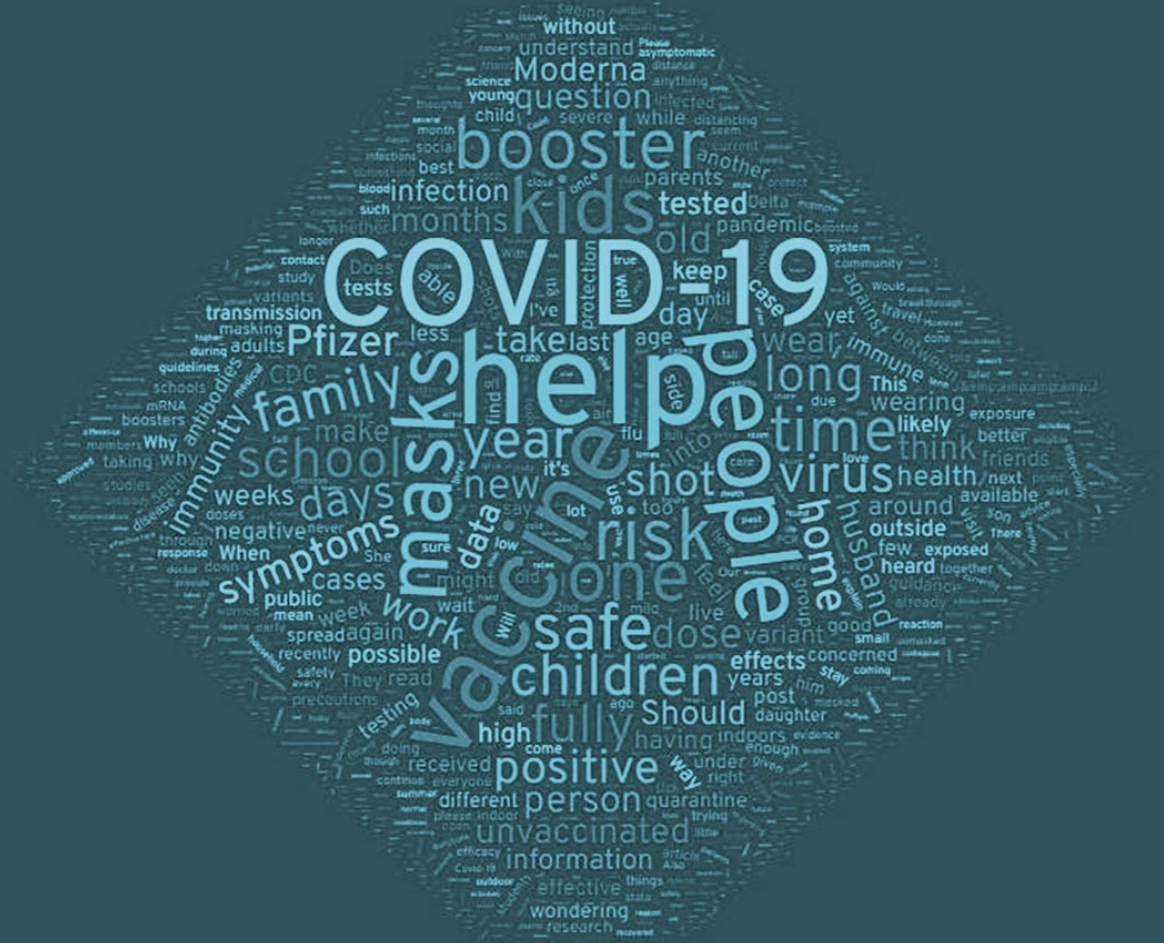
How to build it?

- Show up **before** there is a crisis
- Engage in **two-way** communication
- Be **experts** but also **humans**
- Talk about **science as a process**, not a body of facts
- Acknowledge **uncertainty**
- Prioritize **transparency**



Two-way Communication

- ❖ Receive questions from readers (6000+ to date)
- ❖ Respond to comments, messages
- ❖ Email readers



Static information isn't sufficient

SEPTEMBER 18, 2021

What counts as being exposed

APRIL 29, 2022

FEBRUARY 5, 2022

What counts “exposed?”

INFECTION AND SPREAD TESTING AND C



Amanda Simanek, PhD MPH

With all the recent talk of guidelines, we've been get counts as being 'exposed' reprise of an answer we g

Q: If my mom went to the salon on symptoms on Saturday, then I saw my mom on Sunday, am I exposed.

If I worked with my boss on Saturday, we wore masks, he tested positive on Monday, and I'm boosted, what do I do?

INFECTION AND SPREAD



Amanda Simanek, PhD MPH

A: If you had close contact with your boss and it was < 48 hours before they tested positive (or developed symptoms), but you are boosted, guidance is to wear a mask for 10 days and watch for symptoms.

CDC Definition of Being Exposed to COVID-19:

Spending >15 minutes <6 feet away from someone over a 24-hour period in the 2 days before that person developed symptoms or tested positive (or anytime during their isolation period) means you are a close contact to a case and have been exposed.

OKAY, BUT....

- What if I was wearing a mask?
- What if we were outdoors?
- What happens when you are the contact of a close contact?
- At what point should I get tested?
- Do I need to quarantine?
- What if I am vaccinated?

The need isn't going away

Is it safe to eat beef?

What about raw cheese?

Is it safe to fill my bird feeders?

Can I walk my dogs if there's goose poop on the sidewalk?

When you say antivirals work well against H5N1, how well is well?

APRIL 26, 2024

Avian flu update – April 2024

HOT HEALTH TOPICS

INFECTIOUS DISEASES



[Malia Jones, PhD MPH](#)

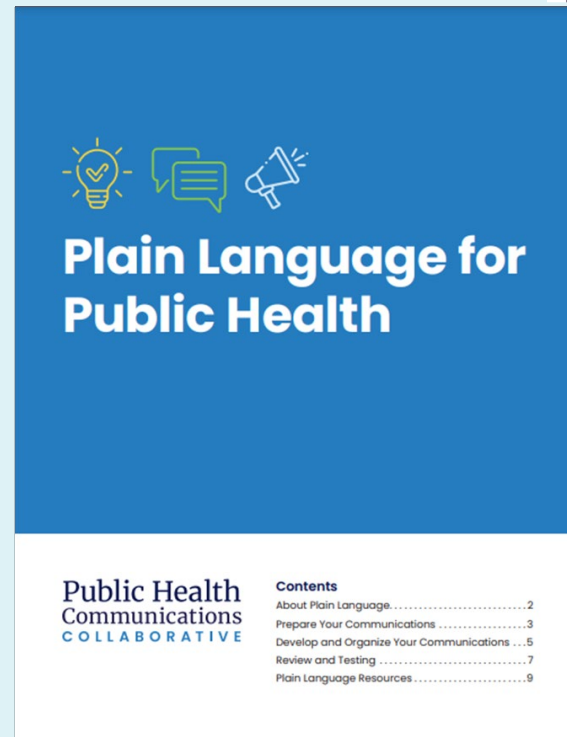
The avian flu virus infecting dairy cattle herds, poultry, and many wild birds in the United States is an emerging situation with unanswered questions. At this point, no case of a human passing the virus along to another human has been identified. This means that it's unlikely to become widespread among humans in its current form, and the threat to human health is still low, at least for now.

Just like last spring, migratory wild birds have brought avian flu (also called bird flu, H1N5, highly pathogenic avian influenza, or HPAI) to the US. The latest news is that cows [in several U.S. dairy herds have become infected](#). Earlier this week, the CDC announced that some barn cats and a raccoon have tested positive avian flu. Globally, lots and lots of other species have been infected. These are troubling developments because they hint that the virus may be adapting to infect mammals more easily.

Need to *unlearn* academic writing

Communicating in **plain language** is a **learned** skill and must be practiced!

- Use audience-centered, authentic writing
- Stick to a SOCO
- Lean on tools
- Befriend infographics
- Diversify your social media platforms
- Do it with others



Helpful to address data, media, and science literacy (as well as biases)

NOVEMBER 11, 2023

Can the keywords you use in a search help you figure out whether a rumor or claim is legit?

DATA LITERACY UNCERTAINTY AND MISINFORMATION



[Amanda Simanek, PhD MPH](#)

A: Yes! Being strategic about your search terms can help you more effectively identify credible, fact-checked information and avoid websites promoting the rumor or false claim. TL; DR: keywords include specific names or places, target the help focus the results on credible [Read more...](#)

JANUARY 29, 2025

How can I tell if a news source is legit or not?

DATA LITERACY UNCERTAINTY AND MISINFORMATION



[Amanda Simanek, PhD MPH](#)

How can I tell if a news source is legit or not? A: Follow five steps for vetting news sources from The News Literacy Project! (News Literacy Week is February 3-7, 2025. Stay tuned for more from Those Nerdy Girls.) TL:DR; Five steps include – web search the source, look for reporting standards, check for [Read more...](#)

MARCH 30, 2024

How can I be a more savvy consumer of breaking news?

DATA LITERACY



[Amanda Simanek, PhD MPH](#)

A: Follow the Breaking News Checklist from The News Literacy Project! TL:DR; The checklist includes- minding the (information) gap, being aware of bad actors (spreaders of misinfo), checking out credible news sources (outside of social media), looking for corroborating evidence, and practicing patience as news gets corrected. When breaking news hits, we all want to [Read more...](#)

Lean on (Trusted) Partners



Local media can be partners too

Coronavirus: Latest Information On Protecting Against The Pandemic



An epidemiologist shares information and answers questions about how best to avoid contracting COVID-19.

EPISODE CREDITS

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Celebrating Safely: How To Handle The Holidays During A Pandemic

Published October 27, 2020 at 1:43 PM CDT

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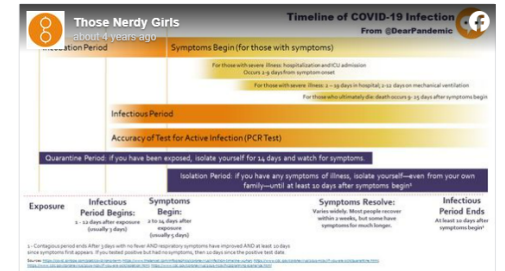
Amanda Simanek, associate professor of epidemiology, UW-Milwaukee

Simanek joins plenty of other Wisconsinites in belonging to a "mixed vaccination status" family at the moment — she, her husband and their oldest child are fully vaccinated; her 5- and 10-year-old are not. Although coronavirus cases [seem to be milder in children](#), it gives her a different outlook on the next few months than those without young kids.

the full two weeks. If you do develop symptoms, you should isolate yourself for at least 10 days after the first symptoms appear + you have had three days with no fever + your respiratory symptoms have begun to improve. If you test positive but never develop symptoms, you should still isolate yourself for 10 days following the date you were tested. See the graphic developed by Dear Pandemic to help keep track of these timelines and [more information can be found](#) on the Dear Pandemic Facebook page:

<https://www.facebook.com/dearpandemic/posts/16085295543426>

— Amanda M. Simanek



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milwaukee journal sentinel

WisContext: Detecting COVID-19 Deaths In Wisconsin

Why A New Disease And Fast-Changing Pandemic Make Determining Fatalities A Moving Target

BY WILL CUSHMAN • JUNE 12, 2020

WisCONTEXT

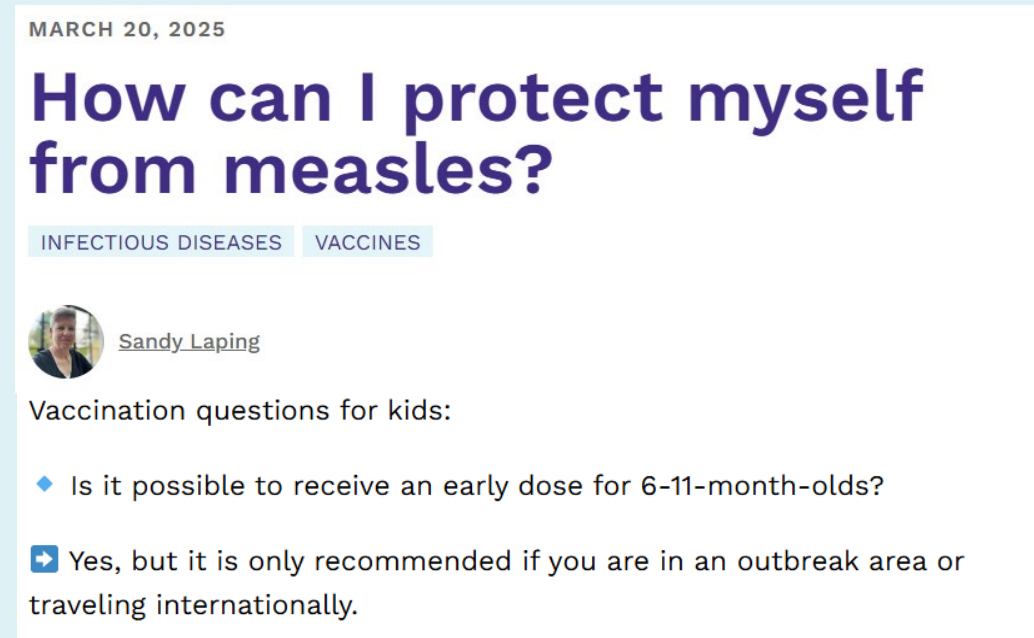
**Scicomm is
essential public
health (lab) work,
and you can
(intentionally) be
a science
communicator,
too!**



SciComm = Essential Public Health

Communication is a form of **public health prevention**

- Knowledge is **power**
- SciComm duty to **drown out false information**
- Empower people to **make choices that lead to better health**



But teaching people to be better information consumers is ***not enough...***

SciComm requires a Systems Approach

This includes you!

- From reactive to **proactive**
- **Strong health information ecosystem**
- **Core** public health function
- **Intentional & systematic** approach
- Written into **grants**
- Grow the **evidence base**
- **Dedicated resources** (people, time, funds as available)

Correspondence

<https://doi.org/10.1038/s41591-023-02792-9>

Information is a determinant of health

 Check for updates

The COVID-19 pandemic shone a harsh public spotlight on how deep-rooted socioeconomic inequalities affect health outcomes. Irrespective of their geography or wealth, nations across the world have reported that the pandemic disproportionately affected those of lower socioeconomic standing. Regrettably, this finding is not a new

of timely access to valid information (such as adhering to social distancing advice from credible sources), have been associated with decreased viral transmission and disease incidence.

Conversely, exposure to misinformation has been strongly associated with the reduced intention to follow public health guidance, undergo vaccination¹ or endorse

chambers on online media platforms, in which the flow of information is systematically biased towards people with similar views. This limits the opportunities for corrective information to spread. For example, for highly politicized scientific debates, homophilic groups often center around political belief systems as opposed to scientific accuracy, which can conceivably lead to misinformed,



Fig. 1 | IDH. Information directly and indirectly affects health outcomes via several routes.

nature medicine

Volume 30 | April 2024 | 927–928 | 927

How do you as public health laboratorians...



Build **trust**?



Know your **audience**?



Engage in **two-way** communication?



Learn and practice **plain language writing**?



Develop **interdisciplinary** teams?



Partner with **media**?



Become **content creators**?

Something went wrong...

Reload

Something went wrong...

Reload

Something went wrong...

Reload

Learn & practice **plain language writing**

Single Overarching Communication Objective (SOCO)

Main message a.k.a. “If you remember nothing else from this presentation...”

SOCO 1

“Alignment with Permanent Standard Time is associated with improved circadian entrainment, which supports optimal sleep duration and quality — key determinants of long-term health outcomes and physiological well-being.”

vs.

SOCO 2

Permanent Standard Time is best for our sleep and circadian biology, which is fundamental to overall health and well-being.

MARCH 10, 2023

What does the science say about Daylight Saving Time?

GENERAL HEALTH



Lauren Hale, PhD MA

“I would have written a shorter letter, but I did not have the time.”

Blaise Pascal

French philosopher and mathematician

Fight misinformation with a **truth sandwich**



Those Nerdy Girls is  sharing a COVID-19 Update.
September 9, 2020 · 

Q: How do I call bull\$hit on COVID misinformation?

3. Use a fact-fallacy-fact approach (aka serve up a "truth sandwich")

Calling Bull\$hit showcases an impressively vast and fascinating array of scientific research on misinformation, including this total gem of a read: the "Debunking Handbook" by Australian academics John Cook and Stephan Lewandowsky (cite below). They advocate for an approach that focuses on the facts you want to communicate, giving them more air time than the junk. Using the

<https://www.facebook.com/thosenerdygirls/posts/177977503830905>

GEORGE LAKOFF'S TRUTH SANDWICH



ALWAYS FRAME THE TRUTH FIRST.

INDICATE THE LIE AND THE FACT THAT IT'S A LIE.

RETURN IMMEDIATELY TO THE TRUTH.

THE TRUTH MUST ALWAYS BE REPEATED MORE THAN THE LIE.

<https://www.futurehindsight.com/blog/george-lakoffs-truth-sandwich>

Partnering with your health department's **communications team**



Often looking for trusted
and capable spokespeople



Establish Lab/Comms
standing meetings



Provide media/
communications training?

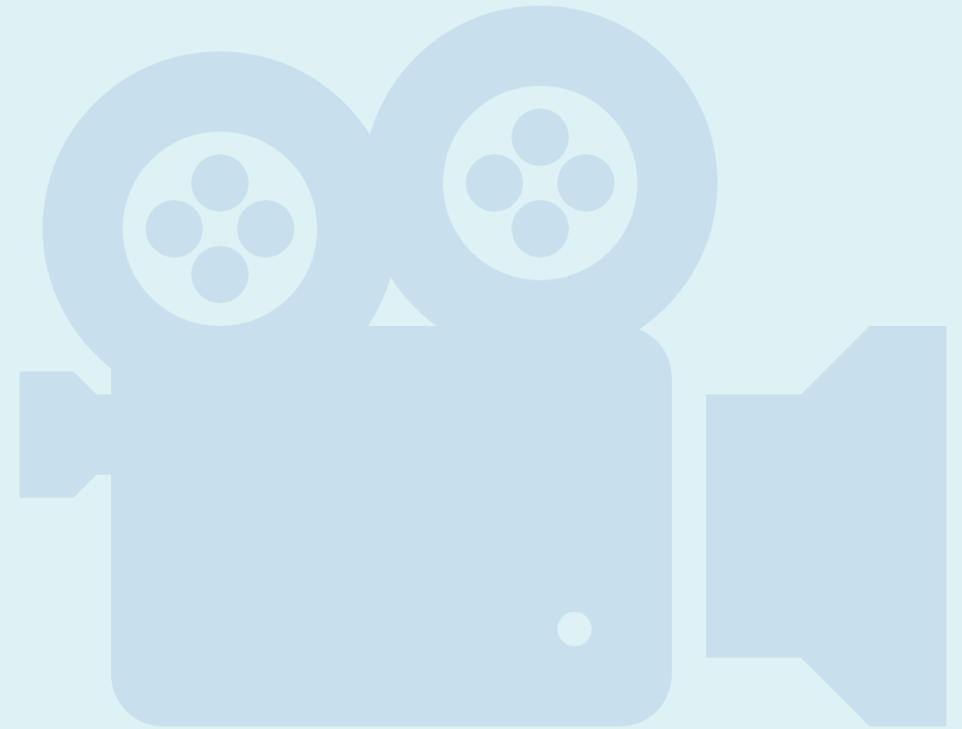
Engaging with the **media**

What is the lab doing that's **newsworthy**?

Lab Week (April 20-26)

What do *you* need to be prepared to talk to the media?

- ✓ **Approval** from your health department's comms team
- ✓ Media **training**
- ✓ Create **memorable talking points**
- ✓ **Practice, record** yourself, and **play** it back



Make what you say **memorable**

*Supports your message
(talking point or SOCO)*



Story: reinforces the message by sharing a personal, real-life example



Stat: a number paints a mental picture or offers a perspective; must be relevant and easy to understand



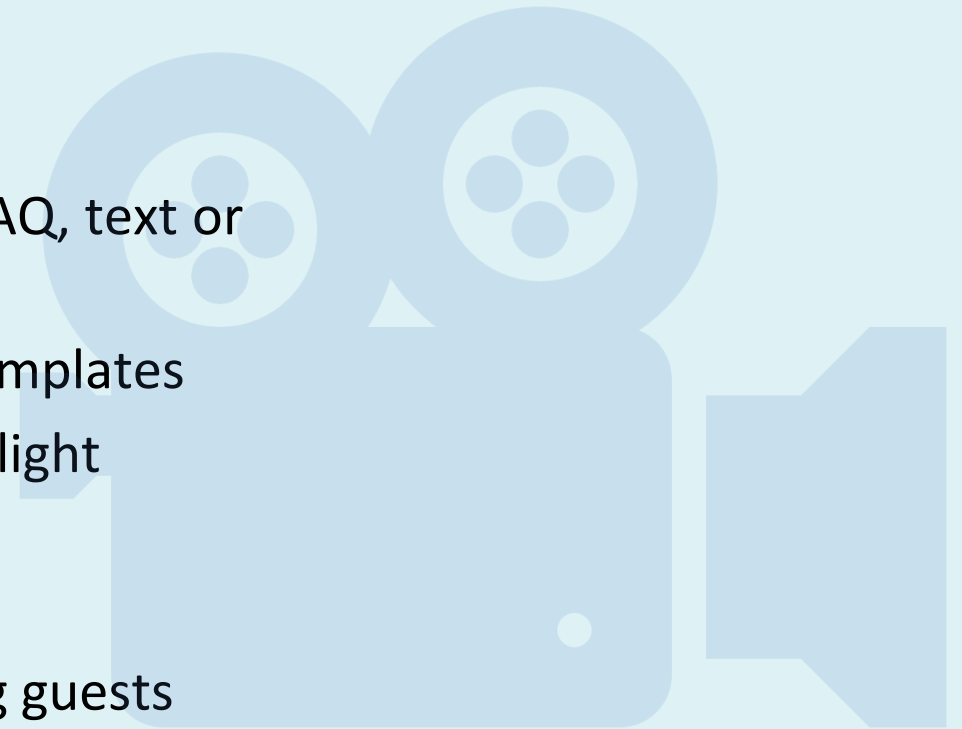
Quote: memorable metaphor, analogy or phrase

Become content creators

Unlike the media, **YOU control the narrative.**

Some formats (start easy!)

- **Q&A** – pick ones you know the answer to; written FAQ, text or simple smartphone video
- **Infographics**– e.g., Instagram carousel, use Canva templates
- **Short video** – (1-min ask the expert); script, filming, light editing, but still brief and focused
- **Blog post** – writing and editing, can be tedious
- **Podcasts** – planning, recording, editing, coordinating guests
- **Long-form interviews** – time-intensive, more prep, production
- **Live stream** – high-pressure, tech setup, real-time management



Something went wrong...

Reload

Something went wrong...

Reload

From Those Nerdy Girls

Piltch-Loeb R, James R, Albrecht SS, Buttenheim AM, Dowd JB, Kumar A, Jones M, Leininger LJ, Simanek A, Aronowitz S. What Were the Information Voids? A Qualitative Analysis of Questions Asked by Dear Pandemic Readers between August 2020-August 2021. J Health Commun. 2023 Apr 7;28(sup1):25-33. doi: 10.1080/10810730.2023.2214986. PMID: 37390014.

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Albrecht SS, Aronowitz SV, Buttenheim AM, Coles S, Dowd JB, Hale L, Kumar A, Leininger L, Ritter AZ, Simanek AM, Whelan CB, Jones M. Lessons Learned From *Dear Pandemic*, a Social Media-Based Science Communication Project Targeting the COVID-19 Infodemic. Public Health Rep. 2022 May-Jun;137(3):449-456. doi: 10.1177/00333549221076544. Epub 2022 Mar 3. PMID: 35238241; PMCID: PMC9066238.

Leininger LJ, Albrecht SS, Buttenheim A, Dowd JB, Ritter AZ, Simanek AM, Valentino MJ, Jones M. Fight Like a Nerdy Girl: The Dear Pandemic Playbook for Combating Health Misinformation. Am J Health Promot. 2022 Mar;36(3):563-567. doi: 10.1177/08901171211070956. PMID: 35164543; PMCID: PMC9354480.

Ritter AZ, Aronowitz S, Leininger L, Jones M, Dowd JB, Albrecht S, Buttenheim AM, Simanek AM, Hale L, Kumar A. Dear Pandemic: Nurses as key partners in fighting the COVID-19 infodemic. Public Health Nurs. 2021 Jul;38(4):603-609. doi: 10.1111/phn.12903. Epub 2021 Apr 20. PMID: 33876450; PMCID: PMC8251166.

Additional Resources

[Federal Plain Language Guidelines](#)

[PHCC Plain Language for Public Health](#)

[WHO Principles for Effective Communications](#)

Acknowledgements

TNG writers and readers

TNG Co-founder Dr. Malia Jones





Questions?