Responding to Health Misinformation Online
Part 1: The Misinformation Landscape
Traditional media:
Gatekeepers → Networks
High cost → Low cost
Consumers → Broadcasters
Scarcity → Overload
Discrete → Atomized
Provenance → Pseudonymity
Authority → Authenticity
Trust → Doubt
Types of medical misinformation

Denialism

Snake oil
Denialism techniques:

Cherry-picking

Double standards

Compromised experts

Conspiracy theory
Snake oil techniques

Cure-alls and miracle cures

Personal testimonials

“Natural”

Freemium model
How misinformation spreads

Mainstream news

Search

Social media

Community values
“Anti-vaxxers look for ‘momversation’ groups. Because they know that new parents are usually novices who haven’t thought a lot about vaccines and are very susceptible to scientific jargon because they don’t have the information literacy to sort through the rest of the internet.”

Joan Donovan, Director of the Technology and Social Change Research Project, Harvard
Half of all parents with small children have been exposed to misinformation about vaccines on social media

*Moving the Needle: Promoting vaccination uptake across the life course*

Royal Society of Public Health

“You can easily dominate search results for a term when you've created the term and only in-groups use it.”

*Renee DiRiestia, misinformation expert*
Reasons people share misinformation

Sincere belief

Money

Polarization

Flypaper
“Many “anti-vax” parents see themselves as experts on their own children, as best able to decide what their children need and whether their child needs a particular vaccine, and better qualified than health experts or public health agencies to decide what is best for their family.”

Jennifer Reich, University of Colorado, Denver

“You have your hardliner true believers pushing anti-vaccine information out of a real anti-scientific belief system, but then you have a whole group of other people who are monetizing it and are selling products with a marketing scheme to ‘take down big pharma.’”

Joan Donovan, Director of the Technology and Social Change Research Project, Harvard
Why is medical misinformation effective?

Data voids and first-mover advantage

Rabbit holes and filter bubbles

Majority illusion

Narrative and emotional appeal
“Across all platforms, the dominant form of vaccine-related content is anti-vaxx... There’s an asymmetry of passion around this topic. Most people aren’t producing pro-vaccine counternarratives...They just get their kids vaccinated and go on with their day.”

Renee DiRiesta, misinformation expert

“When we would put things on YouTube, it was followed by an anti-vaccination video.” Amy Pisani, executive director of Vaccinate Your Family
Who is vulnerable to misinformation?

Everyone!

Education level has little impact but people who think they know more than average are more vulnerable.

Medical misinformation spans the political spectrum but some values make some people more at risk.
Why is medical misinformation effective?

“They say, ‘No, I’ve researched it on Google, I’ve seen it on YouTube.” Dr. Auriene Oliviera, Infectious disease specialist, Brazil
Why is medical misinformation effective?

AVOIDING IMPURITIES

FLUORIDE

ANTI-IMMIGRATION
AVOIDING IMPURITIES

QUESTIONING AUTHORITY

MEDICAL MISINFORMATION
Why is medical misinformation effective?
Why is medical misinformation effective?

- PROTECTING CHILDREN
- QUESTIONING AUTHORITY
- AVOIDING IMPURITIES
- VACCINES
How does medical misinformation affect us?

Small number (2-5% of total population) of active opponents

Larger number (20-30%) of doubters
This is not a problem that’s going away...

Drug dealers are peddling steroids on Facebook and YouTube

Facebook giving massive distribution to dangerous misinformation about diabetes

YouTube advertises big brands alongside fake cancer cure videos
Media and Digital Literacy

Key Concepts

- Media are constructions
- Media have commercial implications
- Media have social and political implications
- Audiences negotiate meaning
- Each medium has a unique aesthetic form
Media and Digital Literacy

Key Concepts

- Digital media are networked
- Digital media have unexpected audiences
- Digital media are shareable and persistent
- Interactions through digital media can have real impact
- Digital media experiences are shaped by the tools we use
Use Fact-Checking Tools

Find the Original Source

Verify the Source

Check Other Sources
Hi, I’m Dr. Jack.

I am a cardiologist who grew tired and frustrated with the dangerous pills and invasive surgeries in mainstream medicine. After meeting my wife, Dr. Heather, my eyes were opened to what real health means. Now I teach that a healthy lifestyle and organic foods are the path to wellness and a disease-free life.
Check Other Sources: Consensus

When told that ‘90 percent of medical scientists agree that vaccines are safe and that all parents should be required to vaccinate their children,’ participants were less likely to have concerns about vaccine safety.

van der Linden, Clare & Maibach, *Highlighting consensus among medical scientists increases public support for vaccines: evidence from a randomized experiment*
Digital literacy sources

MediaSmarts:

- [https://www.breakthefake.ca](https://www.breakthefake.ca)

Health information sources:

CDC:

- [https://www.cdc.gov/des/consumers/research/understanding_deciding.html](https://www.cdc.gov/des/consumers/research/understanding_deciding.html)

Canadian Paediatric Society:

- [https://www.caringforkids.cps.ca/handouts/health_information_on_the_internet](https://www.caringforkids.cps.ca/handouts/health_information_on_the_internet)

University of California (San Francisco):

- [https://www.ucsfhealth.org/education/evaluating_health_information/](https://www.ucsfhealth.org/education/evaluating_health_information/)

Immunize Canada:

- [https://www.immunize.ca/sites/default/files/resources/imm_info_internet_2017_e.pdf](https://www.immunize.ca/sites/default/files/resources/imm_info_internet_2017_e.pdf)

Immunization Action Coalition:

Front-Line Workers
Proactive

*Inoculate* against misinformation

Counter the majority illusion

Personalize your approach
Inoculate against misinformation by talking to patients before something becomes an issue.
Front-Line Workers
Proactive

Personalize your approach

Almost nine in ten Canadians trust their doctors.
Personalize your approach

“Narratives are the ways in which we have communicated about risk from the very beginning, and stories are the way in which we make sense of the world. We need to find a balance between stories and the evidence.”

Joshua Greenberg, director of the School of Journalism and Communication, Carleton University
Counter the majority illusion, e.g.:

“Most of the parents I see vaccinate their kids.”

“I’ve never had a patient have a really bad reaction to a vaccine.”
Front-Line Workers
Reactive

Take a non-confrontational approach

Acknowledge their concerns

Use a “myth sandwich” when you counter misinformation
Front-Line Workers
Reactive

Take a non-confrontational approach

How did you start questioning vaccines?
What makes you uncomfortable about them?
Have you had something bad happen to you that you believe was the result of a vaccination?

Eve Dubé, Quebec National Institute of Public Health
Front-Line Workers
Reactive

Acknowledge their concerns

Focus on the points where you agree, e.g. wanting to protect their children
Use a “myth sandwich” when you counter misinformation

Only address points the patient raises themselves

Provide new information to give them perspective
Public Health Authorities
Proactive:

Raise awareness of misinformation techniques

Focus on risks of *not* immunizing

Find trusted spokespeople in affected communities
Public Health Authorities
Proactive:

Raise awareness of misinformation techniques
Public Health Authorities
Proactive:

Focus on risks of *not* immunizing

“"I think we need to do a better job of talking about situations where people with a vaccine-preventable disease die”"

Dr. Shelley Deeks, chief of communicable diseases, emergency preparedness and response, Public Health Ontario
Public Health Authorities

Reactive:

Respond to misinformation and false balance

Respond to deeper concerns, not specific points
Public Health Authorities

Reactive:

Respond to misinformation and false balance

“Being exposed to false balance in the media, a falsely balanced portrayal of the science, can have an impact on vaccination hesitancy.”

Tim Caulfield
Public Health Authorities

Reactive:

Respond to deeper concerns, not specific points

“If you want to combat false belief, you have to ask, ‘What work is this belief doing for the person who holds it?’”

Robert MacDougall, University of Western Ontario
The media effect paradox...

It’s easier to change a whole culture’s values than it is to change a single person’s mind.