

Discussing False Health Beliefs with patients

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Objectives

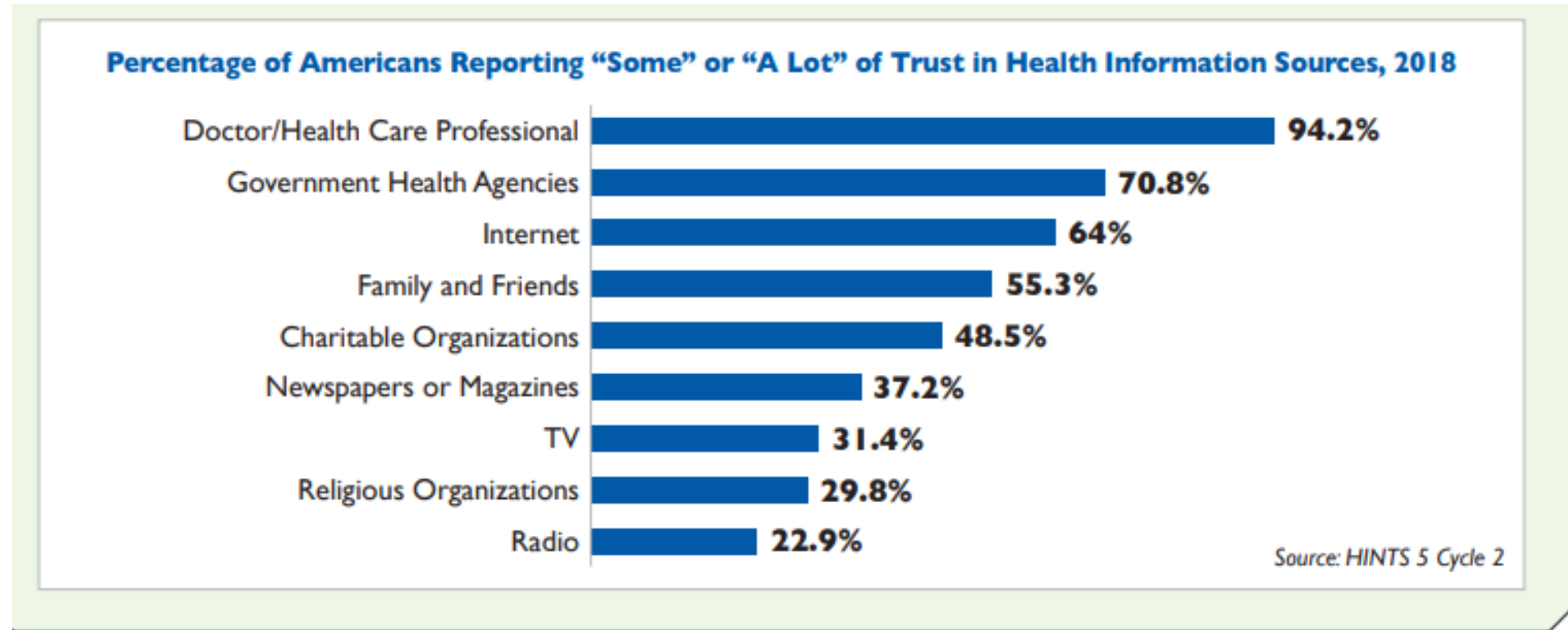


Review key terms related to false information, misinformation and disinformation.

Review themes related to false health information

Discuss evidence based techniques to address false information and beliefs

The Good News



In this HINTS Brief, we examine trends and sociodemographic predictors of trust in different sources of health information.

Let's talk about Trust

Who do people trust for their health information?



Table Trust and Cancer

How Much would you Trust Information About Cancer From a Doctor	Overall
Not at all or some	0.05
Some	0.22
A lot	0.73

How Much would you Trust Information About Cancer From a Religious Organization	Overall
Not at all	0.41
A little	0.32
Some	0.22
A lot	0.04

How Much would you Trust Information About Cancer From a Scientist	Overall
Not at all	0.06
A little	0.09
Some	0.29
A lot	0.56

How Much would you Trust Information About Cancer From a Family Memeber	Overall
Not at all	0.09
A little	0.39
Some	0.45
A lot	0.08

How much do you trust the healthcare system	Overall
A little or none at all	0.17
Somewhat	0.46
Very	0.37

Source: Health Information National Trends data 2023

Infodemic

WHO Declared a worldwide “infodemic” in 2020

One study analyzed over 125,000 news articles shared on Twitter (X), shared by about 3 million users from 2006-2017 (Vosoughi et al., 2018)

- Misinformation diffused deeper, faster, and farther than fact-checked information
- The top 1% of false news reached 1,000 to 100,000 people
- Verifiably true news rarely reached more than 1,000 people
- True across a variety of topics
- Especially strong for news related to politics

False or inaccurate information.

Contrary to the consensus of the scientific community.

By definition, will always be changing
Swire-Thompson & Lazer, 2020

Borges do Nascimento et al., defines this has requiring intent to deceive.

Some definitions do not require intent

Some argue the definitions should require some degree of “harmfulness or ideological slant”

For simplicity –I will discuss misinformation as simply inaccurate information. Simply getting the facts wrong.

Misinformation

Inaccurate, false, misleading information spread with the intent to deceive

Some define this as a “deliberate effort to circulate misinformation in order to gain money, power, or reputation.”

Disinformation

The anatomy of false information

1. Providing incomplete information
2. Misrepresentation
3. Manipulation
4. Fabrication

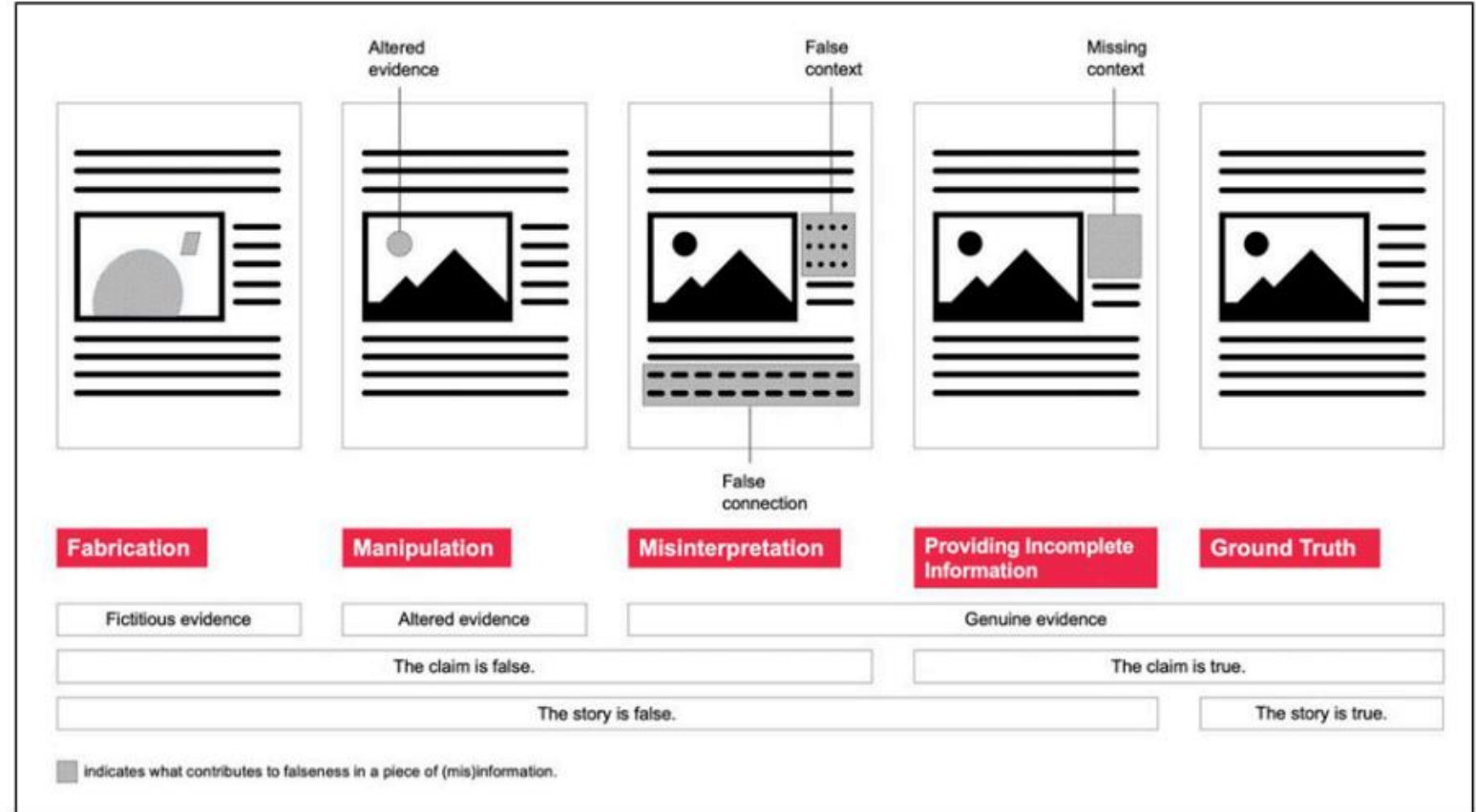


Figure 1. A typology framework for false information. *Note.* This framework categorizes false information according to how evidence is utilized to support a claim and a story. While this figure uses visual evidence as a demonstration, it should be noted that evidence can also be in the form of documentation, quotations, and events.

False health beliefs trends

Notable Examples of Public health misinformation

That the MMR Vaccine causes Autism

That Ivermectin cures cancer

That Apricot seeds can cure cancer

That raw milk is healthier than pasteurized milk

That seed oils are “toxic”

The screenshot shows the WebMD website interface. At the top, there are navigation links: "CHECK YOUR SYMPTOMS", "FIND A DOCTOR", and "FIND LOWEST DRUG PRICES". Below these are category buttons: "HEALTH A-Z", "DRUGS & SUPPLEMENTS", "LIVING HEALTHY", "FAMILY & PREGNANCY", and "NEWS & EXPERTS". The main content area is titled "User Reviews & Ratings - APRICOT KERNEL". It includes a search bar on the right with the text "Enter a v condition" and "Ex. Ginseng". The main review section shows "Overall User Ratings" for "APRICOT KERNEL" with "36 Total User Reviews". A filter dropdown is set to "Cancer (15 reviews)". Below this, there are three categories of ratings: "Effectiveness" (4.80), "Ease of Use" (4.73), and "Satisfaction" (4.73), each represented by a row of five stars.

Category	Rating (Stars)	Score
Effectiveness	★★★★★	4.80
Ease of Use	★★★★★	4.73
Satisfaction	★★★★★	4.73

How big is the misinformation problem, really?

Science

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The spread of true and false news online

SOROUSH VOSOUGHI  · DEB ROY, AND SINAN ARAL  [Authors Info & Affiliations](#)

SCIENCE · 9 Mar 2018 · Vol 359, Issue 6380 · pp. 1146-1151 · DOI: 10.1126/science.aap9559

↓ 236,244  5,617



CHECK ACCESS

Lies spread faster than the truth

- There is worldwide concern over false news and the possibility that it can influence political, economic, and social well-being. To understand how false news spreads, Vosoughi *et al.* used a data set of rumor cascades on Twitter from 2006 to 2017. About 126,000 rumors were spread by ~3 million people. False news reached more people than the truth; the top 1% of false news cascades diffused to between 1000 and 100,000 people, whereas the truth rarely diffused to more than 1000 people. Falsehood also diffused faster than the truth. The degree of novelty and the emotional reactions of recipients may be responsible for the differences observed.

Science, this issue p. [1146](#)



News

Fake news*

False news

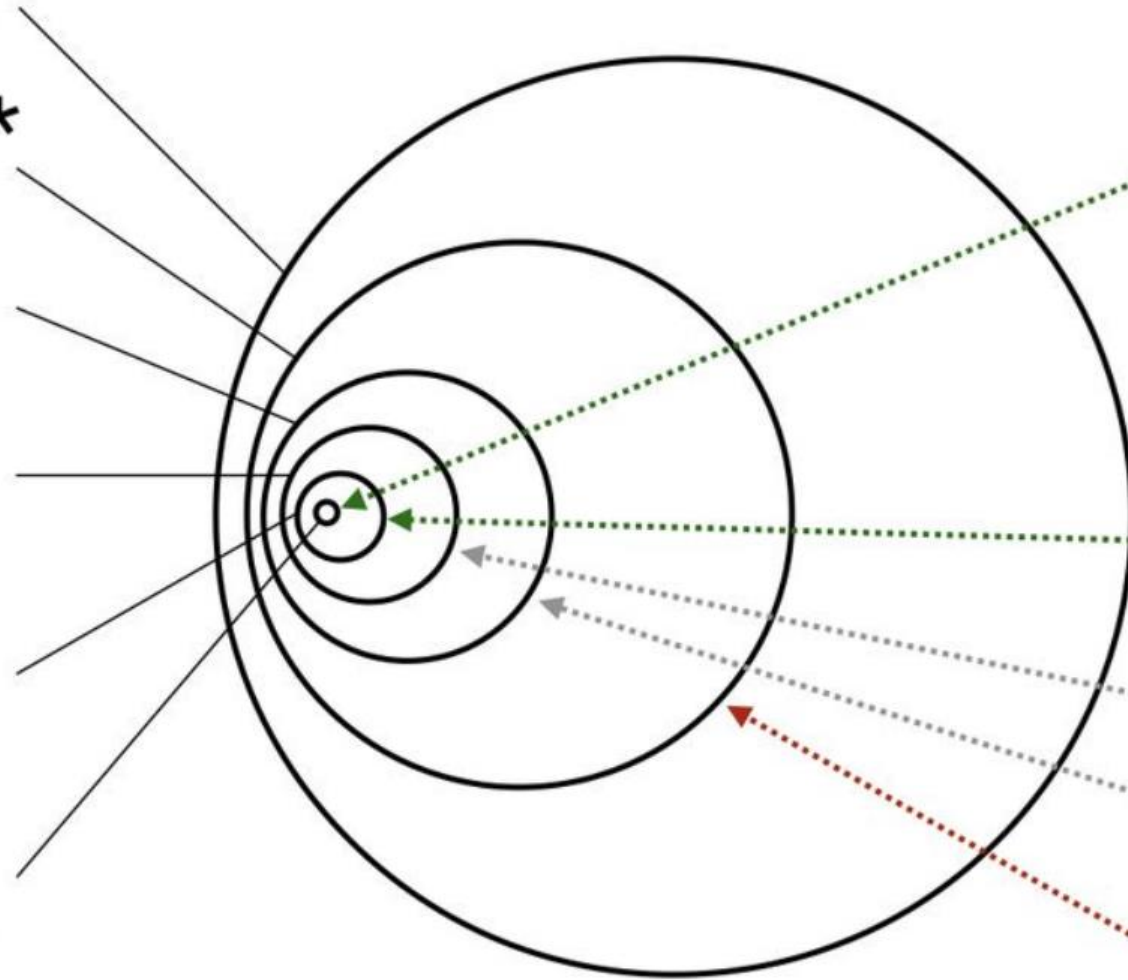
Contested false news

Contested false news that's been fact-checked

Contested false news that's been fact-checked by snopes.com, politifact.com, factcheck.org, truthorfiction.com, hoax-slayer.com and urbanlegends.about.com & mentioned on Twitter, plus small sample of rumors spread on Twitter**

*Gallup poll (2018) shows that majority of Americans sometimes or always considers not only false news to be "fake news" but also opinion stated as fact, and true news that goes against political interests

**Diagram not to scale, the world of all news is surely WAY bigger than shown! (Study contrasts spread of contested true news, not shown here for simplicity)



Scope of our
Science paper

Scope of strong
generalization of our
study

Scope of weak
generalizations

Scope of weaker
generalizations

Scope of some
conclusions being
drawn from our
Science paper

Do people believe everything they see on the internet?

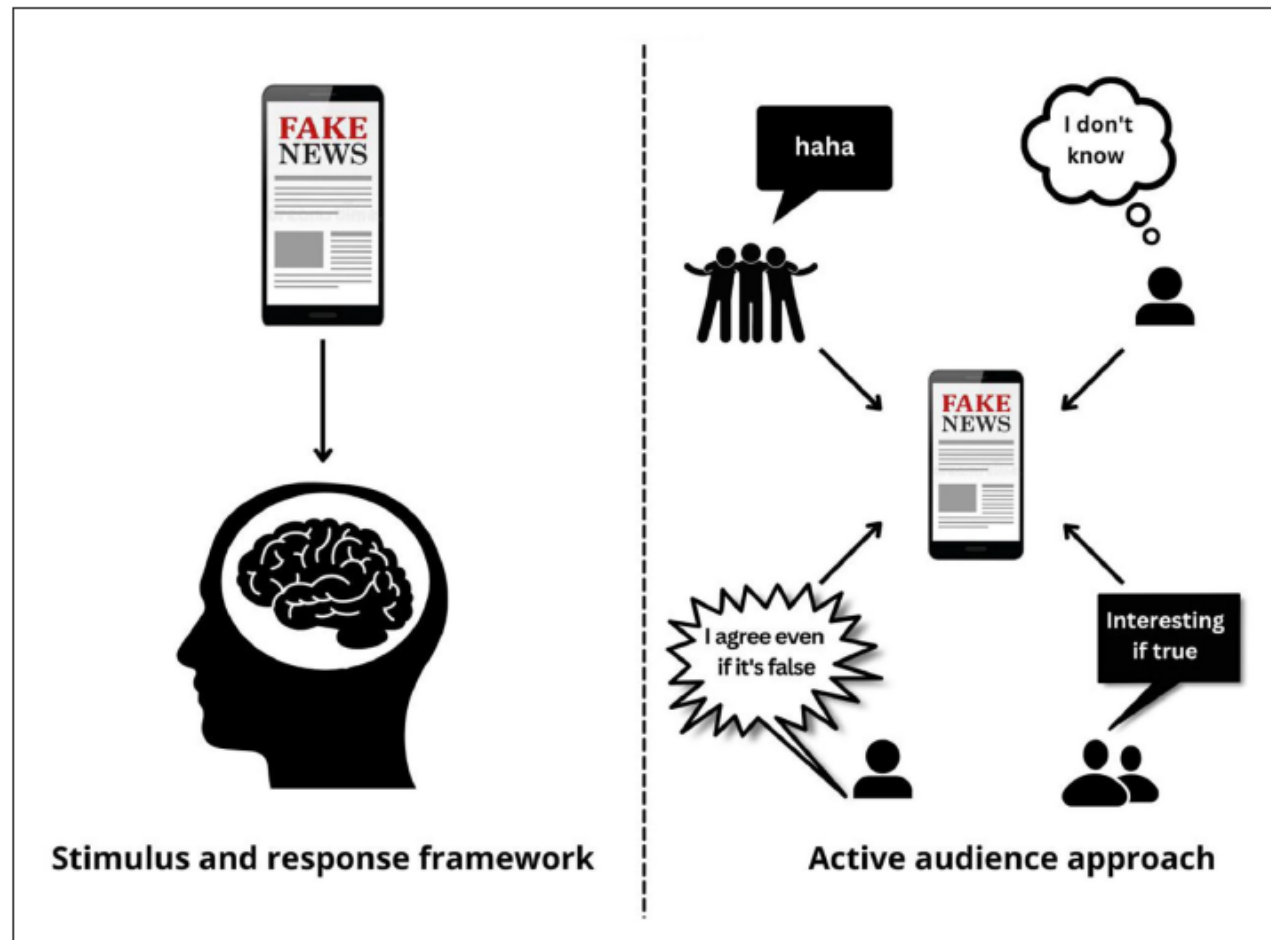














Figure 2. Contextualizing misinformation effect and reception.

Perceptions of health information on social media

Use Information from Social Media to Make Health Decisions		
Strongly Disagree		0.62
Somewhat Disagree		0.22
Somewhat Agree		0.15
Strongly Agree		0.01
Use Information from Social Media to Make Health Decisions HCP		
Strongly Disagree		0.60
Somewhat Disagree		0.21
Somewhat Agree		0.17
Strongly Agree		0.02
Hard to Tell if Health Information is True or False on Social Media		
Strongly Disagree		0.15
Somewhat Disagree		0.16
Somewhat Agree		0.38
Strongly Agree		0.32

A critical factor shaping parental attitudes to vaccination is the parents' interactions with health professionals. An effective interaction can address the concerns of vaccine supportive parents and motivate a hesitant parent towards vaccine acceptance [5, 6]. Conversely, poor communication can contribute to rejection of vaccinations or dissatisfaction with care [7–9]. Such poor communication often results from a belief by the health professional that vaccine refusal arises from ignorance which can simply be addressed by persuading or providing more information. Such an approach is counter-productive because it fails to account for the complexity of reasons underpinning vaccine refusal and may even result in a backfire effect [10]. Parental vaccination decisions are based on an array of factors and parents integrate information according to their experiential and social contexts [11, 12]. A parent's trust in the source of information may be more important than what is in the information [13, 14].

How big is the problem, really?

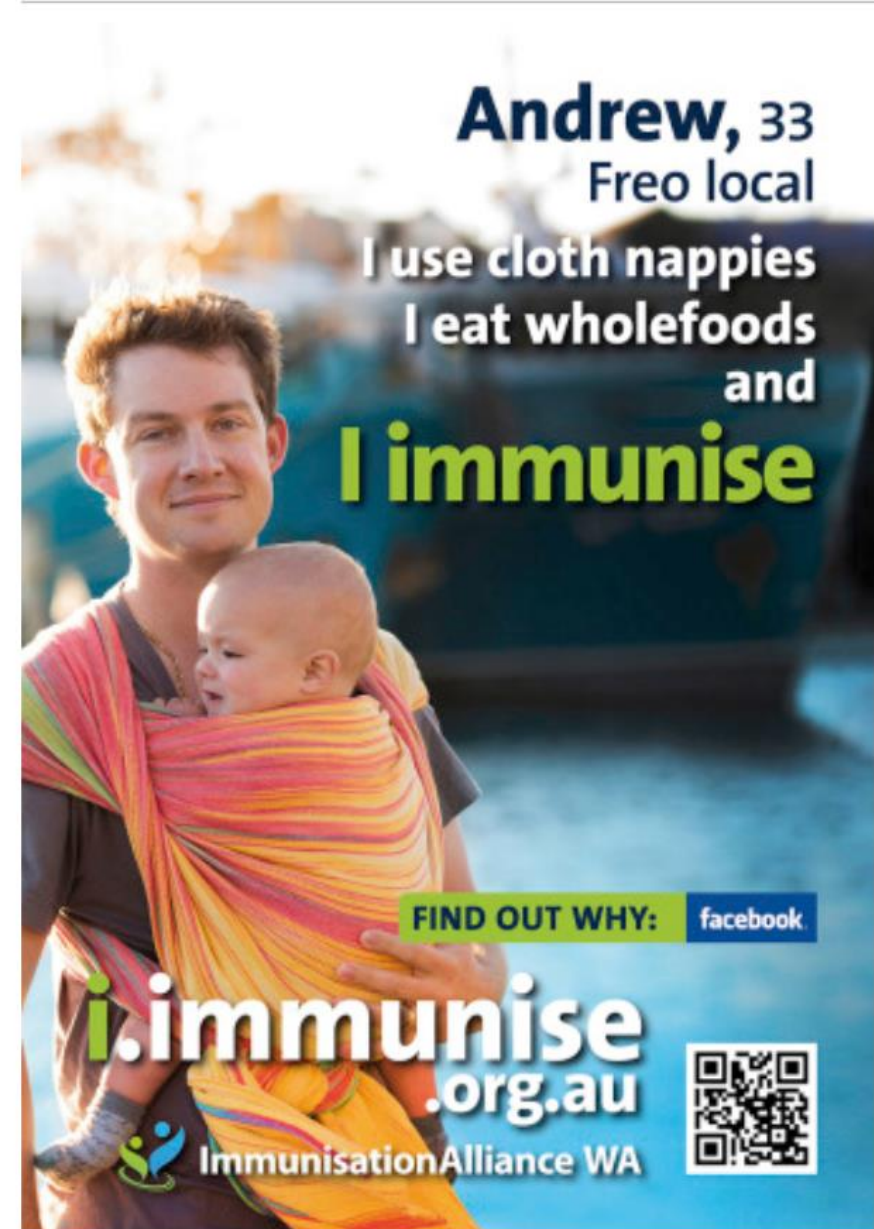
~1-3% of parents refuse all vaccines.

This audience very difficult to reach, and difficult to change attitudes

One campaign developed messaging aligned with “alternative lifestyle” habits

home birthing, breastfeeding, babywearing, etc.

Among vaccine refusers – campaign induced more negative reaction, and motivated some to “double down”




Andrew, 33
Freo local

I use cloth nappies
I eat wholefoods
and
i.immunise

FIND OUT WHY: [facebook](#)

i.immunise
.org.au

ImmunisationAlliance WA



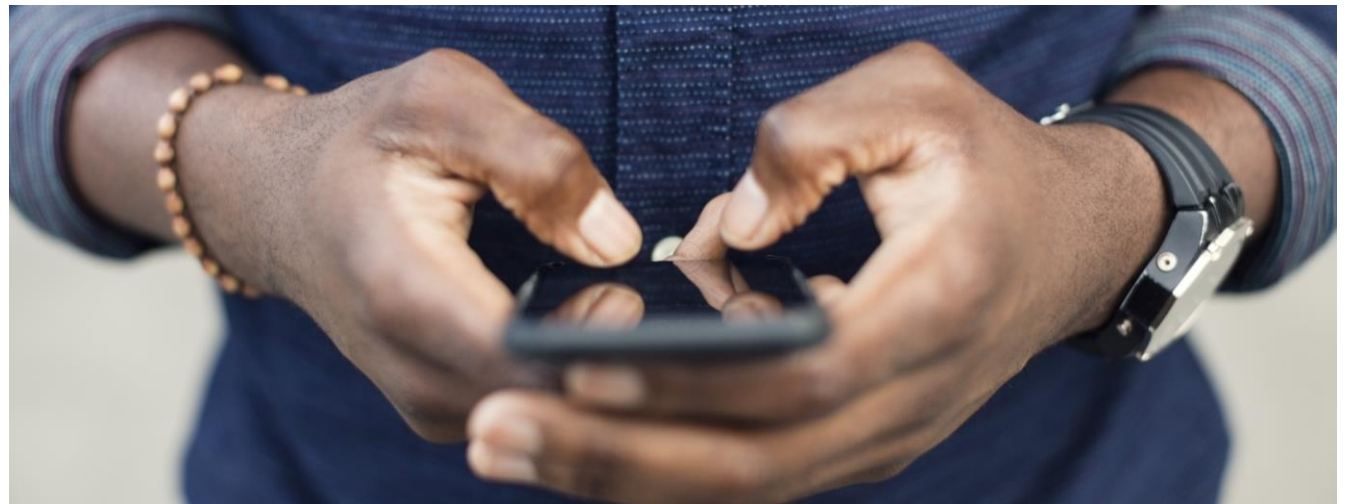
Limitations of what we think we know...

Misinformation is not just on social media. Social media is visible which makes it easier to study...

How misinformation is defined influences the perceived scale of the “problem”

People do not necessarily believe everything they see or share on the internet

To what degree does consuming misinformation lead to observable behavior change?



Discussing false health beliefs with patients

Health Literacy



PROSE LITERACY



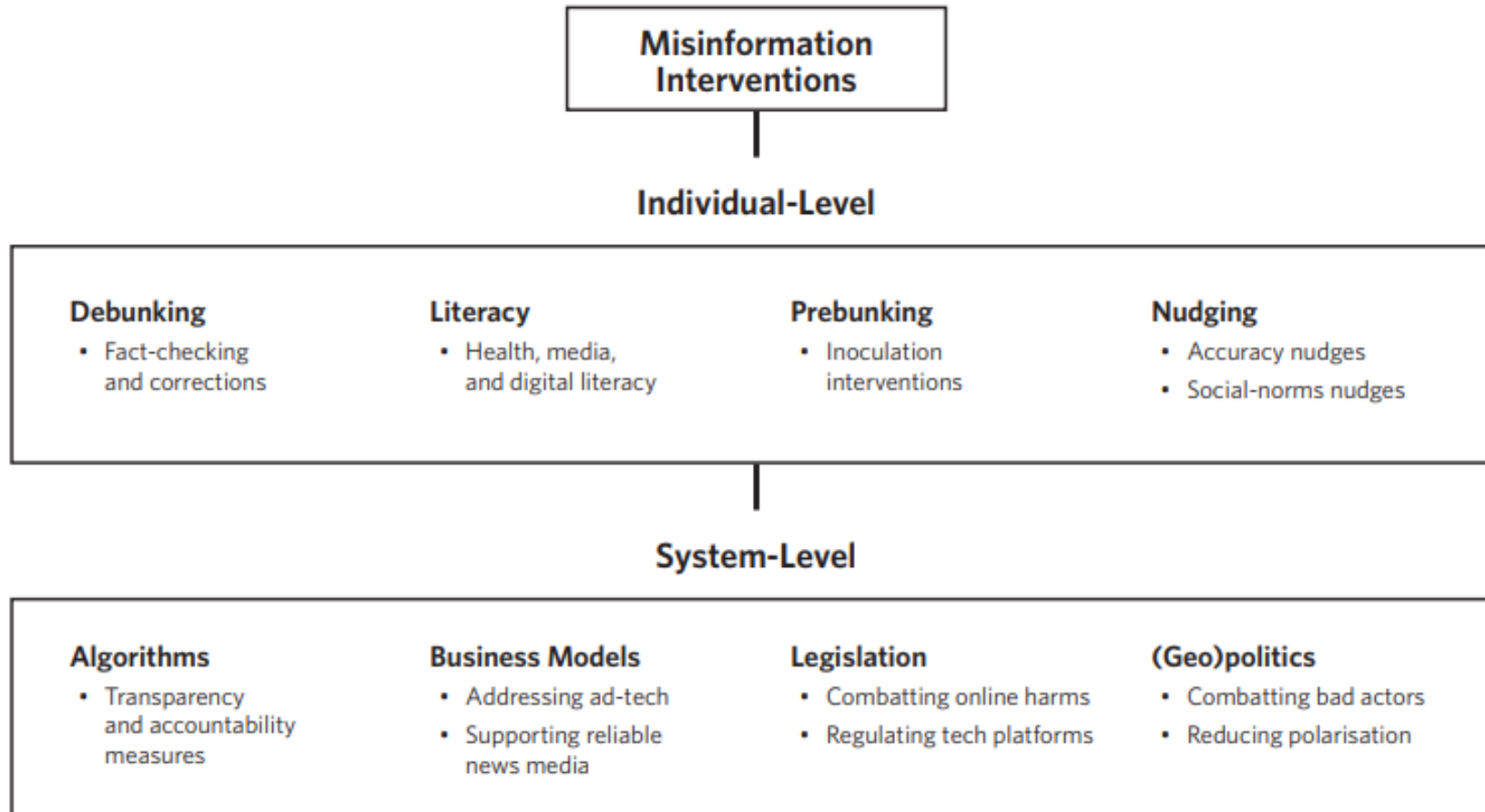
DOCUMENT LITERACY



QUANTITATIVE
LITERACY / NUMERACY

Techniques for addressing false health beliefs

Figure 4. An overview of individual-level and system-level misinformation interventions. From Roozenbeek et al. (2023).



How to address false health beliefs in a clinical setting

Motivational Interviewing

Ask

Affirm / Acknowledge

Guide (not correct)

Conclusions

How we define “misinformation” matters a great deal in understanding the scope of the issue

People are not passively consuming and believing everything they see or hear

Perceived trust with health care providers is generally high

Clinicians and systems have a role in addressing patient trust and health literacy

Motivational interviewing is an evidence-based technique for patient provider counseling



Thank you!

Happy to follow up directly
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