

Comprehensive training

28 June – 21 July 2022

HOSTED BY GAVI, WHO, UNICEF & US CDC



Information Environment and Infodemic Management

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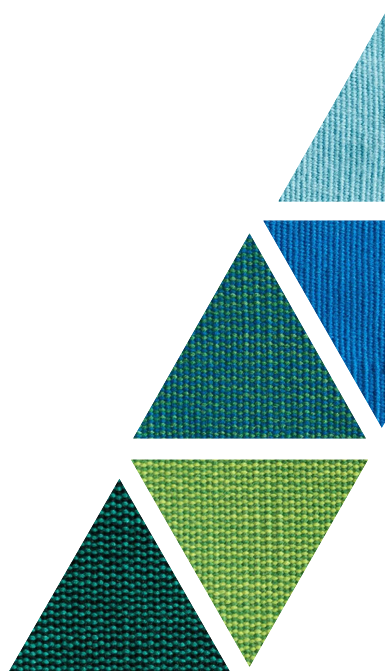
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Outline

- Learning objectives
- Key definitions
- The impact of infodemics
- What is infodemic management
- Challenges posed by the evolving information environment
- How infodemic management can adapt to the evolving information environment
- Key references and resources

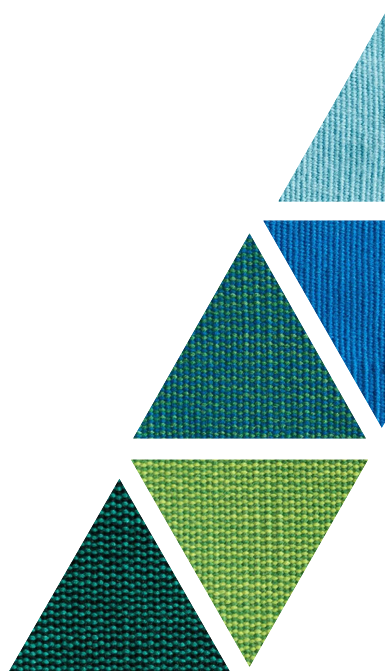




Learning Objectives

Participants will...

- Understand different aspects of the information environment that pose a challenge to health authorities during an infodemic
- Be able to describe the basic concepts and principles of infodemic management, as they relate to the rapidly changing information environment





Definitions

Information Ecosystem

The exchange of information and communication in a digitized society

Unsettled Science

An absence of definitive answers or scientific updates to questions that people are seeking answers to

Message Penetration

Ability of a person to receive and understand information as intended

Info Voids

People seeking information but find a lack of credible sources

Rumor

Information, inaccurate or accurate, circulated within a network

Misinformation

Information that is inaccurate

Disinformation

Misinformation specifically designed to achieve an agenda

Information Overload

A person being overwhelmed with information which can cause confusion or difficulty to act on guidance

Infodemic

An overabundance of information in digital and physical space – including mis/disinformation– accompanying an acute health event such as an outbreak.





Infodemics: the Problem

Infodemics can cause real harm

News | Coronavirus pandemic

Iran: Over 700 dead after drinking alcohol to cure coronavirus

More than 700 people died in Iran after ingesting toxic methanol erroneously thinking it can cure the new coronavirus.



NEWS | 02 August 2021

Flawed ivermectin preprint highlights challenges of COVID drug studies

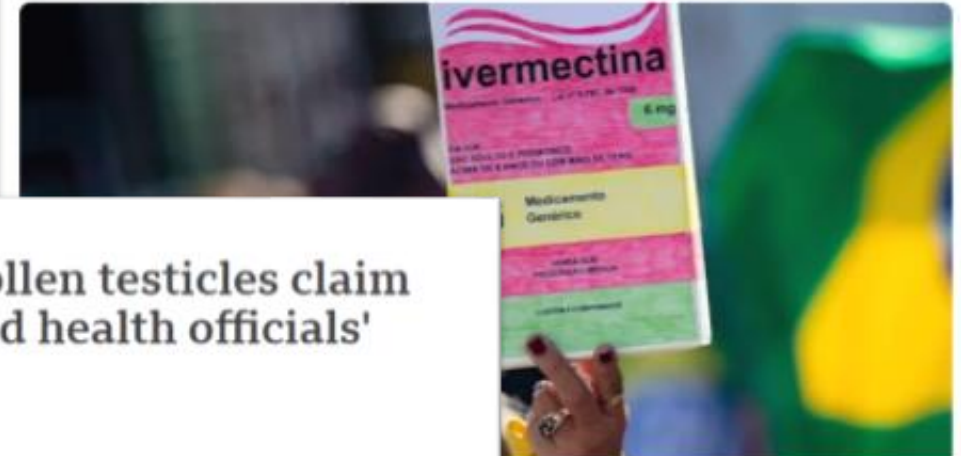
The study's withdrawal from a preprint platform deals a blow to the anti-parasite drug's chances as a COVID treatment, researchers say.

Sara Reardon



roots of ivermectin mania: How South America incubated a fake-medicine craze that took the US by storm



News | Coronavirus pandemic

Nicki Minaj swollen testicles claim 'wasted' Trinidad health officials' time

14 September



HEALTH

'Could It Work as a Cure? Maybe.' A Herbal Remedy for Coronavirus Is a Hit in Africa, But Experts Have Their Doubts



Health | Second Opinion

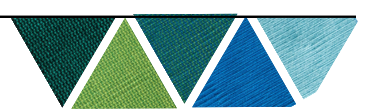
'Under attack': Canadian health-care workers call for more protection from harassment and threats

Governments, regulators and social media platforms need to do more, advocates say

Adam Miller | CBC News - Posted: Nov 13, 2021 4:00 AM ET | Last Updated: November 13



Methanol poisoning in Iran: <https://www.aljazeera.com/news/2020/04/iran-700-dead-drinking-alcohol-cure-coronavirus-200427163529629.html>; Unsafe use of cleaning products in US, Canada, Qatar: <http://www.ajtmh.org/docserver/fulltext/14761645/103/2/tpmd200592.pdf?expires=1598367786&id=id&acname=guest&checksum=FD6627CCBBE5AF07265D20CE59D14EC9>, <https://www.npr.org/sections/coronavirus-live-updates/2020/04/25/845015236/nyc-poison-control-sees-uptick-in-calls-after-trumps-disinfectant-comments?t=1620240427614>, <https://www.forbes.com/sites/nicholasreimann/2020/08/24/some-americans-are-tragically-still-drinking-bleach-as-a-coronavirus-cure/?sh=212cc7c16748>; Covid Organics in Madagascar and Africa: <https://time.com/5840148/coronavirus-cure-covid-organic-madagascar/>; Burning Cell Towers, Out of Baseless Fear They Spread the Virus: <https://www.nytimes.com/2020/04/10/technology/coronavirus-5g-uk.html>; Ivermectin in US, Australia and worldwide: <https://www.nature.com/articles/d41586-021-02081-w>, <https://www.nytimes.com/2021/08/30/health/covid-ivermectin-prescriptions.html>;

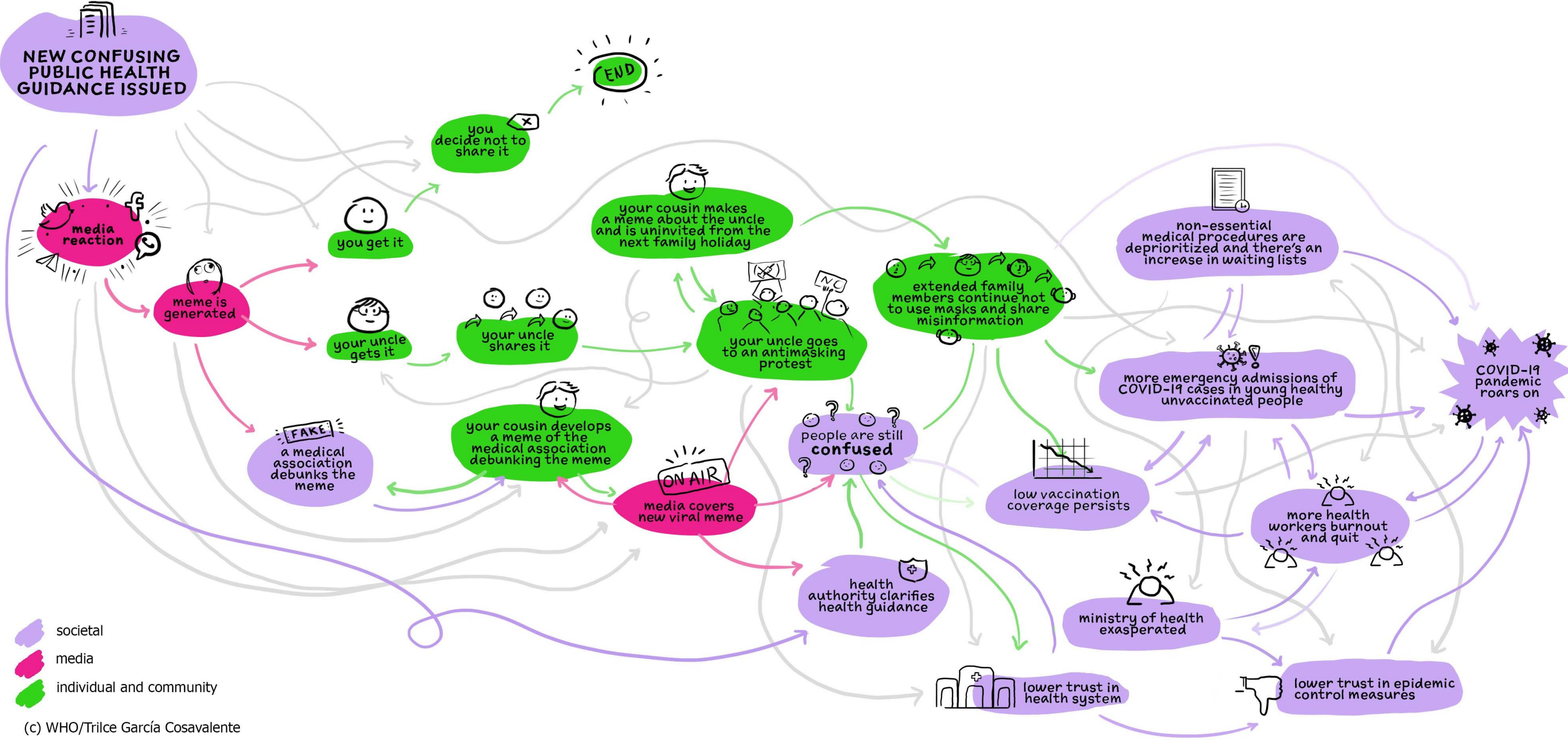


Impact of the infodemic

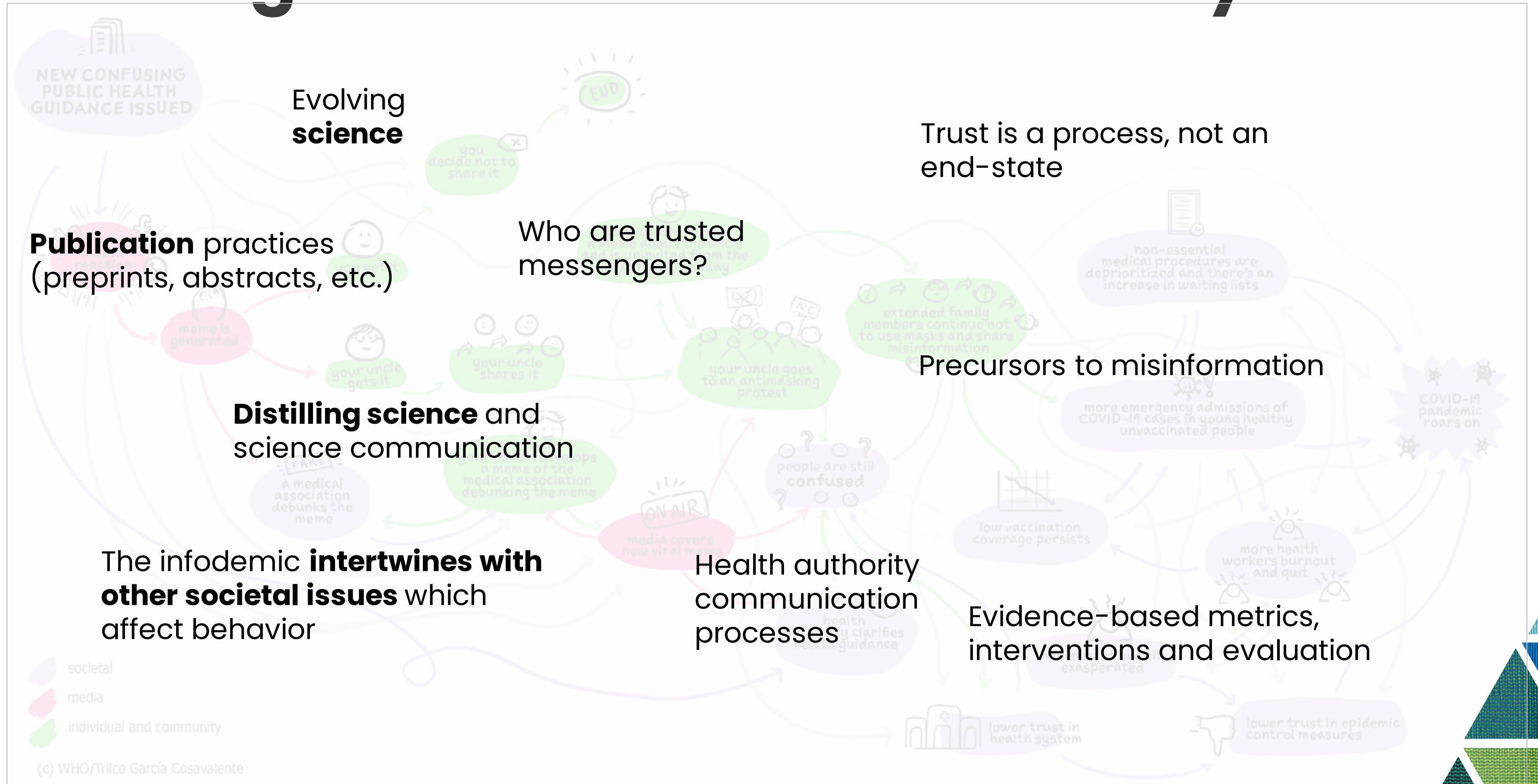
- Direct impact on health (increased morbidity and mortality)
- Misunderstanding of health information & behaviors to adopt
- Mistrust
 - In government
 - In science
 - In experts
 - Public health authorities
- In response and interventions (vaccine, therapeutics)
- Stigma
- Undermines social cohesion



COVID-19 infodemic's impact on behaviors and health systems is hard to measure directly



Challenges of the infomation ecosystem



Infodemic Management

Applies evidence-based interventions by analyzing concerns, questions, narratives, information voids and misinformation to effectively address health information inequalities in at-risk populations and communities of focus to drive health-seeking behaviors.

In·fo·dem·ic
[infō 'demic]

an excessive amount of information about a problem that is typically unreliable, spreads rapidly, and makes a solution more difficult to achieve.



Developing infodemic management

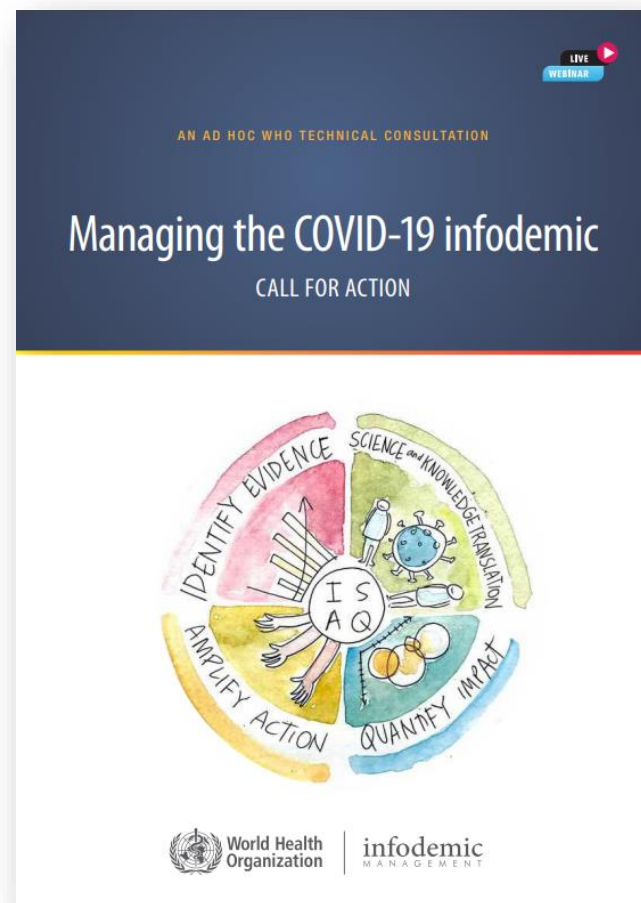
Mandate 

Programmatic response 

WHA74.7
Strengthening WHO preparedness for and response to health Emergencies

132 signatories of “cross-regional statement on infodemic in context of COVID-19” to UN Secretary General

1 Framework, strategy and action plan



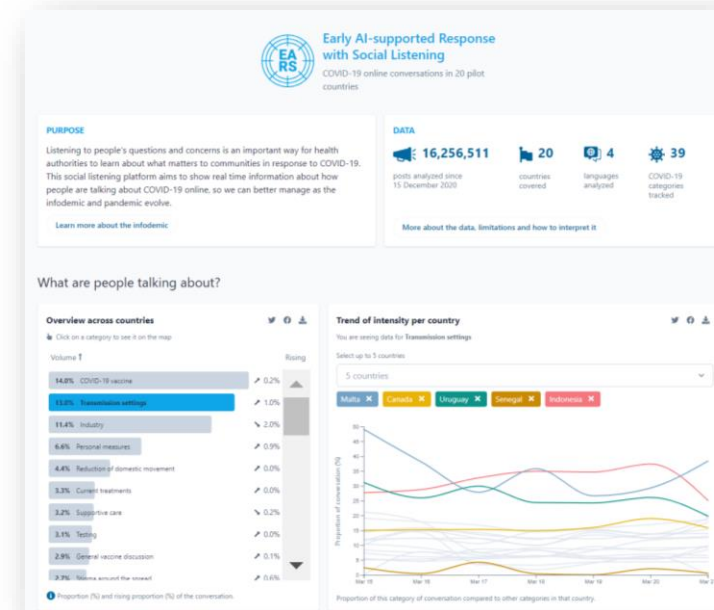
50 global action for whole-of-society

2 The science



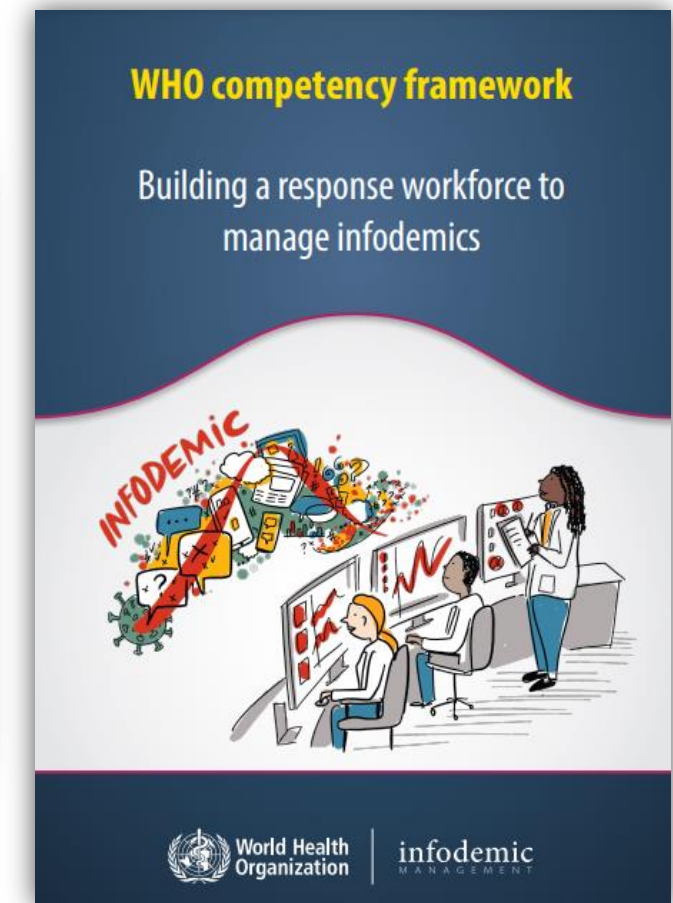
Linking research & practise

3 Country tools and partnerships



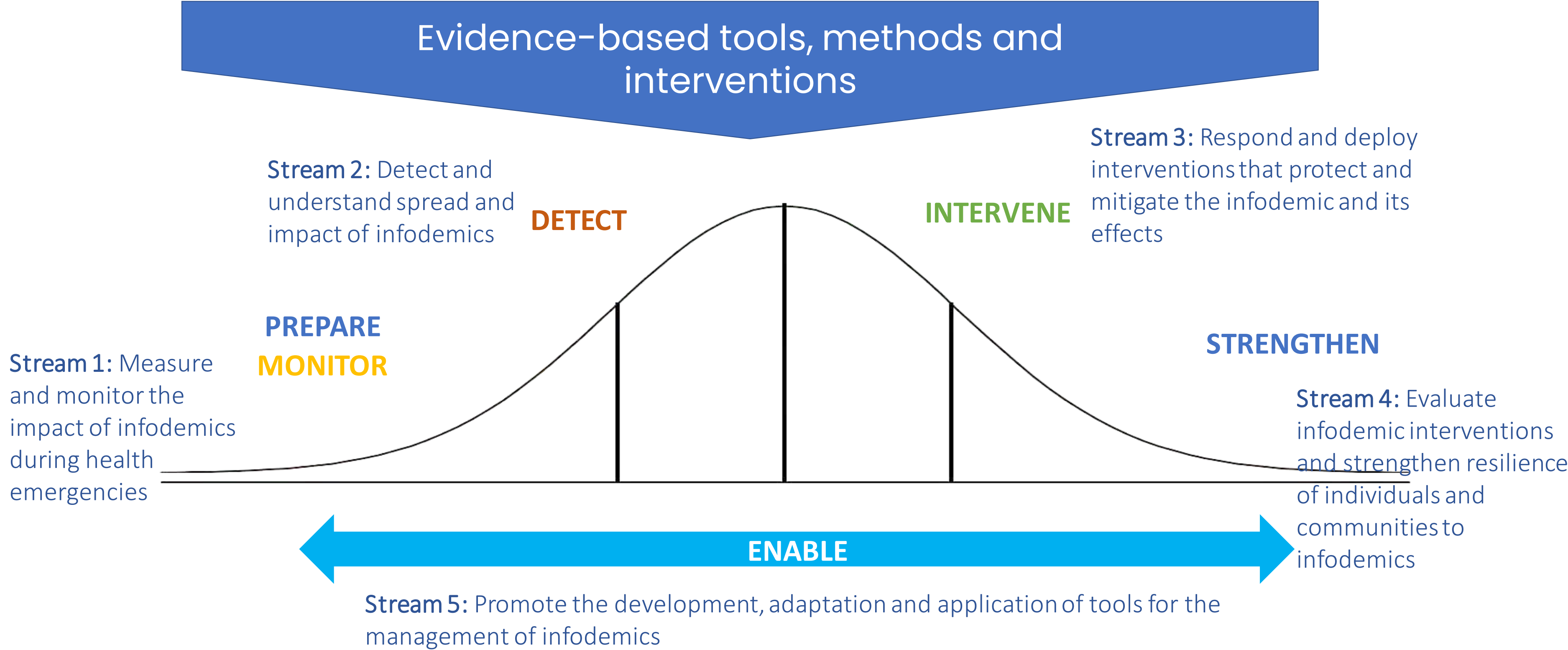
Understand community concerns, questions & build trust in interventions

4 Professionalism



768 infodemic managers trained

Infodemiology underpins management of epidemics and epidemic risk



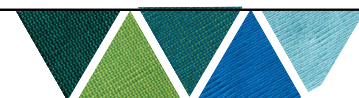
Technology has changed the way information is produced, distributed and consumed



VS



- An infodemic thrives online and offline, requiring a whole-of-society and whole information ecosystem approach
- Managing the infodemic has become more challenging with more rapid spread of mis and disinformation through digital media
- Infodemic management will help us better manage this pandemic and more quickly tackle new and resurgent health threats



The digitised society of 21st century



Societal impacts of digital transformation are a global phenomenon



The online attention economy a 'cognitive-tech' revolution

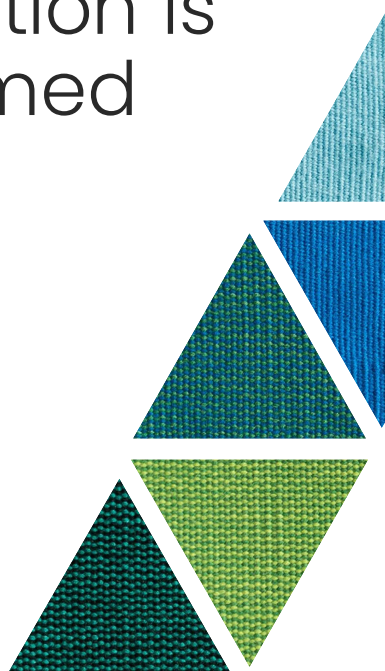


E-government services and digital health are at the focus of digital transformation of the public sector

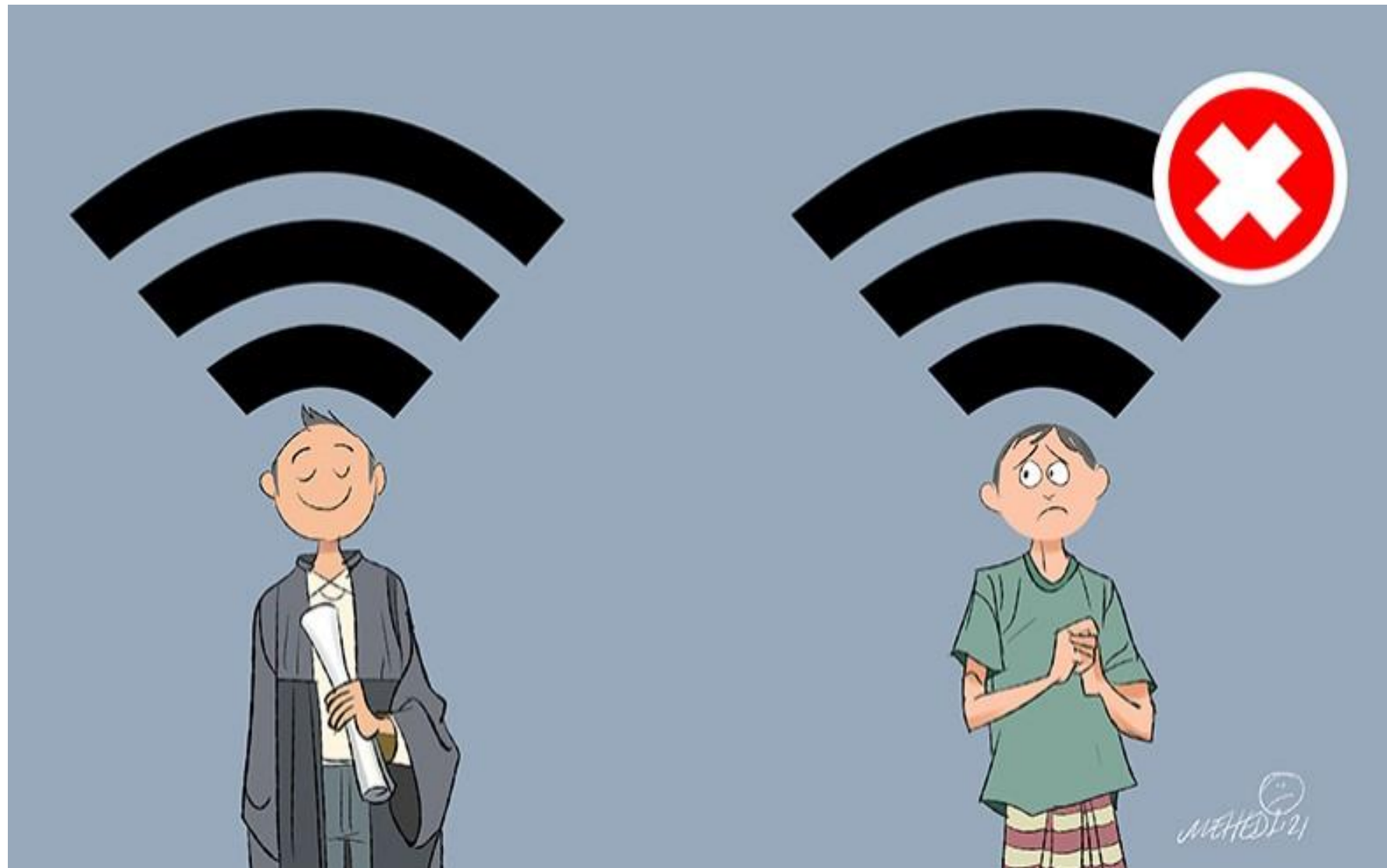


Paradigm shift in the way information is produced, distributed and consumed

Adapted by author from: European Political Strategy Centre (EPSC) - Global Trends to 2030: Identities and Biases in the Digital Age, <https://espas.secure.europarl.europa.eu/orbis/document/global-trends-2030-identities-and-biases-digital-age>; Lutz, C. *Digital inequalities in the age of artificial intelligence and big data*. *Hum Behav & Emerg Tech*. 2019; 1: 141–148.



The digitised society of 21st century



https://www.newagebd.com/files/records/news/202104/135620_171.jpg

<https://medium.com/@tamarajulaton/eid100-final-project-the-digital-divide-in-canada-5e3fa0ddc46>



Digital divide and digital inequalities in:

- Access to internet and internet and communication technology (ICT)
- Skills and uses of ICT
- In outcomes of internet use

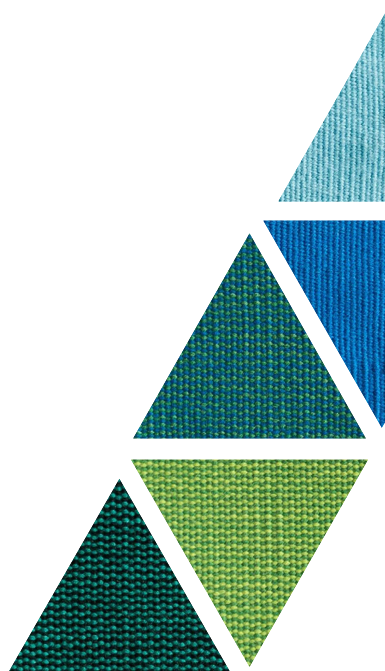


Three Truths from the Field



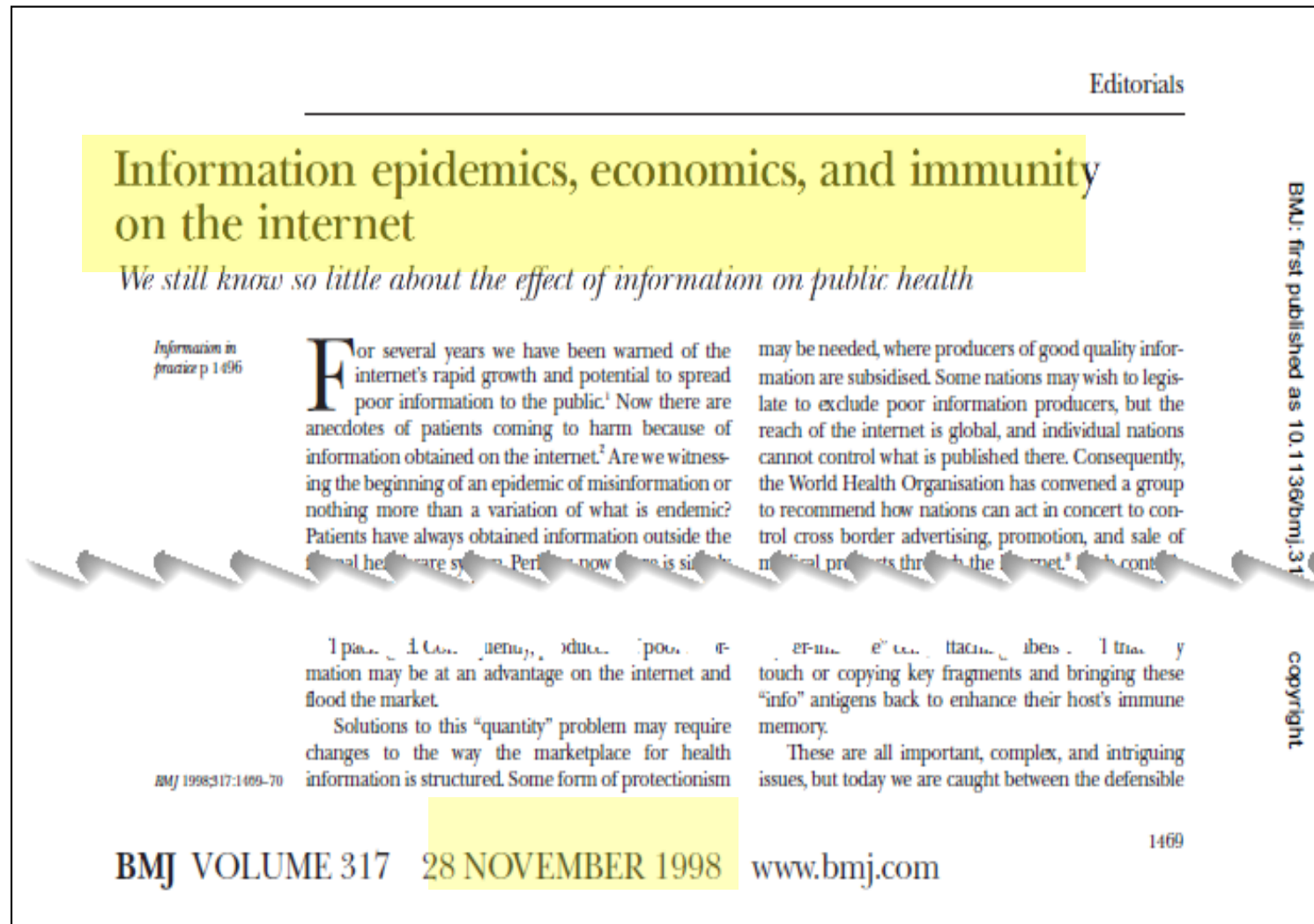
1. Multi-dimensional and interconnected information ecosystem

based on cartoon by Alfredo Garzon



You can forget about borders between online and offline

Web and social media in 1998:



- Bulletin Board System (BBS), bolt.com, sixdegrees.com, and OpenDiary social media networks
- AOL search and messenger
- ICQ messenger
- Google incorporates
- Netscape Communicator 4.5

The infodemic during the COVID-19

- Social media drives the media cycle across borders
- Online hype influences media reporting on TV and radio across the globe
- Health information does not compete with low quality information





2. The information ecosystem is ultra personalised

based on cartoon by Alfredo Garzon



The ecosystem is ultra personalised for each digital user



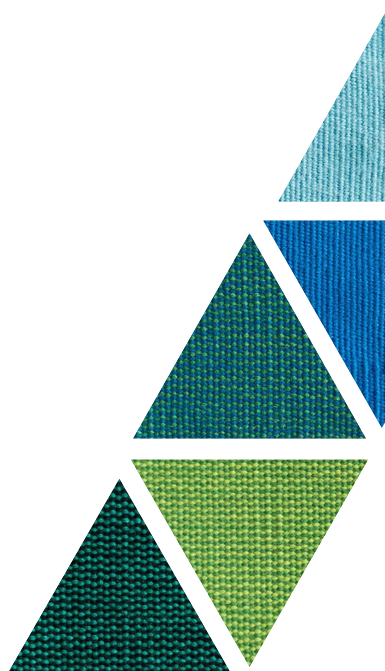
- The way you behave online leaves a digital data trail. This trail teaches digital platforms your preferences.
- Based on your personal data and online behaviour, the algorithms, apps, web sites, select ads, suggestions, and content are targeted specifically to your preferences and fill in your bias.
- What you see online is unique and tailored to you.

©<https://www.sticky.digital/wp-content/uploads/2017/12/Social-media-bubble-e1511819806516.jpg>



3. Experience, emotions and addiction are everywhere

based on cartoon by Alfredo Garzon



Designed to be addictive and emotive



- Web 5.0 will be about the (emotional) interaction between humans and computers. The interaction will become a daily habit for a lot of people based on neurotechnology.
- Studies suggest that the “dopamine reward loop” provided by social media keeps people hooked through an endless amount of immediate rewards in the form of attention from others.

Towards emotive sensory Web in virtual health care: Trends, technologies, challenges and ethical issues: <https://www.sciencedirect.com/science/article/pii/S2666351121000553>
Social media addiction: <https://www.addictioncenter.com/drugs/social-media-addiction/>

We need to adapt our way of interacting with people



- Individuals have multiple identities, online and offline, and continue to build new IDs everyday.
- We need to challenge our assumptions about:
 - Where the people are
 - How they interact
 - What their information needs are
 - What communities are the stakeholders for Public Health (**not** public campaigns!)
- We need to connect with communities that public health has not previously engaged with (online affinity groups, online professional and social networks (e.g., LinkedIn), sports associations, professional networking associations, etc.)



We need to adapt to the new individual reality

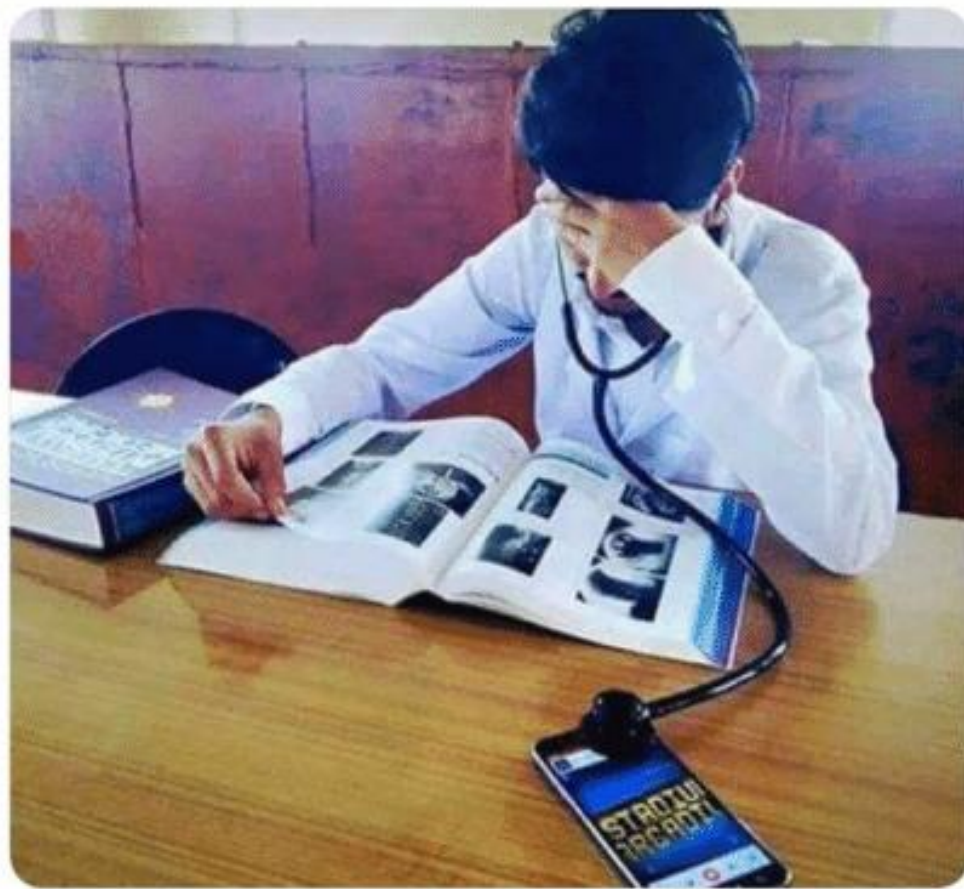


- We have to challenge our assumptions on:
 - What people want
 - How people experience public health prevention activities and interactions with the health system
- In order to adapt public health preparedness and response activities accordingly, we need to:
 - Develop human centered interventions
 - Go beyond the sentiment analysis done by AI technology
 - Address the pain points of the population in the entire public health system



We need to adapt to and capitalize the new mediums

When a medical student forgets to bring their headphones to the library



Meme dump time. My phone has no space.

We have to challenge our assumptions and :

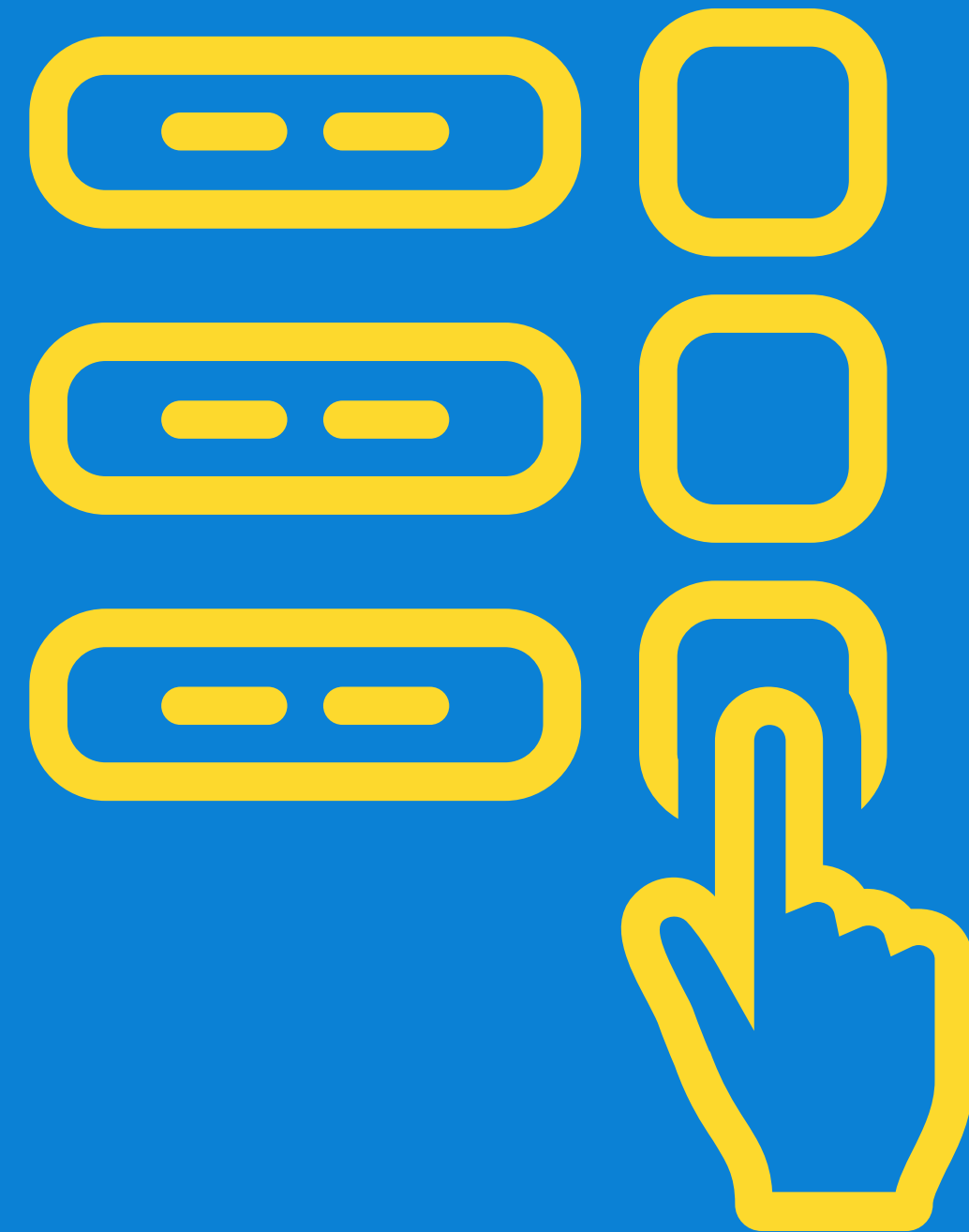
- develop a more tailored approach using the new mediums and the new vocabulary that allow the information to spread
- be constantly connected to people thanks to partnerships across whole of society
- adapt to the pace of shift of information and audience focus
- adapt and integrate behavioral and design thinking approaches to how we deliver services, information, and interventions

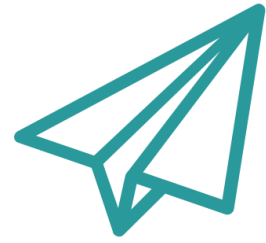


Questions?



Slido

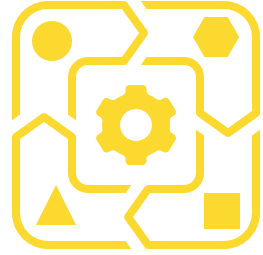




Key messages

- An infodemic thrives online and offline, requiring a whole-of-society and whole information ecosystem approach
- Managing the infodemic has become more challenging with more rapid spread of mis and disinformation through digital media
- Infodemic management will help us better manage this pandemic and more quickly tackle new and resurgent health threats
- Going forward, the preparedness planning and tools for responding to infodemics must be evidence-based and taking into account the new reality. We must:
 - Develop a more tailored approach using the new media and the new vocabulary that allow the information to spread
 - Be constantly connected to people thanks to partnerships across whole of society
 - Adapt to the pace of shift of information and audience focus
 - Adapt and integrate behavioral and design thinking approaches to how we deliver services, information, and interventions

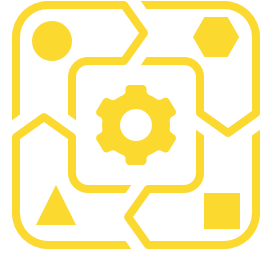




Resources

- Calleja, N., AbdAllah, A., Abad, N., Ahmed, N., Albarracin, D., Altieri, E., Anoko, J. N., Arcos, R., Azlan, A. A., Bayer, J., Bechmann, A., Bezbaruah, S., Briand, S. C., Brooks, I., Bucci, L. M., Burzo, S., Czerniak, C., De Domenico, M., Dunn, A. G., ... Purnat, T. D. (2021). A Public Health Research Agenda for Managing Infodemics: Methods and Results of the First WHO Infodemiology Conference. *JMIR Infodemiology*, 1(1), e30979. <https://doi.org/10.2196/30979>
- Rubinelli, S., Purnat, T. D., Wihelm, E., Traicoff, D., Namageyo-Funa, A., Thomson, A., Wardle, C., Lamichhane, J., Briand, S., & Nguyen, T. (2022). WHO competency framework for health authorities and institutions to manage infodemics: Its development and features. *Human Resources for Health*, 20(1), 35. <https://doi.org/10.1186/s12960-022-00733-0>
- Swire-Thompson, B., & Lazer, D. (2020). Public Health and Online Misinformation: Challenges and Recommendations. *Annual Review of Public Health*, 41(1), 433–451. <https://doi.org/10.1146/annurev-publhealth-040119-094127>
- WHO. (2022). *Health topics: Infodemic*. <https://www.who.int/health-topics/infodemic>

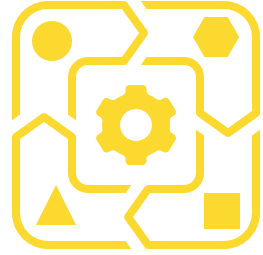




Resources (cont'd)

- New vaccine misinformation course from ECDC:
- Addresses Online Vaccination Misinformation e-Learning Course
- Pilot Edition 20–24 June 2022
- This course aims to provide learners with a broad understanding of what online vaccination misinformation is, and what steps can be taken to address it.
- Six modules; approximately 3 hour long.
- Designed for public health practitioners and risk communication experts at national, regional and local level in the EU/EEA, and is available to all.
- Enroll here: <https://eva.ecdc.europa.eu/enrol/index.php?id=603>





Resources (cont'd)

New e-learning on Addressing Online Vaccination Misinformation:

- This course aims to provide learners with a broad understanding of what online vaccination misinformation is, and what steps can be taken to address it.
- It's approximately 4 hours long and organised in 6 modules. It's designed for public health practitioners and risk communication experts at national, regional and local level in the EU/EEA. Recently piloted and now available to all.
- Enroll here:

[Announcements' board - New e-learning on Addressing Online Vaccination Misinformation \(europa.eu\)](#)

[Message Testing: https://www.youtube.com/watch?v=K0_ET_ymrYU&ab_channel=purnatt](https://www.youtube.com/watch?v=K0_ET_ymrYU&ab_channel=purnatt)



Extra slides

Social inoculation intervention development - The Good Talk!



A project that will help the target audience learn to talk with family and friends, and how to prevent polarization and erosion of relationships

thereby inoculating them to harmful effects of health misinformation in daily life, to create a supportive environment for health behaviors.

A partnership between:

Epidemic and
Pandemic
Preparedness
and Prevention

Pharmacovigilance

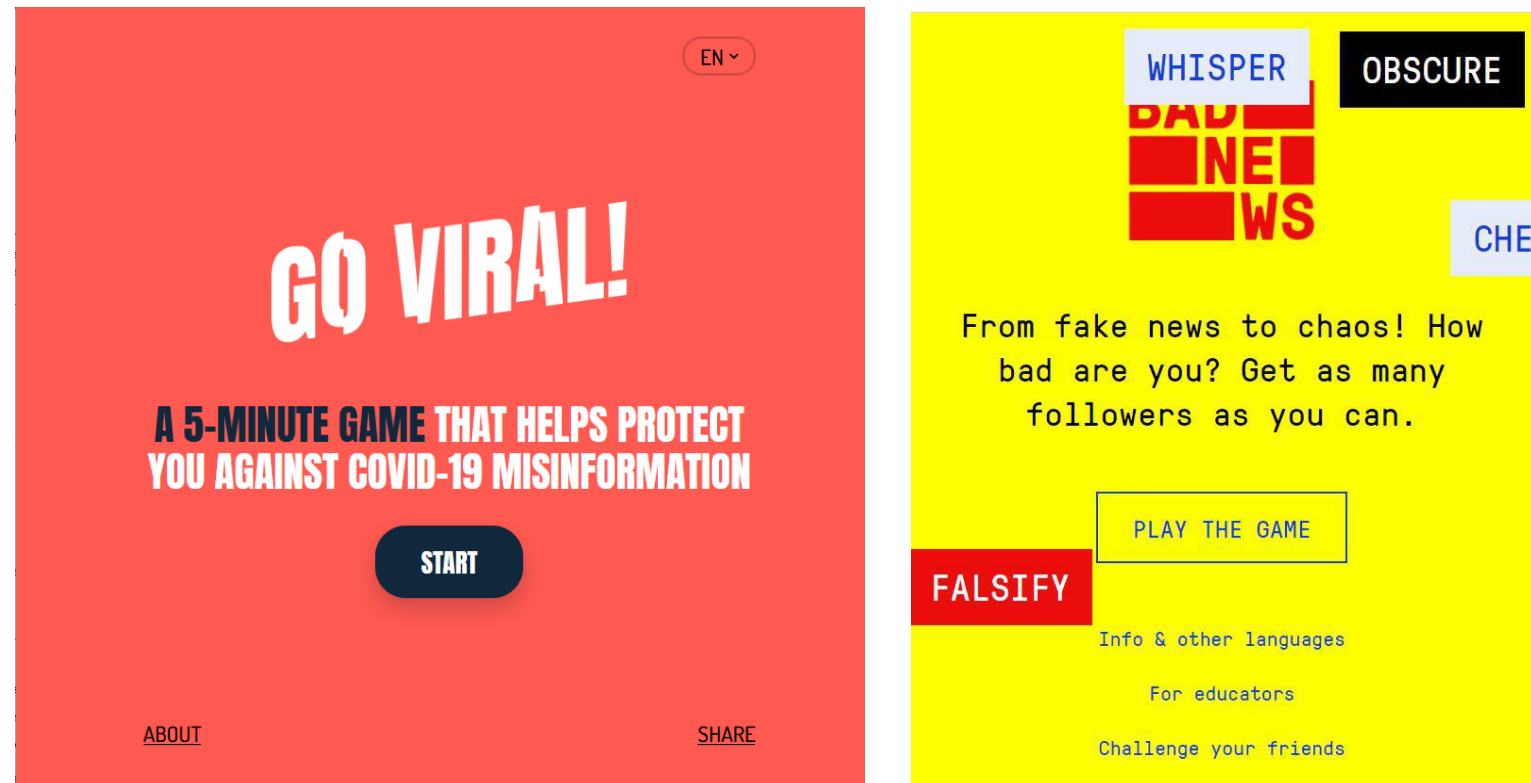
Digital Health
& Innovation



Social inoculation intervention development - The Good Talk!

A ready-to-deploy intervention package to raise people's resilience to health misinformation in daily life

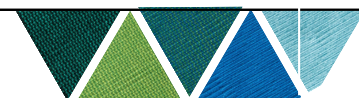
Can be adapted and translated by countries to be used in chatbots, SMS interactive games, on web sites or on messaging apps



Package includes

- Online Game - to be launched for the public (May 2022)
- Low Bandwidth Deployment Package - content, logic, graphic assets that can be adapted, with deployment and adaptation instructions
- Template protocol for how to evaluate the impact of intervention on selected target audience - can be adapted for context, depending on audience (eg school aged kids, teens) or communication channel

Collaboration with authors of serious games Go Viral, Harmony Square and Bad News



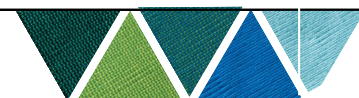
Social inoculation intervention development - The Good Talk!

- Opposite of nudging
- Boosting = Intervention method in which you strengthen the ability of people to make their own choices

-> Give player simple heuristics to perform behavior

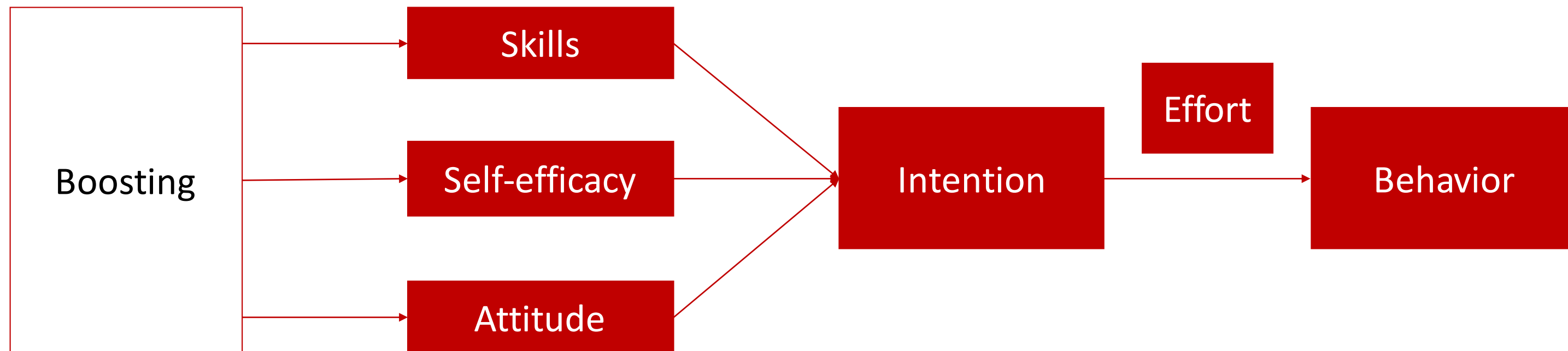
- This is different from education:
 1. Based on behavioural science
 2. Develop new competences under conditions of limited time and resources
 3. Domains that are not typically addressed in school curricula
 4. Focussed on actionable, motivationable and decisional competences (e.g. heuristics)
 5. Preserve autonomy and agency

(Hertwig, Grune-Yanoff, 2017)

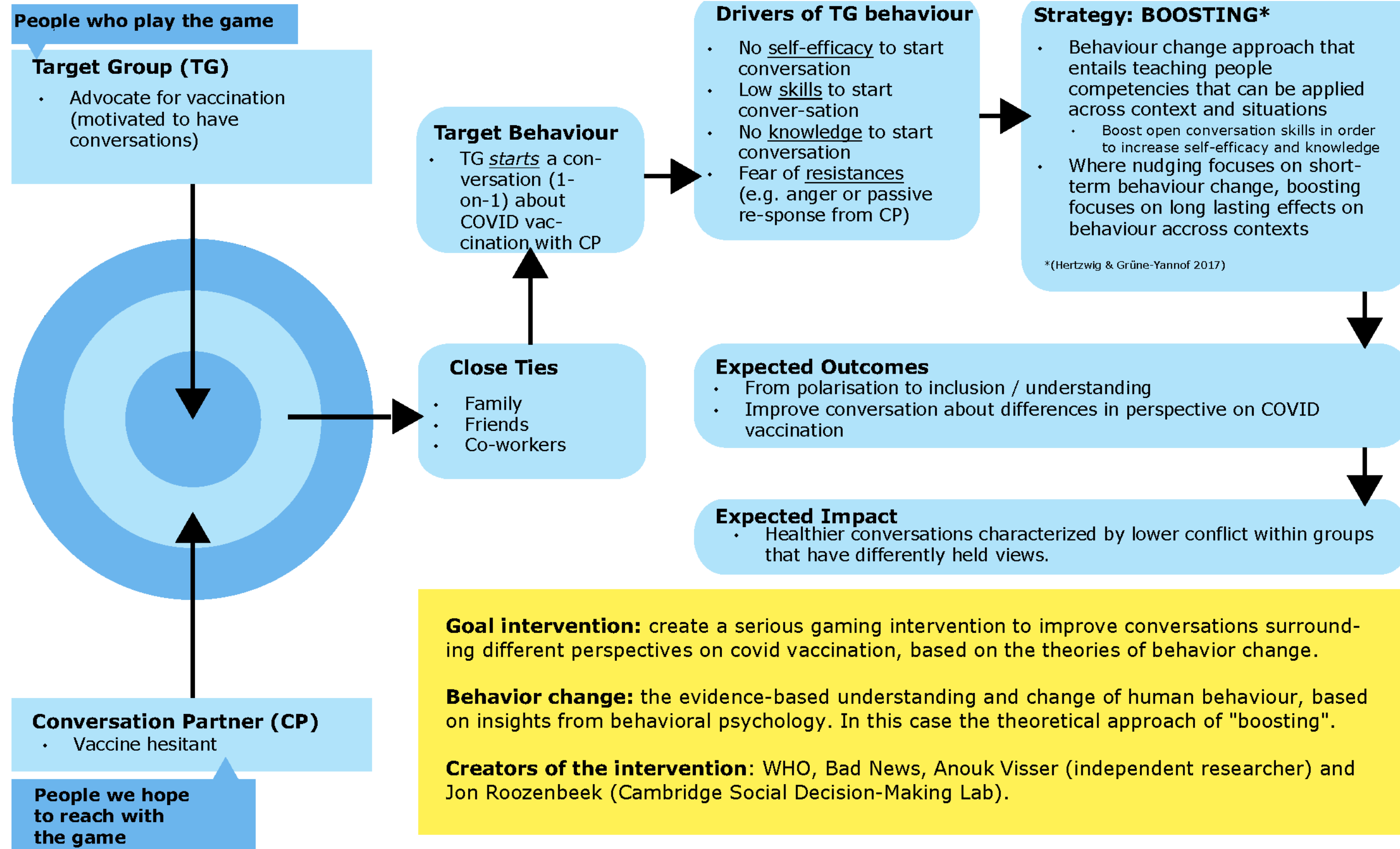


Social inoculation intervention development - The Good Talk!

Process model: influence of boosting on behavior



Social inoculation intervention development - The Good Talk!



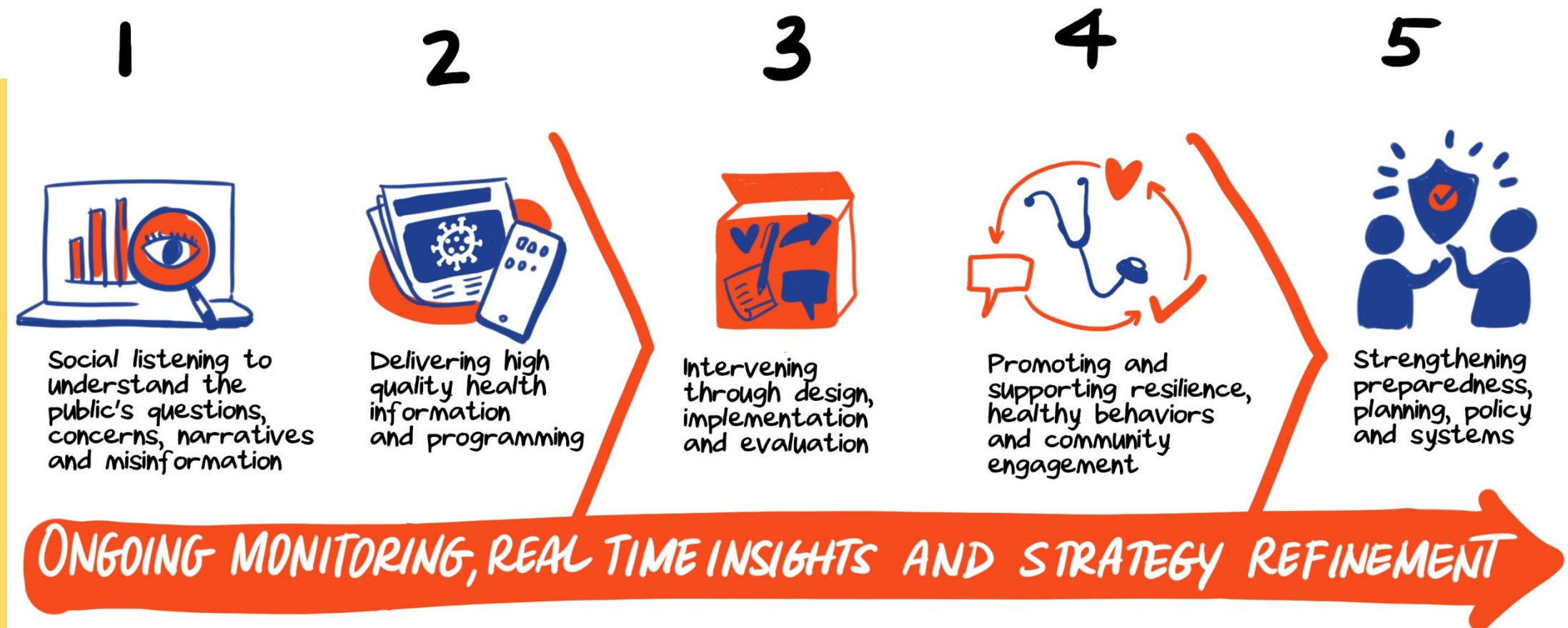
Infodemic management and support to country level efforts for health systems strengthening, promotion of vaccination demand and uptake of PHSM

From preliminary results of Round 3 National pulse survey on continuity of essential health services

- Community acceptance and affordability are the biggest challenge to scaling up COVID-19 vaccination. Demand side challenges and health workforce challenges most reported bottleneck for COVID-19 vaccination.
- Among top 5 investments in countries: technologies and methods to support infodemic management

Diversified set of **practical** training packages and backstopping to respond to country needs:

1. Building on field infodemiologist tools and simulation exercises at 3rd WHO infodemic manager training (Nov-Dec 2021)
2. OpenWHO course
3. ToT, simulation and tabletop exercises
4. Communities of practice, peer to peer support, twinning, and mentoring

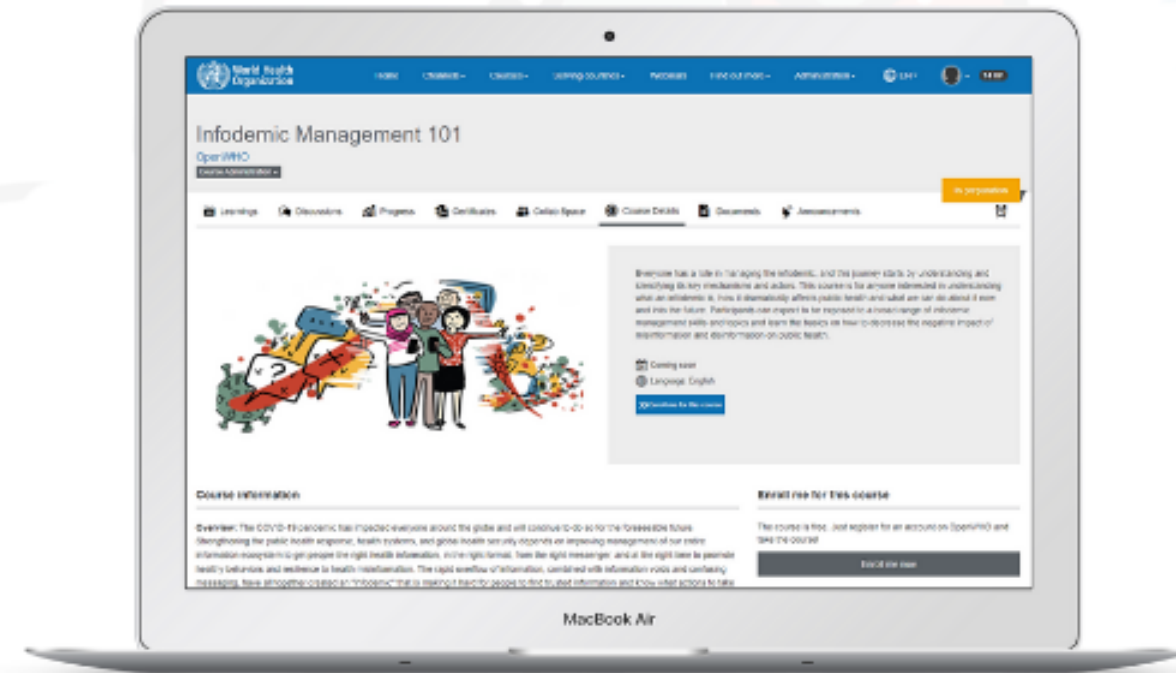


*Tired of
information
overload?*



Learn to fight the infodemic!

Enroll now in
our free online course
INFODEMIC MANAGEMENT 101



*Already
13 000
learners!*



openwho.org/courses/infodemic-management-101



What is the difference between social media use for marketing/PR versus infodemic management to promote vaccine confidence?

Social Media for PR/Marketing

Use social media unilaterally to raise awareness and engagement about vaccine topics to promote vaccine confidence

Social Media for Infodemic Management

Use social media to listen, understand and respond to questions, concerns, information voids and mis/disinformation that affect vaccine confidence

both

Attributes:

Usually more pre-planned content developed and posted according to an editorial calendar

Social media channels primarily used to push out content

Call to action may be more narrow and trackable (e.g. "Read this article on childhood vaccine schedules")

Metrics include CTR, impressions, reach, and engagement of individual post/ads

All content aligned with overall communication and vaccine confidence strategy

Content developed based on socio-behavioral insights, communications research and best practice

Messages developed for multiple formats, audiences and channels

Content developed and tested via A/B testing or other testing

More dynamic and adaptable content developed and posted in response to specific infodemic insights, usually on a rapid timeframe

Social media channels used both for data collection and for deploying infodemic interventions

Call to action may be broader and harder to track (e.g. "Talk to your OB-GYN about fertility questions you may have.")

Metrics include scale, directionality, frequency and repetition of common narratives

Africa Infodemic Response Alliance (AIRA) is a unique partnership that helps coordinate and amplify fact-checking efforts in the region

- Partnership between factcheckers, health authorities, WHO, media and journalists to rapidly use evidence-based methods to respond to questions, concerns, and misinformation in the African region
- WHO African Regional Office is the secretariat
- AIRA's various activities include:
 - Viral Facts: social media content initiative to make high visual, engaging, and shareable health information
 - Weekly social listening reports focused on region-level insights
 - Targeted campaigns for building vaccine confidence



A survey was administered in late 2020 to understand the landscape of factchecking organizations working on health misinformation

Main objectives were to:

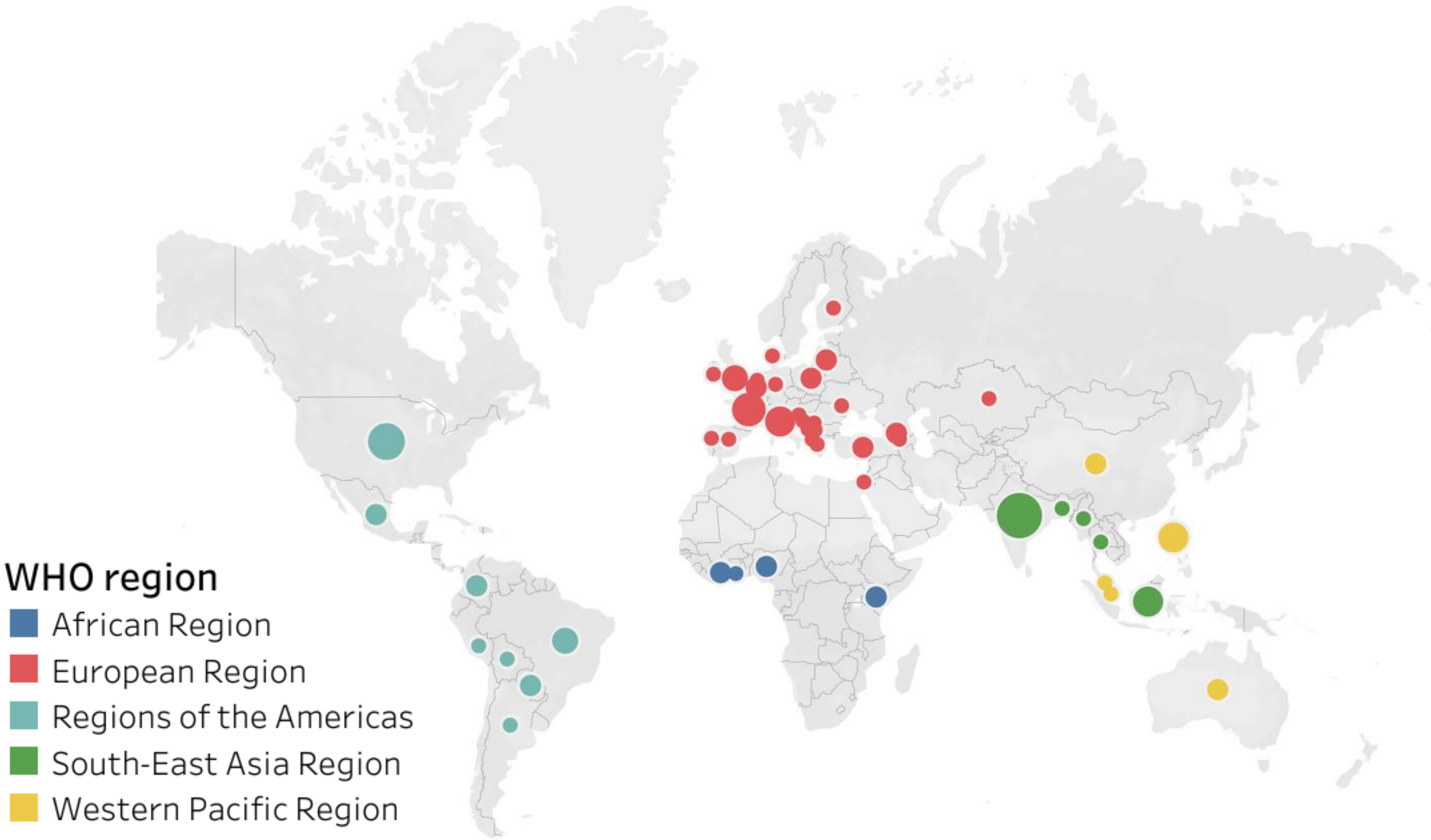
1. Identify organizations managing COVID-19 infodemic and understand their current process of factchecking health information, including facilitators and barriers
2. Assess the needs and potential for factcheckers to collaborate with health authorities and other public health stakeholders

Methods overview

- Survey consisting of multiple choice and open-ended questions was developed by WHO and US CDC with feedback from misinformation experts
- Distributed to COVID-19 Factcheckers in Ryerson University's COVID-19 factchecking database and to members of the International Fact-checking Network (IFCN) listserv



Fact-checking organizations that responded to the survey: a snapshot



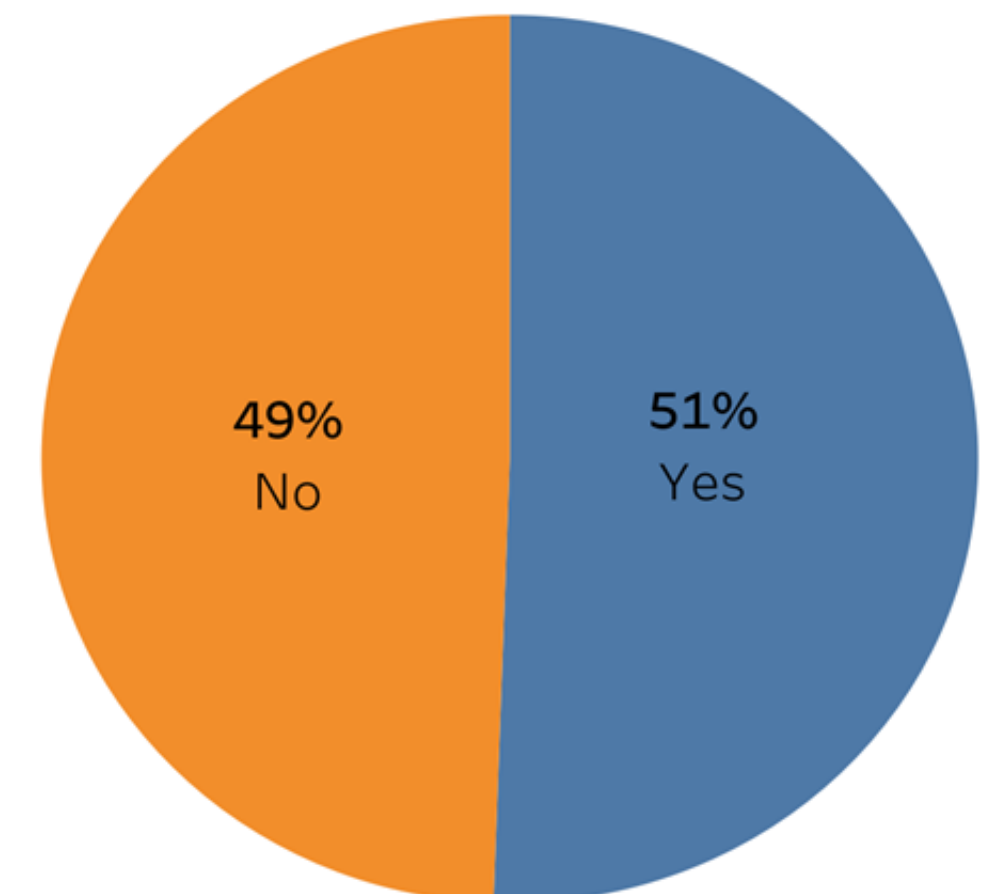
*no respondents from WHO Eastern Mediterranean Region

Many organizations reported challenges in fact-checking health misinformation

Different types of challenges were reported:

- Rapidly changing data and evidence
- Lack of collaborators in health fields
- Lack of access to public data or credible resources
- Lack of visibility by health authorities e.g., health authorities do not answer questions publicly
- Misleading information spread by official figures and leaders
- Unstable funding

Does your organization work with health professionals?



More recent experiences shared by AIRA offer additional insights

To supplement survey findings with more current insights, we reached out to Africa Infodemic Response Alliance (AIRA) and they shared the following regarding their experiences of working with fact-checkers:

Best practices

- Network of regional fact-checkers where organizations can quickly exchange information, share debunks, and alert each other (via WhatsApp)
- “WHO certified statements” regularly shared with fact-checkers to validate their debunks; even if a claim has already been fact-checked by media organizations, statements from WHO hold more weight and considered important
- Standing meetings with fact-checking organizations to discuss emerging issues and ways to support

Opportunities for improvement

- No review or evaluation of best practices and success stories about how WHO can and has been working with fact-checkers
- Lack of collaboration with large international media organizations that fact-check
- No risk assessment of WHO collaborating with fact-checkers who are publicly perceived to be “political”

Recommendations

- Strengthen regional coordination and capacity building particularly in regions where young fact-checking organizations have sprouted (e.g., African, SE Asia and Western Pacific Regions)
- Train infodemic managers and health communicators within health authorities and medical associations about fact-checking, including how best they can partner with fact-checking organizations and offer support
- Consider documenting and disseminating best practices for collaborating with fact-checking organizations – a written report, workshop, or webinar organized by Pillar 2 on this topic can be helpful
- Consider conducting a follow-up assessment (e.g., survey, key information interviews) to understand how the landscape of fact-checkers has changed over the past year, and whether there are new challenges that need to be addressed

Fact-Checking & COVID-19 Misinformation

Two Projects with Ryerson University

Ryerson
University

1

2

COVIDGeo Misinformation Dashboard

Track and visualize debunked coronavirus claims that mention or reference a specific geographic location

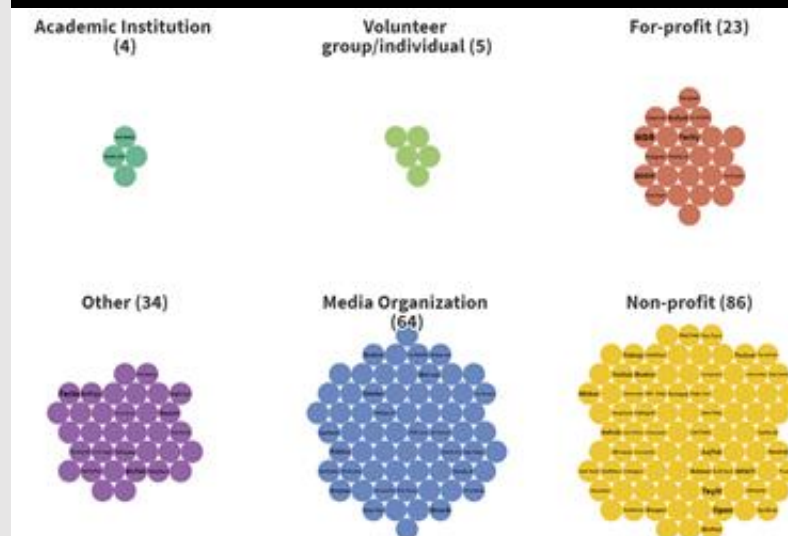
COVIDGeo Misinformation Dashboard

Tracks and visualizes debunked coronavirus claims mentioning or associated with a specific geographic location.



<https://covid19misinfo.org/misinfowatch/misinformation-watch-covidgeo/>

FACTS ABOUT COVID-19 FACT-CHECKERS

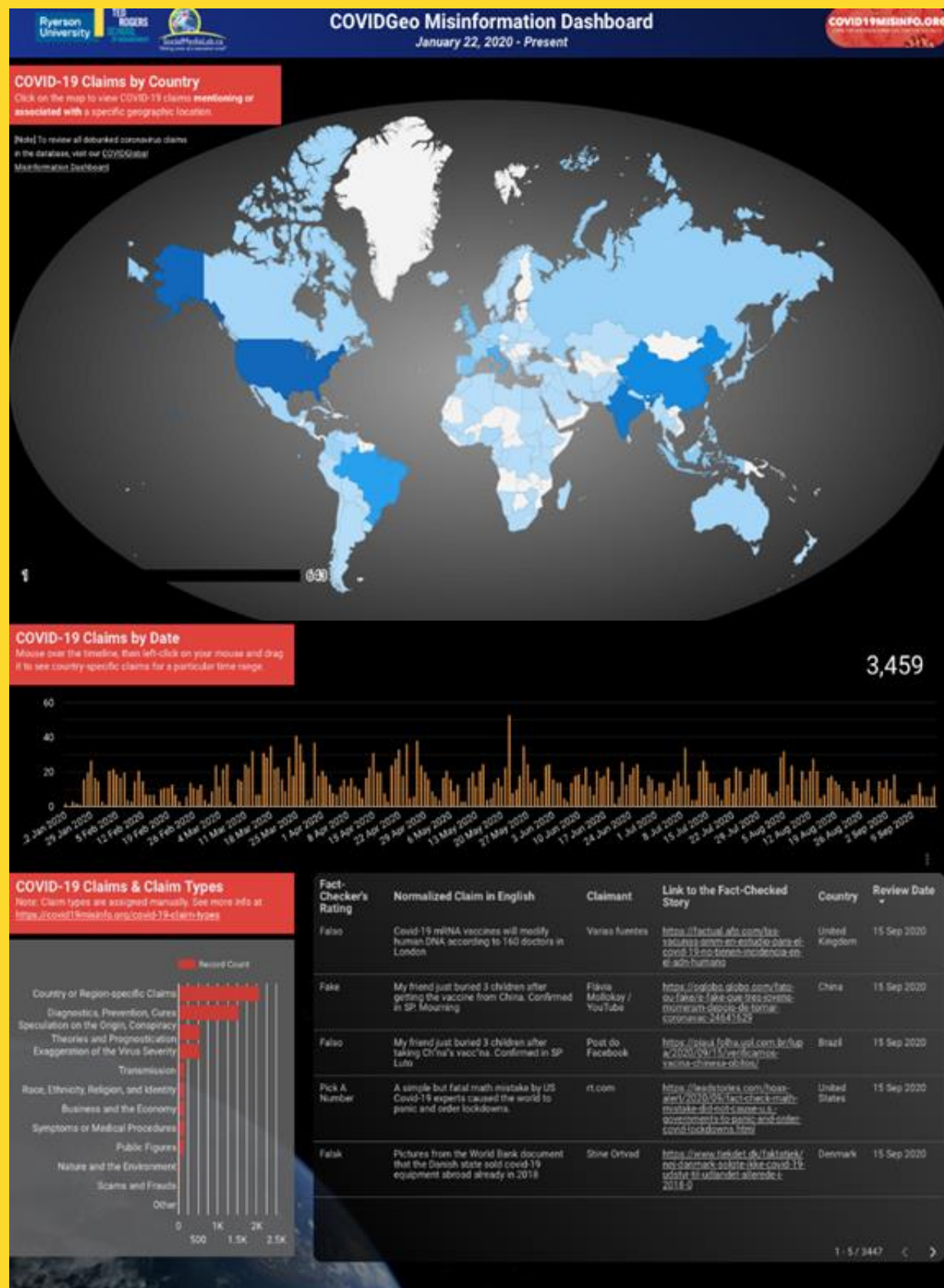


<https://covid19misinfo.org/fact-checking/covid-19-fact-checkers/>

Facts about COVID-19 Fact Checkers

Dataset of 216 COVID-19 fact-checkers from around the world

COVIDGeo Misinformation Dashboard



Data from Google Fact Check API.

Interactively, users can:

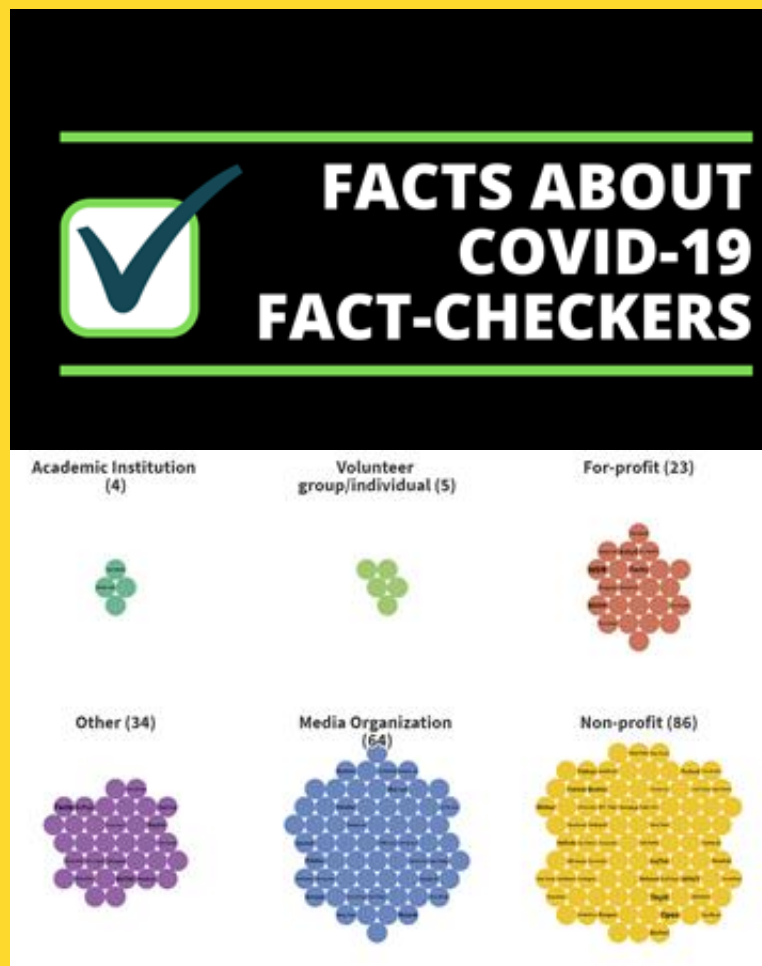
- Learn which countries are more frequently the subject/target of COVID claims.
- See what types of COVID claims are circulating online that specifically mention or reference a geographic location.
- Discover when are there spikes in the volume of debunked COVID claims.
- Track what fact-checkers around the world have chosen to fact-check.

Link: <https://covid19misinfo.org/misinfowatch/misinformation-watch-covidgeo/>

For a more complete dataset of debunked COVID-19 claims, *regardless of whether a particular country is mentioned or not*: <https://covid19misinfo.org/misinfowatch/global/>

Facts about 216 COVID-19 Fact Checkers

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Users can explore fact-checkers by

- Language
- Structure (academic, for profit, media organization, non-profit,...)
- By affiliation with government, academia, media, private sector, independent
- By funding source
- By topic (i.e. science and technology, politics, ...)

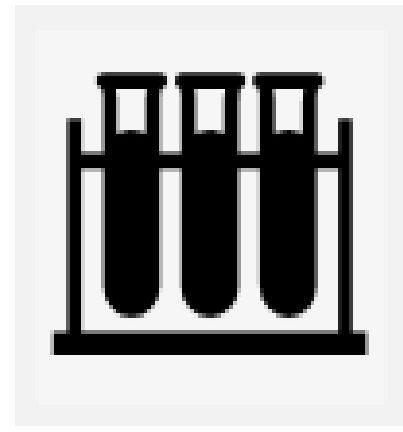


COVIDGeo Misinformation Dashboard

12 Types of COVID-19 False Claims: Definitions



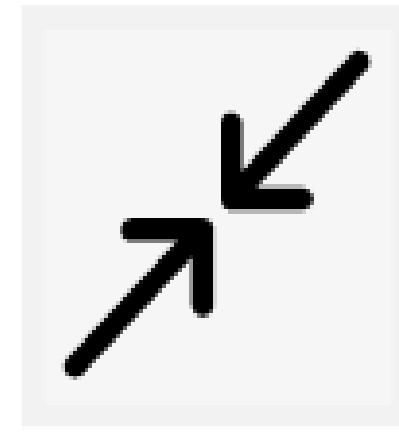
Country or Region-Specific Reports



Diagnostics, Prevention, Cures



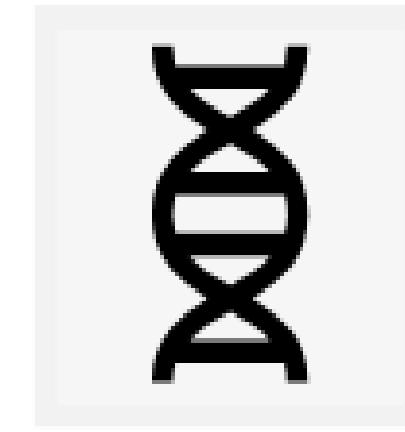
Speculation on the Origin and Prognostication



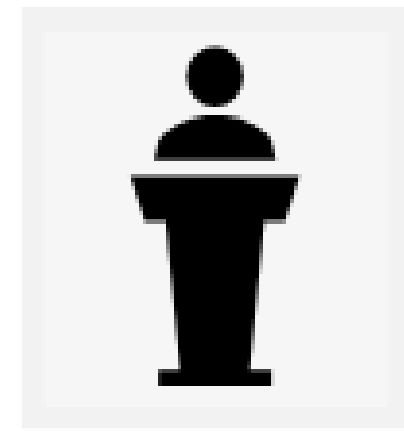
Exaggeration of the Virus Severity



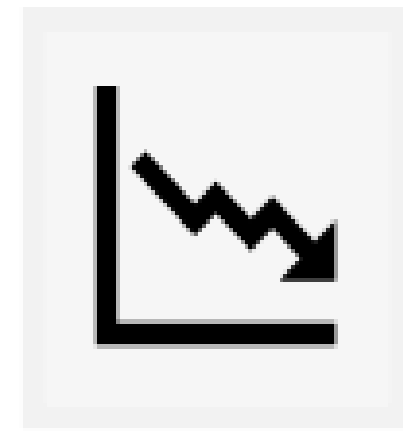
Race, Ethnicity, Religion, and Identity



Transmission



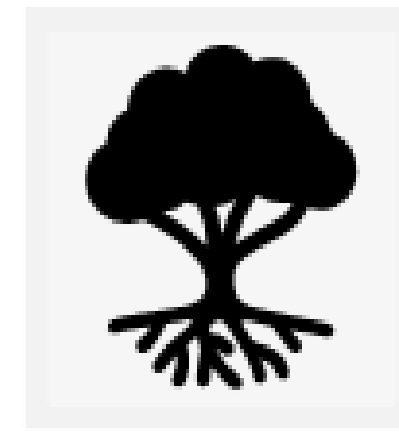
Public Figures



Business and the Economy



Symptoms or Medical Procedures



Nature and the Environment



Scams and Frauds



Other