The principles of vaccine risk communication

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Australian Vaccinology Course
Sydney Q Station Wednesday 21 October 2026



THE UNIVERSITY OF SYDNEY

SABII. Social and Behavioural Insights in Immunisation

CRICOS 000

This session

Objective

- Apply the principles of public risk communication to a vaccine safety issue

Overview

- What makes vaccine safety communication difficult?
- What is risk communication?
- What are the principles?

This session focuses on public communication for vaccine safety issues.

You will later apply this and the vaccine uptake lecture from day 1 in a hypothetical scenario.

What makes vaccine safety communication difficult?

The outcome narratives are powerful

Vaccine-related death – Lyla Rose

April 7, 2012 | 19 Comments | Filed under: Children's Gallery - Vaccine Injured



My daughter Lyla Rose Belkin died on September 16 1998 at the age of five weeks, shortly after receiving a Hepatitis B vaccine booster shot. The following comments are intended to be a heads up to parents and potential parents about the risks of the Hepatitis B vaccine (HBV), and a firsthand report questioning the scientific legitimacy of the vaccine industry, which provides $800 million of annual revenue to Merck – the company which makes the Hepatitis B vaccine distributed in the US.



July 2016 - women claiming side effects from the cervical cancer vaccine sued Japan's government.
SOURCE: THE YOMIURI SHIMBUN VIA AP IMAGES
https://www.science.org/content/article/critics-assail-paper-claiming-harm-cancer-vaccine

Seemingly credible sources can champion a theory



Andrew Wakefield
MMR-autism



Gordon Stewart
DTP - encephalopathy



Sheik (Dr) Datti Ahmed
Polio – Northern Nigeria

Some safety scares are real or there is uncertainty while information evolves



	A. Consistent with causal association to immunization	B. Indeterminate	C. Inconsistent with causal association to immunization
Adequate information available	☐ A1. Vaccine product-related reaction (As per published literature) ☐ A2. Vaccine quality defect-related reaction ☐ A3. Immunization error-related reaction ☐ A4. Immunization anxiety-related reaction (ISRR**)	☐ B1. *Temporal relationship is consistent but there is insufficient definitive evidence for vaccine causing event (may be new vaccine-linked event) ☐ B2. Qualifying factors result in conflicting trends of consistency and inconsistency with causal association to immunization	☐ C. Coincidental Underlying or emerging condition(s), or condition(s) caused by exposure to something other than vaccine
Adequate information not available	☐ Unclassifiable Specify the additional information required for classification :		

*B1 : Potential signal and maybe considered for investigation
** Immunization stress related response

People have common heuristics when thinking about risk



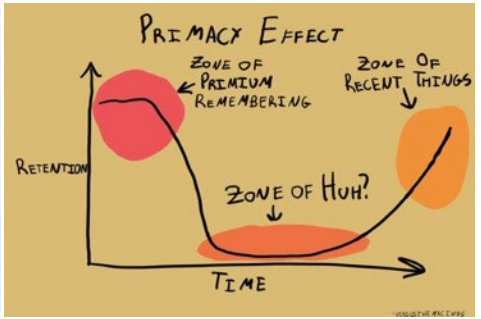
AVAILABILITY BIAS
Assessing the likelihood of an outcome by how readily it comes to mind.



CONFIRMATION BIAS
Our prior beliefs affect how we accept or reject new information.



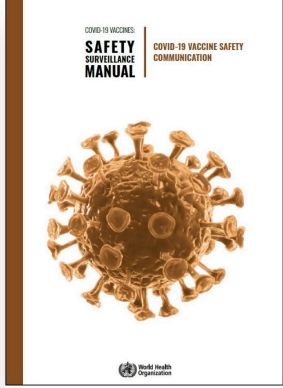
AMBIGUITY AVERSION
People avoid taking risks when the outcome is uncertain.



PRIMACY AND RECENCY
People tend to recall information at the beginning or end than in the middle.

Luz PM, Nadanovsky P and Leask J. How heuristics and cognitive biases affect vaccination decisions. *Cadernos de Saúde Pública/Reports in Public Health*. 2020; 36 Sup 2:e00136620

Historical, political, social and system context profoundly affect public responses and trust





Social, cultural, community and religious influences

People with shared values and beliefs in tight-knit communities where ideas spread readily.



Historical issues affecting trust

Groups most at risk may include people living on a low-income, different kind of minorities, disabilities, or members of communities with inadequate health service access



Organisational influences

Mistrust among HCWs as a result of workplace infections and a perception of having been unsupported by governments in the face of overwhelming COVID-19 case numbers



Vaccination services

Negative previous experiences with health services may influence acceptance in adults.



Political influences

Leaders may create high expectations of COVID-19 vaccines. Over-confident communication could lead to mistrust if expectations are not met.

What helps?

RISK COMMUNICATION

Risk communication is not just …

- Communicating probability
- “Messaging”
- Getting people to do what we want them to…

… although these can be important



Industry

Medicines Australia

Government



Community Groups



Media



Publics



Health workers



"Risk communication is an interactive process of exchange of information and opinion among individuals, groups, and institutions."

(National Research Council, 1989)

Some values underscoring incident responses

Respect
Self-determination
First Nations sovereignty
Common good, solidarity, social responsibility
Care, Neighbourliness
Proportinate
Fairness
Reciprocity
Equity

- Hooker C, Leask J. *Journal of Bioethical Inquiry* 2020;17(4):581-9.
- Degeling C, Leask J, Attwell K, Wood N, Braunack-Mayer A, Wiley K, Ward P, Carter SM. *Health Expectations* 2023; 27:e13936.
- New Zealand National Ethics Advisory Committee—Kāhui Matatika o te Motu. 2007. Getting through together: Ethical values for a pandemic.
- Tinessia, A., Clark, K., Randell, M., Leask, J., & King, C. (2024). *Global Health Action*. 17(1).

Covello's cardinal rules (principles) of risk communication

1. **Accept and involve the public**
2. Listen and be responsive to specific public concerns
3. Be honest, frank and open
4. **Speak clearly and with compassion**
5. Involve and communicate with all stakeholders
6. **Work with other credible sources**
7. Meet the needs of the media
8. **Plan and evaluate efforts**

Adapted from Vincent Covello's Seven Cardinal Rules of Risk Communication, US EPA



The Blangkon Jogja Sumping worn by the Sultan of Yogyakarta signifies the importance of listening

What can justify more proactive public response?

Safety signal is real

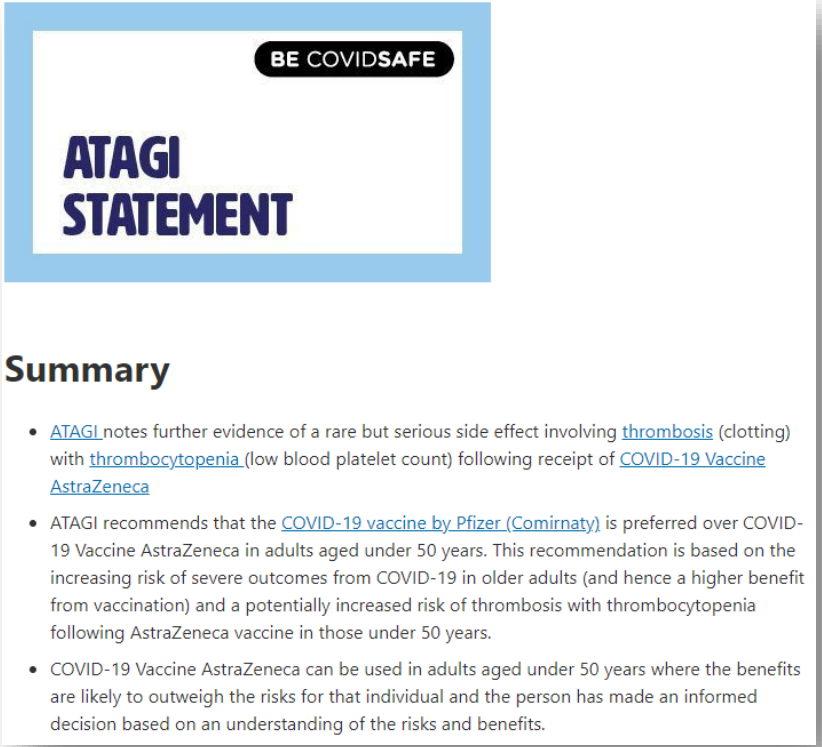
The event or story is gaining public attention

Stories are actively shared by a group of people who experience the outcome

An opinion leader is advancing a view

The confidence of HCW is likely to be affected

Adapted from COVID_19 vaccine safety communication manual: https://www.who.int/publications/i/item/9789240032781



Risk communication in the early stages – prioritise trustworthiness

Be honest, frank, and open

Acknowledge uncertainty, don't over-reassure

Give people things to do

Speak with compassion

Consider needs of priority populations

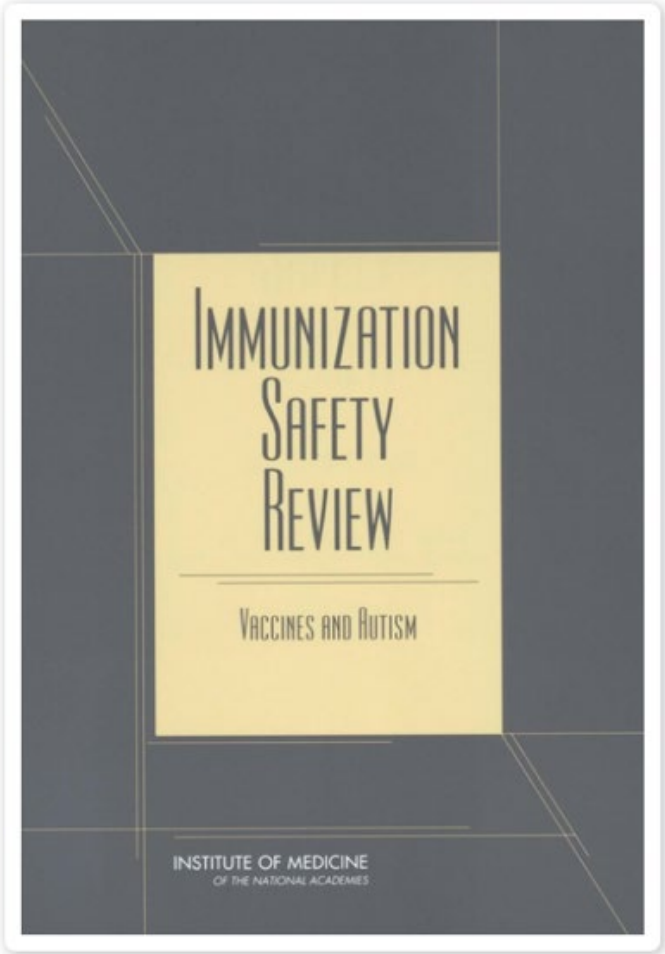
https://www.pmo.gov.sg/Newsroom/PM-Lee-remarks-COVID-19-Outbreak-12-Mar-2020 0 to 4:30

Communicate clearly …

Avoid jargon

“The committee concludes that the body of epidemiological evidence favors rejection of a causal relationship between the MMR vaccine and autism (and) potential biological mechanisms for vaccine-induced autism that have been generated to date are theoretical only.”

Immunization Safety Review: Vaccines and Autism 2004.



Put most important information first – an example

VERSION 1

Reports of death in people who have been vaccinated

Large scale vaccination means that some people will experience a new illness or die within a few days or weeks of vaccination. These events are often coincidental, etc etc

The [regulator] has identified x reports where the cause of death was linked to vaccination from y reports received and reviewed.

VERSION 2

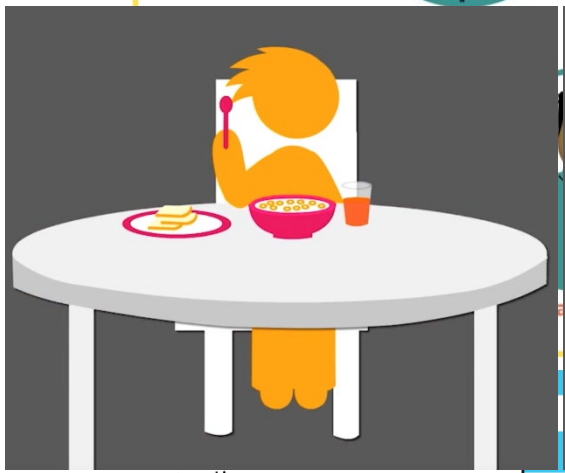
Reports of death in people who have been vaccinated

Vaccines can lead to death in extremely rare instances. However, most deaths that occur after vaccination are not caused by the vaccine. In large populations in which a new vaccine is given, there are people with underlying diseases who may die from these diseases. When a vaccine is given in that same population, the link between the vaccine and death is usually coincidental – not caused by the vaccine. These deaths are carefully reviewed for whether vaccines could be the cause and for the vast majority that is not the case."

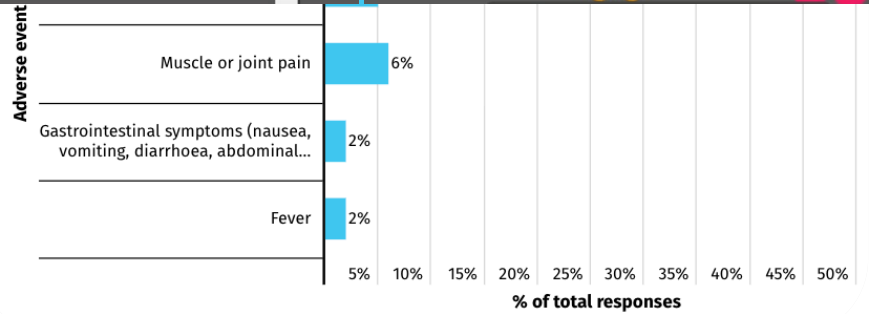
What does it mean to communicate clearly?

- Use plain language but don't over-simplify
- Check messages for understandability and actionability
- Use visuals
- Give words and numbers
- Acknowledge uncertainty
- Don't over-reassure









1. Mac OA, Muscat DM, Ayre J, Patel P, McCaffery KJ. The readability of official public health information on COVID-19. Med J Aust. 2021 Oct 18;215(8):373-375
2. Bonner C, Trevena LJ, Gaissmaier W, et al. Current Best Practice for Presenting Probabilities in Patient Decision Aids: Fundamental Principles. *Medical Decision Making*.
3. Davies C, et al JAMA Network Open. 2021;4(11):e2129057.

Accept and involve the public

Some methods of involvement

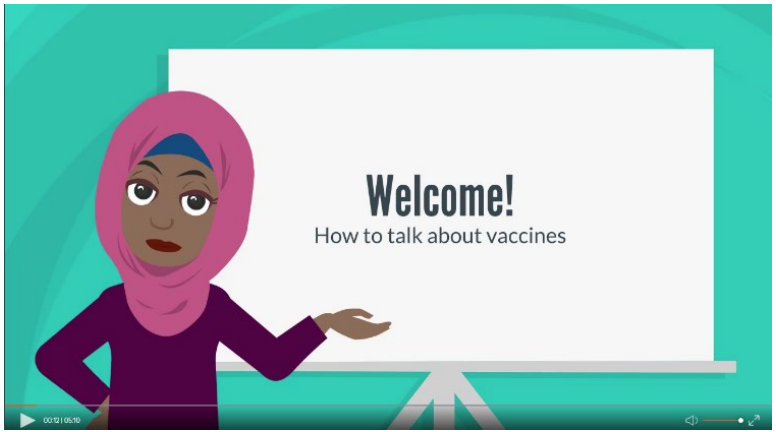
- Create links to publics before the event
- Community governance
- Employing people from the community
- Public dialogue and two-way communication
- Questionnaires, in-depth interviews and focus groups
- Invitation to public comment
- Community panels



Crooks K, Law C, Taylor K, Brett K, Murray P, Kohlhagen J, Hope K, Durrheim DN. Embedding Aboriginal cultural governance, capacity, perspectives and leadership into a local Public Health Unit Incident Command System during COVID-19 in New South Wales, Australia. BMJ Glob Health. 2023 Jul;8(7):e012709.

Renn O (2008) Risk Governance pp 255-262. Risk communication and public health 1999. Ed. P. Bennett and K. Calman, Oxford: Oxford University Press.

Work with credible sources
Community champions training



Australia
Minnesota
Kenya
Fiji
Tonga
Vietnam
Indonesia (image)
Papua New Guinea
Eastern Highlands
Province

Refugee leader training, Auburn NSW



Vaccine Champions Program

Peer-to-peer communication training modules, US, Kenya and Indonesia



Workshops with community and health workers in Awabakal and Gomeroi country



Champions practice their skills, Bandung Indonesia

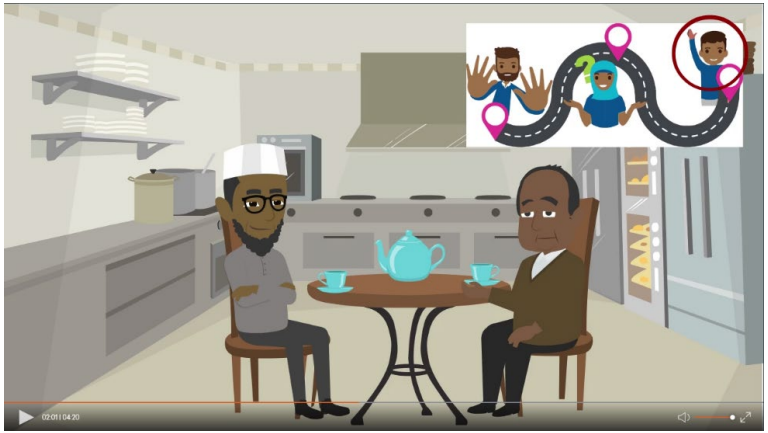
Kenya Somali community evaluation

African Institute for Health and Development, US CDC, Voices for Vaccines, and USYD

E-learning Peer-2-Peer Training Modules

1. How vaccines work
2. How we know vaccines are safe
3. Understand where people are on vaccine journey
4. How to set goals for your conversations
5. How to build trust
6. Planning Your Conversation
7. How to talk with Person who is Vaccine Supporter
8. How to talk with Person who is Vaccine Refuser
9. How to talk with Person who is Vaccine Hesitant





- 18% ↑ perceived COVID-19 vaccine importance
- 11% ↑ very likely to start a P2P vaccine convo
- 25% ↑ intended to get Covid-19 vaccine

Work with credible sources



Staff at WHO Samoa office discuss measles outbreak recovery, January 2020





SKAI
Sharing Knowledge About Immunisation

Conversation Guides





Talking with parents who are declining

Talking with parents who have questions

Talking with parents who are ready to vaccinate



SKAI Pregnancy and Newborn



SKAI Childhood



SKAI Adolescent



SKAI Healthcare Professionals

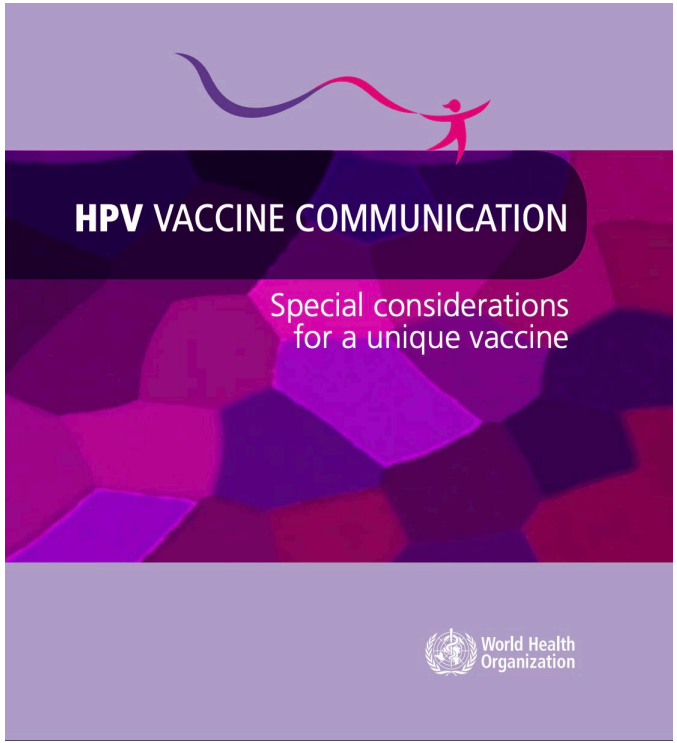
skai.org.au

NCIRS National Centre for Immunisation Research and Surveillance Australia

Plan ahead

ELEMENTS OF AN "AEFI" PLAN

- Standard operating procedures for handling the situation
- Description of how and when investigations will occur
- Description of how and when information and updates are communicated
- Authorized spokespeople
- Contact lists internally, for media, partners
- Strategies to communicate with different stakeholders
- Funding
- Consensus on the plan amongst key players



Source: https://www.iccp-portal.org/system/files/resources/WHO_HPV_vac_communication_2013.pdf

Responding to misinformation



Tarna Andrews, Utju. Vaccine promotion video for Red Dust Role Models video, 2021

- Be discerning
  - Is it salient
  - Is it being shared a lot?
  - Is it affecting behaviour?
- Prepare people – “you may hear”
- Debunk if it’s already circulating
- If it’s getting traction, correct quickly
- Use trusted spokespeople

- Lewandowsky, S., Cook, J., Schmid, P., et. al. The COVID-19 Vaccine Communication Handbook. A practical guide for improving vaccine communication and fighting misinformation. Vaccine misinformation management field guide: Unicef, First Draft, Yale Institute for Global Health, and PGP (The Public Good Projects)
- Ecker, U.K.H., Lewandowsky, S., Cook, J. *et al.* The psychological drivers of misinformation belief and its resistance to correction. *Nat Rev Psychol* **1**, 13–29 (2022).
- Steffens MS, Dunn AG, Marques MD, Danchin M, Witteman HO, Leask J. Addressing Myths and Vaccine Hesitancy: A Randomized Trial. Pediatrics. 2021;148(5).
- van der Linden, S. Misinformation: susceptibility, spread, and interventions to immunize the public. *Nat Med* **28**, 460–467 (2022). https://doi.org/10.1038/s41591-022-01713-6

Keep communicating after the event

Examples of slow resumption of program or clear, proactive communication:

- Samoa's MR vaccine suspension
- Australia's FluVax suspension[1]

"Lift the ban on MMR introduction and resume before it is too late. The 0% on MMR coverage alarms and flashes a red signal of loosing [sic] our children tomorrow,"

MoH report

https://www.samoaobserver.ws/category/samoa/79179

"No one ever comes back and asks us how could we do it better"



Article

ALTER NATIVE AN INTERNATIONAL JOURNAL OF INDIGENOUS PEOPLES

"No one ever comes back and asks us how could we do it better": findings from First Nations community panels about ways to keep First Nations peoples safe from COVID-19

AlterNative
2025, Vol. 21(2) 392–405
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1. King CL, Leask J. The impact of a vaccine scare on parental views, trust and information needs: a qualitative study in Sydney, Australia. BMC Public Health 2017;17:106

Next is a hypothetical scenario.
Remember your principles

1. Accept and involve the public
2. Listen and be responsive to specific public concerns
3. Be honest, frank and open
4. Speak clearly and with compassion
5. Involve and communicate with all stakeholders (especially priority populations)
6. Work with other credible sources
7. Meet the needs of the media
8. Plan and evaluate efforts