20TH Annual African Vaccinology Course 2025

Building Vaccinology Expertise in Africa

VACFA vaccines for africa

VACCINE CONFIDENCE

Strategies to improve vaccine decision-making and demand generation in Africa

SEFAKO MAKGATHO HEALTH SCIENCES UNIVERSITY

Hannelie Meyer

South African Vaccination and Immunisation Centre

Sefako Makgatho Health Sciences University

Email: hannelie.meyer@smu.ac.za

SAVIC

Declarations of Interest

Member of advisory committees:
NISEC, NAGI, NEMLC, CEPSA, AU-3S, WHO GACVS

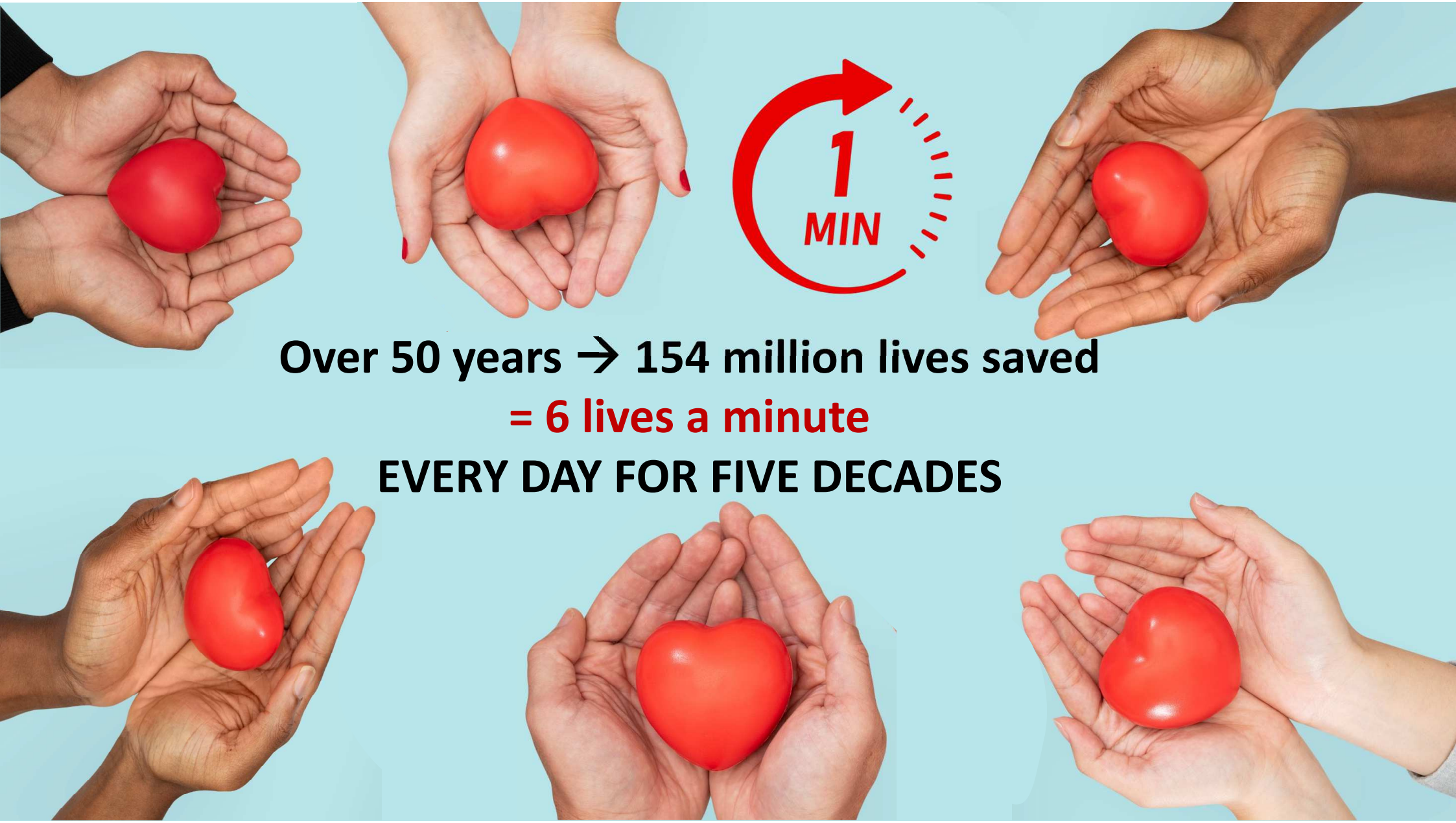
Advisory board/speaker fees/honoraria:
Sanofi and MSD

SAVIC receives unrestricted educational grants from the vaccine industry

Material content of this presentation represents my own views

I am passionate about vaccines to save lives!

Source for images:
Freepik premium subscription


1
MIN
Over 50 years → 154 million lives saved
= 6 lives a minute
EVERY DAY FOR FIVE DECADES

Millions of children at risk as global vaccine rates fall, study finds

Decline blamed on health inequalities, Covid disruption and soaring levels of misinformation and hesitancy

https://www.theguardian.com/society/2025/jun/24/children-global-vaccine-rates-fall-study-finds?utm_source=chatgpt.com

A health worker administers a dose of the measles vaccine to a child in Ciudad Juarez, Mexico. Photograph: Carlos Sanchez/Reuters

Global measles cases jumped in 2023 due to 'inadequate' vaccine coverage

https://www.reuters.com/business/healthcare-pharmaceuticals/global-measles-cases-jumped-2023-due-inadequate-vaccine-coverage-2024-11-14/

By **Sriparna Roy** and **Mariam E Sunny**

November 14, 2024 8:12 PM GMT+2 · Updated November 14, 2024

Mothers wait with their children while Health workers prepare routine vaccines for young children at Bundung Hospital in Bundung, Gambia August 30, 2022. REUTERS/Edward McAllister/File Photo Purchase Licensing Ri

JOURNAL ARTICLE

Vaccine-Preventable Disease Outbreaks Among Healthcare Workers: A Scoping Review

Tasnim Hasan, Michelle Lynch, Catherine King, Charbel Wehbe, Martin Plymoth, Md Saiful Theodore Iannuzzi, Aiken Dao, Jana Lai, Alexandra Martiniuk ... Show more

Author Notes

Clinical Infectious Diseases, Volume 79, Issue 2, 15 August 2024, Pages 555–561, https://doi.org/10.1093/cid/ciae209

Published: 17 April 2024 **Article history** ▾

https://academic.oup.com/cid/article/79/2/555/7648820#google_vignette

?

What are we seeing in the media?

Measles cases soar in Europe as vaccine coverage falls short

The World Health Organization says infections more than doubled in Europe and Central Asia between 2023 and 2024

The UN children's agency said measles cases in Europe and Central Asia are now at their highest level since 1997 © Andrii Biletskyi/Alamy

https://www.ft.com/content/bfbc8afc-111d-4975-9381-0fc69ccd7b0f

NBC NEWS U.S. NEWS POLITICS WORLD LOCAL

https://www.nbcnews.com/health/health-news/whooping-cough-surges-vaccines-decline-us-rcna201853

HEALTH NEWS

'Fighting to breathe': Whooping cough surges as vaccination rate falters

There have been 8,064 reported cases of whooping cough in the U.S., compared with 3,835 for the same time in 2024, according to CDC data.

General News

Diphtheria outbreak in SA puts spotlight on vaccinations

Date: Jan 7, 2025

The South African (SA) Health authorities in Cape Town say a recent diphtheria outbreak shows the importance of timely vaccinations.

http://web.sabc.co.za/sabc/home/channelafrica/news/details?id=1e62bc6f-b503-43e9-9360-064d0c671375&title=Diphtheria%20outbreak%20in%20SA%20puts%20spotlight%20on%20vaccinations

Crucial to achieve IA2030 goals

- Strengthen primary healthcare
- Address vaccine misinformation
- Address vaccine hesitancy
- Adapt to local context

Global, regional, and national trends in routine childhood vaccination coverage from 1980 to 2023 with forecasts to 2030: a systematic analysis for the Global Burden of Disease Study 2023

GBD 2023 Vaccine Coverage Collaborators*

Lancet 2025; 406: 235–60
Published Online
June 24, 2025
https://doi.org/10.1016/
S0140-6736(25)01037-2

Interpretation Our estimates of current vaccine coverage and forecasts to 2030 suggest that achieving IA2030 targets, such as halving zero-dose children compared with 2019 levels and reaching 90% global coverage for life-course vaccines DTP3, PCV3, and MCV2, will require accelerated progress. Substantial increases in coverage are necessary in many countries and territories, with those in sub-Saharan Africa and south Asia facing the greatest challenges. Recent declines will need to be reversed to restore previous coverage levels in Latin America and the Caribbean, especially for DTP1, DTP3, and Pol3. These findings underscore the crucial need for targeted, equitable immunisation strategies. Strengthening primary health-care systems, addressing vaccine misinformation and hesitancy, and adapting to local contexts are essential to advancing coverage. COVID-19 pandemic recovery efforts, such as WHO's Big Catch-Up, as well as efforts to bolster routine services must prioritise reaching marginalised populations and target subnational geographies to regain lost ground and achieve global immunisation goals.

Lancet 2025; 406: 235–60. https://doi.org/10.1016/S0140-6736(25)01037-2

Why are we seeing low vaccine uptake and vaccine preventable disease outbreaks?

Let's first take a few steps back ...

unicef

Health & Medicine

'Vaccine hesitancy' is on the WHO's list of 10 threats to global health in 2019

PRI's The World

January 22, 2019 · 11:30 AM EST

By The World staff

PRI's The World | global security

Where did the opposition to vaccination start?

Cowpox vaccine

"Unnatural" and "ungodly"

Vaccinated - would grow body parts of cows

https://en.wikipedia.org/wiki/File:The_cow_pock.jpg

https://en.wikipedia.org/wiki/Smallpox

1967:

2.7 million deaths

20%-40% case fatality

100% permanent facial scarring

1980:

Global eradication of smallpox

Thanks to the smallpox vaccine!

1998: Origin of the vaccines cause autism anti-vaccination movement (Andrew Wakefield)

	Autism positive	Autism negative
MMR received	8	No data
MMR NOT received	4	No data

Studied **ONLY 12** children with autism
NO comparison group

Made false claims

Claimed association between MMR vaccine and developing autism
No scientific basis for the claim

EARLY REPORT

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associ[illegible] by the parents, with measles, mumps, and rub[illegible] vaccination in eight of the 12 children, with measl[illegible] infection in one child, and otitis media in [illegible]. All 1[illegible] children had intestinal abnormalities, [illegible] from lymphoid nodular hyperplasia to [illegible] u[illegible]ration. Histology showed patchy chronic inflam[illegible] in 11 children and reactive ile[illegible] [illegible] [illegible]erplasia in seven, but no granulomas. Be[illegible] disor[illegible] included autism (nine), disintegrati[illegible] [illegible] (one), a[illegible] possible postviral or vaccinal encephalitis [illegible]. There were no focal neurological ab[illegible]malities and [illegible] and EEG tests were normal. Abno[illegible] laboratory results [illegible] significantly raised urinary [illegible] acid compared with age-matched contro[illegible], low haemoglobin in four children, [illegible] low [illegible] IgA in [illegible] children.

Inter[illegible] [illegible] associated gastrointestinal di[illegible] and [illegible] regression in a group of prev[illegible], which was generally associated in time [illegible] possible environmental triggers.

Lancet 199[illegible]: 637–41
See Commentary page

Inflammatory Bowel Disease Study Group, University Departments of Medicine and Histopathology (A J Wakefield FRCS, A Anthony MB, J Linnell PhD, A P Dhillon MRCPath, S E Davies MRCPath) **and the University Departments of Paediatric Gastroenterology** (S H Murch MB, D M Casson MRCP, M Malik MRCP, M A Thomson FRCP, J A Walker-Smith FRCP), **Child and Adolescent Psychiatry** (M Berelowitz FRCPsych), **Neurology** (P Harvey FRCP), **and Radiology** (A Valentine FRCR), **Royal Free Hospital and School of Medicine, London NW3 2QG, UK**

Correspondence to: Dr A J Wakefield

Introduction

We saw several children who, after a p[illegible] of apparent normality, lost acquired skills, inclu[illegible] com[illegible]ication. They all had gastrointestinal [illegible]mptoms, [illegible]uding abdominal pain, diarrhoea, and [illegible]ting and, [illegible] some cases, food intolerance. We [illegible]cribe [illegible] clinical f[illegible]ings, and gastrointestinal featur[illegible] of these ch[illegible]en.

Patients and met[illegible]s

12 children, con[illegible] [illegible] to [illegible] department of paediatric gast[illegible]rology [illegible] a h[illegible] of a pervasive developmental [illegible] with loss [illegible] skills and intestinal symptoms [illegible] abdominal [illegible], bloating and food intolerance), were inv[illegible]ated. All children were admitted to the ward [illegible] week, accomp[illegible] by their parents.

C[illegible]ical investigations

[illegible] took histor[illegible] including details of immunisations and [illegible] to infec[illegible] diseases, and assessed the children. In 11 ca[illegible] the histor[illegible] obtained by the senior clinician (JW-S). Neur[illegible] psychiatric assessments were done by [illegible] (PH, MB) with HMS-4 criteria.[1] Developmental [illegible] included a review of prospective developmental records from [illegible], health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum; ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from eight of the 12 children and 14 age-matched and sex-matched normal controls, by a modification of a technique described previously.[2] Chromatograms were scanned digitally on computer, to analyse the methylmalonic-acid zones from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample *t* test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antiendomysial antibodies and boys were screened for fragile-X if this had not been done

Medical license revoked by Britain's General Medical Council

Are vaccines associated with autism?

NO!

Home » Autism and vaccines – 164 science articles say no link (UPDATED)

Autism and vaccines – 164 science articles say no link (UPDATED)

by Michael Simpson / 2023-07-10 /

Andrew Wakefield, Autism, Christopher Shaw, Del Bigtree Kennedy Jr, Vaccines

https://www.skepticalraptor.com/skepticalraptorblog.php/autism-and-vaccines-150-peer-reviewed-articles-no-link/

Vaccine 32 (2014) 3623–3629

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies

Luke E. Taylor, Amy L. Swerdfeger, Guy D. Eslick*

RESEARCH ARTICLE

Quantifying the effect of Wakefield et al. (1998) on skepticism about MMR vaccine safety in the U.S.

Matthew Motta[1]*, Dominik Stecula[2]

1 Department of Political Science, Oklahoma State Universit
2 Department of Political Science, Colorado State University

* matthew.motta@okstate.edu

Conclusions

Vaccine skepticism increased following the publication of AW98, which was potentially made possible by increased negative media coverage of MMR.

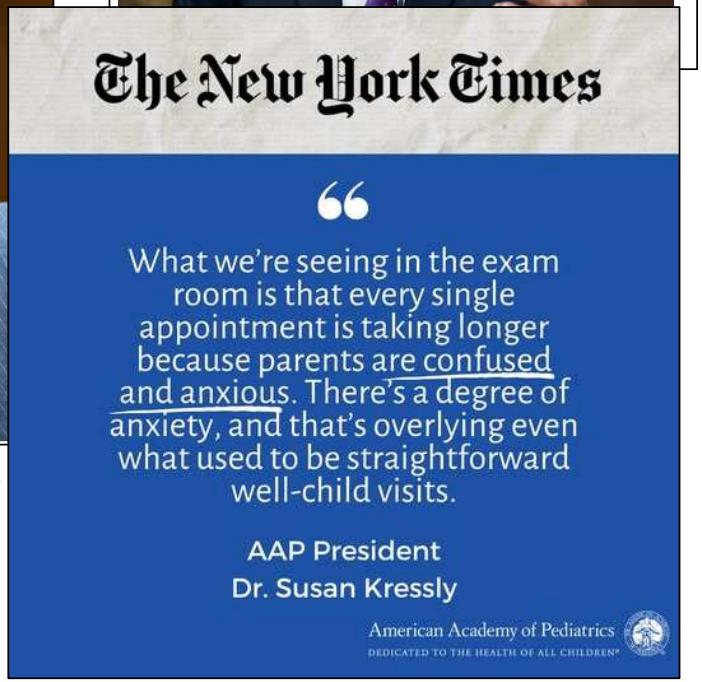
Motta M, Stecula D. PLoS One. 2021 Aug 19;16(8):e0256395. doi: 10.1371/journal.pone.0256395. PMID: 34411172

Multiple large scale epidemiological studies BUT … vaccine hesitancy persists

International spread of misinformation and disinformation

False claims and statements undermining trust in vaccines and health authorities

https://theconversation.com/rfk-junior-is-stoking-fears-about-vaccine-safety-heres-why-hes-wrong-and-the-impact-it-could-have-259986/



Who is RFK Junior, apart from being the Health Secretary of the US?

Majority of Covid misinformation came from 12 people, report finds

CCDH finds 'disinformation dozen' have combined following of 59 million people across multiple social media platforms

The Disinformation Dozen are responsible for up to 65% of anti-vaccine content

At the outset of this research, we identified a dozen individuals who appeared to be extremely influential creators of digital anti-vaccine content. These individuals were selected either because they run anti-vaccine social media accounts with large numbers of followers, because they produce high volumes of anti-vaccine content or because their growth was accelerating rapidly at the outset of our research in February. Full profiles of each are available at the end of this report.

1. Joseph Mercola
2. Robert F. Kennedy, Jr.
3. Ty and Charlene Bollinger
4. Sherri Tenpenny
5. Rizza Islam
6. Rashid Buttar
7. Erin Elizabeth
8. Sayer Ji
9. Kelly Brogan
10. Christiane Northrup
11. Ben Tapper
12. Kevin Jenkins

OPINION / COLUMNISTS

KATE THOMPSON DAVY: A dirty dozen peddle most anti-vax conspiracies via social media

Report finds that just 12 internet influencers are behind almost two-thirds of vaccine disinformation

27 JULY 2021 - 18:36

by KATE THOMPSON DAVY AND KATE THOMPSON DAVY

https://www.theguardian.com/world/2021/jul/17/covid-misinformation-conspiracy-theories-ccdh-report
https://www.businesslive.co.za/bd/opinion/columnists/2021-07-27-kate-thompson-davy-a-dirty-dozen-peddle-most-anti-vax-conspiracies-via-social-media/

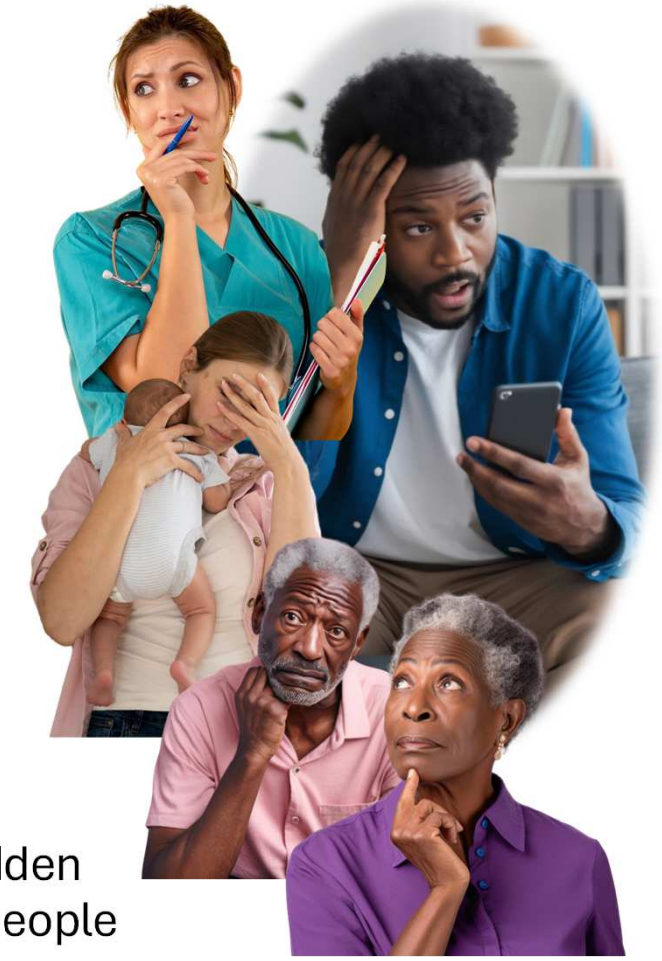
Negative information influencing vaccine perceptions and decision-making

Misinformation
False or misleading information

Disinformation
False information, purposely shared to mislead others

Fake news
Fictitious information that parades as genuine news

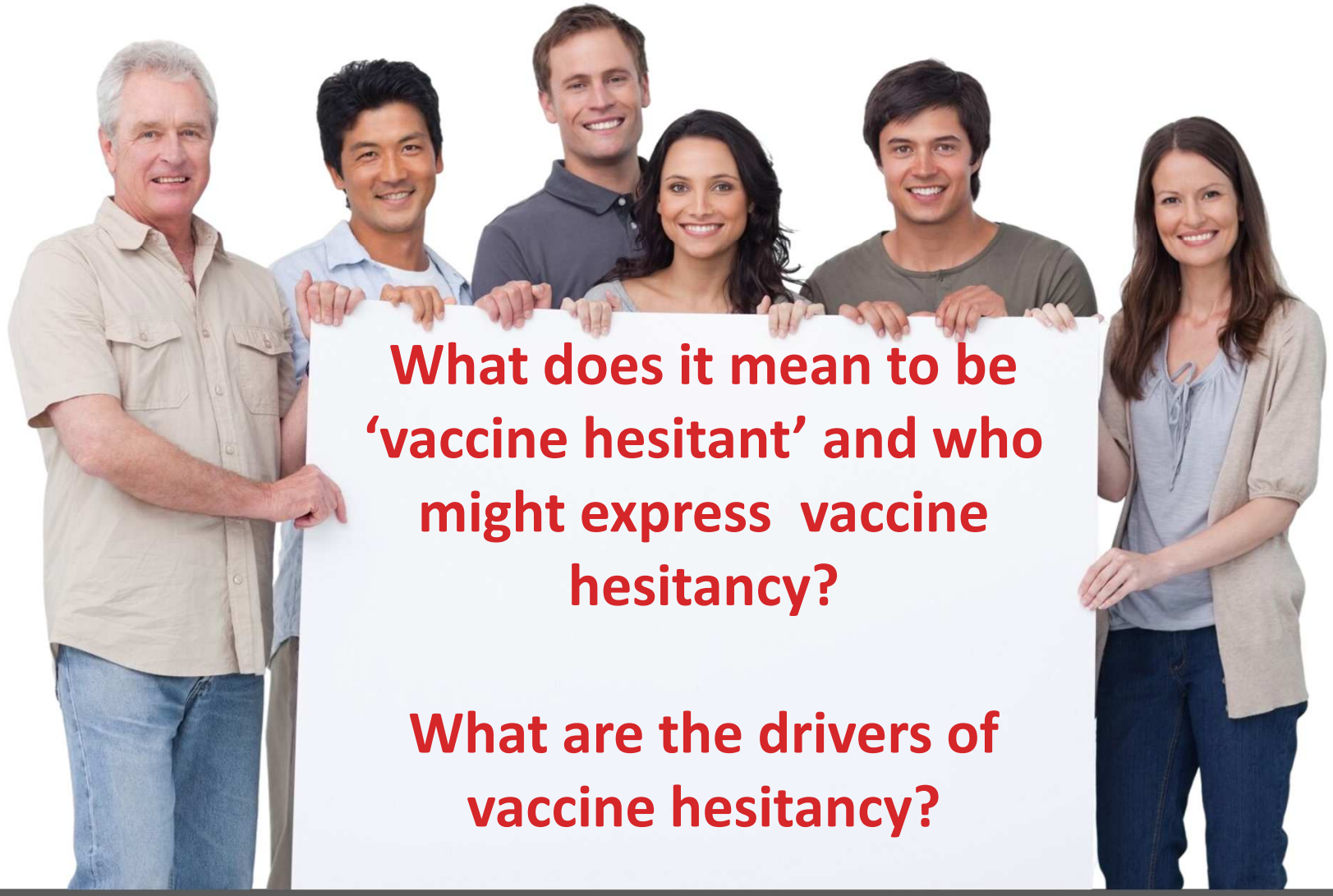
Conspiracy theories
Explanations alluding to alleged hidden influence of supposedly powerful people



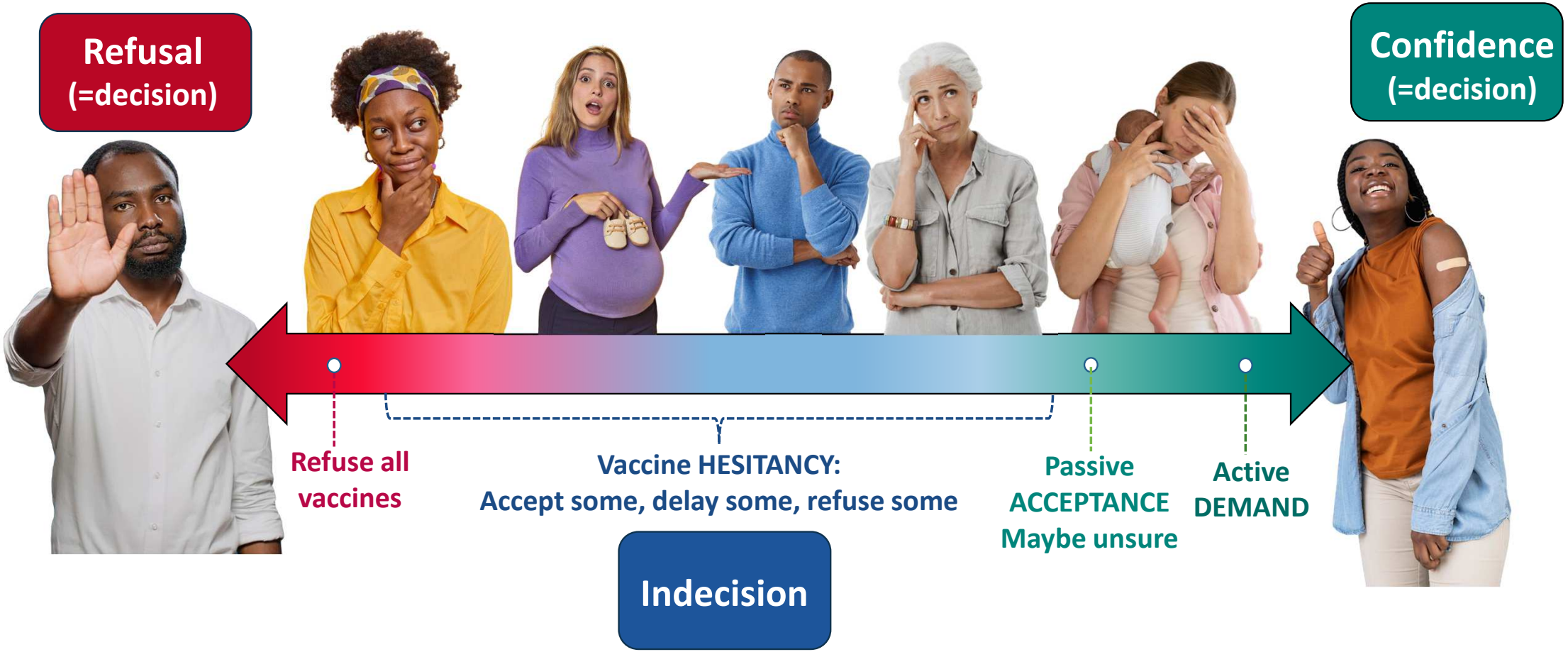
Negative perceptions

→ Undermining trust in vaccines
→ Decreasing confidence
→ Fear about safety
→ Anxiety
→ Refusing vaccination

COVID-19 vaccines: safety surveillance manual. Geneva: World Health Organization; 2020.


What does it mean to be ‘vaccine hesitant’ and who might express vaccine hesitancy?
What are the drivers of vaccine hesitancy?

Vaccine hesitancy: A complex phenomenon to address



WHO, 2014; Report of SAGE; MacDonald NE. Vaccine hesitancy: Definition, scope and determinants.
Vaccine. 2015;33(34):4161-4; Larson HJ, Gakidou E, Murray CJL. The Vaccine-Hesitant Moment. N Engl J Med. 2022;387(1):58-65..

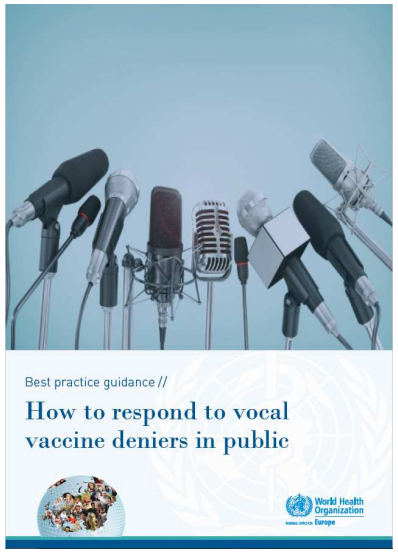
Who might express vaccine hesitancy? ... ANYONE ...

... MANY are influencers of vaccination decision-making ...

Vaccine denial is NOT the same as vaccine hesitancy

Vaccine deniers

Vaccine denier is someone who **does not accept** the process of vaccination while **denying scientific** evidence and employing **rhetorical arguments** to give the **false appearance** of legitimate debate



https://www.who.int/immunization/sage/meetings/2016/october/8_Best-practice-guidance-respond-vocal-vaccine-deniers-public.pdf

Concerns of the vaccine hesitant

Focus of building vaccine confidence

How can we move people from being vaccine hesitant to demanding immunisation?

Understanding Demand and Hesitancy

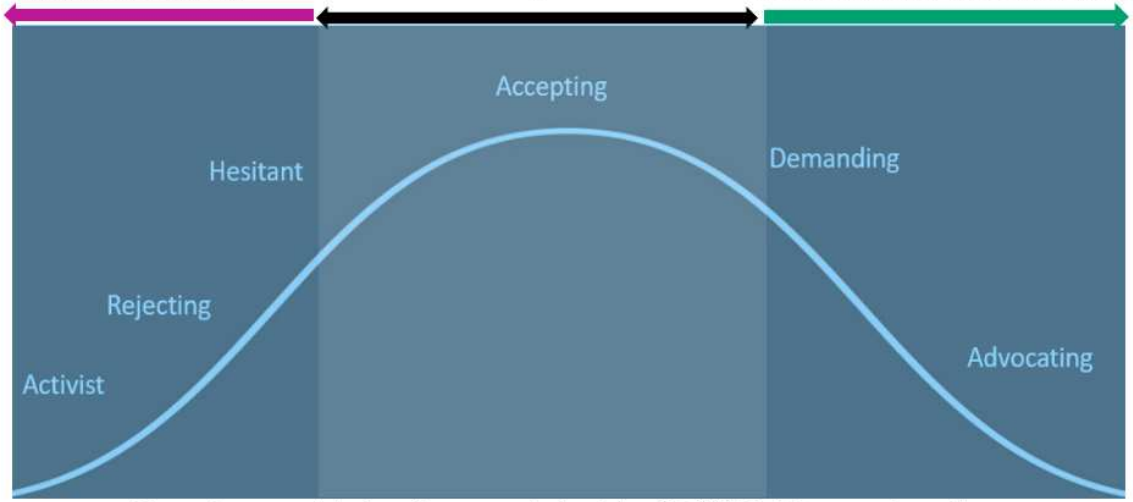
Vaccine Hesitancy

delay in acceptance or refusal of vaccines despite availability of vaccine services

Acceptance

Immunization Demand

the actions of individuals & communities to seek, support, and/or advocate for vaccines and immunization services



Spectrum of intentions related to COVID-19 vaccines*

*GACVS vaccine safety communications guide for COVID-19 vaccines (chapter 9) -- forthcoming

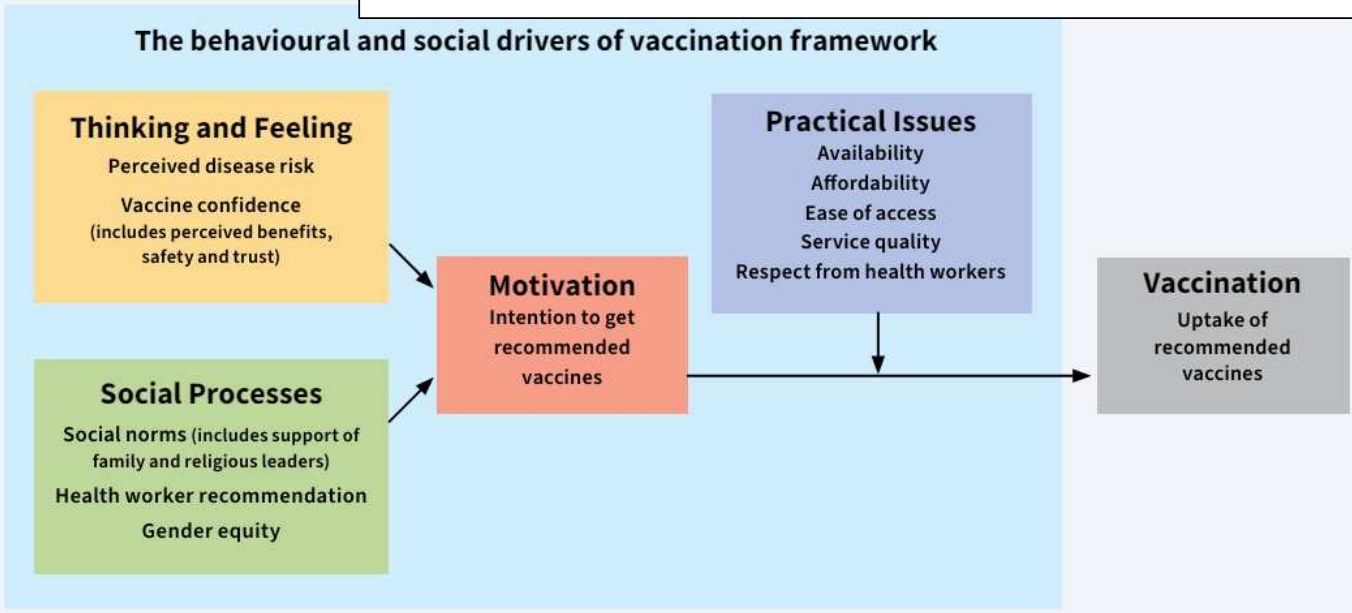
https://www.who.int/initiatives/act-accelerator/covax/covid-19-vaccine-country-readiness-and-delivery/

Understanding the drivers of vaccine uptake

Useful reference

1. **Thinking and feeling** about vaccines
2. **Social processes** that drive or inhibit vaccination
3. **Motivation** (or hesitancy) to seek vaccination
4. **Practical issues** involved in seeking and receiving vaccination

Fig. 1. **The BeSD Framework**



The BeSD working group. Based on Brewer et al. Psychol Sci Public Interest. (2017).

https://iris.who.int/bitstream/handle/10665/354459/9789240049680-eng.pdf?sequence=1&isAllowed=y

Understanding the drivers of vaccination decision-making

How can we build confidence in vaccines by addressing the drivers of vaccination decision-making?

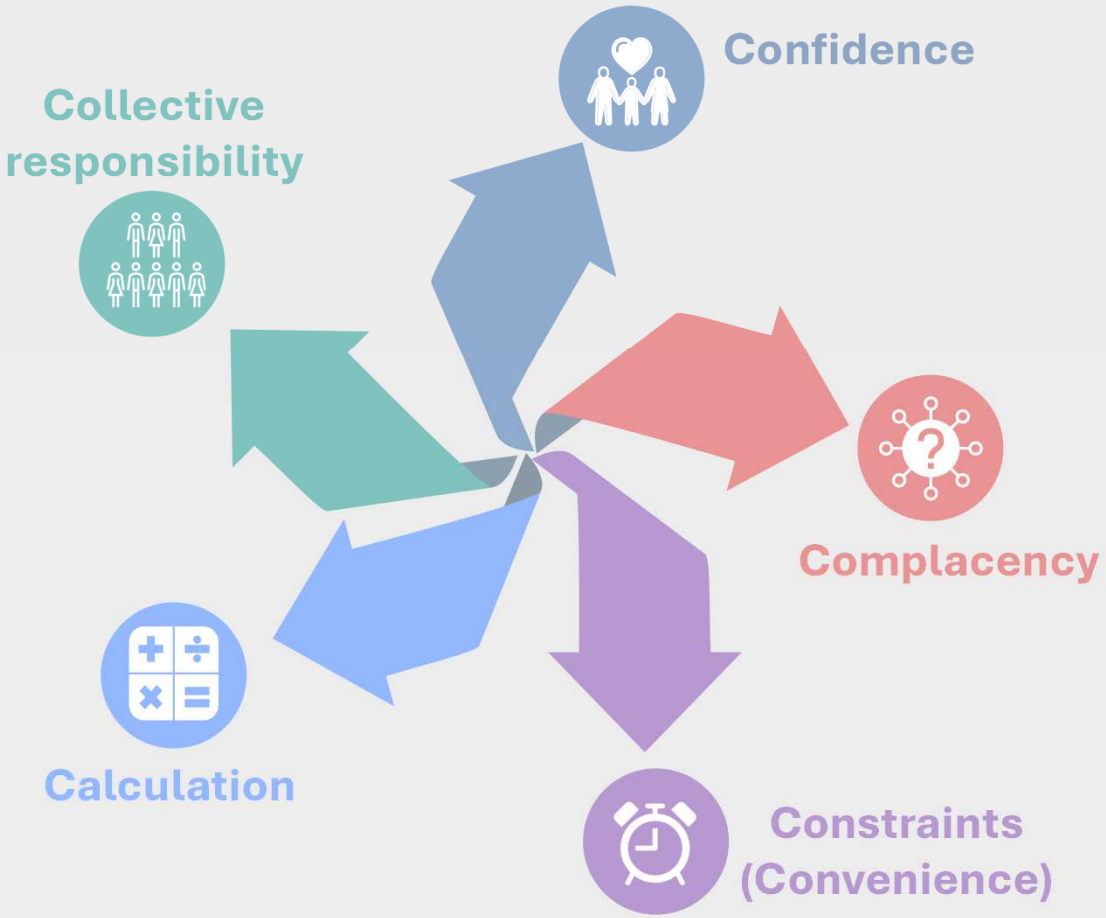
How to address people's concerns about vaccines?

What are important considerations from individuals' perspectives?

What are the missed opportunities?

Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

Understanding the drivers of vaccination decision-making

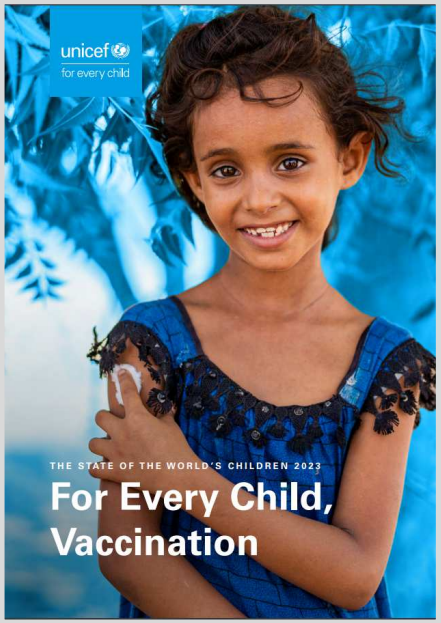


Confidence

- Trust?
- Vaccines
- Healthcare services

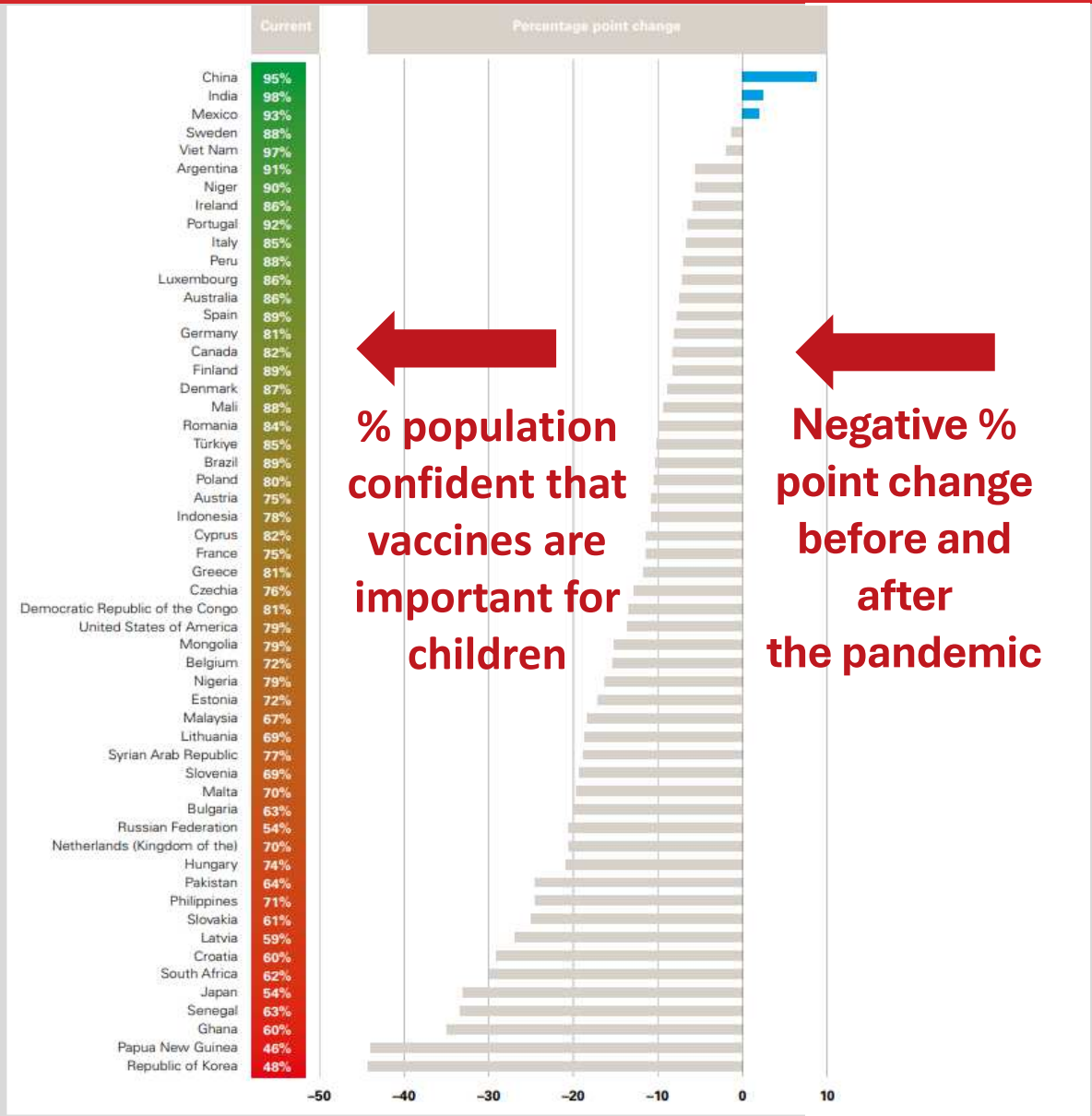
Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

Decline in confidence in childhood vaccines



Example: **30% decline in confidence** in childhood vaccines in **South Africa**
Only **62%** of population **confident that vaccines are important for children**

https://www.unicef.org/reports/state-worlds-children-2023



Brief Communication https://doi.org/10.1038/s41591-024-02939-2

Influence of COVID-19 on trust in routine immunization, health information sources and pandemic preparedness in 23 countries in 2023

Received: 19 December 2023
Accepted: 21 March 2024
Published online: 29 April 2024
Check for updates

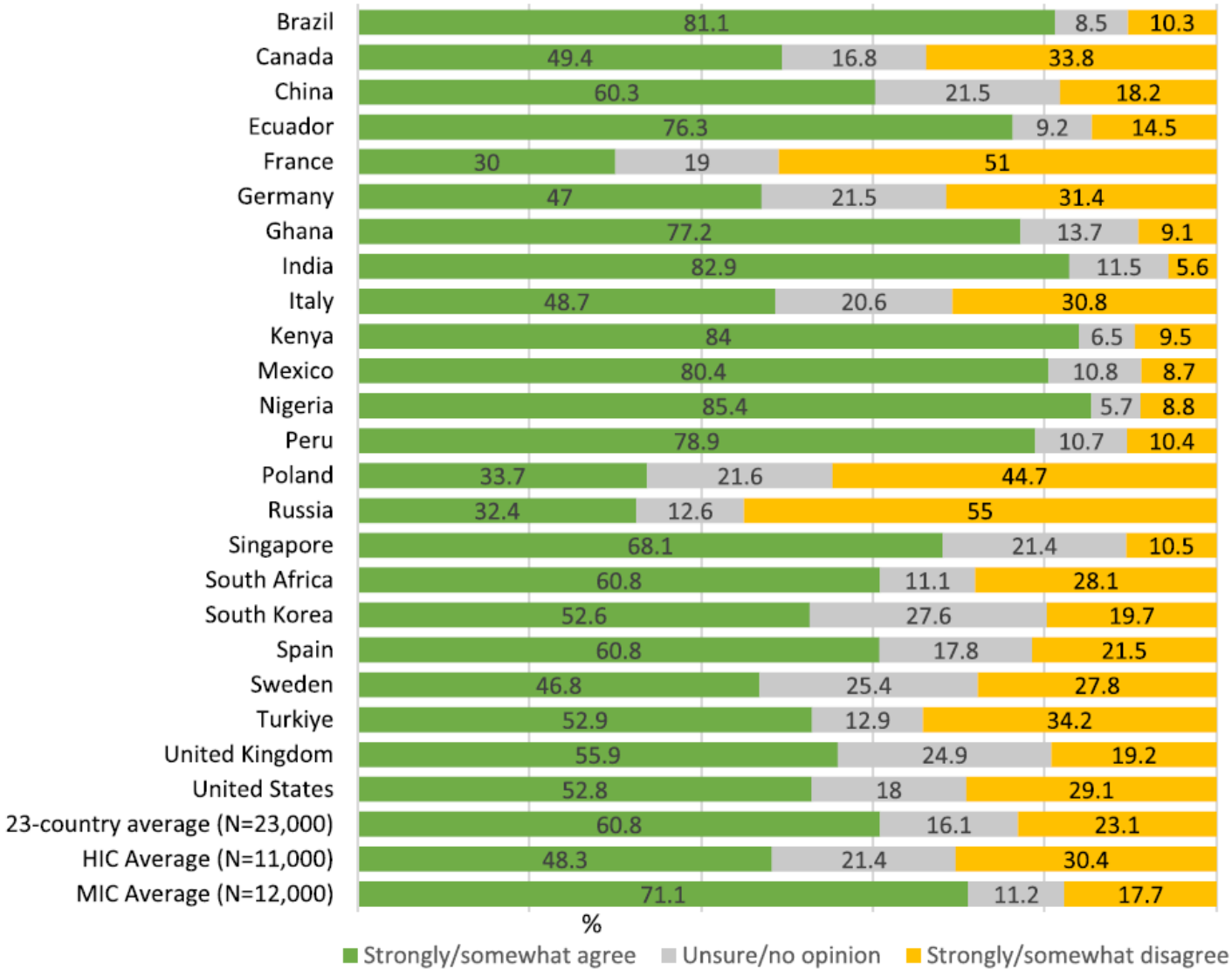
Jeffrey V. Lazarus[1,2,3], Trenton M. White[1,2], Katarzyna Wyka[1], Scott C. Ratzan[1], Kenneth Rabin[1], Heidi J. Larson[4,5], Federico Martinon-Torres[6], Ernest Kuchar[7], Salim S. Abdool Karim[8,9], Tamara Giles-Vernick[10], Selina Müller[11], Carolina Batista[12,13], Nellie Myburgh[14], Beate Kampmann[15] & Ayman El-Mohandes[1]

Adult willingness to get vaccinated against other diseases

39.2%
Unsure / No opinion
Strongly / Somewhat disagree

Lazarus JV et al. Nat Med. 2024 Apr 29. doi: 10.1038/s41591-024-02939-2

Panel a. Willingness to get vaccinated against other disease (e g , flu, measles, viral hepatitis B).



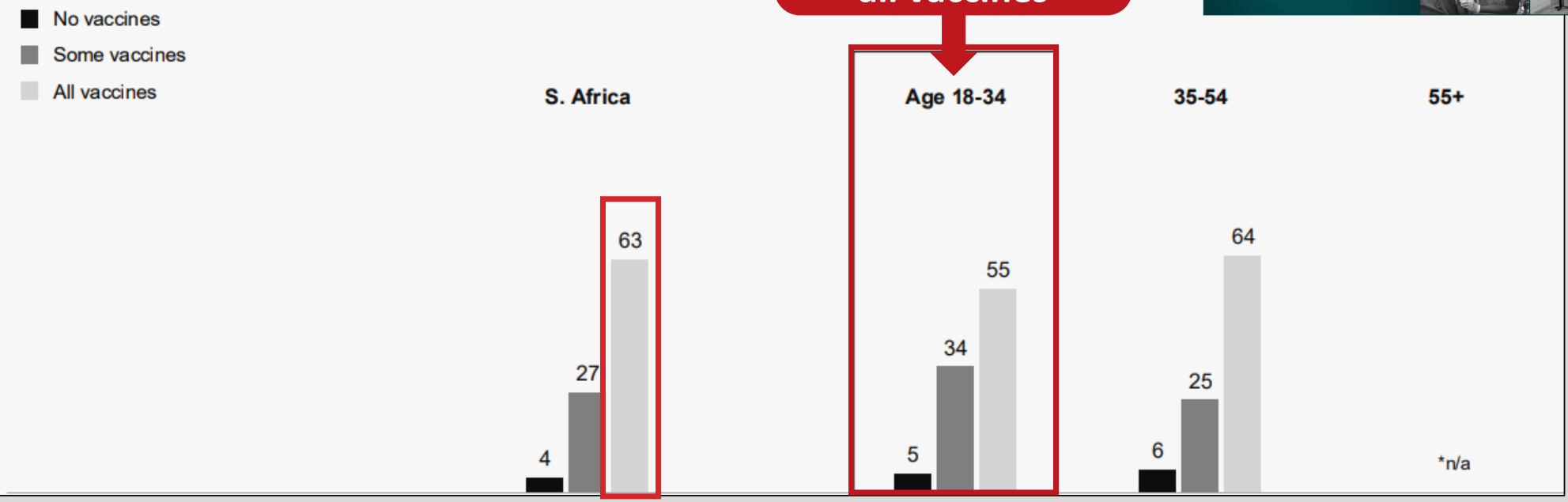
Uncertainty about childhood vaccines especially amongst young adults

1 in 3 Young People Uncertain About Childhood Vaccines

Percent who say this best describes my beliefs about **childhood** vaccines, in S. Africa

I gave, or would give, my children…

Only 55% would give their children all vaccines



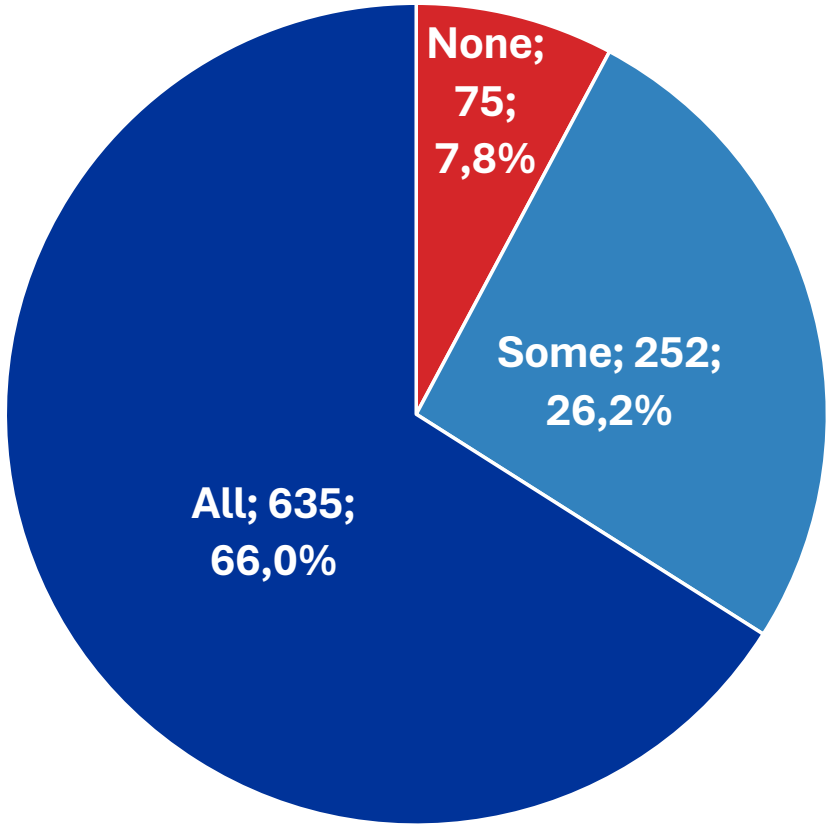
Edelman Trust Institute. 2025 Edelman Trust Barometer. Special Report: Trust and Health in South Africa. Available at https://www.africa.edelman.com/sites/g/files/aatuss536/files/2025-02/2025%20Edelman%20Trust%20Barometer_S.%20Africa%20Report.pdf

Example: 962 pregnant women attending antenatal care in Cape Metro West 2023-2024

South Africa has an immunization schedule of recommended vaccines for children

Do you want your child to get

→ None of these vaccines (immunization)
→ Some of these vaccines (immunization)
→ All of these vaccines (immunization)



Courtesy of Imen Ayouni – Unpublished data – Not for reference

Healthcare workers are NOT immune to vaccine hesitancy

EXPERT REVIEW OF VACCINES

https://doi.org/10.1080/14760584.2022.2023355

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ierv20

COVID-19 vaccine acceptance and hesitancy among healthcare workers in South Africa

Charles S Wiysonge, Samuel M Alobwede, Patrick de Marie C Katoto, Elvis Kidzeru, Evelyn N Lumngwena, Sara Cooper, Rene Goliath, Amanda Jackso & Muki S Shey

Are healthcare workers able to promote vaccines with confidence?

Concerns of healthcare workers

- **Low trust** in vaccine **effectiveness**
- Perceived **speed** of vaccine developed
- Observing patients presenting with **apparent side-effects** following vaccination
- Confidence in **natural immunity**
- **Lack of trust** in sources of **information**
- Insufficient **information and misinformation** about COVID-19 vaccines

vaccines

MDPI

Article

Understanding COVID-19 Vaccine Hesitancy among Healthcare Workers in South Africa

Gavin George [1,2,*], Phiwe Babalo Nota [1], Michael Strauss [1], Emma Lansdell [1], Remco Peters [3], Petra Brysiewicz [4], Nisha Nadesan-Reddy [4] and Douglas Wassenaar [5]

https:// doi.org/10.3390/vaccines11020414

Misinformation and public distrust

Societal threats to public health

Health in the age of disinformation

Health misinformation (false or misleading data shared unintentionally) and disinformation (deliberately deceptive information) are not new, but the COVID-19 pandemic marked a turning point. The sense of anxiety and urgency, coupled with the rise in the use of social media and politically charged interpretations of the pandemic, fostered the spread of a series of misleading claims about the virus and medical countermeasures.

can be a force for good, and there
work to educate the public creatively

Fighting misinformation is not
correcting facts; it also involves ac
manipulation and the way algorit
attention, leaving individuals to
mix of science and fiction alone.
(AI)-generated content presents

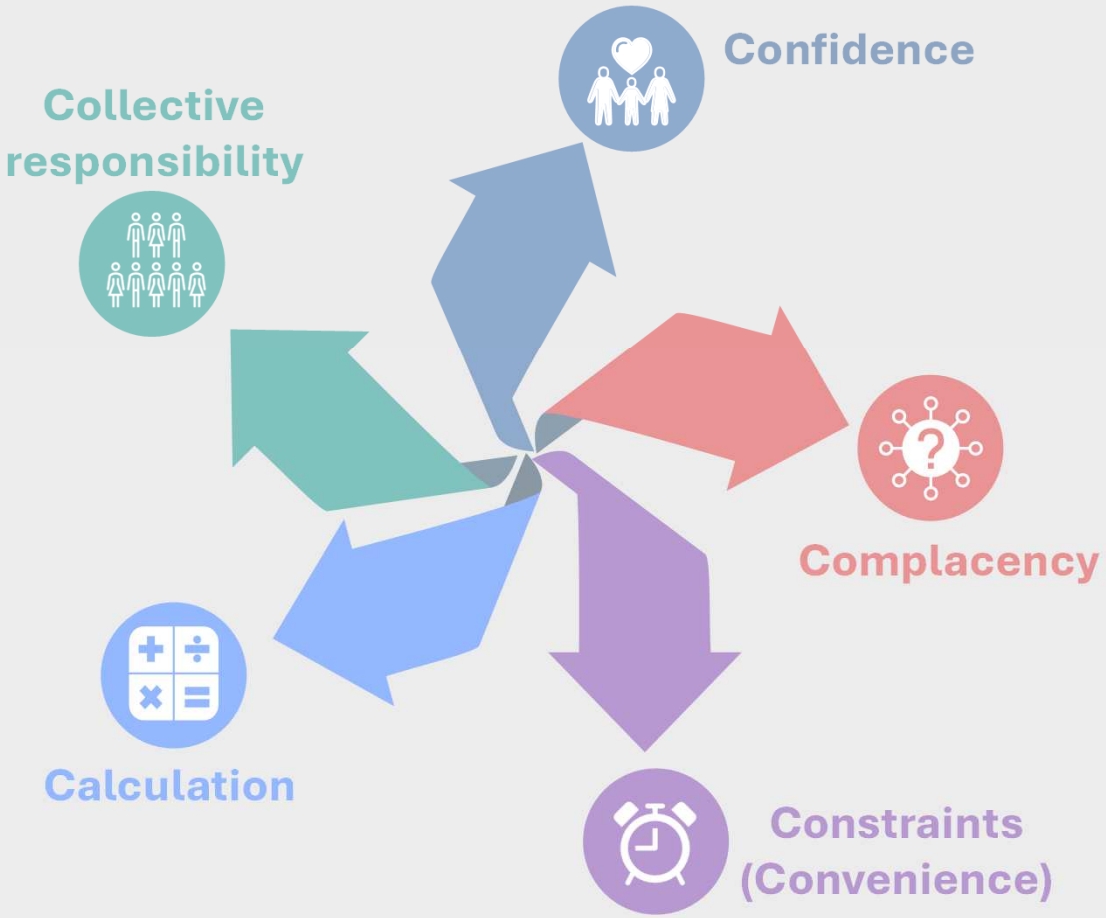
Misinformation and disinformation can no longer be viewed simply as an academic nuisance, but rather they are a societal threat. Only if we recognise that threat and act proportionately can we respond to the danger and combat the tide of misinformation and disinformation that has the potential to seriously undermine public health. ■ *The Lancet*

Good governance essential to expanding vaccine capacity and strengthening public trust

The unprecedented dismissal of the entire US Advisory Committee on Immunization Practices in June, 2025, was justified by US Secretary of Health and Human Services, and long-time vaccine critic, Robert F Kennedy Jr, as a move to "restore public trust in vaccines".[1] He claimed the Committee was "plagued with persistent conflicts of interest" which included receiving "substantial funding from pharmaceutical companies".[1] Yet amid the global spread of vaccine misinformation to which Kennedy has contributed,[2] this politically motivated action, alongside his attacks on vaccine science including defunding of mRNA vaccine research,[3] is further damaging public confidence in vaccines.[4]

Published Online
August 29, 2025
https://doi.org/10.1016/
S0140-6736(25)01681-2

Understanding the drivers of vaccination decision-making

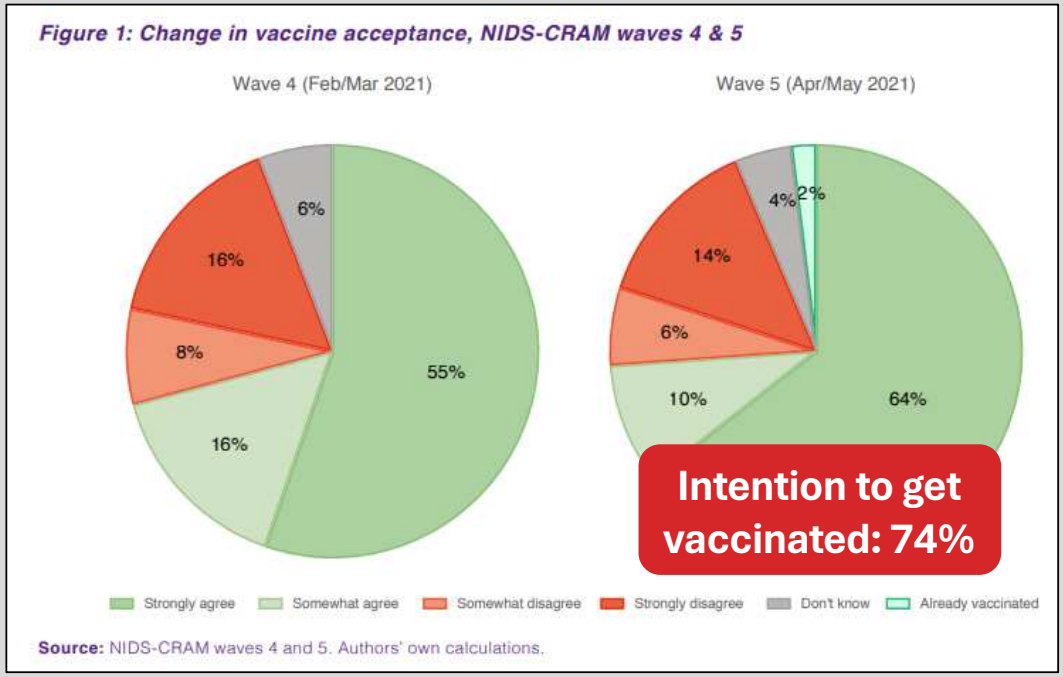


Complacency

- Risk of VPD?
- Harmful
- Contracting disease

Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

NIDS-CRAM surveys in South Africa



Intention to get vaccinated: 74%

Burger et al. 2021. https://cramsurvey.org/reports/

Low COVID-19 vaccine uptake

Age Group	Total Population	Total Number of Individuals Vaccinated	Individuals Vaccinated as a % of the Population
12-17	6,242,798	2,201,283	35.26%
18-34	17,788,511	7,245,609	40.73%
35-49	11,686,937	6,482,681	55.47%
50-59	4,817,271	3,170,693	65.82%
60+	5,505,482	3,677,074	66.79%
Total	46,040,999	22,782,560	49.48%

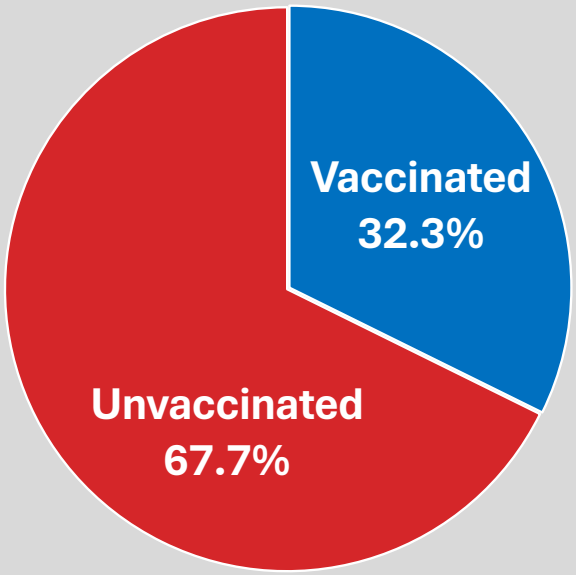
SAHPRA AEFI Microsite. https://aefi-reporting.sahpra.org.za/doses.html

Only 50% of the general population got vaccinated against COVID-19 by January 2023

Considerations for translation of intentions to actions

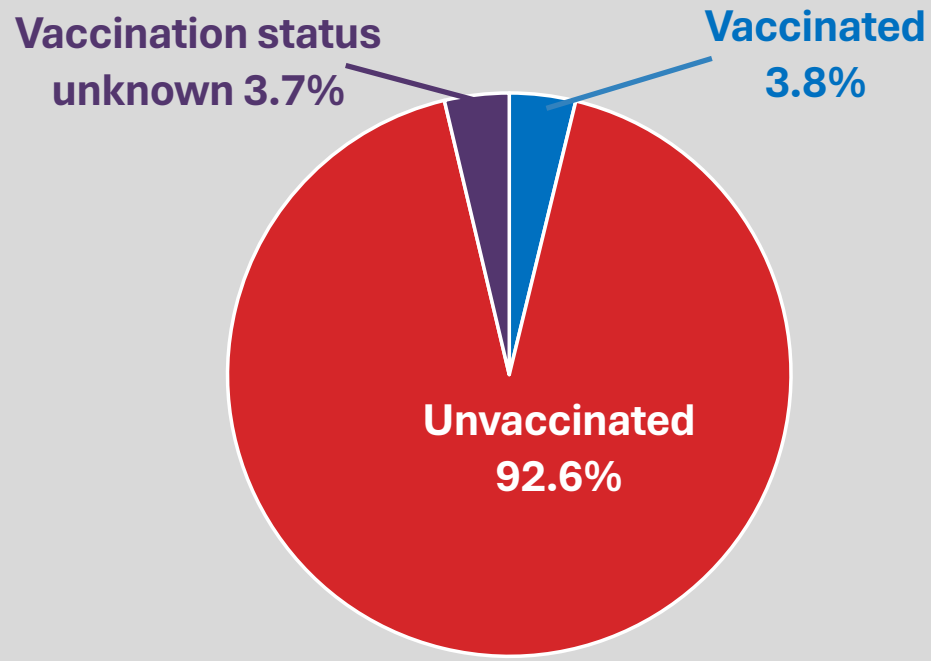
Time, costs and burden associated with registration; Hassle-free access; Removing impediments; Weekend services; Positive framing of side-effects; Misinformation and disinformation

Example: Influenza vaccine uptake amongst the elderly in South Africa (n=985)



Unavailability of the vaccine was the main reason for not receiving the influenza vaccine (23.4% [155/661])

Example: Pneumococcal uptake amongst the elderly in South Africa (n=985)

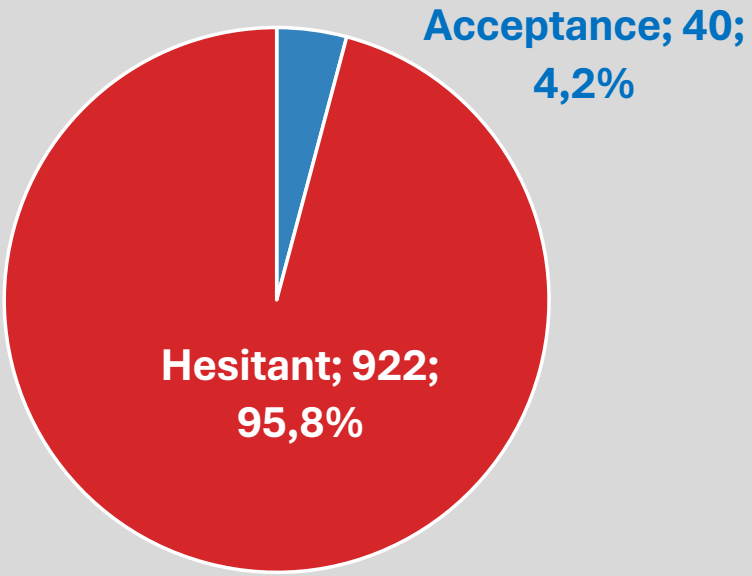


Lack of awareness of the need for pneumococcal vaccination was the main reason for non-vaccination (96.6% [881/912])

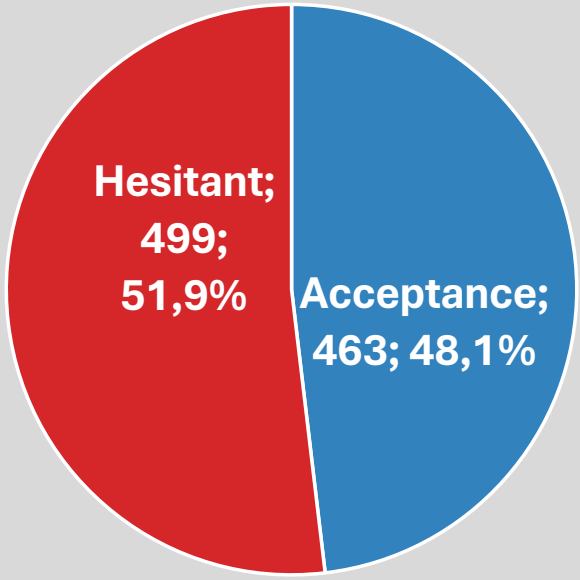
Sibanda M, et al. 2024. Vaccine uptake, associated factors and reasons for vaccination status among the South African elderly; findings and next steps. PLoS ONE 19(12): e0314098. https://doi.org/10.1371/journal.pone.0314098

Example: 962 pregnant women attending antenatal care in Cape Metro West 2023-2024

Do you want to get a COVID-19 vaccine during pregnancy?

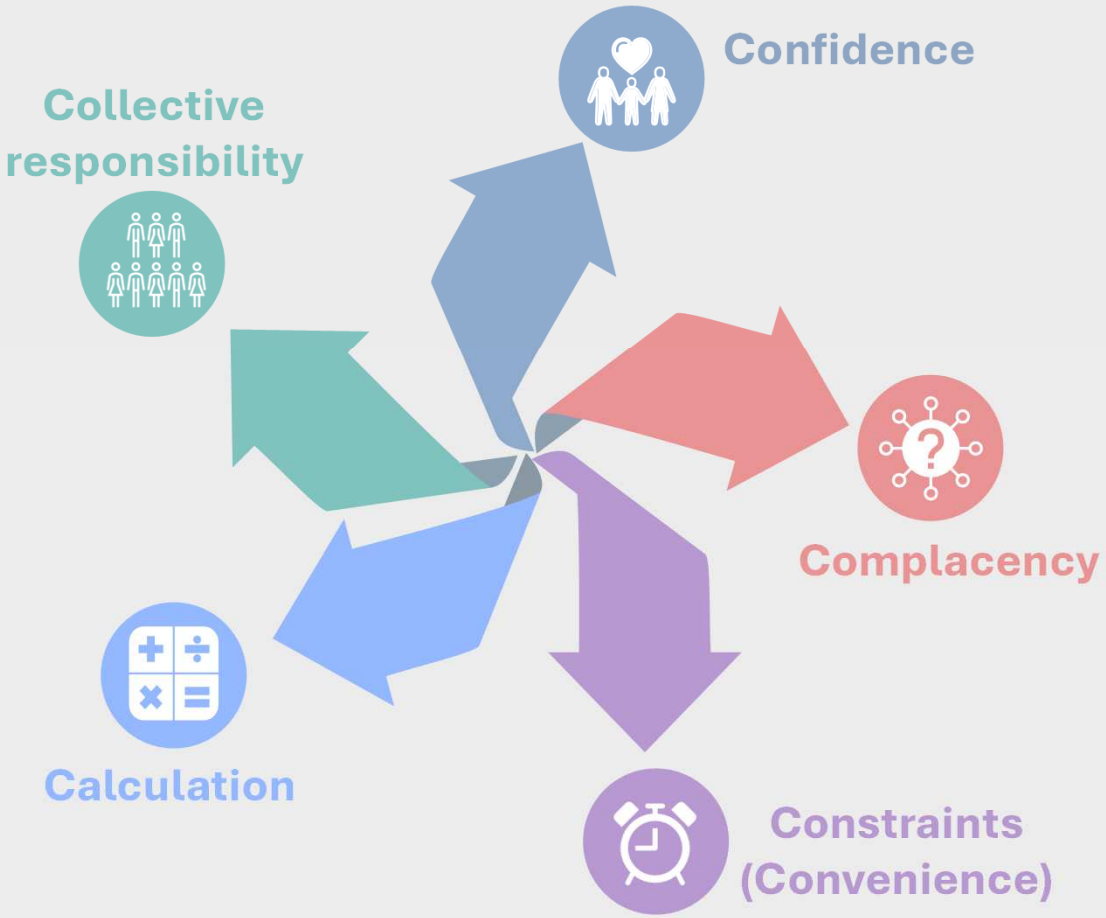


If you were given the option to get a vaccine against influenza (flu), would you accept vaccination?



Courtesy of Imen Ayouni – Unpublished data – Not for reference

Understanding the drivers of vaccination decision-making



Constraints (Convenience)

- Access
- Affordable
- Time

Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

Availability, access and affordability

To Vaccinate Or Not: What Drives Parents' Choices

Home / News / To vaccinate or not: what drives parents' choices

https://health-e.org.za/2025/09/03/to-vaccinate-or-not-what-drives-parents-choices-vaccinate/

Health-e News / September 3, 2025

/ Child Health, Eastern Cape, Limpopo, News, North West, Northern Cape, Our Health

*"I often have to **rely on relatives** to take my grandchildren for vaccinations as I have to be at my stall in town. But on top of that, we have to **spend a fortune on transport money** when visiting our local healthcare facility. And then there are the **long lines.** Often we have to **wake up in the early hours of the morning** and **only return home in the afternoon**. Plus, there are no guarantees that you will be attended because at times **the lines are so long that nurses turn us away and order us to come the next day**. So, as much as we want to vaccinate our children, we as **rural dwellers** are faced with a **number of challenges** unlike people in urban settings."*

"Nosandile (43), a hawker from a rural area, taking care of her 2 orphaned grandchildren aged 9 and 6 years; pro-vaccination; difficult to access healthcare services; nearest health facility is 10 km away

*"I recall visiting the clinic 3 times, yet my child remained unvaccinated. From the time she was born, she has not received any vaccinations because **whenever I visited the clinic, they would tell us they were out of stock and we needed to call.** My frustration lies in the fact that this little girl will now **lack any protection, without any vaccination**".*

Matlhogonolo Sereko; mother of 2-year-old daughter

Barriers to vaccination access and equity with respect to health literacy: Example from South Africa

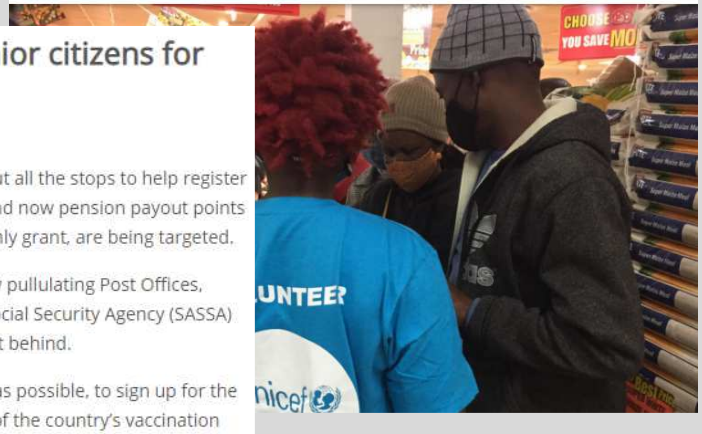
Use of technology → to access information and register for vaccination

- **Limited literacy** to use technology
- No **access** to a cell phone/data
- If access to cell phone
  - Poor **eye sight**
  - Cannot **read** numbers
  - Cannot **type**

UNICEF volunteers help the elderly register for their COVID-19 vaccinations

Helping the vulnerable fight the pandemic

By UNICEF North West University Mahikeng Campus Club



https://www.unicef.org/southafrica/stories/unicef-volunteers-help-elderly-register-their-covid-19-vaccinations

Pension payout points to be used to register senior citizens for COVID-19 vaccine

Friday, June 4, 2021

People across the country are pulling out all the stops to help register pensioners for the COVID-19 vaccine, and now pension payout points where thousands queue for their monthly grant, are being targeted.

Volunteers from all walks of life are now pullulating Post Offices, Boxer Superstores and South African Social Security Agency (SASSA) pay points to ensure no pensioner is left behind.

The mission is to get as many over 60s as possible, to sign up for the lifesaving jab, under the second phase of the country's vaccination rollout programme, that is currently underway.

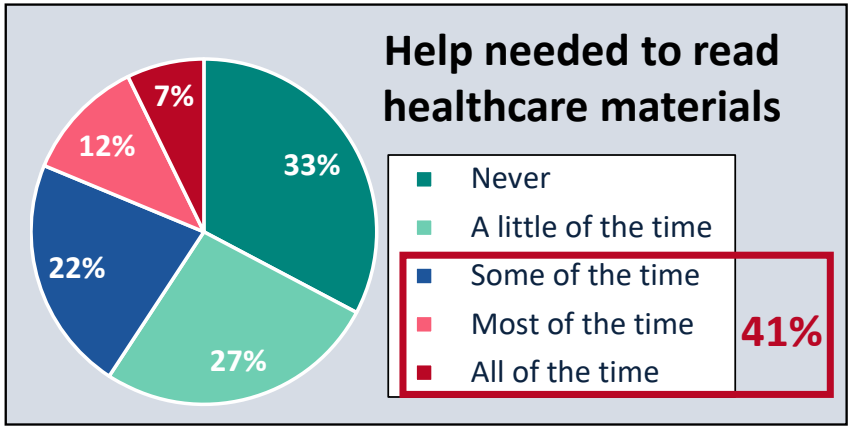
https://www.sanews.gov.za/features-south-africa/pension-payout-points-be-used-register-senior-citizens-covid-19-vaccine

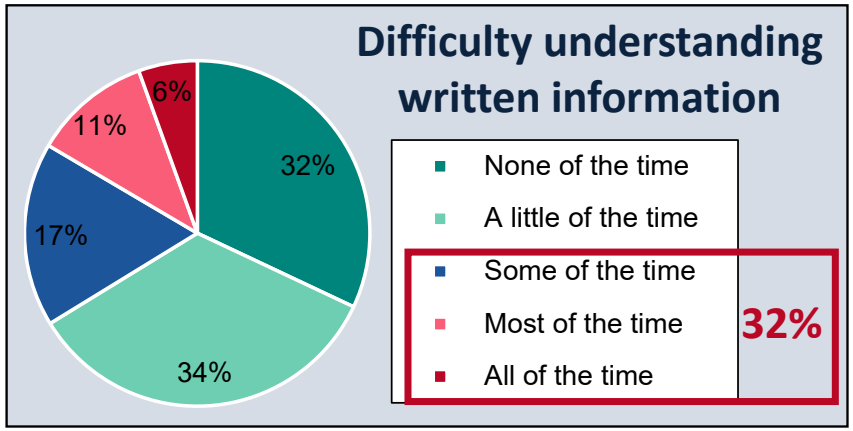
Youth urged to assist elderly with online registration for COVID-19 vaccine

16 May 2021, 11:19 AM | Mlamli Maneli | @SABCNews

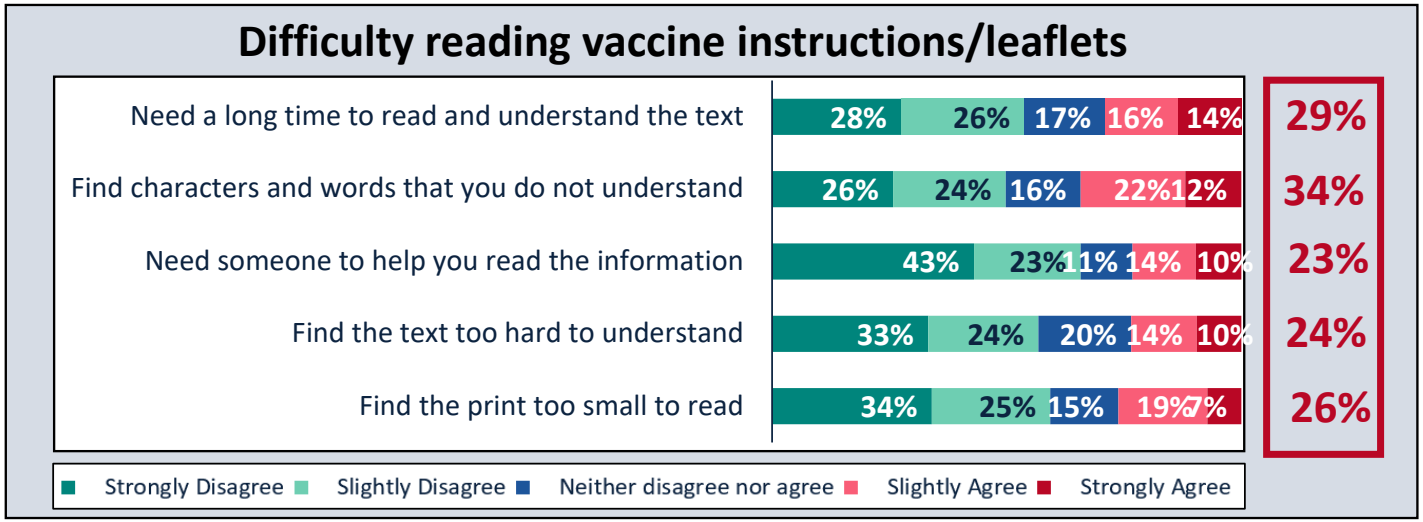
Press et al. Inequities in Technology Contribute to Disparities in COVID-19 Vaccine Distribution. JAMA Health Forum. 2021;2(3):e210264.

Access to health and vaccine information



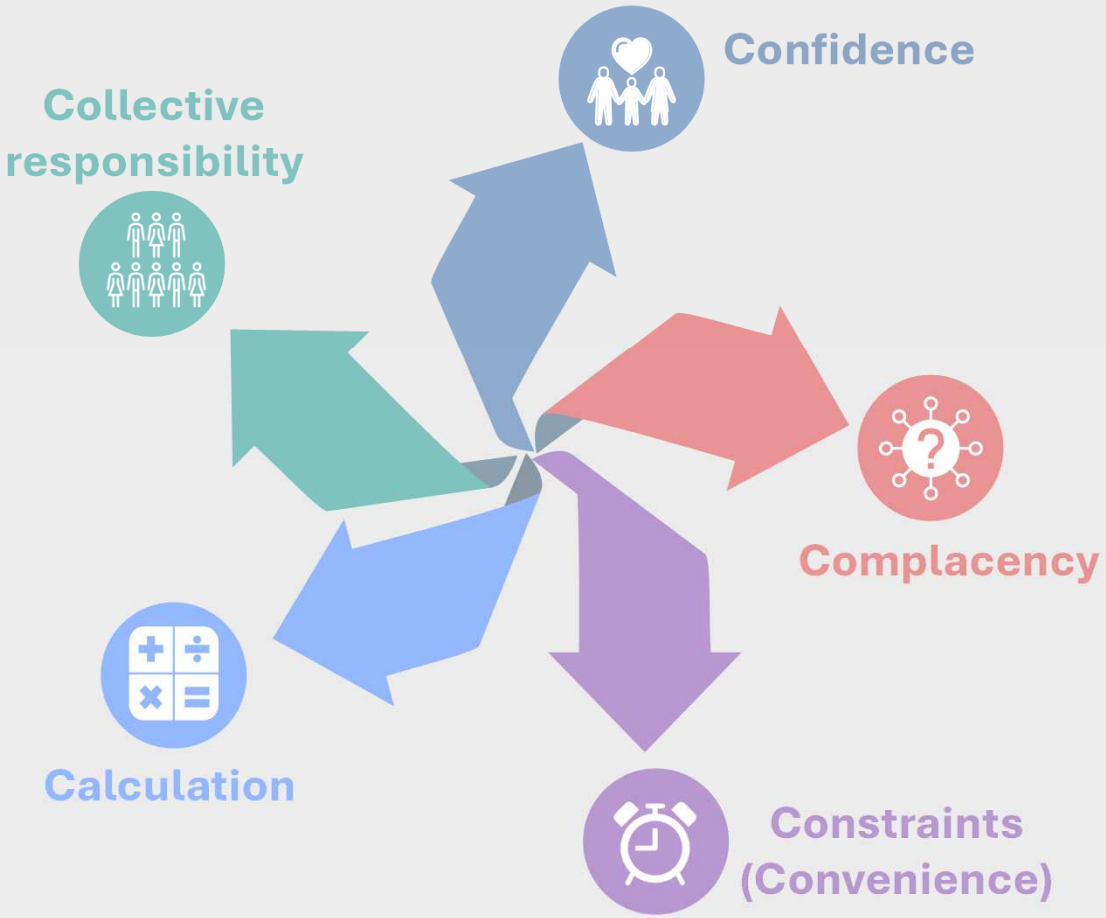


Approximately 30%-40% need help to read and understand written information on healthcare and vaccines: Example South Africa



Meyer JC, et al. Assessing vaccine hesitancy and vaccine literacy in adults in Saudi Arabia, United Arab Emirates, Turkiye and South Africa. P3652. Congress of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) Global 2025, Vienna, Austria, 11-15 April 2025.

Understanding the drivers of vaccination decision-making



Calculation

- Risks
- Benefits
- Worth it?

Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

What are people's MAIN questions about vaccines?

What are people concerned about?

HUMAN VACCINES & IMMUNOTHERAPEUTICS
2023, VOL. 19, NO. 1, 2213117
https://doi.org/10.1080/21645515.2023.2213117

Taylor & Francis
Taylor & Francis Group

RESEARCH ARTICLE

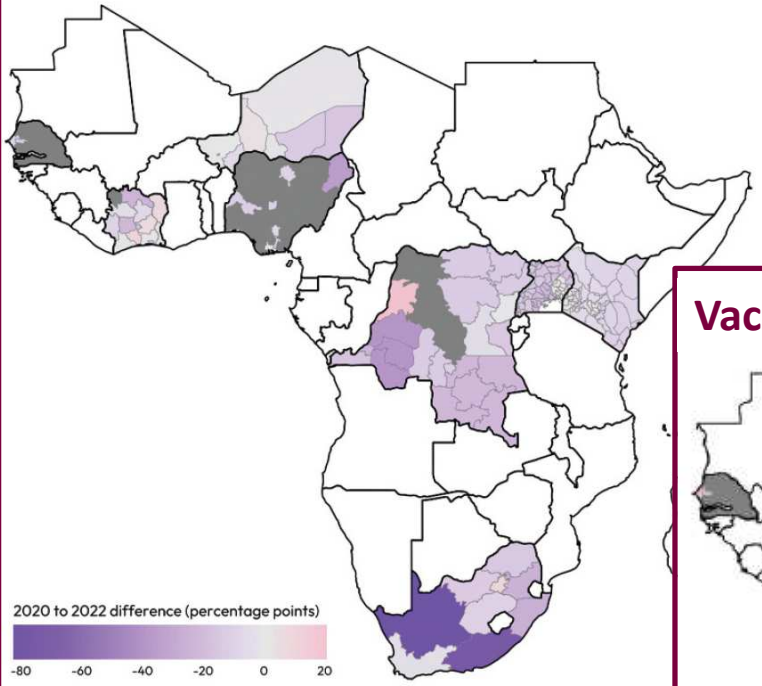
OPEN ACCESS Check for updates

Declining trends in vaccine confidence across sub-Saharan Africa: A large-scale cross-sectional modeling study

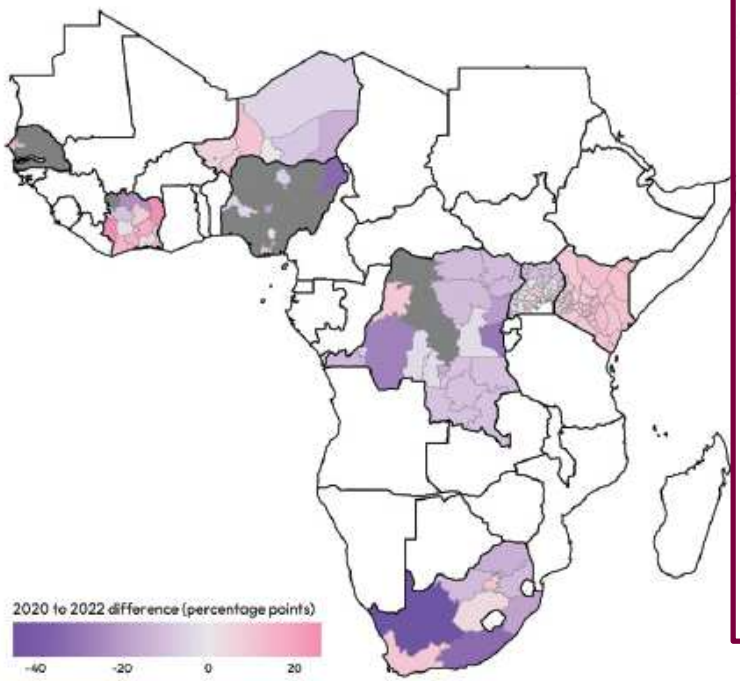
A. de Figueiredo[a], E. Temfack[b], R. Tajudeen[b], and H. J. Larson[a,c]

[a]Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, UK; [b]Africa Centers for Disease Control and Prevention, African Union Commission, Addis Ababa, Ethiopia; [c]Institute of Health Metrics and Evaluation, University of Washington, Hans Rosling Center, Seattle, WA, USA

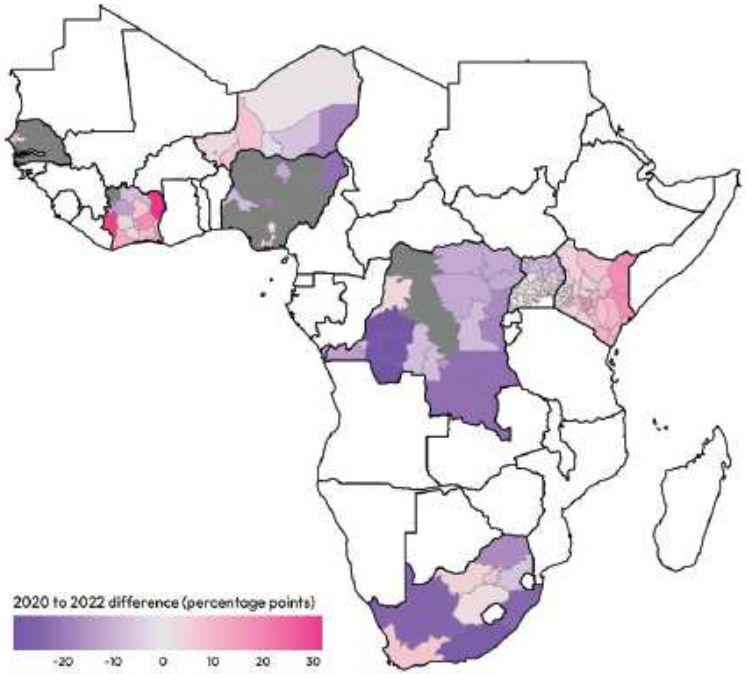
Vaccines are important for children



Vaccines are safe



Vaccines are effective

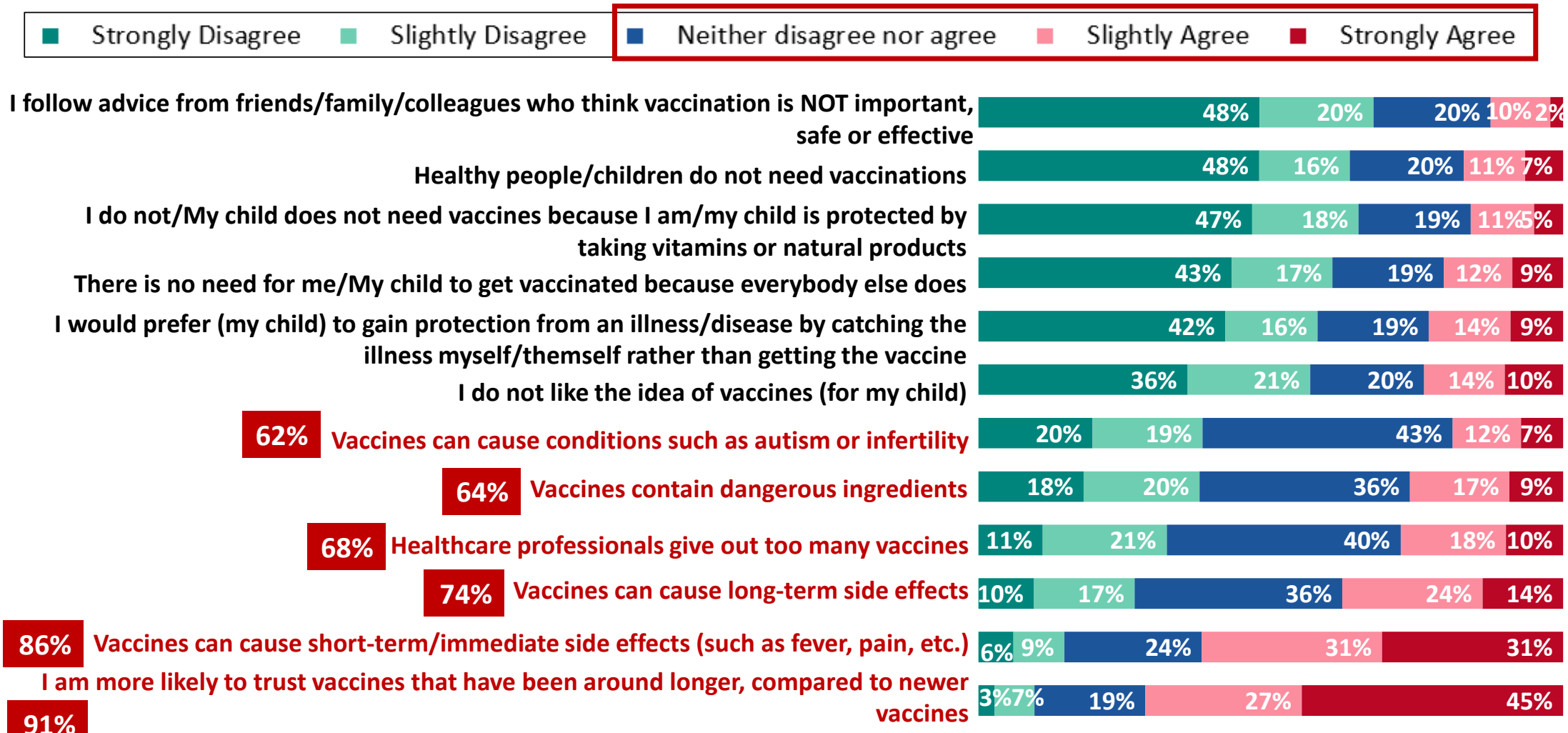


Purple/blue colours = decrease in confidence since 2020

Pink colors denote an increase

De Figueiredo et al. Hum Vaccin Immunother. 2023 Dec 31;19(1):2213117. doi: 10.1080/21645515.2023.2213117

Main concerns: Safety, effectiveness and evidence



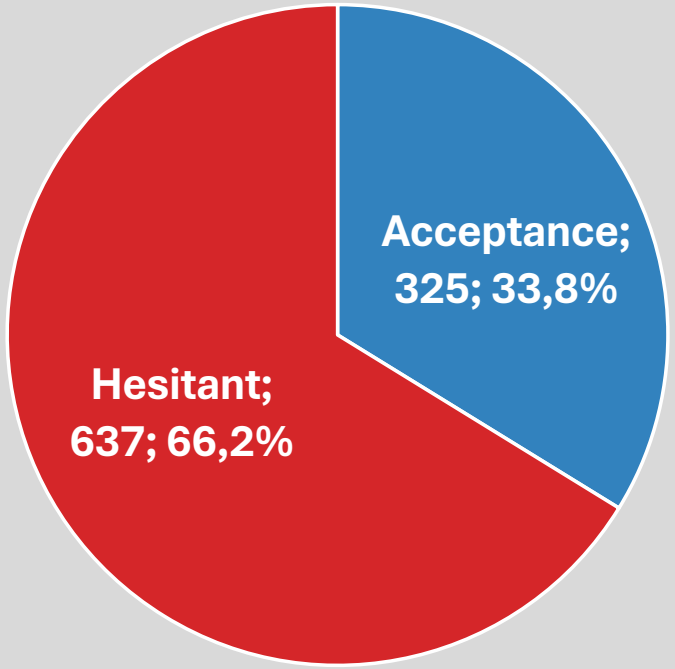
Meyer JC, et al. Assessing vaccine hesitancy and vaccine literacy in adults in Saudi Arabia, United Arab Emirates, Turkiye and South Africa. P3652. Congress of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) Global 2025, Vienna, Austria, 11-15 April 2025.

Example: 962 pregnant women attending antenatal care in Cape Metro West 2023-2024

*"Whooping cough is a **highly contagious respiratory tract disease**. Young **babies are the most vulnerable** group with the highest rates of complications and death. A safe and protective whooping cough vaccine is already available. It has proven to be **safe and protective** against whooping cough among **young babies** when **pregnant women** get vaccinated".*

Courtesy of Imen Ayouni – Unpublished data – Not for reference

Would you like to receive a vaccine against whooping cough during pregnancy if it is available for you?

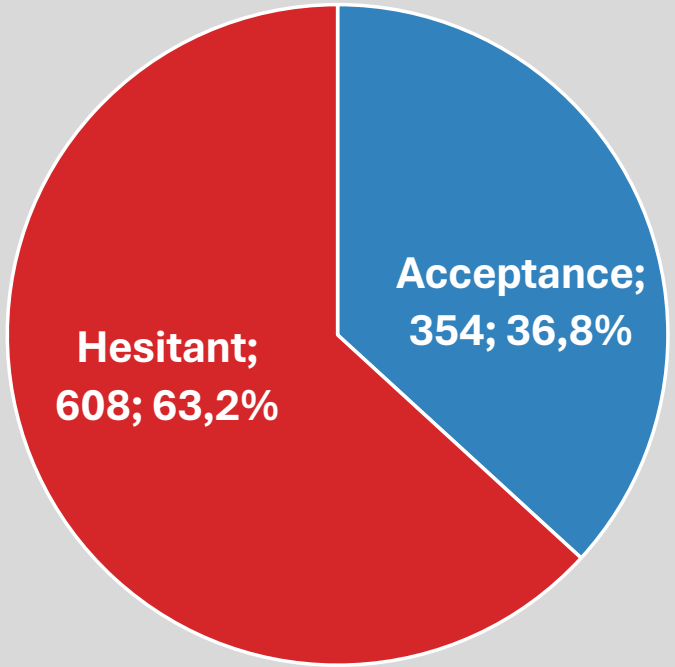


Example: 962 pregnant women attending antenatal care in Cape Metro West 2023-2024

"Respiratory Syncytial Virus (RSV) is a virus that can cause mild cold-like symptoms in adults but ***can cause more serious illness in young babies****. It is the most common cause of a* ***lung infection (also known as bronchiolitis or pneumonia)*** *in young babies. A vaccine for RSV to protect babies is being developed and has been trialed in adults and pregnant women".*

Courtesy of Imen Ayouni – Unpublished data – Not for reference

Would you like to receive a vaccine that protects against RSV if an effective and safe vaccine against RSV becomes available to use among pregnant women?



Decision to vaccinate: Individual perception of risk and response

High level of risk related to the vaccine (side effects)

I do not get vaccinated

I do not get my child vaccinated

Risk is assessed based on:

Probability = how likely to happen

Severity = how serious will it be

High level of risk related to the disease

I get vaccinated

I get my child vaccinated

Communicating about Vaccine Safety: Guidelines to help health workers communicate with parents, caregivers, and patients. Washington, D.C. Pan American Health Organization; 2020

Risk assessed by scientists is not necessarily perceived the same way by the public

Risk is great when the hazard is great

Risk is a function of the exposure to that hazard and the vulnerability of the exposed population

Based on evidence and data, training, research, evaluation of causality

SCIENTISTS

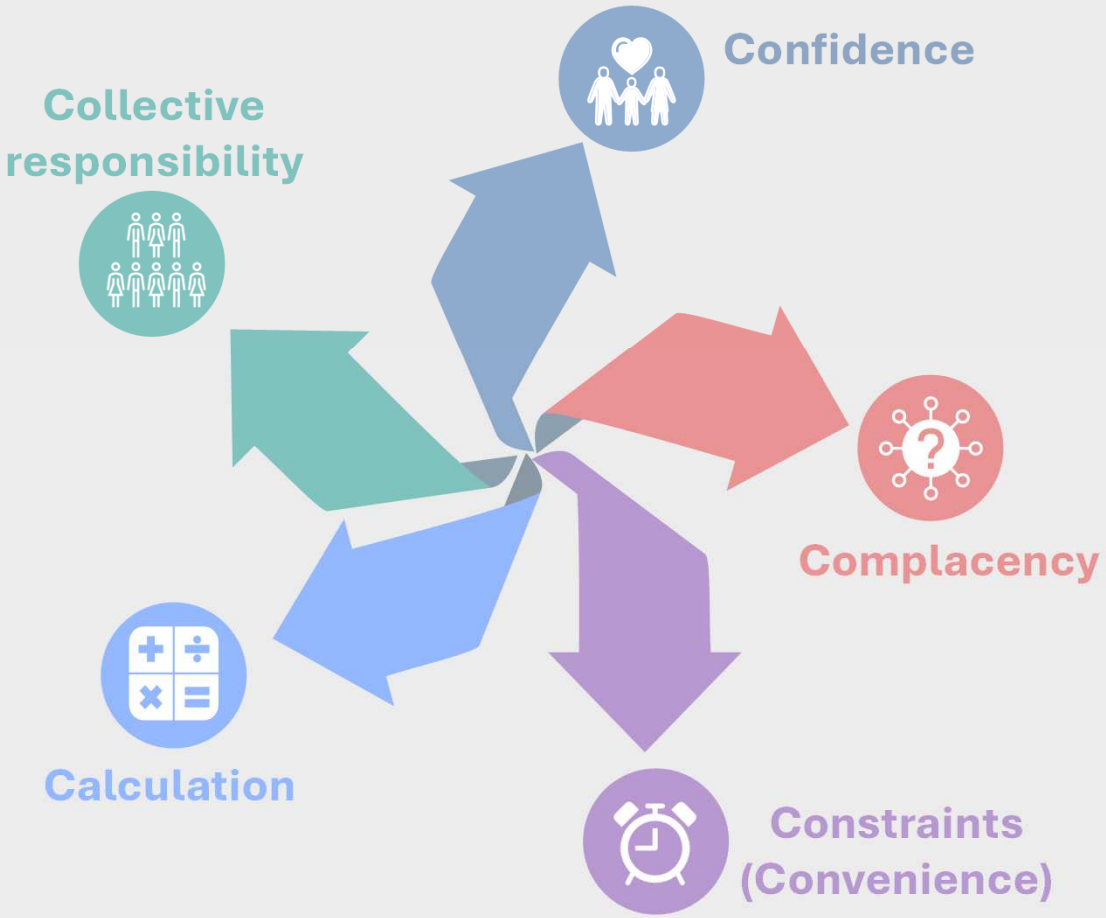
Risk is great when their sense of emotional engagement is great i.e. fear, anger, outrage

Poor health literacy → poor benefit-risk understanding

PUBLIC

Communicating about Vaccine Safety: Guidelines to help health workers communicate with parents, caregivers, and patients. Washington, D.C. Pan American Health Organization; 2020

Understanding the drivers of vaccination decision-making



Collective responsibility

- Responsible?
- Others
- Protecting the herd

Antimicrobial resistance

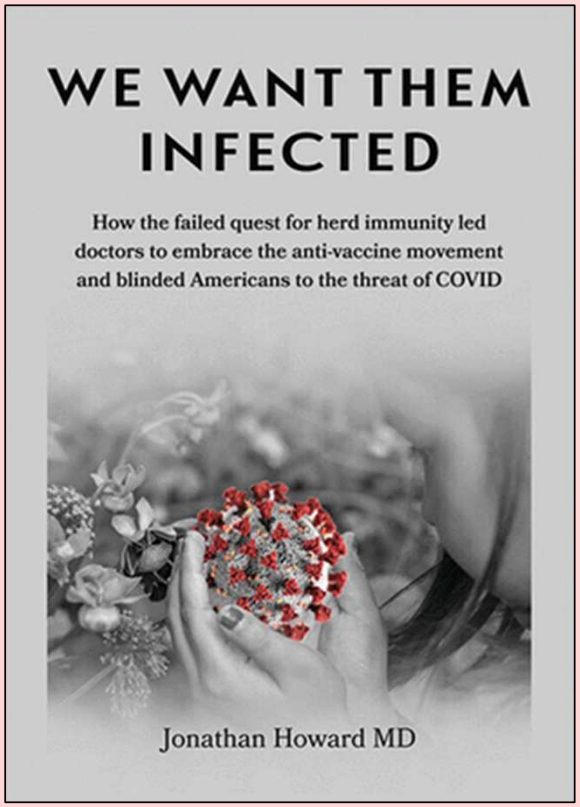
Betsch et al. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLOS ONE. 2018.

Herd immunity is an important—and often misunderstood—public health phenomenon

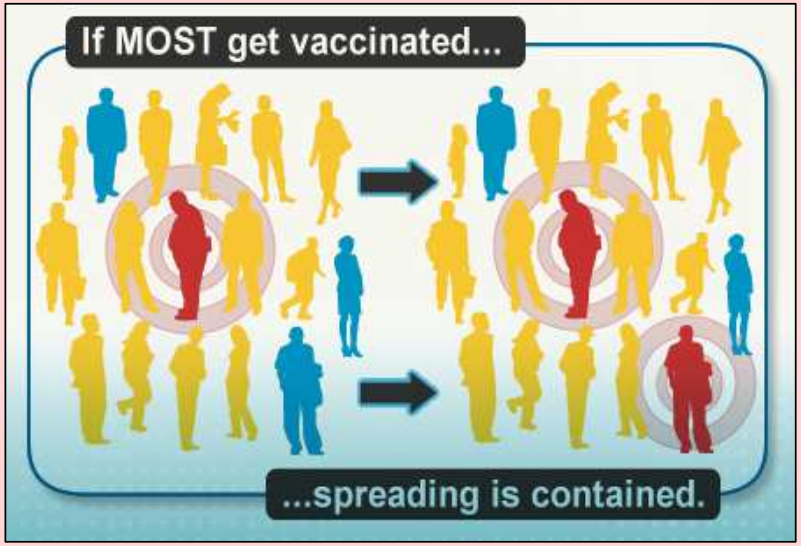
Amy McDermott Authors Info & Affiliations

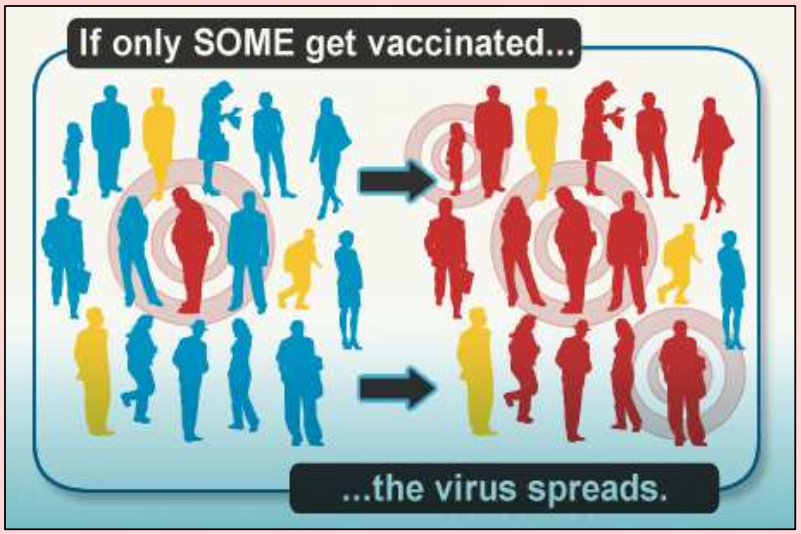
https://www.pnas.org/doi/10.1073/pnas.2107692118
May 19, 2021 | 118 (21) e2107692118 | https://doi.org/10.1073/pnas.2107692118

Anti-vaxxers compare those who vaccinate to sheep: Fearful … gullible … easily panicked … influenced by leader … vulnerable to mob psychology …

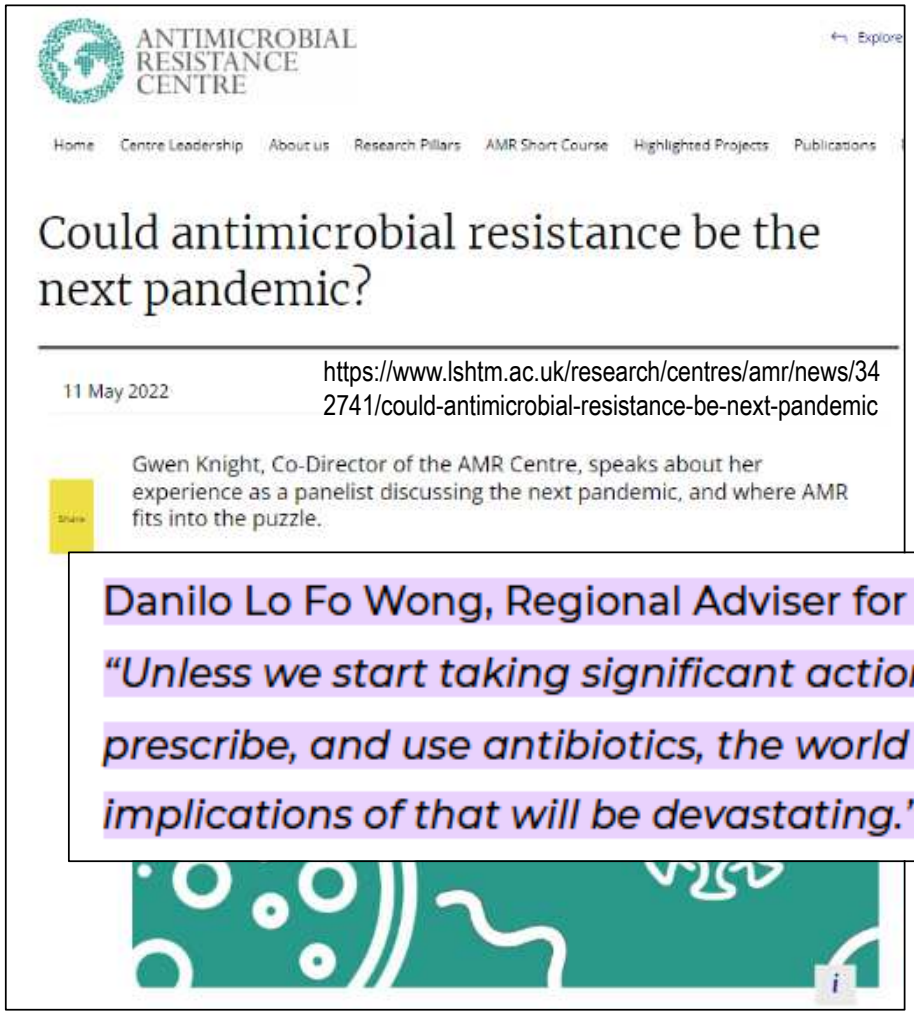


https://bjgp.org/content/73/735/466





AMR the next pandemic?



HOME • BLOG

ARQUIMEA

Is Antibiotic Resistance the Next Big Pandemic?

TRENDS

March 28, 2025

https://www.arquimea.com/blog/antibiotic-resistance/#:~:text=Could%20it%20become%20a%20pandemic,of%20that%20will%20be%20devastating.%E2%80%9D

- **Global health priority with impact on**
  - Morbidity
  - Mortality
  - Costs

Danilo Lo Fo Wong, Regional Adviser for the Control of Antimicrobial Resistance at the WHO, warns:

"Unless we start taking significant action to improve infection prevention and change how we produce, prescribe, and use antibiotics, the world will lose the progress made in global public health. The implications of that will be devastating."

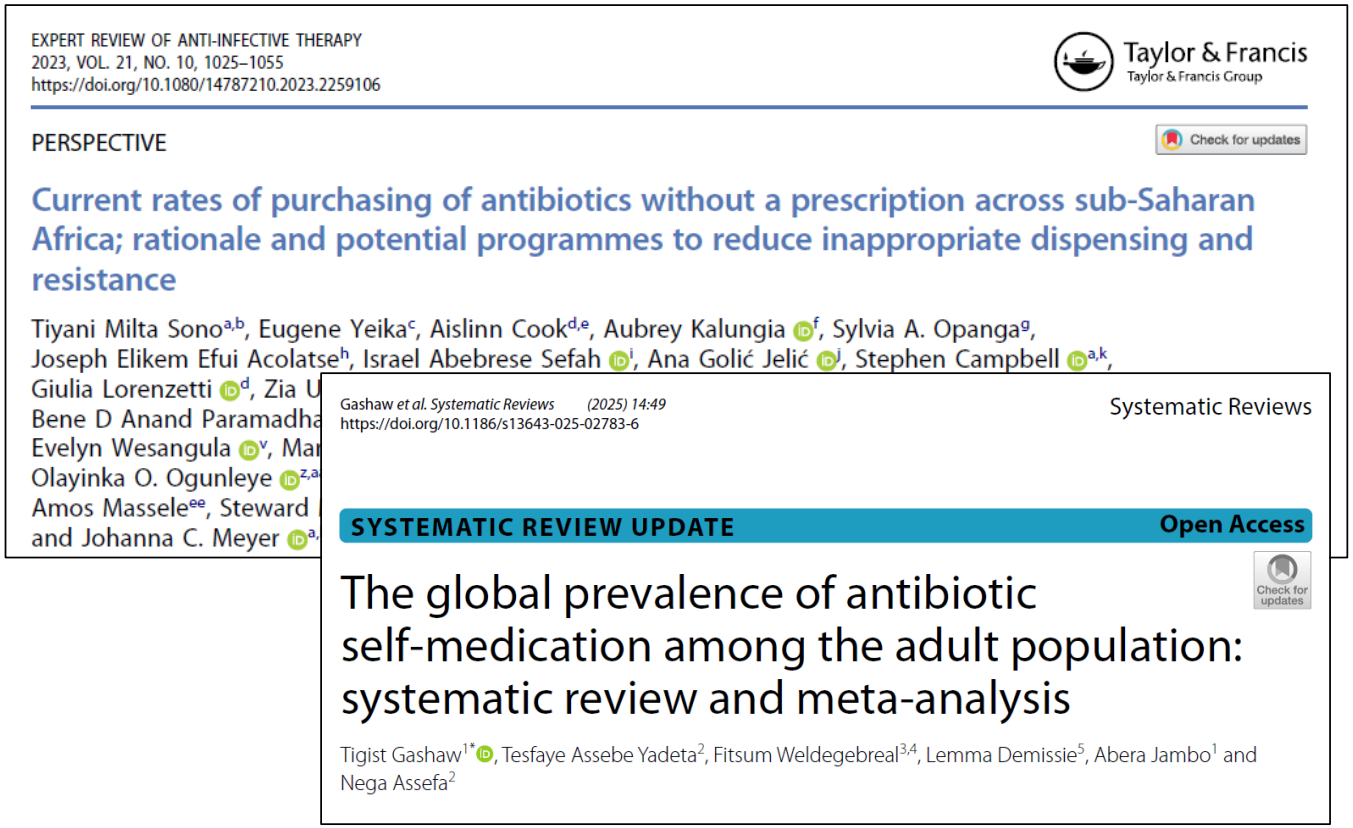
Are we prepared for the fight against increasing cases of AMR?

Over-the-counter purchasing of antibiotics

Window of opportunity to educate on benefits of vaccination

- Weak regulation → highly prevalence of over-the-counter purchasing of antibiotics
- Highest rates of **over-the-counter antibiotics dispensed without a prescription**
  - Eritrea - up to 89.2%
  - Ethiopia - up to 87.9%
  - Nigeria - up to 86.5%
  - Tanzania - up to 92.3%
  - Zambia - up to 100%

Get the buy-in and 'hear' the voice of the patient!



EXPERT REVIEW OF ANTI-INFECTIVE THERAPY
2023, VOL. 21, NO. 10, 1025–1055
https://doi.org/10.1080/14787210.2023.2259106

Taylor & Francis
Taylor & Francis Group

PERSPECTIVE

Check for updates

Current rates of purchasing of antibiotics without a prescription across sub-Saharan Africa; rationale and potential programmes to reduce inappropriate dispensing and resistance

Tiyani Milta Sono[a,b], Eugene Yeika[c], Aislinn Cook[d,e], Aubrey Kalungia[f], Sylvia A. Opanga[g], Joseph Elikem Efui Acolatse[h], Israel Abebrese Sefah[i], Ana Golić Jelić[j], Stephen Campbell[a,k], Giulia Lorenzetti[d], Zia U
Bene D Anand Paramadha
Evelyn Wesangula[v], Mar
Olayinka O. Ogunleye[z,a
Amos Massele[ee], Steward
and Johanna C. Meyer[a,

Gashaw et al. Systematic Reviews (2025) 14:49
https://doi.org/10.1186/s13643-025-02783-6

Systematic Reviews

SYSTEMATIC REVIEW UPDATE

Open Access

Check for updates

The global prevalence of antibiotic self-medication among the adult population: systematic review and meta-analysis

Tigist Gashaw[1*], Tesfaye Assebe Yadeta[2], Fitsum Weldegebreal[3,4], Lemma Demissie[5], Abera Jambo[1] and Nega Assefa[2]

Gashaw et al. Systematic Reviews (2025) 14:49. https://doi.org/10.1186/s13643-025-02783-6 ; Sono et al. 2023. Expert Review Of Anti-infective Therapy. ttps://doi.org/10.1080/14787210.2023.2259106


Curb hesitancy?
Build trust?
What kind of interventions?
Build confidence?
How to communicate?

Ethical aspects of vaccine safety communication

- Ethical dilemma of public health

  How to promote the health of the population while respecting individual liberty and autonomy?

- Vaccination is an important pillar of public health

  Vaccination for heath promotion and public health is ethically justified

  BUT within certain limits

- Vaccination should <u>not</u> be promoted at all costs

→ Consider ethical boundaries of vaccine risk communication

→ Risks and benefits must be communicated responsibly and respectfully

→ Government's responsibility for individuals affected by adverse events following immunisation

Scandinavian Journal of Public Health, 2018; 46: 182–188

ORIGINAL ARTICLE

Special Issue: In the era of pluralism: vaccination uptake, migrant health and child health trajectories

Vaccine hesitancy and trust. Ethical aspects of risk communication

JESSICA NIHLÉN FAHLQUIST

Centre for Research Ethics and Bioethics, Uppsala University, Sweden

doi: 10.1177/1403494817727162.

IMPORTANT

HOW to communicate about vaccination for it to be ethically justified

Transparency in providing information about the benefit and risk balance of vaccines

- Always be **transparent** and provide information on the **safety** of the vaccines
- Communicate **scientific evidence and consensus** on **vaccine efficacy** and **safety**
- **Not acknowledging uncertainty** and risk when communicating vaccine effectiveness → **Increase vaccine hesitancy**
- Communicate **uncertainty** by acknowledging that some **information is still unknown** → **Increase trust and reduce vaccine hesitancy**

Avelino-Silva et al. BMC Public Health, 2023; 23, 1162; Freeman D et al. Lancet Public Health. 2021 Jun; 6(6):e416-e427; NIHR Evidence. Promoting vaccination: the right approach for the right group; July 2023; doi: 10.3310/nihrevidence_59296. Whitehead et al. Vaccine. 2023 Jan 27;41(5):1018-1034.

Explain the importance of reporting adverse events following immunisation (AEFI)

Report anything of concern!

Report any AEFI using the Med Safety App

Used by healthcare professionals

Used by the public

Android and iOS devices

VigiMobile

"We are concerned about patient safety; we want to make sure vaccines remain safe."

Use illustrations that people can understand

Example: Risks of illness vs. vaccine side effects

Fig 1. Comparing the risk of 10,000 children acquiring measles (left) versus receiving the measles-mumps-rubella (MMR) vaccine. A new original figure modified from [9]. Artwork by Fahim Akbar.

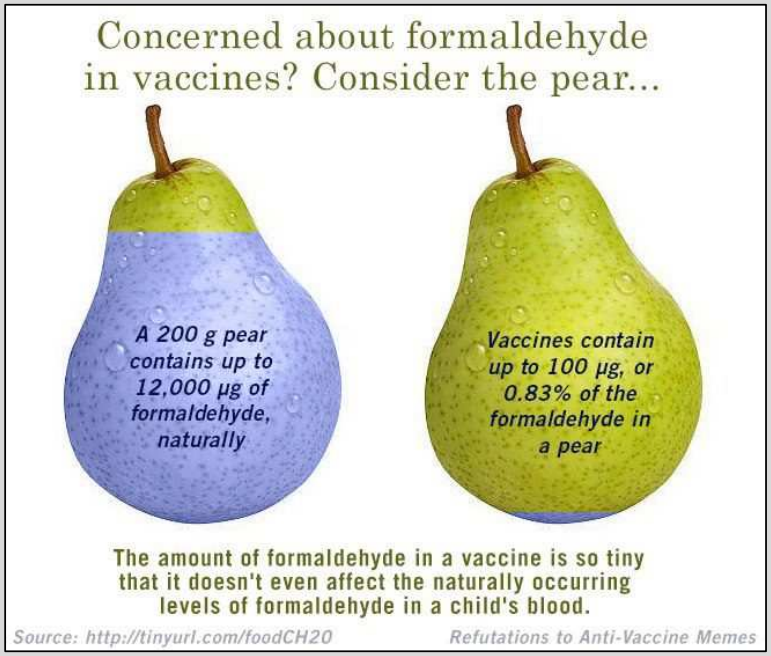
Hotez P. It won't end with COVID: Countering the next phase of American antivaccine activism 2025-29. PLOS Glob Public Health. 2025 Jan 8;5(1):e0004020. doi: 10.1371/journal.pgph.0004020

Does formaldehyde and aluminum in vaccines cause cancer or autism?

NO!

Use illustrations that people can understand

- Long **history of safe use** in the manufacture of certain viral and bacterial vaccines
  - → inactivate viruses so that they don't cause disease (e.g. polio vaccine)
  - → detoxify bacterial toxins, such as the toxin used to make diphtheria vaccine
- Present in **household products** and furnishings
  - e.g. carpets, upholstery, cosmetics, paint and felt-tip markers
- Present in **health products**
  - e.g. antihistamines, cough drops and mouthwash



https://www.facebook.com/RtAVM/photos/-new-a-pair-of-pears-putting-into-perspective-the-amount-of-formaldehyde-in-a-va/484442114959136/

https://www.chop.edu/vaccine-education-center/vaccine-safety/vaccine-ingredients/formaldehyde
https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/common-ingredients-fda-approved-vaccines#:~:text=Formaldehyde%20has%20a%20long%20history,used%20to%20make%20diphtheria%20vaccine

Use illustrations that people can understand

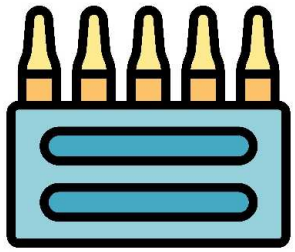
Are vaccine components safe? Aluminium

- Used as an **adjuvant in extremely small** amounts
  - Enhance immune response (help vaccine work better)
  - Allow for fewer quantities of active ingredients
  - Allow for fewer doses of vaccine
- **History of safety** information **since the 1930s**
- Body can remove aluminium → **safe to use**
  - About half → eliminated in <24 hours
  - More than three-quarters → eliminated within 2 weeks

38 mg
In formula milk

7 mg
In breast milk

Babies receive more aluminium in their diet during the first 6 months of life, than from all vaccines combined



3 mg
From all vaccines combined

Source: https://immunizebc.ca/vaccine-safety/ingredients#:~:text=All%20of%20the%20ingredients%20in,harmful%20at%20a%20high%20dose

Vaccine hesitancy vs. antibiotic overuse

Economic and Behavioral Influencers of Vaccination and Antimicrobial Use

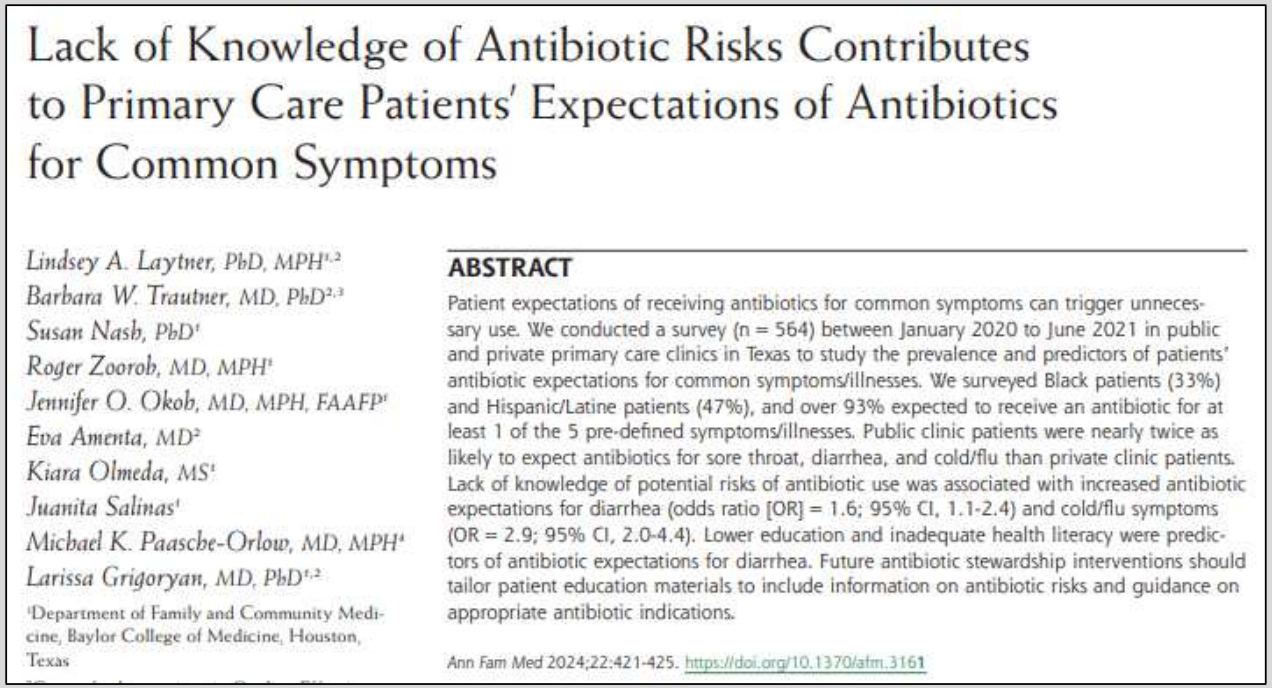
Caroline E. Wagner[1†], Joseph A. Prentice[2†], Chadi M. Saad-Roy[2,3†], Luojun Yang[2†], Bryan T. Grenfell[2,4,5], Simon A. Levin[2,6] and Ramanan Laxminarayan[6,7]*

[1] Department of Bioengineering, McGill University, Montreal, QC, Canada, [2] Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ, United States, [3] Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ, United States, [4] Princeton School of Public and International Affairs, Princeton University, Princeton, NJ, United States, [5] Fogarty International Center, National Institutes of Health, Bethesda, MD, United States, [6] Princeton Environmental Institute, Princeton University, Princeton, NJ, United States, [7] Center for Disease Dynamics, Economics & Policy, Washington, DC, United States

Despite vast improvements in global vaccination coverage during the last decade, there is a growing trend in vaccine hesitancy and/or refusal globally. This has implications for the acceptance and coverage of a potential vaccine against COVID-19. In the United States, the number of children exempt from vaccination for "philosophical belief-based" non-medical reasons increased in 12 of the 18 states that allowed this policy from 2009 to 2017 (1). Meanwhile, the overuse and misuse of antibiotics, especially in young children, have led to increasing rates of drug resistance that threaten our ability to treat infectious diseases. Vaccine hesitancy and antibiotic overuse exist side-by-side in the same population of young children, and it is unclear why one modality (antibiotics) is universally seen as safe and effective, while the other (vaccines) is seen as potentially hazardous by some. In this review, we consider the drivers shaping the use of vaccines and antibiotics in the context of three factors: individual incentives, risk perceptions, and social norms and group dynamics. We illustrate how these factors contribute to the societal and individual costs of vaccine underuse and antimicrobial overuse. Ultimately, we seek to understand these factors that are at the nexus of infectious disease epidemiology and social science to inform policy-making.

Wagner CE, et al. 2020. Front. Public Health 8:614113. doi: 10.3389/fpubh.2020.614113

- **Vaccine hesitancy** and **antibiotic overuse** exist side-by-side in the same population
- Why???
  - **Vaccines** are seen as **potentially hazardous** by some
  - **Antibiotics** are universally seen as **safe and effective**
- **Drivers** shaping the use of vaccines and antibiotics
  - Individual incentives
  - Risk perceptions
  - Social norms and group dynamics



Lack of Knowledge of Antibiotic Risks Contributes to Primary Care Patients' Expectations of Antibiotics for Common Symptoms

Lindsey A. Laytner, PhD, MPH[1,2]
Barbara W. Trautner, MD, PhD[2,3]
Susan Nash, PhD[1]
Roger Zoorob, MD, MPH[1]
Jennifer O. Okob, MD, MPH, FAAFP[1]
Eva Amenta, MD[2]
Kiara Olmeda, MS[1]
Juanita Salinas[1]
Michael K. Paasche-Orlow, MD, MPH[4]
Larissa Grigoryan, MD, PhD[1,2]

[1]Department of Family and Community Medicine, Baylor College of Medicine, Houston, Texas

ABSTRACT

Patient expectations of receiving antibiotics for common symptoms can trigger unnecessary use. We conducted a survey (n = 564) between January 2020 to June 2021 in public and private primary care clinics in Texas to study the prevalence and predictors of patients' antibiotic expectations for common symptoms/illnesses. We surveyed Black patients (33%) and Hispanic/Latine patients (47%), and over 93% expected to receive an antibiotic for at least 1 of the 5 pre-defined symptoms/illnesses. Public clinic patients were nearly twice as likely to expect antibiotics for sore throat, diarrhea, and cold/flu than private clinic patients. Lack of knowledge of potential risks of antibiotic use was associated with increased antibiotic expectations for diarrhea (odds ratio [OR] = 1.6; 95% CI, 1.1-2.4) and cold/flu symptoms (OR = 2.9; 95% CI, 2.0-4.4). Lower education and inadequate health literacy were predictors of antibiotic expectations for diarrhea. Future antibiotic stewardship interventions should tailor patient education materials to include information on antibiotic risks and guidance on appropriate antibiotic indications.

Ann Fam Med 2024;22:421-425. https://doi.org/10.1370/afm.3161

Window of opportunity

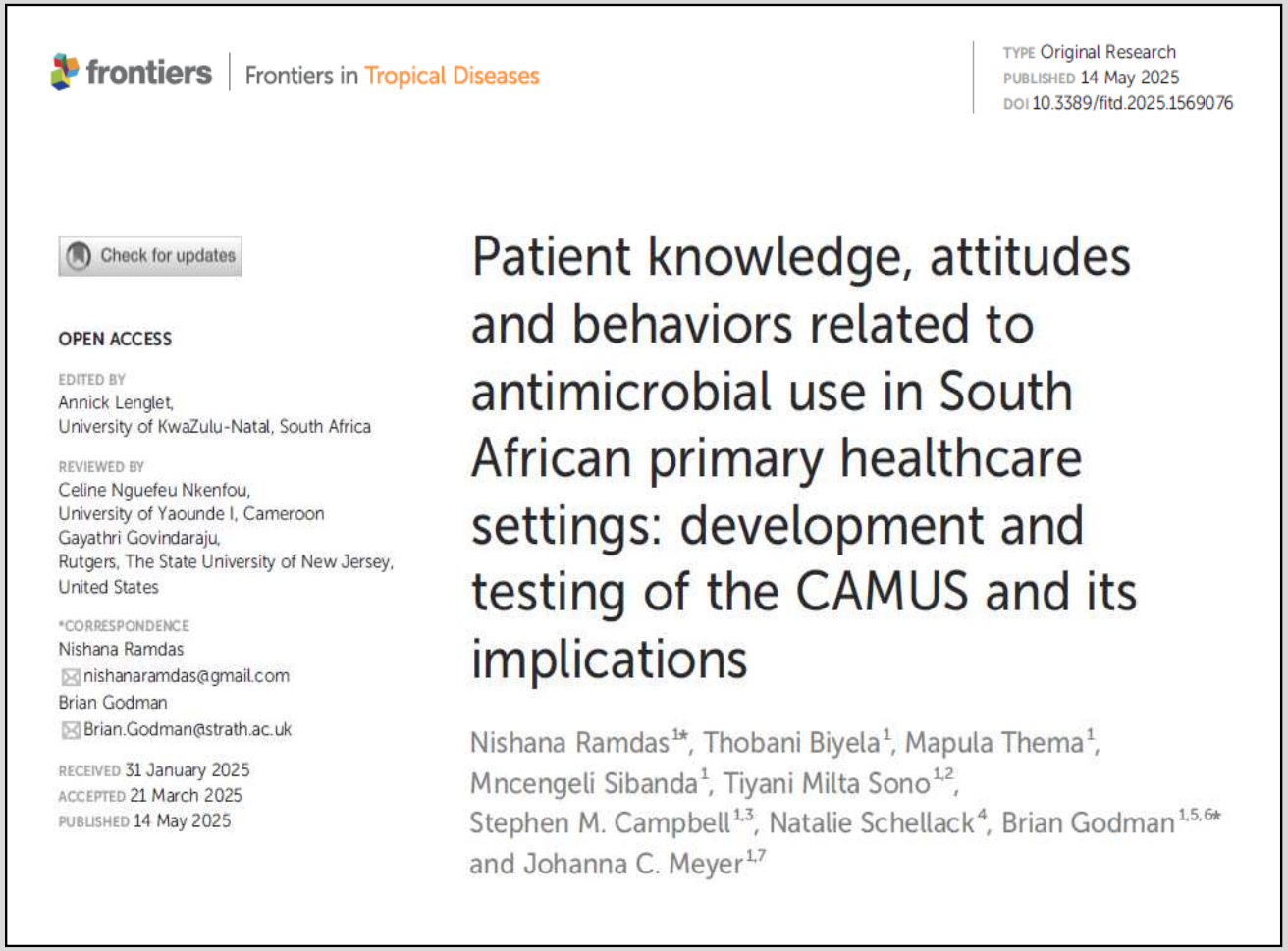
Education about antibiotic risks and benefits of vaccination

Lack of knowledge about antibiotic risks

- Over **93% expected to receive an antibiotic** for at least 1 of 5 pre-defined symptoms or illnesses
- **Lack of knowledge of potential risks** of antibiotic use → associated with increased antibiotic expectations for diarrhoea and cold/flu symptoms
- **Lower education and inadequate health literacy** → predictors of antibiotic expectations for diarrhoea

Ann Fam Med 2024;22:421-425. https://doi.org/10.1370/afm.3161

Use of antimicrobials within the community



frontiers | Frontiers in Tropical Diseases

TYPE Original Research
PUBLISHED 14 May 2025
DOI 10.3389/fitd.2025.1569076

Check for updates

OPEN ACCESS

EDITED BY
Annick Lenglet,
University of KwaZulu-Natal, South Africa

REVIEWED BY
Celine Nguefeu Nkenfou,
University of Yaounde I, Cameroon
Gayathri Govindaraju,
Rutgers, The State University of New Jersey, United States

*CORRESPONDENCE
Nishana Ramdas
nishanaramdas@gmail.com
Brian Godman
Brian.Godman@strath.ac.uk

RECEIVED 31 January 2025
ACCEPTED 21 March 2025
PUBLISHED 14 May 2025

Patient knowledge, attitudes and behaviors related to antimicrobial use in South African primary healthcare settings: development and testing of the CAMUS and its implications

Nishana Ramdas[1*], Thobani Biyela[1], Mapula Thema[1], Mncengeli Sibanda[1], Tiyani Milta Sono[1,2], Stephen M. Campbell[1,3], Natalie Schellack[4], Brian Godman[1,5,6*] and Johanna C. Meyer[1,7]

- Need **to understand**
  - **Knowledge** on antibiotics
  - **Why** antibiotics are used
  - **How** antibiotics are used
- Are there any **language barriers**?
- Need to **educate** the community on the use of antibiotics
- Need **validated context specific tools** → measure patients' knowledge, attitudes and behaviours regarding the use of antimicrobials

Ramdas et al. 2025. Front. Trop. Dis. 6:1569076. doi: 10.3389/fitd.2025.1569076

Window of opportunity

Education about antibiotic risks and benefits of vaccination

Ask ChatGPT!

IMPORTANT

→ Simple language
→ Visual design
→ Target lay public in e.g. clinics, schools

Ref: https://chatgpt.com/


Who is most influential and most trusted when it comes to vaccination decision-making?

Who is most trusted as a source of information on health?

My Provider Most Trusted as a Source of Truth on Health

Percent who say I trust each to tell the truth about health issues and how best to protect the health of the public

Distrust (1-49) | Neutral (50-59) | Trust (60-100)

Significant change*

+/- Apr 2022 to Apr 2023	Global 12		*Australia		Brazil		Canada		China		France		Germany		India		Japan		Mexico		*Nigeria		*Singapore		S. Africa		S. Korea		*UAE		UK		U.S.	
	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-	%	+/-
My primary care provider	83	2*	83	-	83	1	85	2	84	-4	86	2	84	1	88	-3	72	3	85	4	85	-	83	-	85	5*	75	2	90	-	83	4	82	4
Pharmacists	73	-3*	77	-	70	-2	65	-14*	81	-7*	79	-1	76	-1	78	-8*	69	3	67	-2	82	-	59	-	76	2	67	0	79	-	78	-2	71	-2
My friends and family	70	-6*	71	-	64	-10*	70	-4	87	-3	67	-3	58	-22*	86	-4*	63	1	74	-3	77	-	69	-	67	-6*	63	-10*	88	-	71	-5	69	-4
My CEO	50	-9*	47	-	56	-10*	42	-12*	71	-14*	38	-7	35	-3	77	-5	37	-6	60	-7	64	-	50	-	53	-8	31	-14*	72	-	43	-7	48	-11*
Healthcare CEOs	45	-7*	35	-	52	-4	33	-10*	75	-10*	32	-6*	29	-6*	74	-8*	35	-5	57	-6*	69	-	46	-	48	-5	38	-10*	71	-	36	-5	30	-13*
Government leaders	39	-7*	37	-	40	-5	36	-11*	79	-11*	35	-9*	27	-7*	67	-6*	26	-5*	39	-7*	49	-	70	-	26	-2	32	-2	72	-	31	-4	31	-9*
Journalists	35	-10*	24	-	39	-6*	34	-14*	69	-12*	23	-8*	28	-7*	62	-11*	23	-7*	40	-11*	51	-	40	-	30	-10*	21	-6*	57	-	20	-10*	30	-13*

Edelman Trust Institute. 2024 Edelman Trust Barometer. Special Report: Trust and Health. Available at https://www.edelman.com/sites/g/files/aatuss191/files/2024-04/2024%20Edelman%20Trust%20Barometer%20Trust%20and%20Health%20FINAL.pdf

Best and worst reasons for recommending HPV vaccination

Parents' views on the best and worst reasons for guideline-consistent HPV vaccination

Melissa B. Gilkey[a], **Mo Zhou**[b], **Annie-Laurie McRee**[c], **Melanie L. Kornides**[d], and **John F. P. Bridges**[e]

BEST REASON

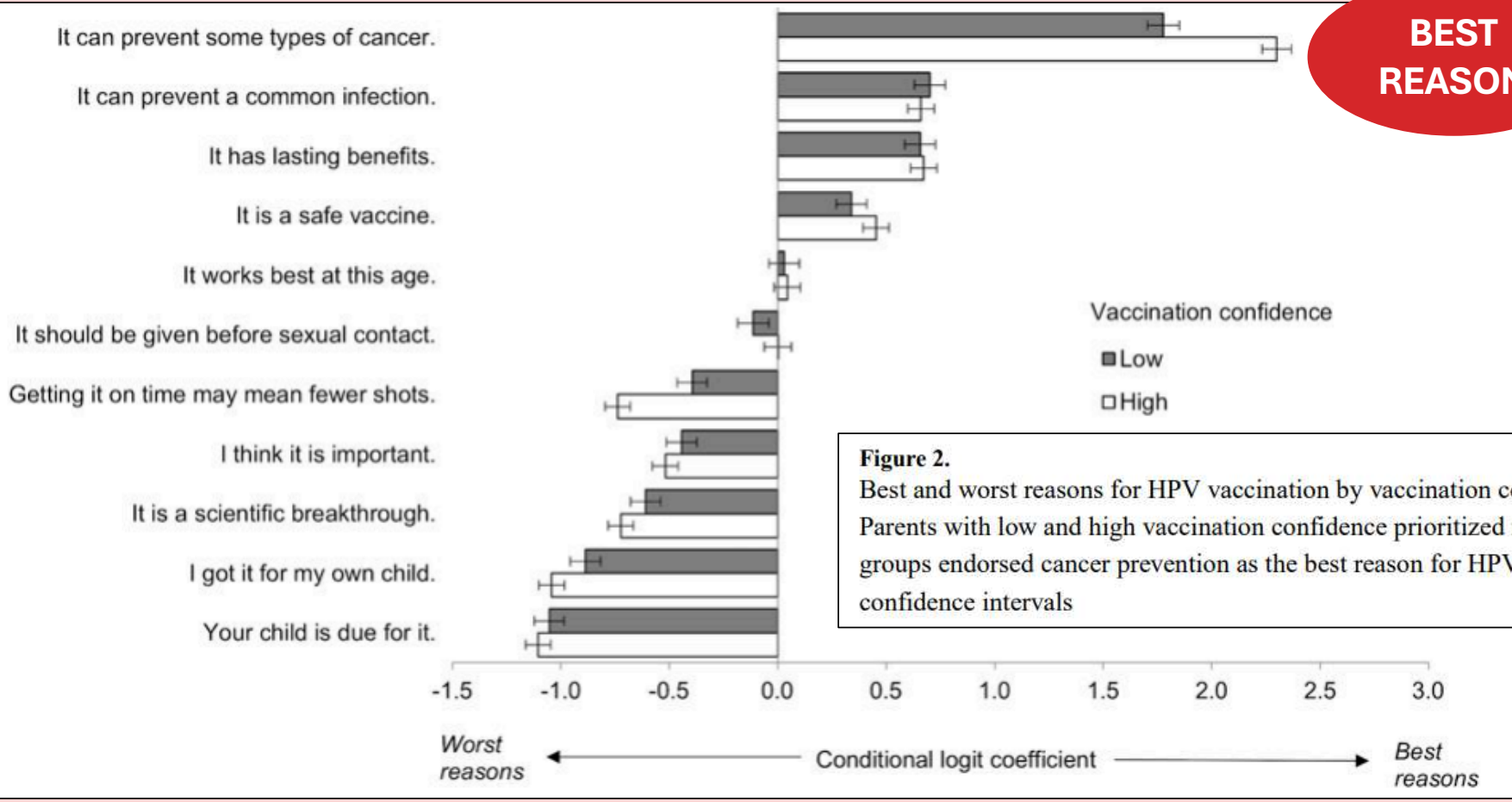


Figure 2.
Best and worst reasons for HPV vaccination by vaccination confidence.
Parents with low and high vaccination confidence prioritized messages similarly. Both groups endorsed cancer prevention as the best reason for HPV vaccination. Bars show 95% confidence intervals

Cancer Epidemiol Biomarkers Prev. 2018 July ; 27(7): 762–767. doi:10.1158/1055-9965.EPI-17-1067 https://pmc.ncbi.nlm.nih.gov/articles/PMC6035066/pdf/nihms962039.pdf

Considerations for making vaccine recommendations

Emphasise the **personal benefits** of the vaccine

Make a **strong recommendation**
Example: Prevention of disease rather than benefits to the community

Address **common concerns** about vaccine safety

SOP for personal conversations to build vaccine confidence

S — **STRONG** recommendation from **YOU**
Use strong language in favour of vaccination (benefits)

O — **OPEN** dialogue, listen to concerns, never judge

P — **PRESUMPTIVE** style of communication
Recommendation as statement and not requiring a response

Fenton et al. Human Vaccines & Immunotherapeutics. 2018; 14, 2503–2509.
Constable et al. A Cancer Journal for Clinicians. 2022; 72, 561–569. doi:10.3322/caac.21753.

Vaccine safety concerns: Importance of personal, patient-centred, open dialogue to build trust

Two-way communication based on respect

Emotional elements

Use personal narratives

Evidence-based techniques

Non-judgemental

Humble inquiry

Passionate listening

Dialogue to build confidence in vaccination

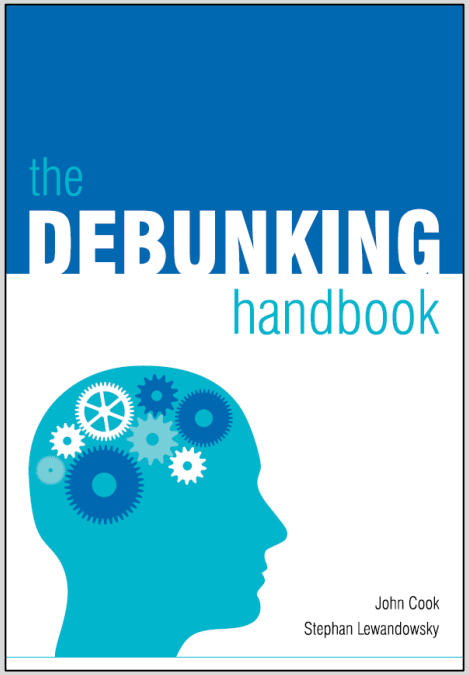
WHAT you say and HOW you communicate

→ Motivational interviewing

→ Benefits of 'storytelling'

Brown MT, Benson CA. Addressing the Challenges of Vaccine Hesitancy Broadly and Related to COVID-19 Vaccines. Top Antivir Med. 2022 Dec-Jan;29(5):430-439.

Caution when debunking myths about vaccination?



https://digitalcommons.unl.edu/scholcom/245/

? Be careful when debunking misinformation

- **Repeating** common vaccine myths to correct them with facts may have the **unintended effect** of strengthening beliefs in the false information
- When incorrect information is repeated, it is easier to remember – what **you see first is what 'gets stuck' in your mind**

☒ Fear-based messages (scare tactics) e.g., photos of children with vaccine-preventable diseases

- Can **backfire** and **increase the perceived risk** of vaccine side effects

Avelino-Silva et al. BMC Public Health, 2023; 23, 1162; Freeman D et al. Lancet Public Health. 2021 Jun; 6(6):e416-e427; NIHR Evidence. Promoting vaccination: the right approach for the right group; July 2023; doi: 10.3310/nihrevidence_59296. Whitehead et al. Vaccine. 2023 Jan 27;41(5):1018-1034.

Building trust and creating demand: Community engagement

- Understand **community needs**
  - Engage with ethnic, cultural and religious groups
  - Consider different socio-economic backgrounds
- Build **trust in health system**
  - Culturally appropriate educational materials
- Partner with **community advocates** and trusted individuals
  - Leverage trusted individuals/organisations to convey messages
- **Foster local ownership** of vaccination initiatives
  - Engage with the community about existing vaccination services
- Listen to **community concerns**
  - Allow people to voice their concerns from their perspective
  - Do not simply dismiss concerns or try to correct them
- Don't promote **mandatory policies** for vaccination
  - Focus on increasing public demand for vaccination
  - Use pro-active approach towards **demand creation**

NIHR Evidence; Promoting vaccination: the right approach for the right group; July 2023; doi: 10.3310/nihrevidence_59296; Cooper S, Wiysonge CS. Vaccines (Basel). 2023 Jun 26;11(7):1155.

Window of opportunity: Make vaccines accessible to communities

- Target **structural barriers** to vaccination access and convenience
  - Deliver vaccines in accessible community settings e.g. pharmacies, religious centres
  - Vaccination outreach or mobile vaccination teams e.g. taxi initiative
- Provide access → reduce **out of pocket costs**
- Reduce vaccination **waiting times**
  - Simple logistical procedures to follow for vaccination
- Increase **private sector involvement**
  - Services offered on weekends and after hours
  - Example South Africa: Free EPI vaccines through service-level agreements with provincial EPI

Transnet has launched a new health train focused on bringing Covid-19 vaccines to remote communities and those with limited medical resources.

NIHR Evidence; Promoting vaccination: the right approach for the right group; July 2023; doi: 10.3310/nihrevidence_59296; Cooper S, Wiysonge CS. Vaccines (Basel). 2023 Jun 26;11(7):1155; https://sacoronavirus.co.za/2021/08/20/inside-south-africas-new-vaccine-train/ .

WAY FORWARD: Considerations for building vaccine confidence

- Vaccine **hesitancy** is prevalent and driven by misinformation which results in loss of trust and vaccine confidence
  - **Misinformation** and **distrust** are societal **threats** to public health
- Vaccine **mis- and disinformation** are widespread and **compete with EPI communication**
  - Healthcare professionals are most trusted for information on health → **engage on social media and provide scientific evidence**
- People's **perceptions about the risks and benefits** of vaccines vary widely
  - Weighing the risks and benefits of vaccination requires a relatively high degree of **health literacy**
- **Transparent communication** on the risks and benefits of vaccines
  - Address people's common **concerns and questions**: Safe? Effective? Your recommendation?
  - Effective communication on **scientific evidence** is important to address uncertainties
  - **What and how** you communicate is of utmost importance
- Regulator and government's responsibility to **monitor vaccine safety**
  - **Report** adverse events following immunisation and **encourage the public** to report → confidence and trust

20TH Annual African Vaccinology Course 2025

Building Vaccinology Expertise in Africa

THANK YOU

VACFA vaccines for africa

SEFAKO MAKGATHO HEALTH SCIENCES UNIVERSITY

Acknowledgements

Prof Rose Burnett

Colleagues at SAVIC

SAVIC

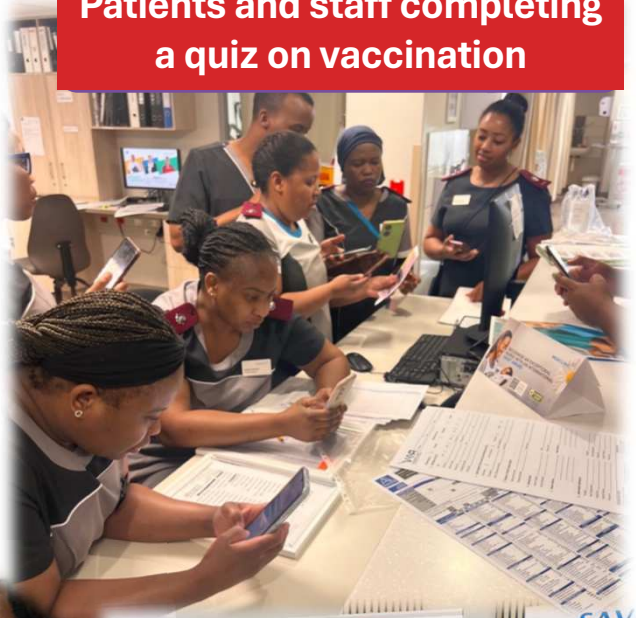
Healthcare worker and patient education

Pharmacy Month 2024

Winner of the patient quiz competition

Information for patients in the waiting area

Patients and staff completing a quiz on vaccination

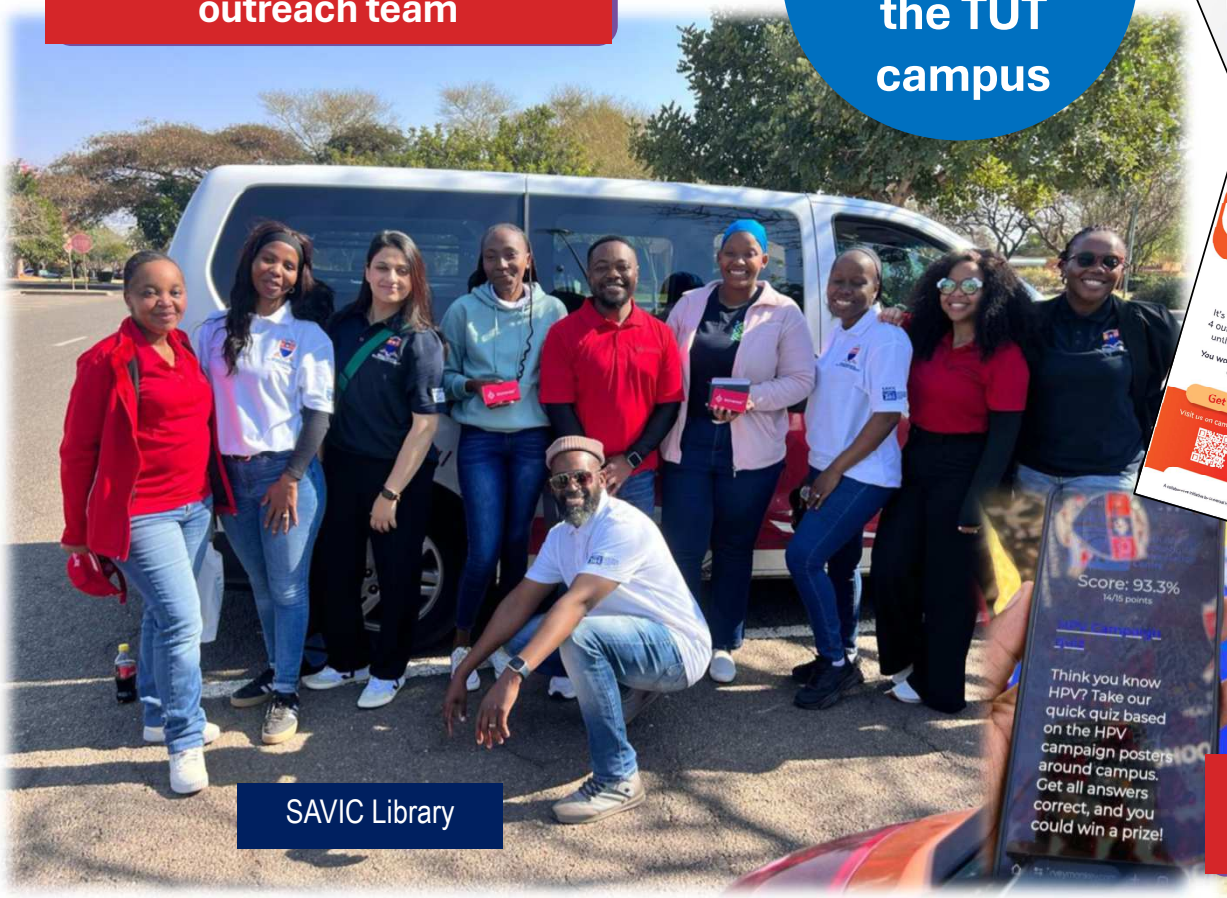


SAVIC Library

Advocacy and community engagement

Collaboration is essential

Winner of the quiz with the outreach team



SAVIC Library

HPV vaccine campaign on the TUT campus

Students reading the HPV booklet

Students completing an HPV quiz on their mobile device

Advocacy and community engagement

Collaboration is essential

HPV vaccine campaign on the SMU campus

SAVIC Library

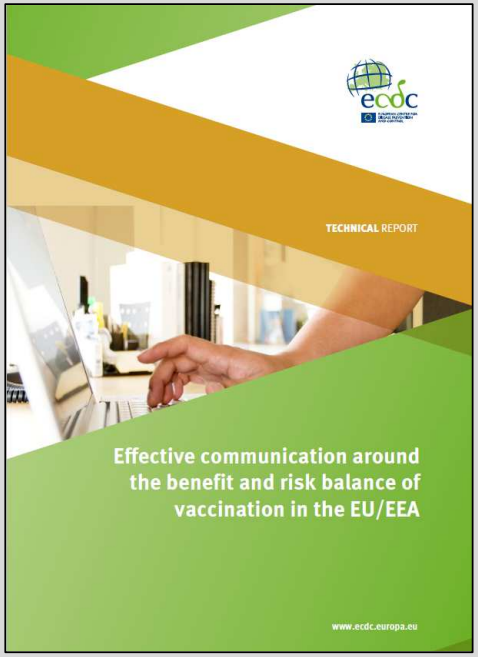
Winners of the HPV quiz

Advocacy and community engagement

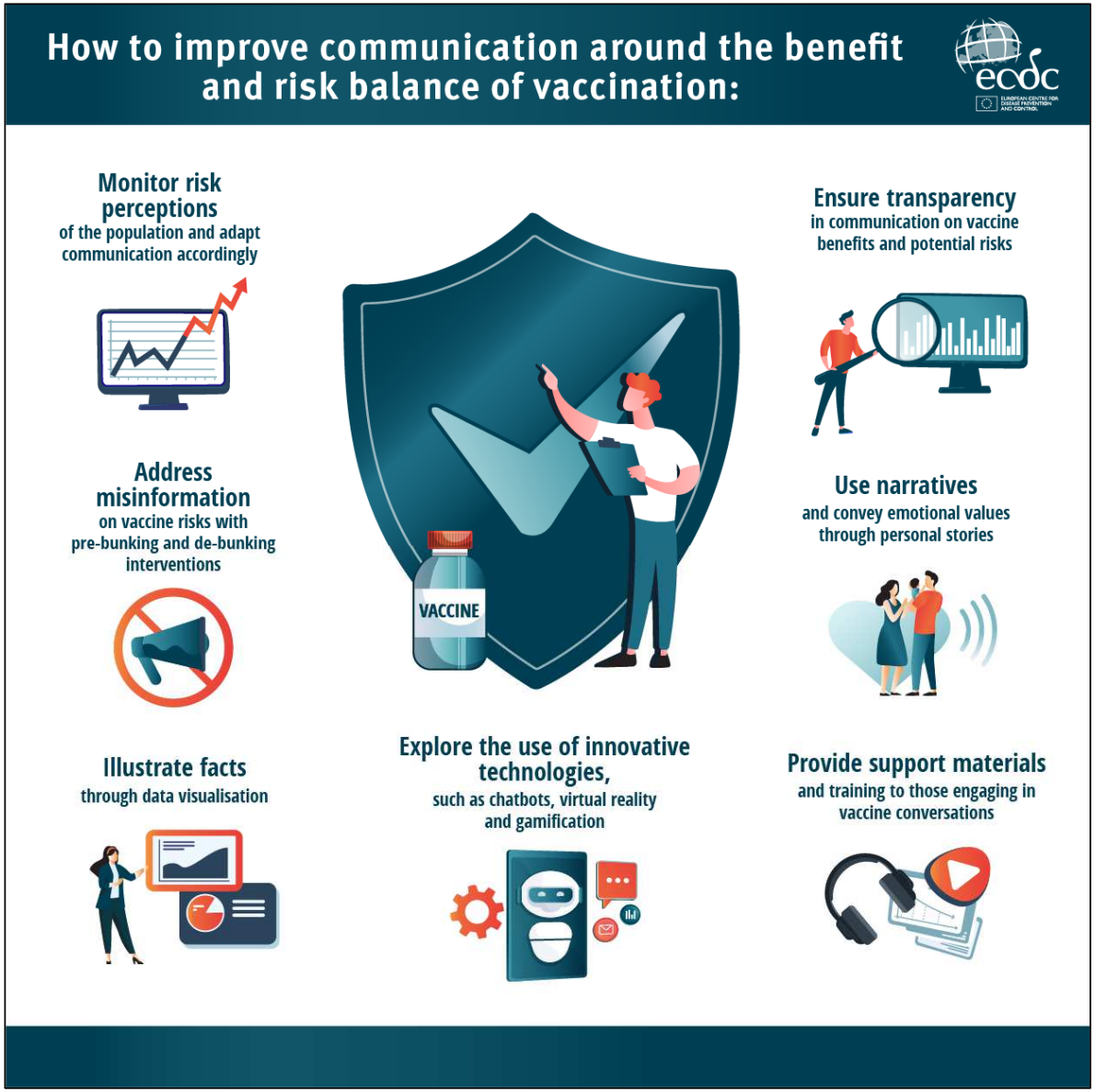
Take vaccines to the community

Use illustrations that people can understand

Communication about the benefit and risk balance of vaccination



https://www.ecdc.europa.eu/en/publications-data/how-improve-communication-around-benefit-and-risk-balance-vaccination



Debunking myths about vaccination?

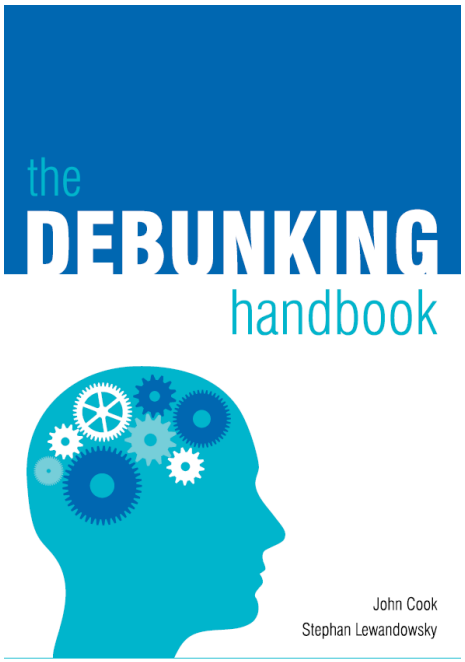
Scientific consensus about how to combat misinformation

Part 1: Misinformation can do damage; Where does misinformation come from? Misinformation can be sticky; Sticky myths leave other marks

Part 2: Prevent misinformation from sticking if you can; Simple steps to greater media literacy; The strategic map of debunking; Who should debunk?

Part 3: The elusive backfire effects; Role of worldview in belief confirmation

Part 4: Debunk often and properly; **Collective action: Debunking on social media**



https://digitalcommons.unl.edu/scholcom/245/

Build vaccine confidence: Motivational interviewing

HUMAN VACCINES & IMMUNOTHERAPEUTICS
2024, VOL. 20, NO. 1, 2391625
https://doi.org/10.1080/21645515.2024.2391625

Taylor & Francis
Taylor & Francis Group

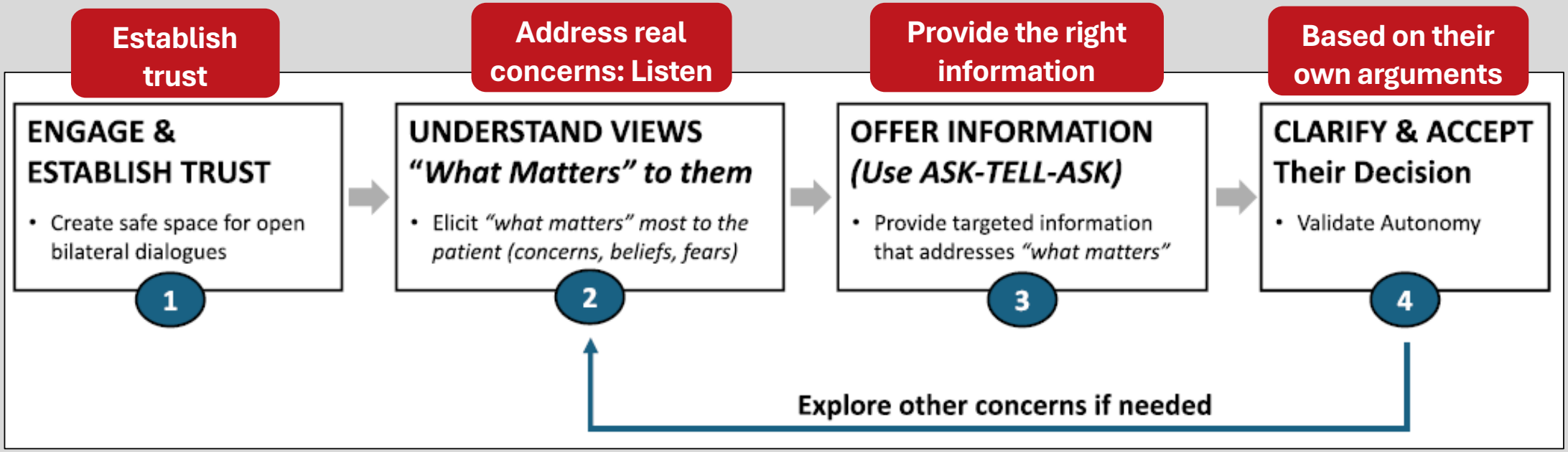
RESEARCH ARTICLE

OPEN ACCESS Check for updates

From vaccine hesitancy to vaccine motivation: A motivational interviewing based approach to vaccine counselling

Arnaud Gagneur[a,b*], Damara Gutnick[c*], Patrick Berthiaume[d], Alessandro Diana[e,f], Stephen Rollnick[g], and Prantik Saha[h]

Do HCPs receive this type of training at university?



Gagneur et al. 2024 Dec 31;20(1):2391625. doi: 10.1080/21645515.2024.2391625

Build vaccine confidence: Storytelling

When it comes to the community, you have to be a little more beautiful with your words and how you present the information.

University of Minnesota
Driven to Discover®
Search

National Resource Center for Refugees, Immigrants, and Migrants (NRC-RIM)

Creating Testimonials through Storytelling

Testimonials are successful strategies that portray real stories from community members to communicate trusted information and make positive behavior changes. Partnerships between healthcare providers, community-based organizations (CBOs), and local leaders can identify members and develop testimonials to reach community groups with targeted stories focused explicitly on their COVID-19 vaccine experience.

https://nrcrim.org/using-storytelling-increase-vaccine-confidence

Who is trusted in the community?

EDITORIALS/COMMENTARIES

The power of narrative: Storytelling, fear, and the COVID-19 pandemic

Jonathan Kantor, MD, MSCE
Philadelphia, Pennsylvania and St Augustine, Florida

JAAD Int. 2021 Dec;5:9-10. doi: 10.1016/j.jdin.2021.07.005

Vaccines Against Antimicrobial Resistance

*Roberto Rosini[1], Sonia Nicchi[1,2], Mariagrazia Pizza[1] and Rino Rappuoli[1,3,4]**

[1] GSK, Siena, Italy, [2] Department of Pharmacy and Biotechnology (FaBiT), University of Bologna, Bologna, Italy, [3] vAMRes Lab, Toscana Life Sciences, Siena, Italy, [4] Faculty of Medicine, Imperial College London, London, United Kingdom

Front Immunol. 2020;11:1048. Epub 20200603. doi: 10.3389/fimmu.2020.01048

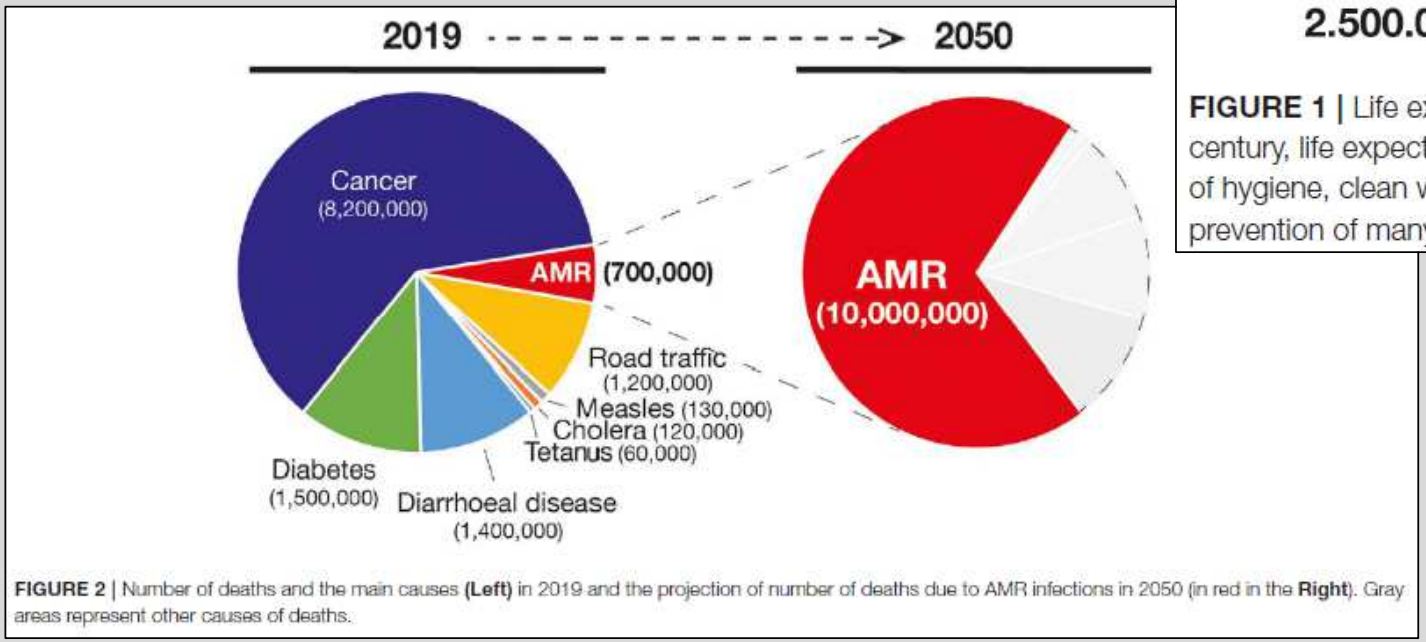


FIGURE 2 | Number of deaths and the main causes **(Left)** in 2019 and the projection of number of deaths due to AMR infections in 2050 (in red in the **Right**). Gray areas represent other causes of deaths.

Front Immunol. 2020 Jun 3;11:1048. doi: 10.3389/fimmu.2020.01048

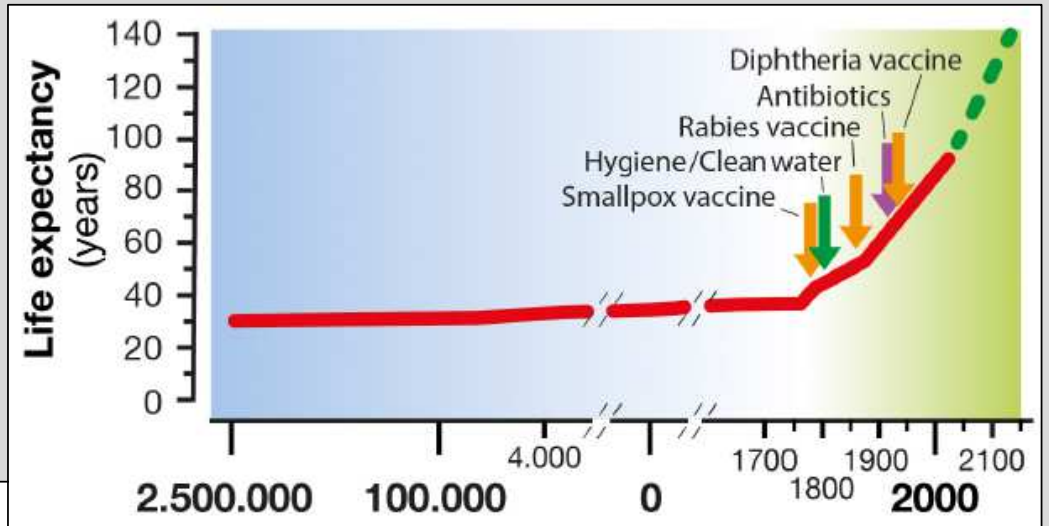


FIGURE 1 | Life expectancy increase along human civilization. In the last century, life expectancy has increased considerably, thanks to the introduction of hygiene, clean water, antibiotics, and vaccines as a means of treatment and prevention of many infectious diseases.

Globally, AMR pathogens are causing 700,000 deaths/year

10 million deaths/year are expected by 2050 (higher than the 8.2 million caused by cancer today)