

Increasing vaccination uptake

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SABII.
Social and Behavioural
Insights in Immunisation



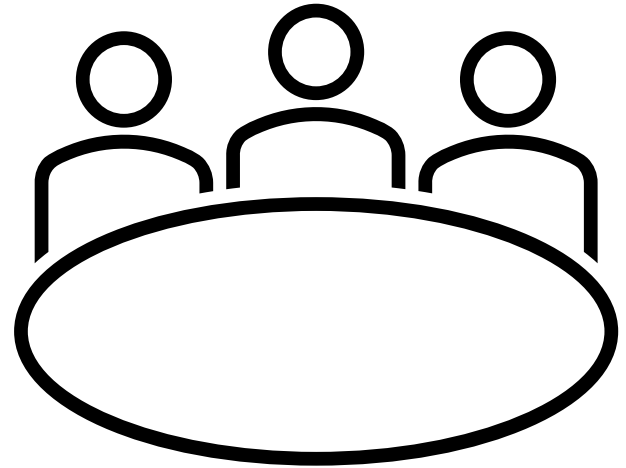
Learning objectives

- Critique the main explanatory models and frameworks used to explain low vaccination coverage
- Apply evidence on the strategies that increase uptake to a real-world scenario

Take 7
minutes

Exercise

- Why don't people vaccinate?
- Discuss with person next to you
- Write each reason on a sticky note
- Try to organise the list into categories



What influences uptake?

Theories, models, frameworks and acronyms

Theory: a principle or body of interrelated principles that purports to explain or predict a number of interrelated phenomena

APA Dictionary

The 3C's, 4C's and 5C's

Cornelia Betsch and colleagues

Betsch C, Schmid P, Heinemeier D, Korn L, Holtmann C, Böhm R. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. PLoS One. 2018;13(12):e0208601.

The 3C's, 4C's and 5C's of vaccine hesitancy

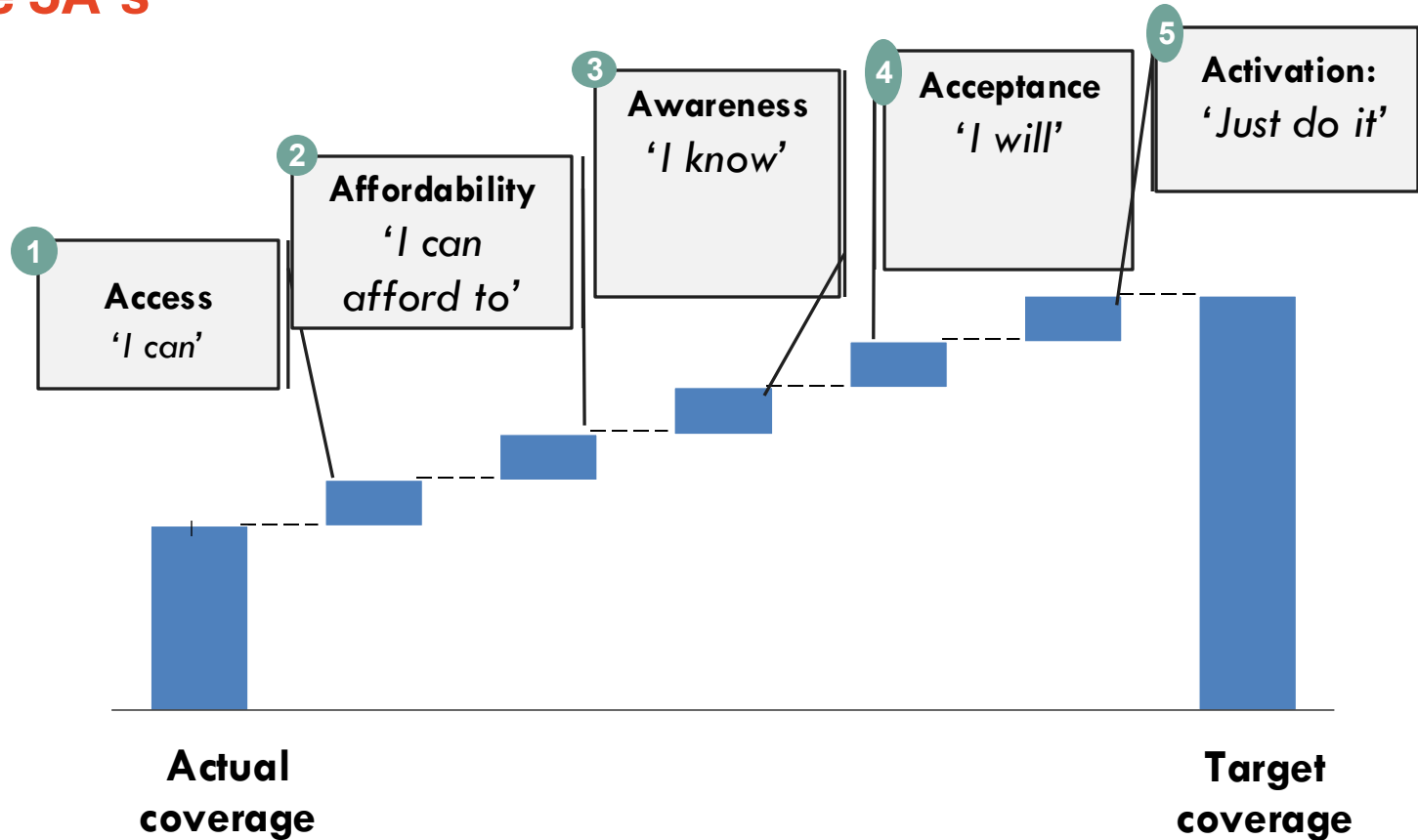
1. Confidence – trust in vaccines and system that delivers them
 2. Complacency – lack of risk perception
 3. Convenience – structural barriers
1. Confidence – trust in vaccines and system that delivers them
 2. Complacency – lack of risk perception
 3. Constraints – structural barriers
 4. Calculation – engagement in extensive information search
 5. Collective responsibility – willingness to protect others

The 5A's

Angus Thomson and Mike Watson

Thomson et al. The 5As: A practical taxonomy for the determinants of vaccine uptake. *Vaccine* 34 (2016) 1018–1024

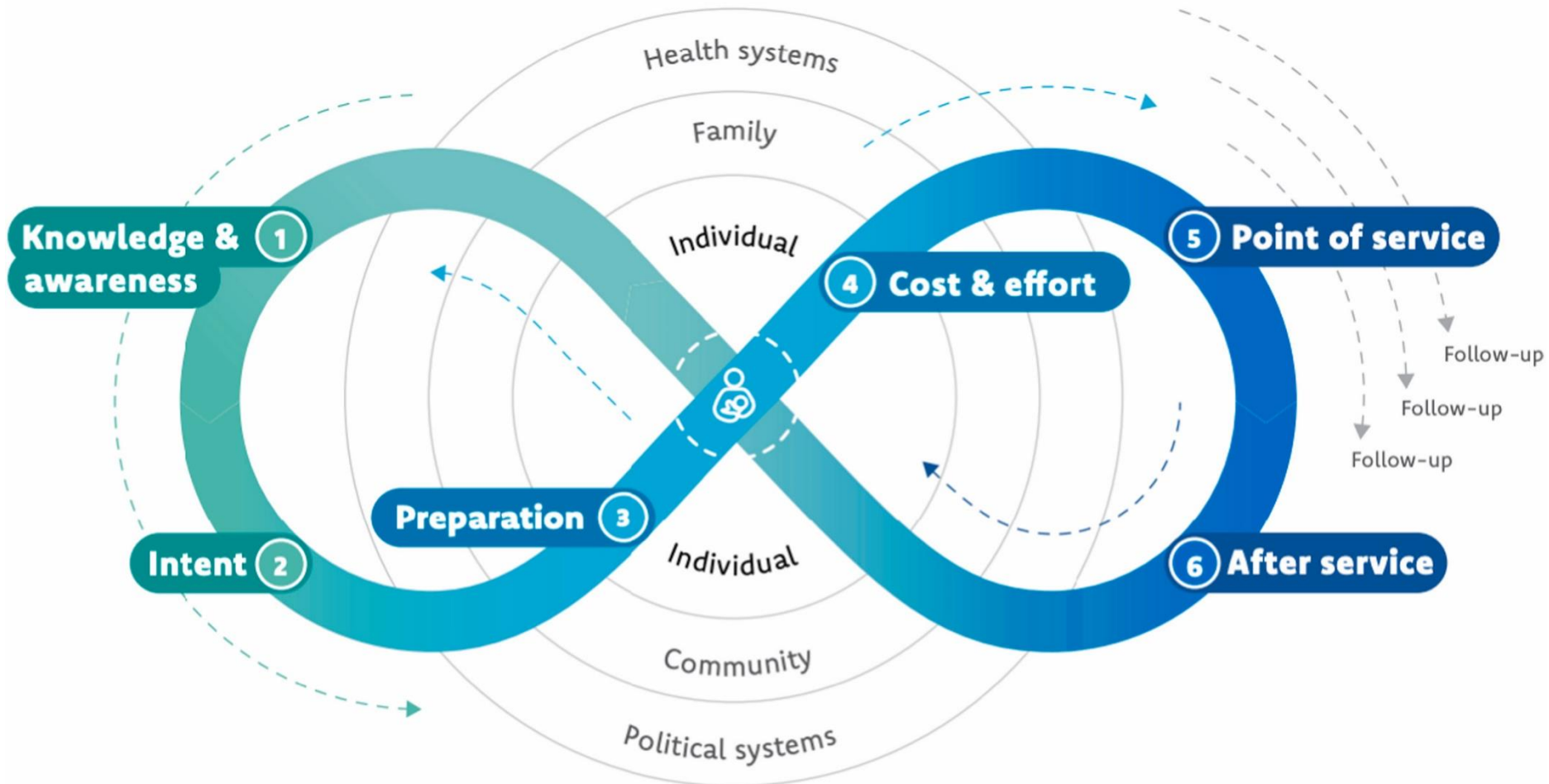
The 5A's



Journey to Vaccination Model

UNICEF and Harvard Opinion Polling

Demand for Health Services Field Guide: A human-centred approach
UNICEF Health Section Implementation Research and Delivery
Science Unit and the Office of Innovation Global Innovation Centre
<https://www.unicef.org/innovation/reports/demand-health-services>



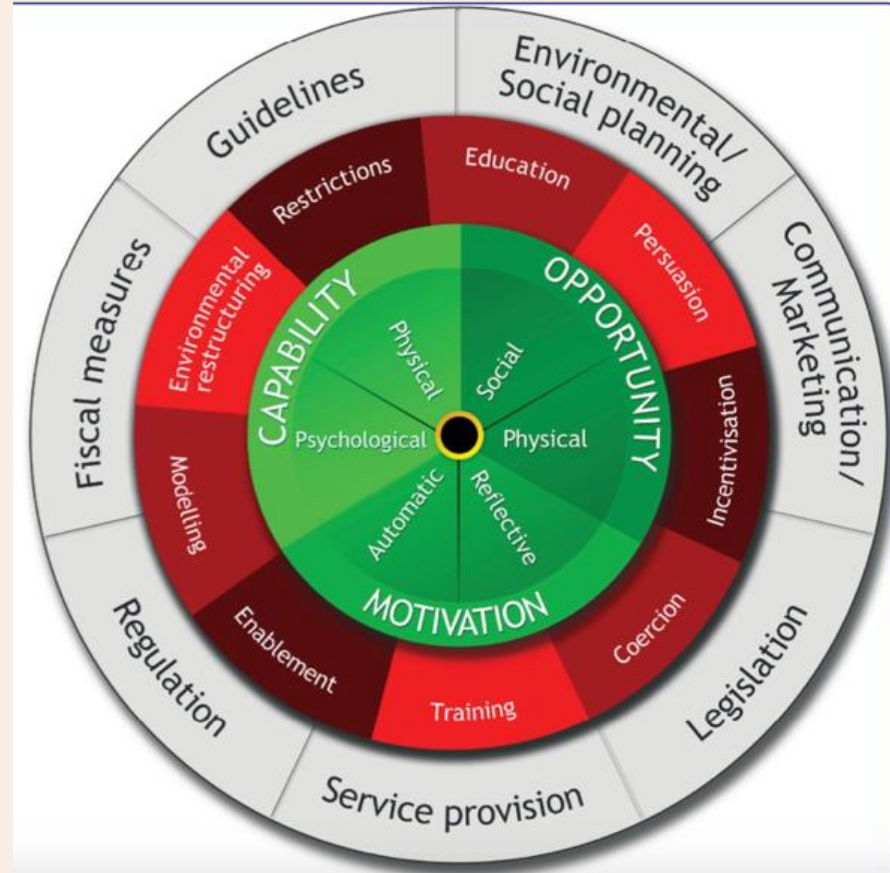
Source: Hemat et al (2023): <https://www.sciencedirect.com/science/article/pii/S2666535223000824>

COM-B model

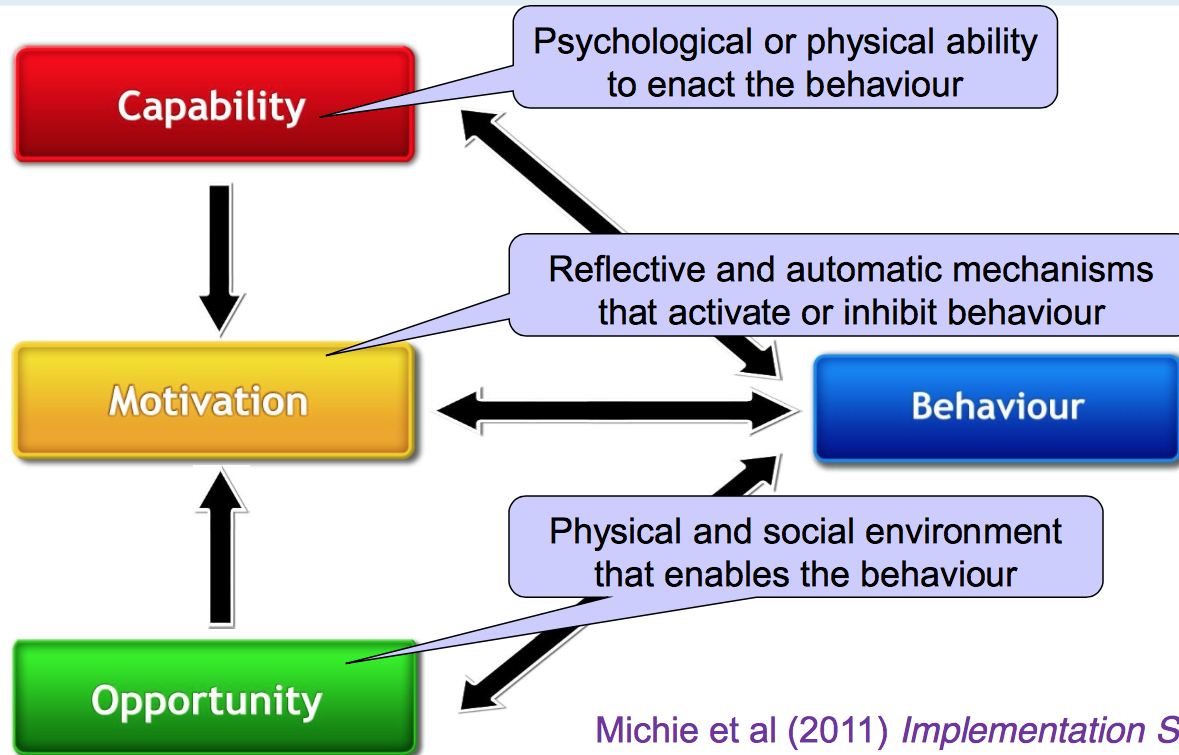
Susan Michie, Maartje M van Stralen,
Lou Atkins and Robert West

Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implement Sci.* 2011;6:42.

Michie S, Atkins L, West R. *The Behaviour Change Wheel: A Guide to Designing Interventions*. London: Silverback Publishing; 2014.



The COM-B system: Behaviour occurs as an interaction between three necessary conditions



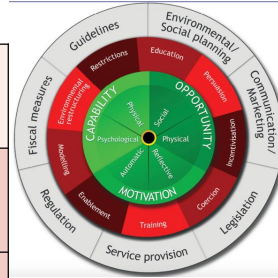
Michie et al (2011) *Implementation Science*

Source: Susan Michie

<https://medicine.dundee.ac.uk/sites/medicine.dundee.ac.uk/files/Professor%20Susan%20Michie.pdf>

The identified barriers will suggest the intervention/s

COM component:	Physical capability	Psychological capability	Physical opportunity	Social opportunity	Automatic motivation	Reflective motivation
Information/ Education		✓				✓
Persuasion					✓	✓
Incentivization					✓	✓
Coercion					✓	✓
Training	✓	✓	✓		✓	
Restriction			✓	✓		
Environmental restructuring			✓	✓	✓	
Modelling				✓	✓	



Vaccination Barriers Assessment Tool

A validated measure of the barriers to childhood vaccine uptake in Australia and New Zealand

Kaufman J, Tuckerman J, Bonner C, Durrheim DN, Costa DSJ, Trevena L, Henseler J, Danchin M. Development and validation of the Vaccine Barriers Assessment Tool for identifying drivers of under-vaccination in children under five years in Australia. *Human Vaccines and Immunotherapeutics*. 2024 Dec 31;20(1):2359623.

Vaccine Barriers Assessment Tool - Domains

Access

Communal benefit

Equity

Commitment

Social norms

Trust in healthcare workers

Behavioural and Social Drivers (BeSD) of Vaccination Framework

WHO and UNICEF

Behavioural and social drivers of vaccination: tools and practical guidance for achieving high uptake. 2022 World Health Organization. <https://apps.who.int/iris/handle/10665/354459>.
License: CC BY-NC-SA 3.0 IGO

Based on the Increasing Vaccination Model

Brewer NT, Chapman GB, Rothman AJ, Leask J, and Kempe A (2017). Increasing vaccination: Putting psychological science into action. *Psychological Science for the Public Interest*. 18(3): 149-207)

BeSD framework for measuring drivers of vaccine uptake

Behavioural and Social Drivers (BeSD)

Thinking and Feeling

Perceived disease risk
Vaccine confidence
(includes perceived benefits, safety and trust)

Social Processes

Social norms (includes support of family and religious leaders)
Provider recommendation
Gender equity

Motivation

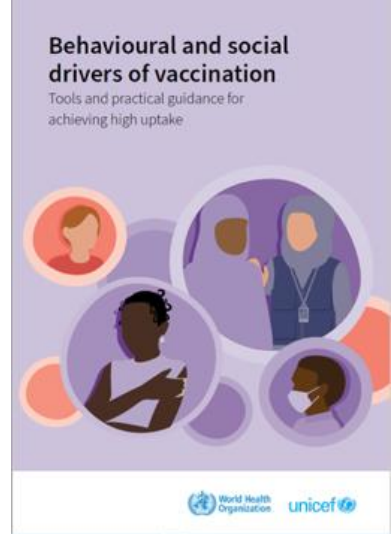
Intention to get recommended vaccines

Practical Issues

Availability
Affordability
Ease of access
Service quality
Respect from provider

Vaccination

Uptake of recommended vaccines



Behavioural and social drivers of vaccination

Tools and practical guidance for achieving high uptake



“SAGE recommended the systematic gathering and use of data on behavioural and social drivers to assess the reasons for low uptake, for routine tracking of trends, and monitoring and evaluation of interventions.”

SAGE, October 2021

<https://apps.who.int/iris/handle/10665/350649>

Access all tools and guidance here:

<https://apps.who.int/iris/handle/10665/354459>

Social Ecological Model

Aligning the factors affecting uptake with the layers of health influence.

Bronfenbrenner U. The ecology of human development. Boston: Harvard University Press; 1979.

McLeroy KR, Bibeau D, Steckler A, Glanz K. An Ecological Perspective on Health Promotion Programs. *Health Education and Behavior*. 1988;15(4):351-77.

A social-ecological model of vaccination decision-making.

Public policy / legislative

Vaccination program funding
Financial / taxation incentives
Public health legislation

Community

Community attitudes & activism
Social & mainstream media
Community experience of VPDs

Institutional / Service

Vaccination service accessibility
/availability/flexibility
School enrolment policies

Interpersonal

Vaccination views and practices of friends, family
Peer / partner pressures
Relationship with immunisation / ante-natal care practitioners

Intrapersonal

Concerns about safety/ necessity
Personal experiences with vaccines
Self-efficacy
Trust in service provider / authorities
Preference for natural immunity

What increases uptake?

Interventions that work

Domain where problem is identified	Interventions shown to increase vaccination
Thinking and Feeling	
Social Processes	
Practical Issues	



Text 1 (sent on 9/25/2020)

WalmartRx - Hi John! It's flu season & you can get a flu shot at Walmart. To help you remember, you'll receive another text in a few days. Flu vaccines prevent getting or spreading the flu. INFO = info, STOP = opt out.

Text 2 (sent on 9/28/2020)

WalmartRx - Remember a flu shot is waiting for you at Walmart.

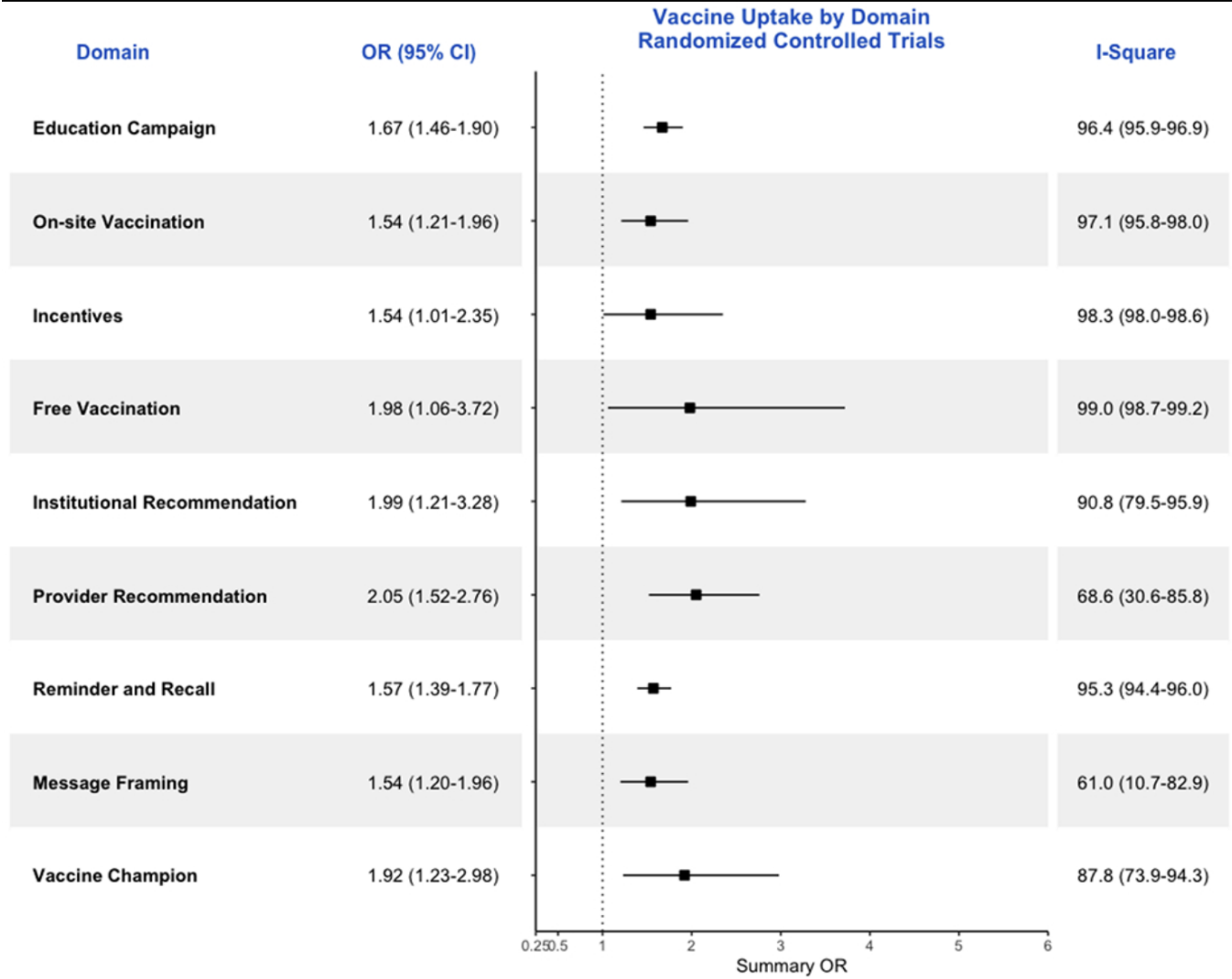


Milkman et al. A 680,000-person megastudy of nudges to encourage vaccination in pharmacies. *Proceedings of the National Academy of Science*. 119 (6) e2115126119

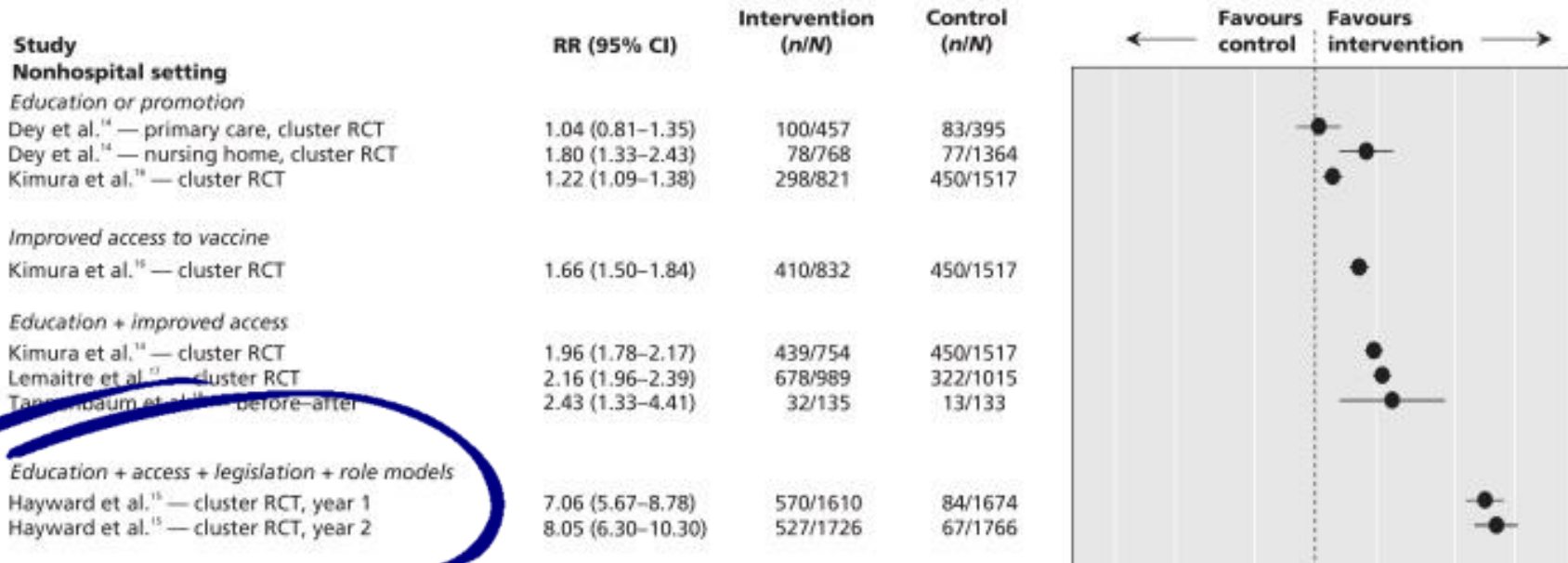


Increasing vaccination uptake – recent evidence review

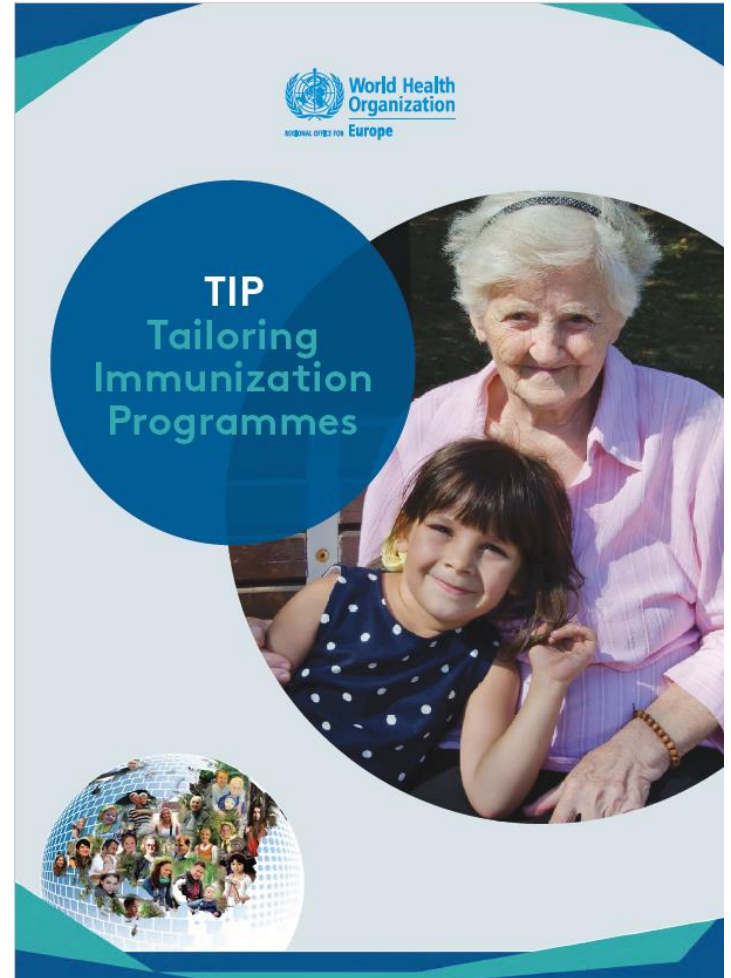
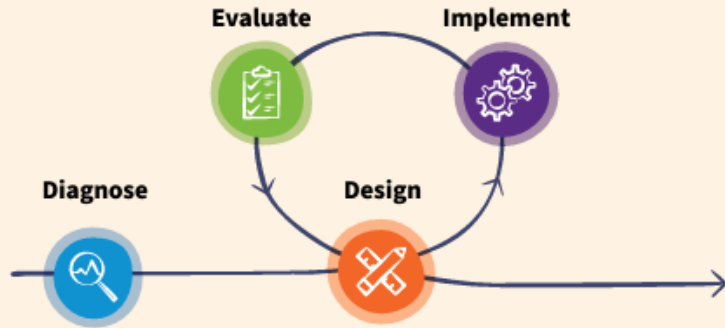
Malik AA, Ahmed N, Shafiq M, Elharake JA, James E, Nyhan K, Paintsil E, Melchinger HC, Team YBI, Malik FA, Omer SB. Behavioral interventions for vaccination uptake: A systematic review and meta-analysis. Health Policy. 2023 Nov;137:104894.



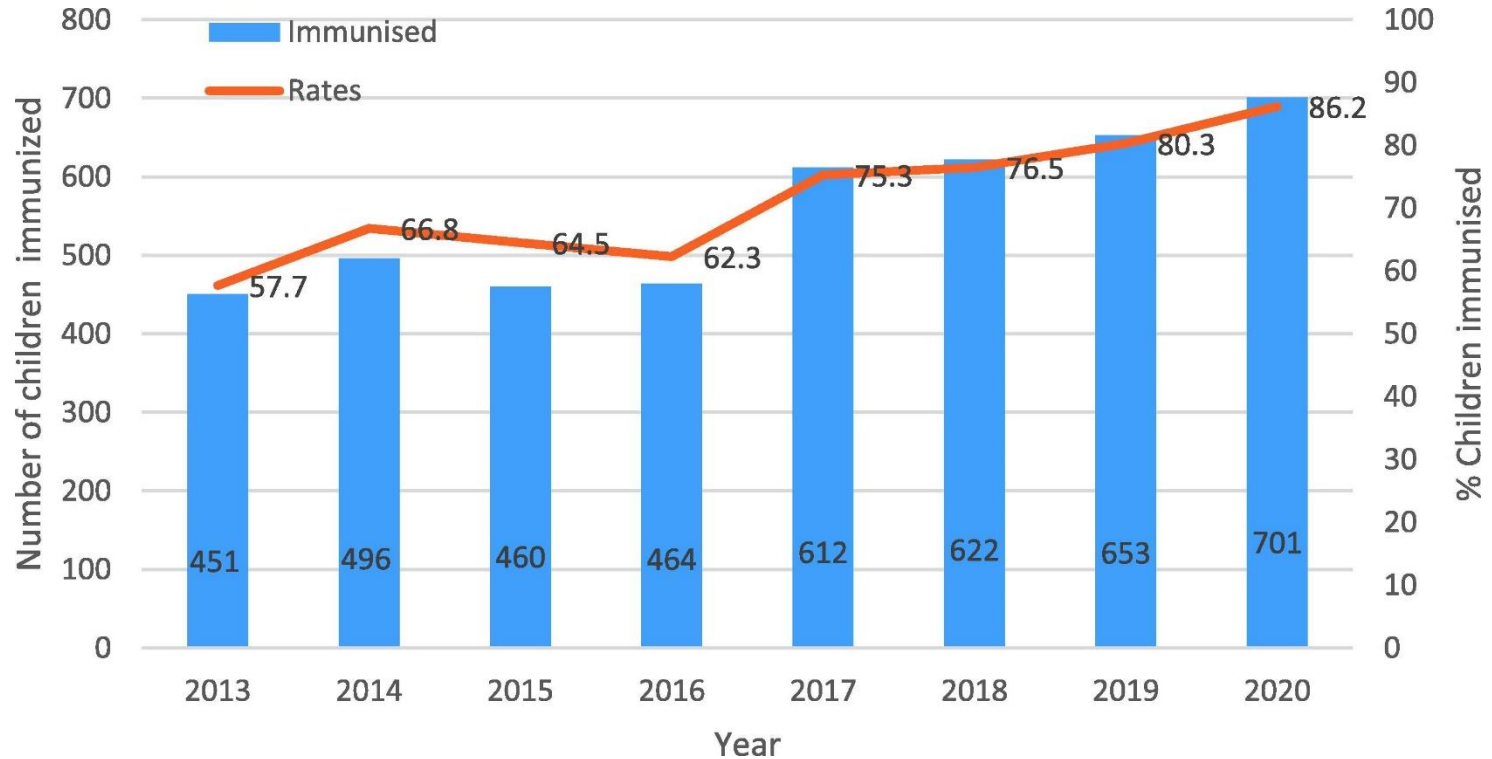
Combined strategies work best - example from increasing HCW vaccination



Bringing it all together: Tailoring Immunization Programmes



Maitland – benefits of a tailored approach



Main messages

- Individuals, services, systems, political and social context, and policies all have a role to play in low coverage
- The largest increases in coverage come from multifactorial interventions, including changes at the service and system level
- But provider recommendations have a high impact due to influence and vaccine availability
- Education works well in combination with other interventions
- Good communication is essential

Thank you



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Pictured: Nurse Kai with community mobiliser Jeremiah in a small canoe delivering COVID-19 vaccines to remote parts of Northern Sierra Leone

Applying your learning in a scenario

Professor Julie Leask AO

School of Public Health, University of Sydney
Sydney Infectious Diseases Institute
Visiting Professorial Fellow, NCIRS

Australian Vaccinology Course

Sydney Q Station Friday 29th August



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Aim of this session

Take part in a hypothetical scenario where you:

- Apply evidence on the strategies that increase uptake
- Apply the principles of public risk communication

The characters and scenarios are a mixture of fact and fiction

You will play roles

Form groups

The Minister for Health and her office

Public servants from a Ministry of Health

Paediatricians Association

A news media organisation

Immunisation Supporters Australia

Parents of Vaccine Injured Children (PVIC)

- 10-12 people per table
- Elect a group leader and spokesperson
- Listen to each unfolding scenario
- Discuss your reactions and decisions (you can talk to other groups, if needed)
- Share these with the larger group
- Be prepared to be challenged
- Be creative, have fun

Timepoint

1 June 2026

- Release of Australia's national immunisation rates
- Substantial decline in vaccination coverage for children.
 - At 12-month milestone, decline from 92% to 88% in last five years.
 - In Aboriginal and Torres Strait Islander communities, decline is 93% to 85%.
- Newsmedia reactions focus on misinformation.



Timepoint 2

5th June 2026

Prime Minister announces “Facts Not Fiction” campaign to inform and educate mothers about vaccination.

Campaign includes pamphlets, social media tiles, television advertisements.

“We are committing \$5 million to the **Facts Not Fiction** campaign.”



Take 7
minutes

How does your group respond?

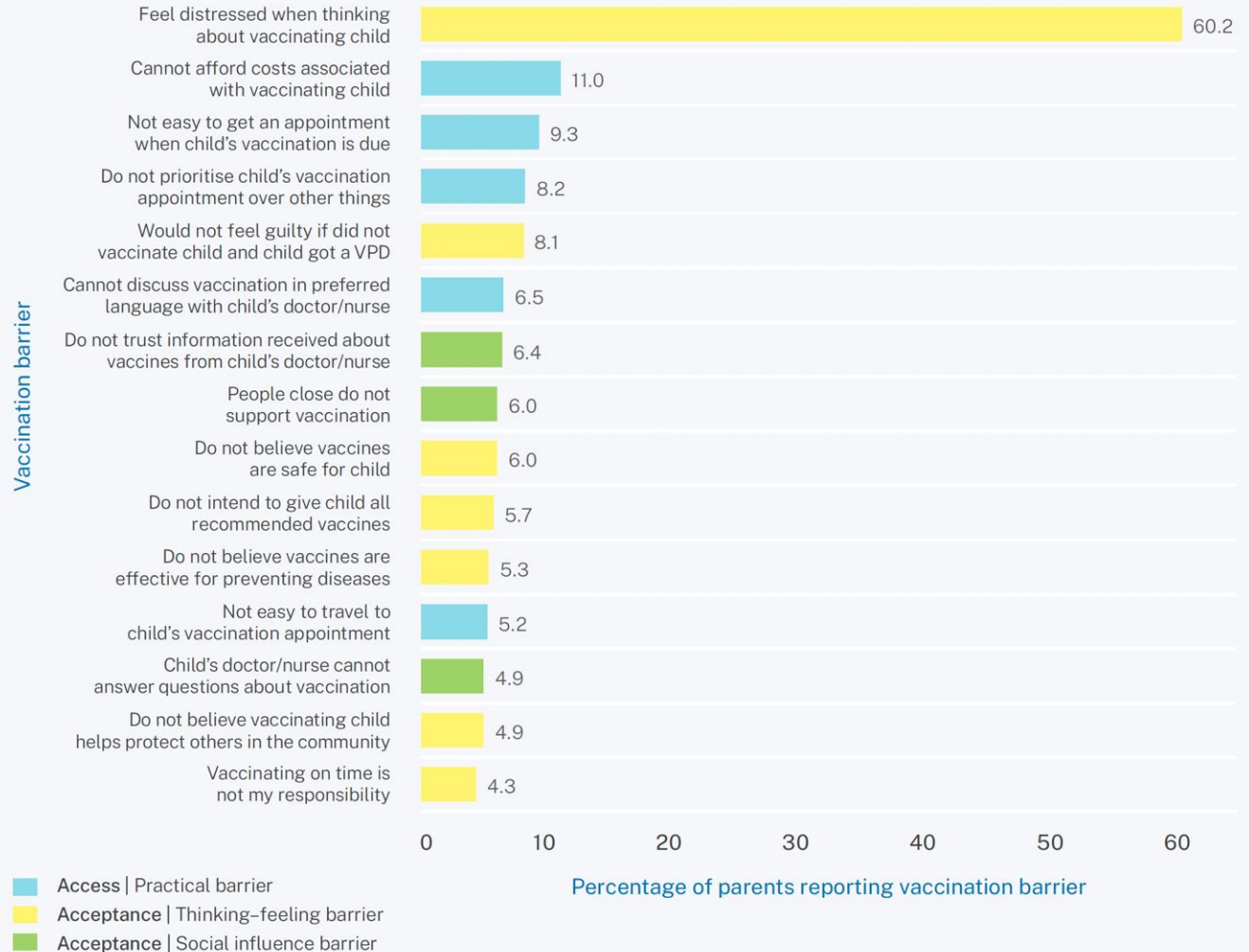
- What do you need to know?
- What do you say?
- What do you do, if anything?

Timepoint 2

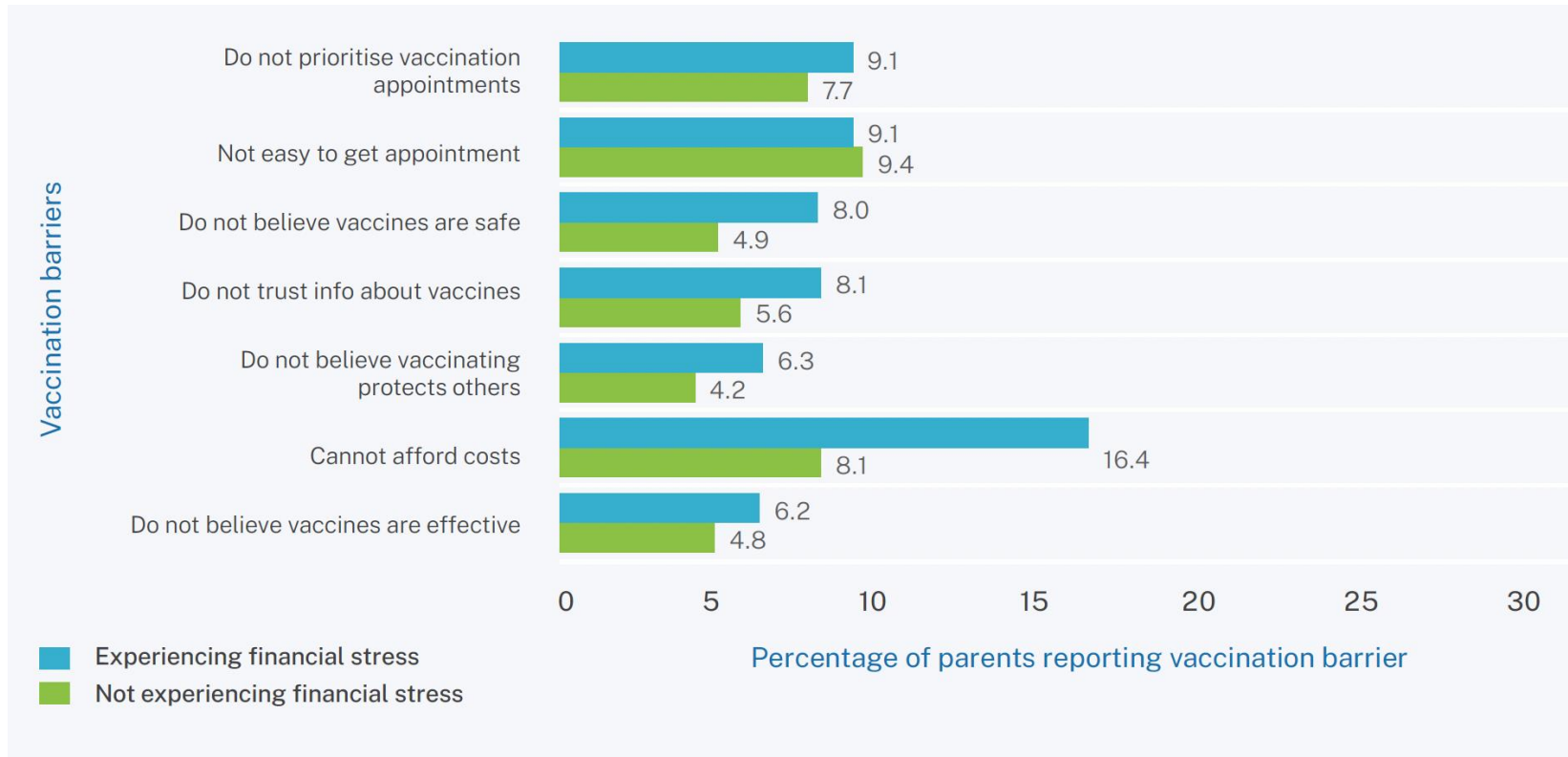
12th June 2026

Report on news research from the *National Vaccination Insights Project* on national sample of 2000 caregivers.

**National Vaccination
Insights Project**

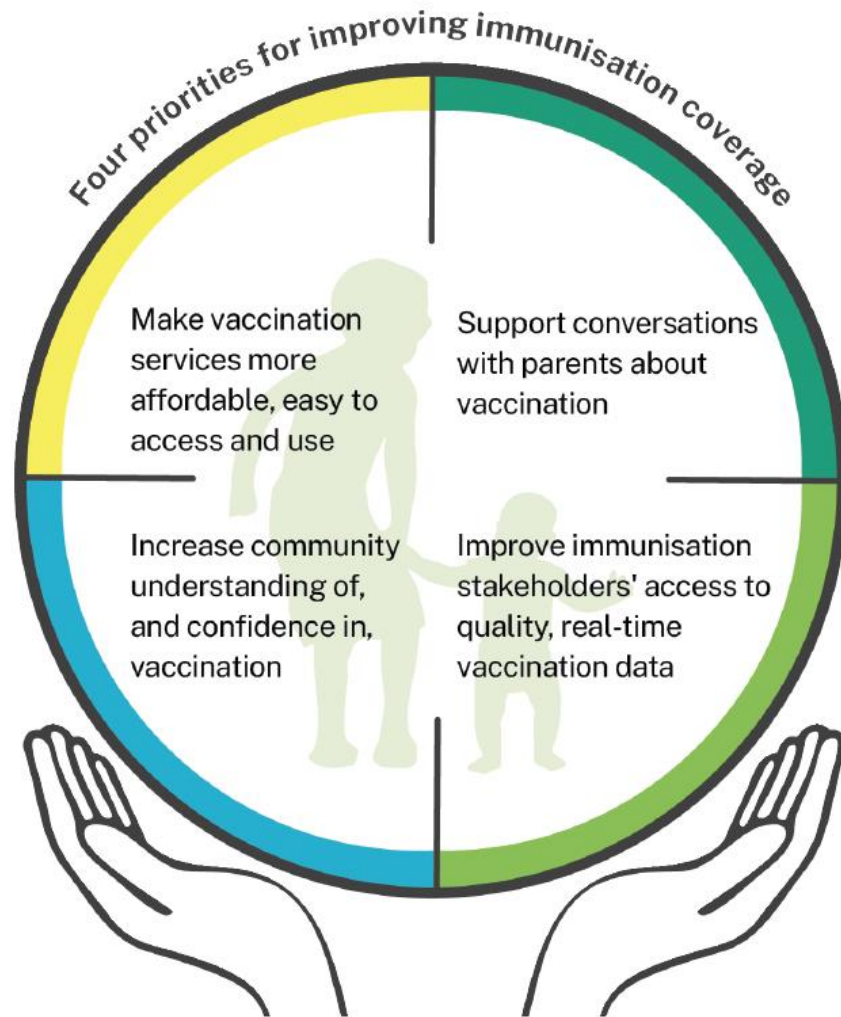


Financial stress amplifies the barriers



The National Vaccination Insights project recommends four priorities for increasing coverage.

Recommendations based on national data, evidence for uptake, and workshop with Strategic Advisory Group.



How does your group respond?

Take 10
minutes

The Minister for Health and her office: decide on your response

Public servants: prepare dot points for policy brief

Paediatricians' Association: agree on your actions and give rationale

A news media organization: write down 4 interview questions for an expert

Immunisation Supporters Australia: prepare a media release

Parents of Vaccine Injured Children: Plan a Tik Tok video

Timepoint 3 September 2026

- The educational immunisation campaign is in full swing.
- The health minister promised to consider the wider set of recommendations.
- A group of doctors and scientists from the US commissioned by Health and Human Services Secretary announces a new report linking vaccines to autism
- They call on the US ACIP to review evidence and propose changes to schedule
- Australian media report the story as breaking news
- A Western Australia GP and senator calls for a review of evidence on safety

**Fears raised
over vaccination**

How does your group respond?

The Minister for Health and her office: Take advice and plan your response.

Public Servants: Brainstorm your strategy

Paediatricians' Association: agree on your actions and give rationale

A news media organization: Prepare a headline and lead sentence

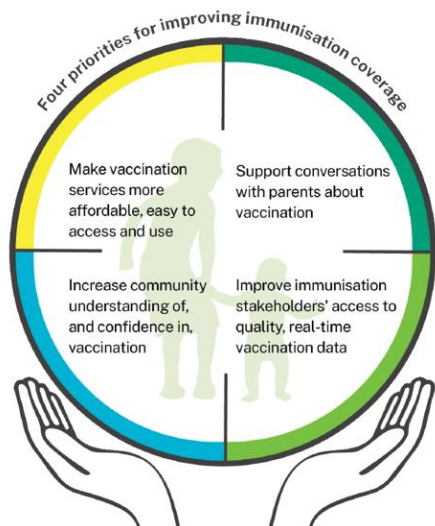
Immunisation Supporters Australia: Decide how you will respond

Parents of Vaccine Injured Children: Plan a Tik Tok video

Top-line recommendations

- Gather routine data on the drivers of uptake
- Have your strategies ready and share them
- Pause and look at the trends before you respond to a vaccine uptake issue
- Verify claims about declining confidence with data.
- Have your risk communication plan ready BEFORE the event
- Consult with other stakeholders
- You don't always have to act right away, sometimes you need more information. BUT communicate early and often, even in face of uncertainty.
- Be ready for misinformation, prebunk and debunk.
- Use trusted spokespeople
- Have your diverse stakeholders on tap before the event

Practical strategies for policy and programs to improve immunisation coverage



Examples of strategies:

- increase bulk billing of vaccination appointments
- deliver vaccines after work hours and in different settings (e.g. general practice, community clinics, pharmacies)

- fund healthcare providers' dedicated, paid time for vaccination conversations
- embed communication training in healthcare providers' professional development

- engage communities in designing and sharing of vaccination messages using trusted community advocates
- automate vaccination reminder system to alert patients of upcoming vaccinations

- change the *Australian Immunisation Act 2015* to enable better sharing of vaccination uptake data at the practice level
- give stakeholders access to up-to-date vaccination information through an online dashboard.

A collaboration between



Image: NCIRS and Penelope Robinson

Reflection

What was it like in your role?

How did your role differ from who you are in real life?

What did you learn?