Vaccines and immunisation in 2026

Australian Vaccinology Course

Professor Kristine Macartney
19 October 2026 Day 1 AVC

Opening overview



NCIRS National Centre for Immunisation Research and Surveillance Australia

In partnership with

THE UNIVERSITY OF SYDNEY
Sydney Infectious Diseases Institute

Acknowledgement of Country

‘Protect your mob – get vaccinated’

Samantha Williams (1988–2023; *vale*),
Wiradjuri woman from Narrandera, NSW

NCIRS would like to recognise Samantha for her significant contribution to the community through her work in health and immunisation.

The artwork’s design represents our communities in the centre, from our home to the wider community. The symbols around the circle represent the people, both men and women – this could be anyone from mothers to fathers to gran. It is our responsibility to keep our mob healthy. We need to educate our younger generation and communities about the importance of immunisations and how they keep us protected. The lines going out from the circle represent our journeys, jobs and relocation and the impacts we have made along the way. Many Aboriginal and Torres Strait Islander families may relocate from one community to another. We have mob all over – but no matter where we go, the story is the same: we need to protect our mob. So the smaller circles represent herd immunity across our communities, and the people that this has an impact on – our elders, our babies and our people who cannot be immunised.

NCIRS commissioned this artwork



Outline

Disease prevention and better health using vaccines



People

All ages and stages

All health status

All connected



Diseases

Growing numbers of VPDs

Emerging diseases

Re-emerging diseases

Each pathogen distinct



Vaccines

Pipeline technologies

Cost and evaluation

Novel delivery



Communities

Immunisation systems

How we think and feel

Trust

Mis- and disinformation

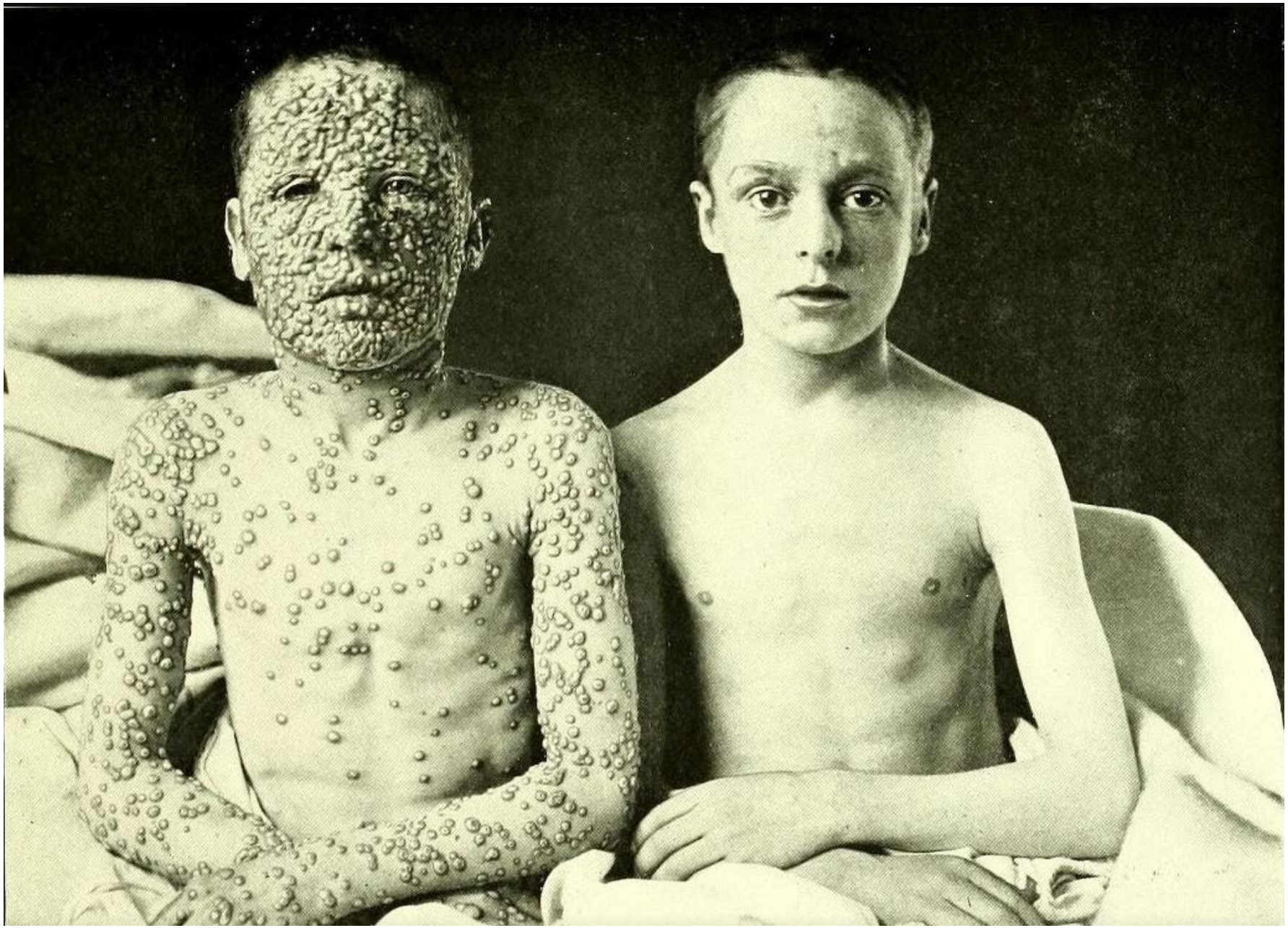
Each pathogen, vaccine and person is unique
We live in complex communities but can prevent disease

1967

Mass vaccination begins with the World Health Organization announcing the Intensified Smallpox Eradication Programme.



Read more about the **HISTORY OF THE SMALLPOX VACCINE** →



Atlas of clinical medicine, surgery, and pathology / edited under the direction of the Council by Jonathan Hutchinson. | Wellcome Collection

The world population is changing:

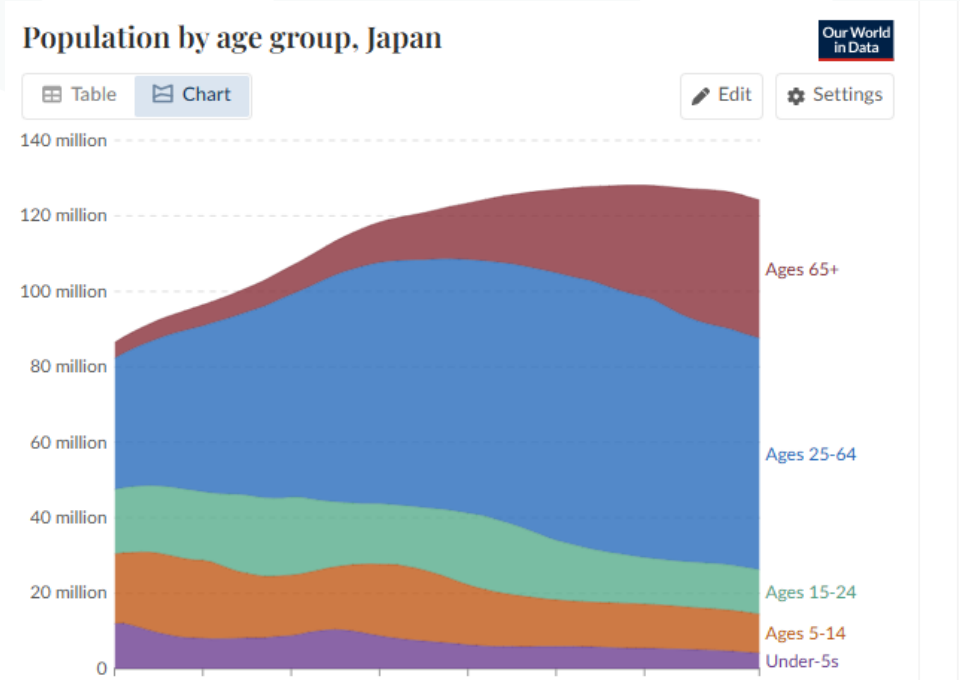
- 1950 - 2.5 billion people
- 2021- 8 billion
- 2100 - 10 billion expected
- Now more people over 64 than children younger than 5

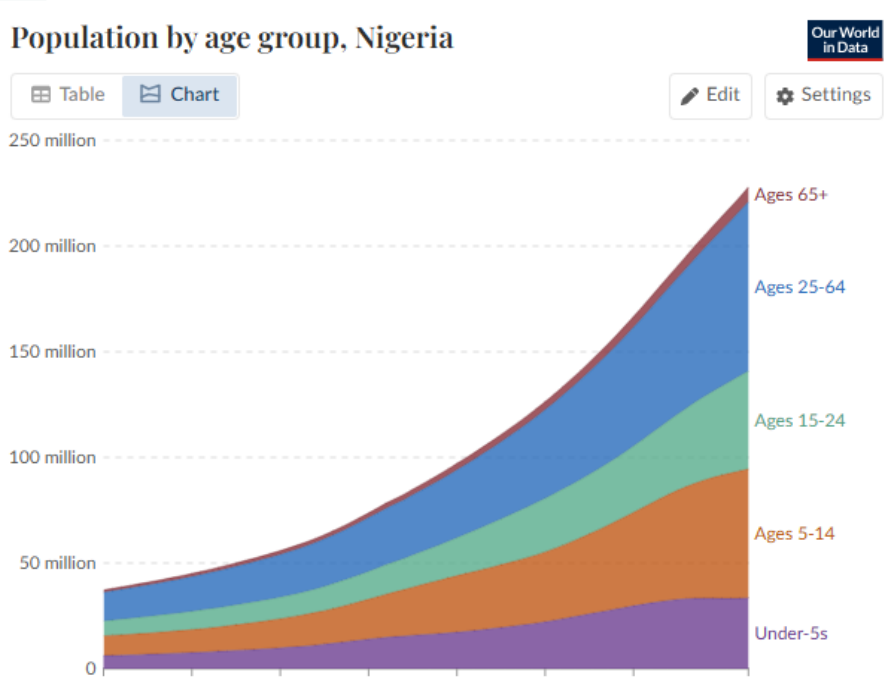
Australia's 2025 population **~27.6 million**

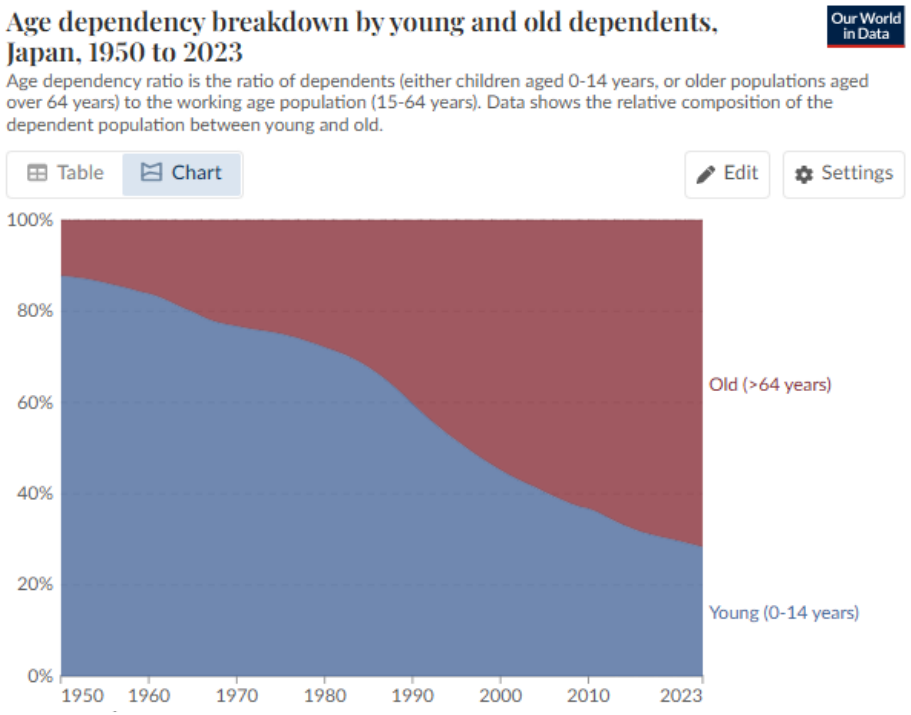
- 17.5% aged 0–14
- 64.2% aged 15–64
- 18.5% aged 65+

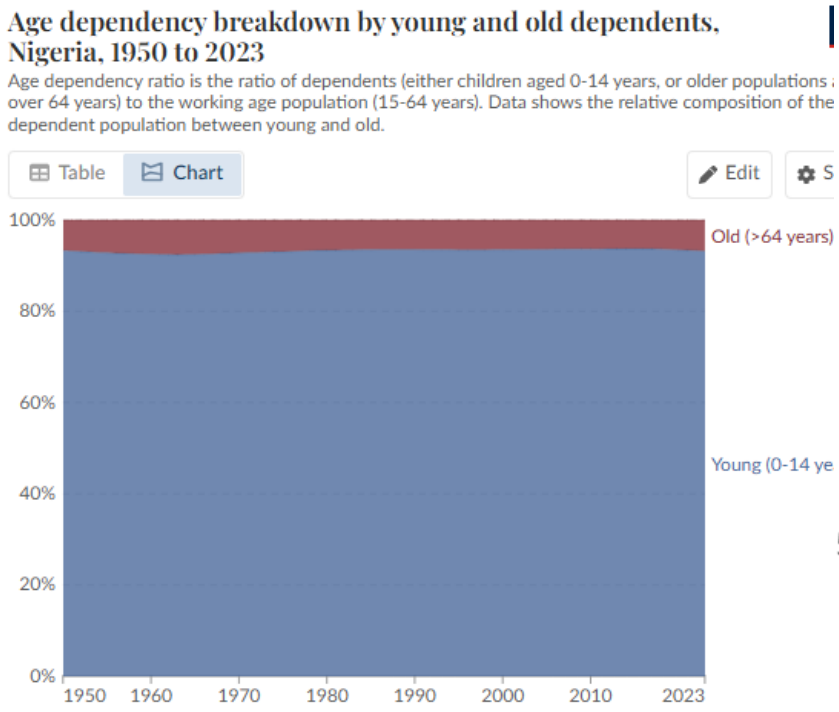
32.0% born overseas (8.8 million of 27.6 million)

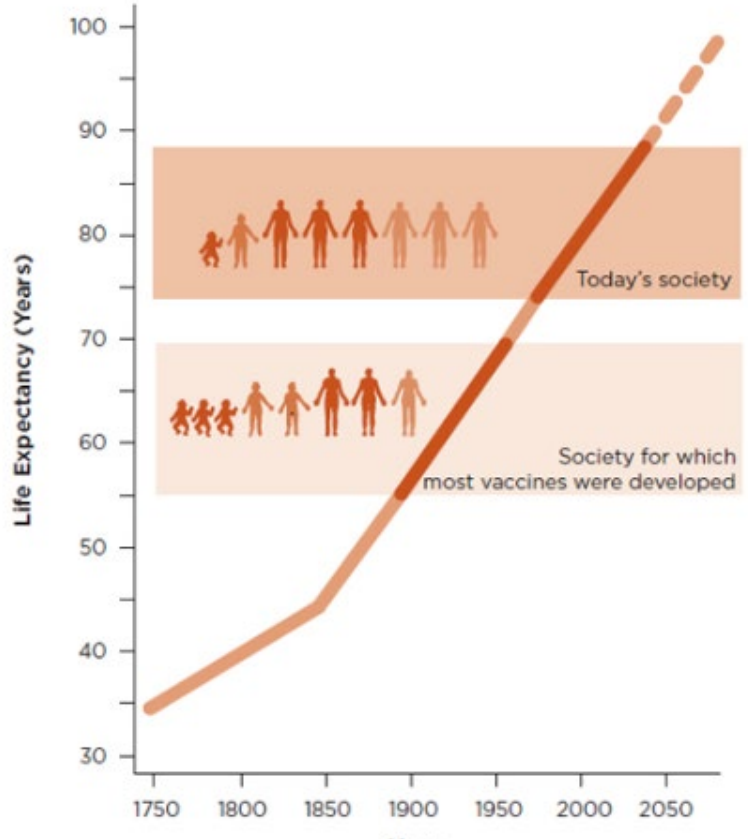
Age Structure - Our World in Data

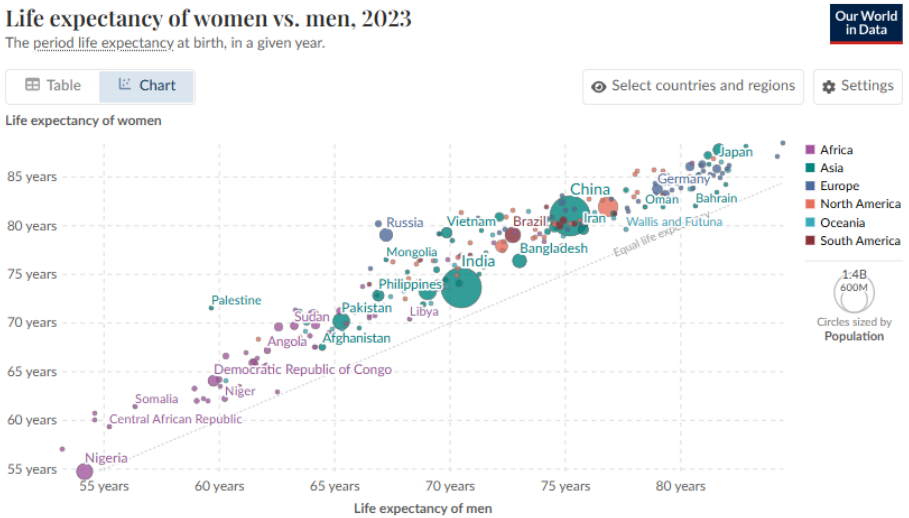






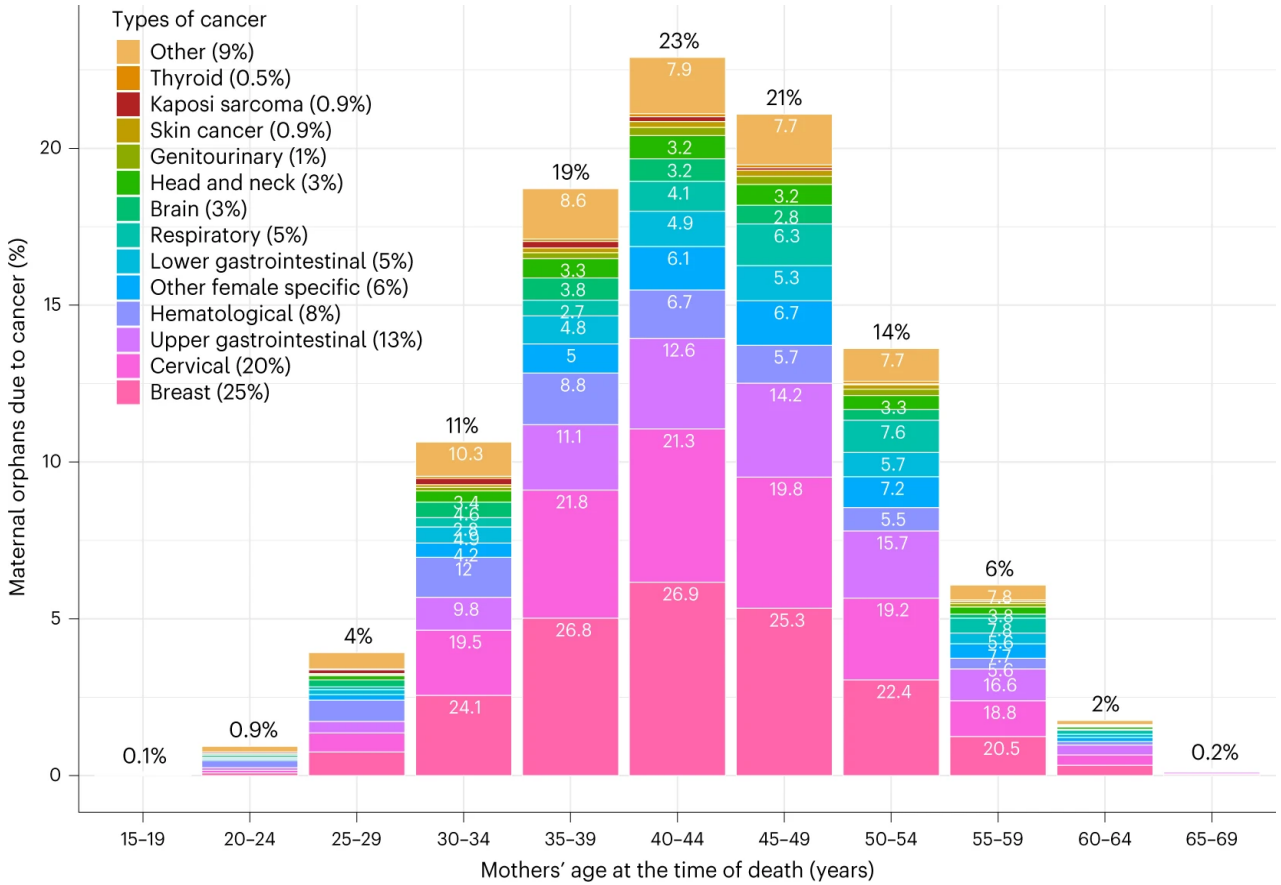






Cervical cancer

Est. 341,000 cervical cancer deaths, resulting in 210,000 new maternal orphans



Global distribution of maternal orphans due to cancer by mother's age at time of death and type of cancer

1 Introduction: From Smallpox to SMART Vaccines | Ranking Vaccines: A Prioritization Framework: Phase I: Demonstration of Concept and a Software Blueprint | The National Academies Press

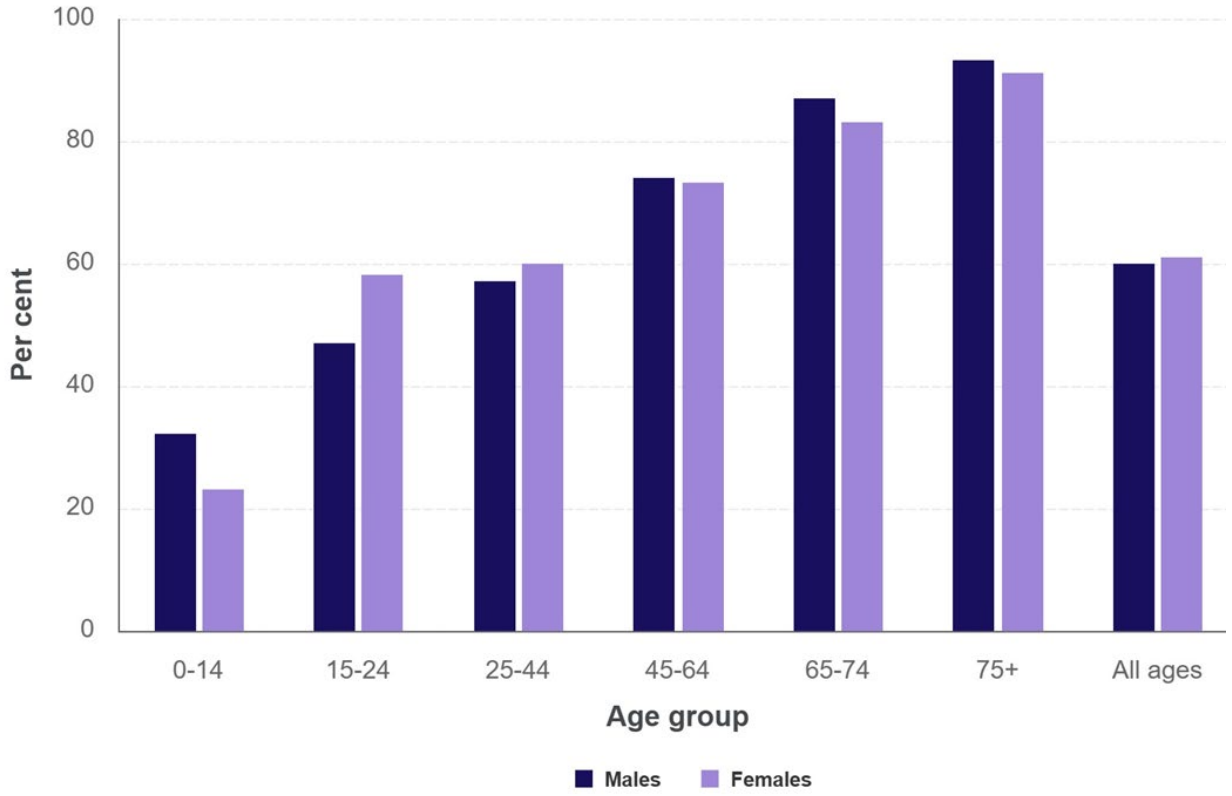
More living with chronic conditions increase risk of acquiring and/or developing severe infectious disease

Chronic conditions - Australian Institute of Health and Welfare

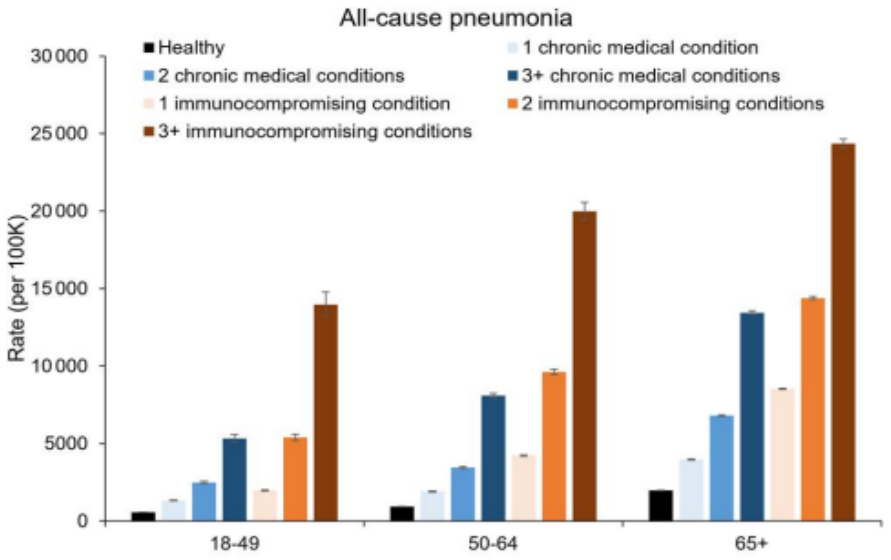
Table 1: Long-term health condition groups and prevalence among people of all ages

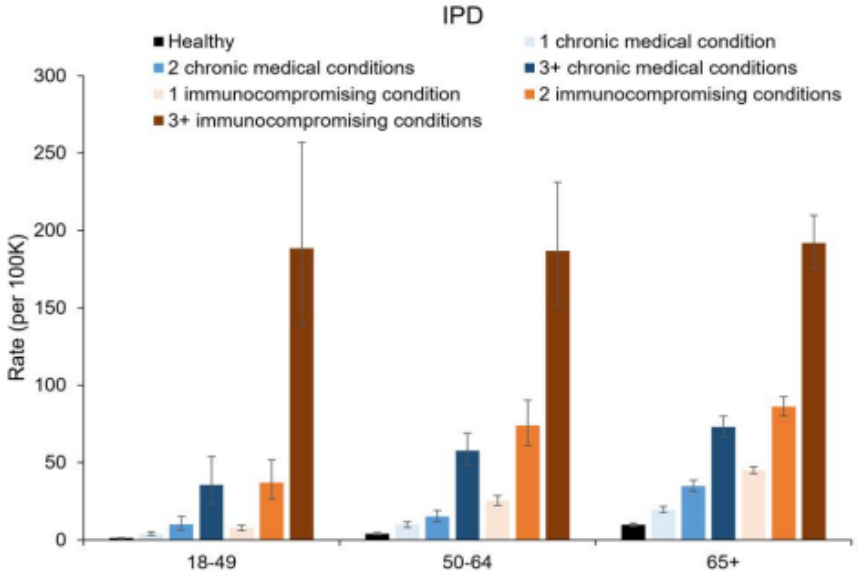
Condition group	Inclusions[a]	Prevalence (%)[b][c]
Cancer	Bowel or colorectal cancer, brain cancer, breast cancer, cancer of female genital organs, cancer of male genital organs, cancer of other digestive organs, cancer of other respiratory and intrathoracic organs, Hodgkin's disease, leukaemia, non-Hodgkin's lymphoma, oesophageal or stomach cancer, skin cancer, lung cancer, cancer site unknown, other malignant tumours, in situ neoplasms, benign neoplasms & neoplasms of uncertain nature	2.3
Cardiovascular diseases	Heart failure, ischaemic heart diseases (including angina, heart attack and other ischaemic heart diseases), stroke, other heart diseases, other heart stroke and vascular diseases (including other cerebrovascular diseases, oedema and diseases of arteries, arterioles and capillaries), other diseases of circulatory system (including rheumatic heart disease)	5.5
Chronic respiratory	Asbestosis, asthma, chronic obstructive pulmonary disease (chronic airflow limitation, chronic bronchitis, emphysema)	12.3
Endocrine disorders	Type 1 diabetes, Type 2 diabetes and diabetes type unknown	5.3
Gastrointestinal	Diseases of the liver, diseases of the oesophagus (including gastro oesophageal reflux disease), inflammatory bowel disease (enteritis and colitis)	1.7
Genitourinary	Chronic kidney disease (including Glomerular diseases, Renal failure or Kidney disease, Renal tubulo-interstitial diseases), non-inflammatory female pelvic conditions (including endometriosis)	2.7

Figure 1: Prevalence of living with one or more of the selected long-term health conditions by sex and age, 2022



Risk-based vaccine programs





Risk of Pneumococcal Disease in US Adults by Age and Risk Profile | Open Forum Infectious Diseases | Oxford Academic

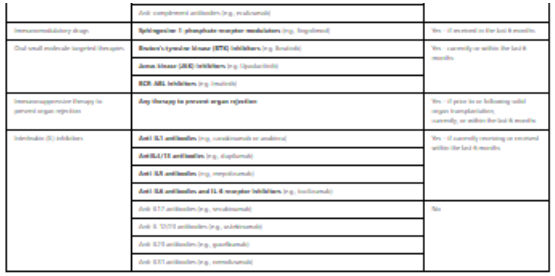
Table. Risk conditions and immunosuppressive therapies for zoster vaccination and eligibility for NIP funding

Australian Government
Department of Health and Aged Care

Australian Immunisation Handbook

Biologic therapies	**Tumour necrosis factor inhibitors (TNFi)** (e.g. adalimumab)	Yes – if received in the last 6 months
	Soluble TNF receptors (e.g. etanercept)	
	T-cell co-stimulation modulators (e.g., Abatacept)	
	Type I interferon receptor inhibitors (IFNAR1) (e.g. anifrolumab)	
	Proteasome inhibitors (e.g., bortezomib)	
	Anti-integrins (e.g., natalizumab and vedolizumab)	No
	Anti-IgE antibodies (e.g., omalizumab)	
	Anti-complement antibodies (e.g., eculizumab)	
Immunomodulatory drugs	**Sphingosine-1-phosphate receptor modulators** (e.g., fingolimod)	Yes – if received in the last 6 months
Oral small molecule targeted therapies	**Bruton's tyrosine kinase (BTK) inhibitors** (e.g. Ibrutinib)	Yes - currently or within the last 6 months
	Janus kinase (JAK) inhibitors (e.g. Upadacitinib)	
	BCR-ABL inhibitors (e.g. Imatinib)	
Immunosuppressive therapy to prevent organ rejection	**Any therapy to prevent organ rejection**	Yes – if prior to or following solid organ transplantation, currently, or within the last 6 months
Interleukin (IL) inhibitors	**Anti-IL1 antibodies** (e.g., canakinumab or anakinra)	Yes – if currently receiving or received within the last 6 months
	AntiIL4/13 antibodies (e.g., dupilumab)	
	Anti-IL5 antibodies (e.g., mepolizumab)	
	Anti-IL6 antibodies and IL-6 receptor inhibitors (e.g., tocilizumab)	
	Anti-IL17 antibodies (e.g., secukinumab)	No
	Anti-IL 12/23 antibodies (e.g., ustekinumab)	
	Anti-IL23 antibodies (e.g., guselkumab)	
	Anti-IL31 antibodies (e.g., nemolizumab)	

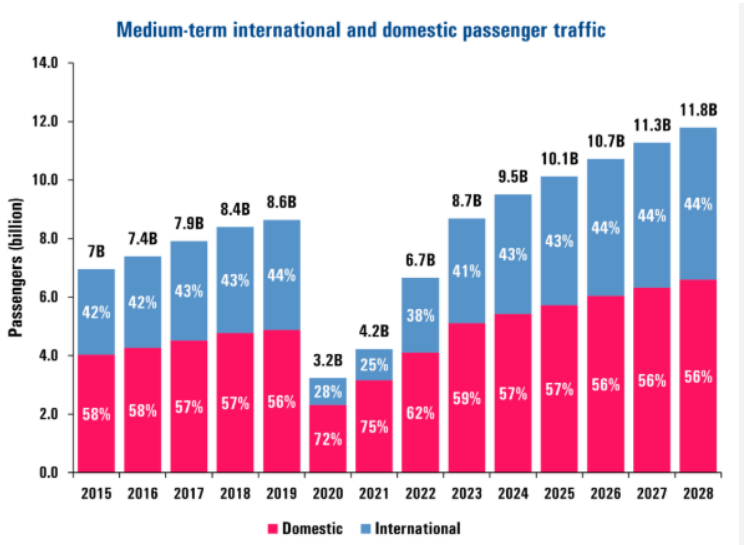


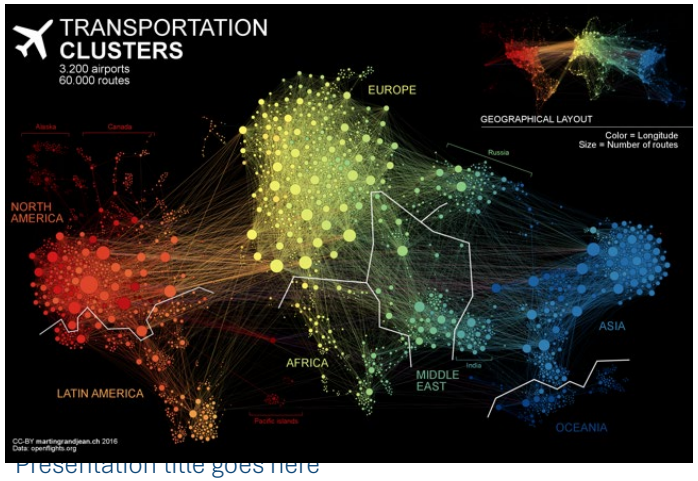



Ticketed
Passengers

People (and diseases) travel

11.8 billion travellers



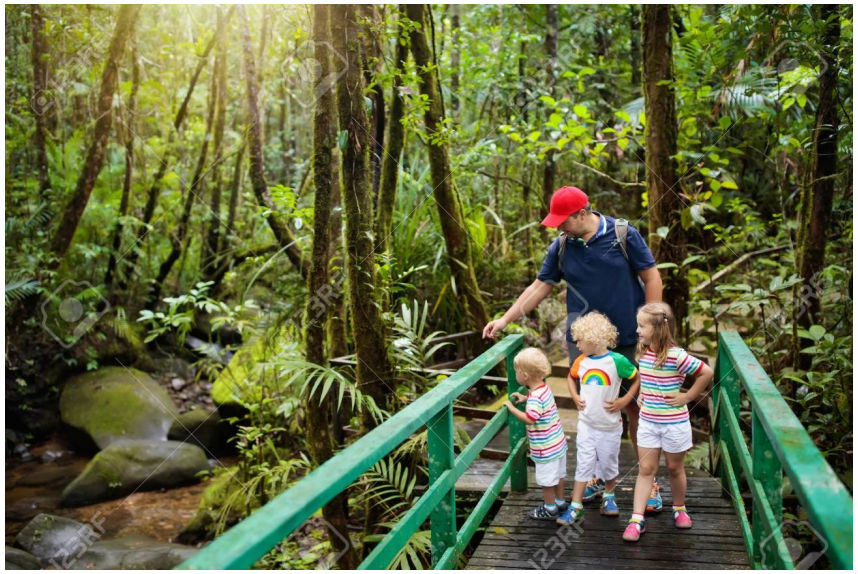


New destinations

New travel destinations are gaining traction, while established favorites see continued demand.

Destination ranking based on total travel spend (domestic and international), select countries[1]

	2023 rank		2030 projected rank
Thailand	8	↑	5
India	11	—	11
Philippines	35	↑	32
Vietnam	37	↑	35
Peru	77	↑	68
Rwanda	140	↑	134



Diseases spread



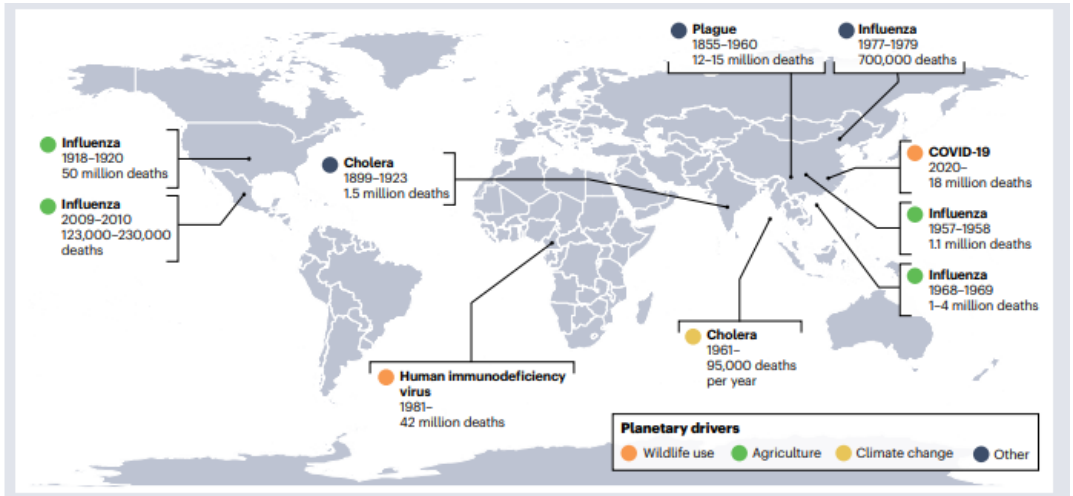
Pathogens and planetary change

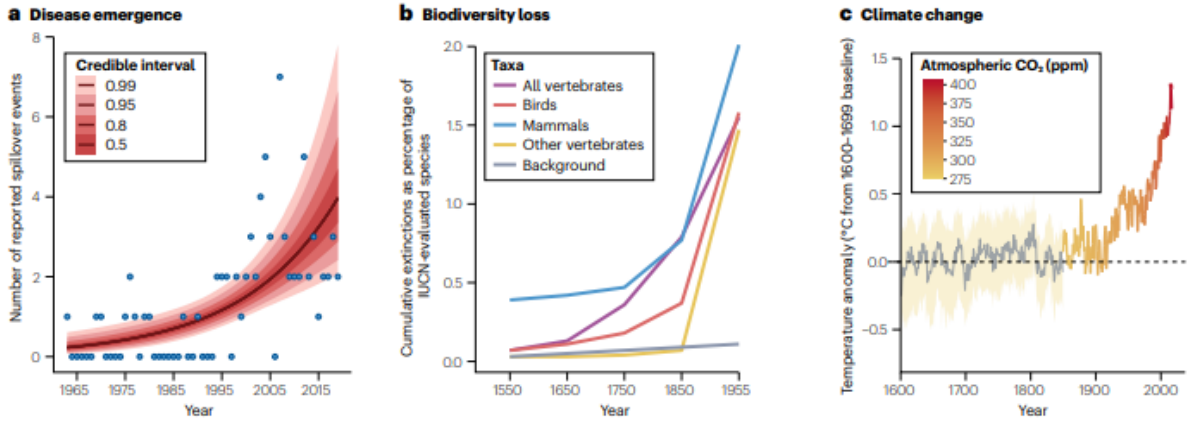
>70% of emerging infectious diseases have spread from animals to humans within the past several hundred years

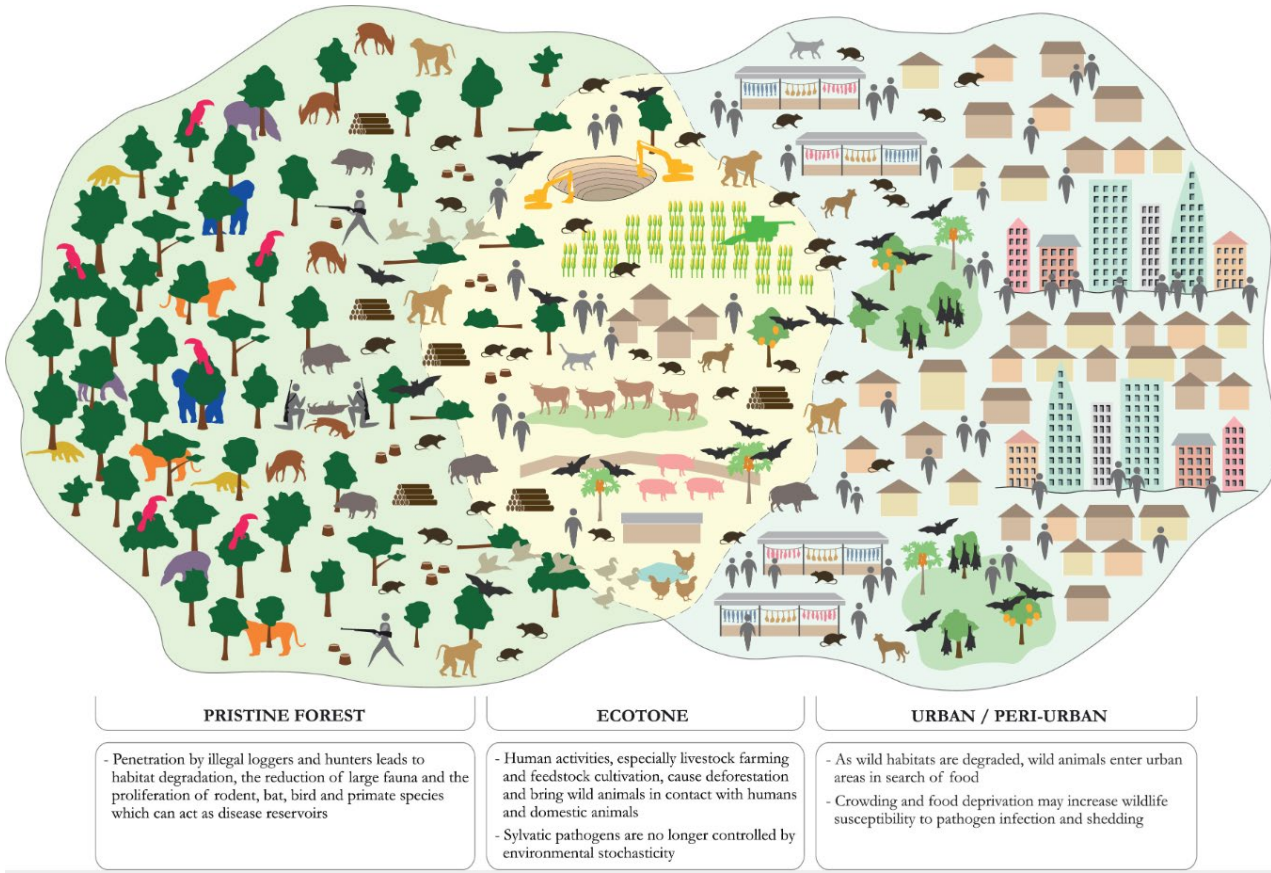
>50% come from wildlife (as opposed to livestock or pets).

Among emerging viruses specifically, almost 90% are zoonotic and 2/3s spill over from wildlife

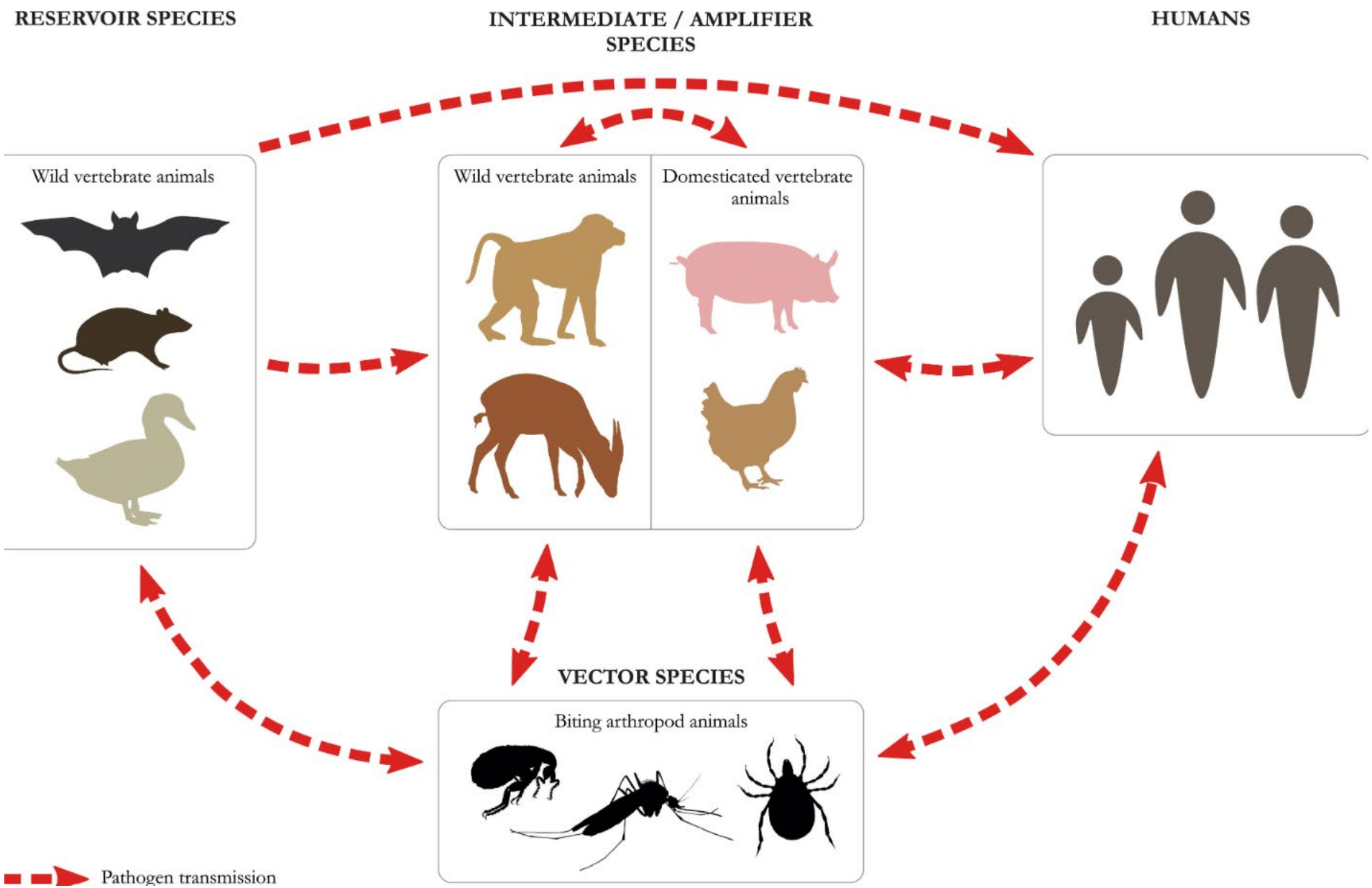
Pandemics past and future

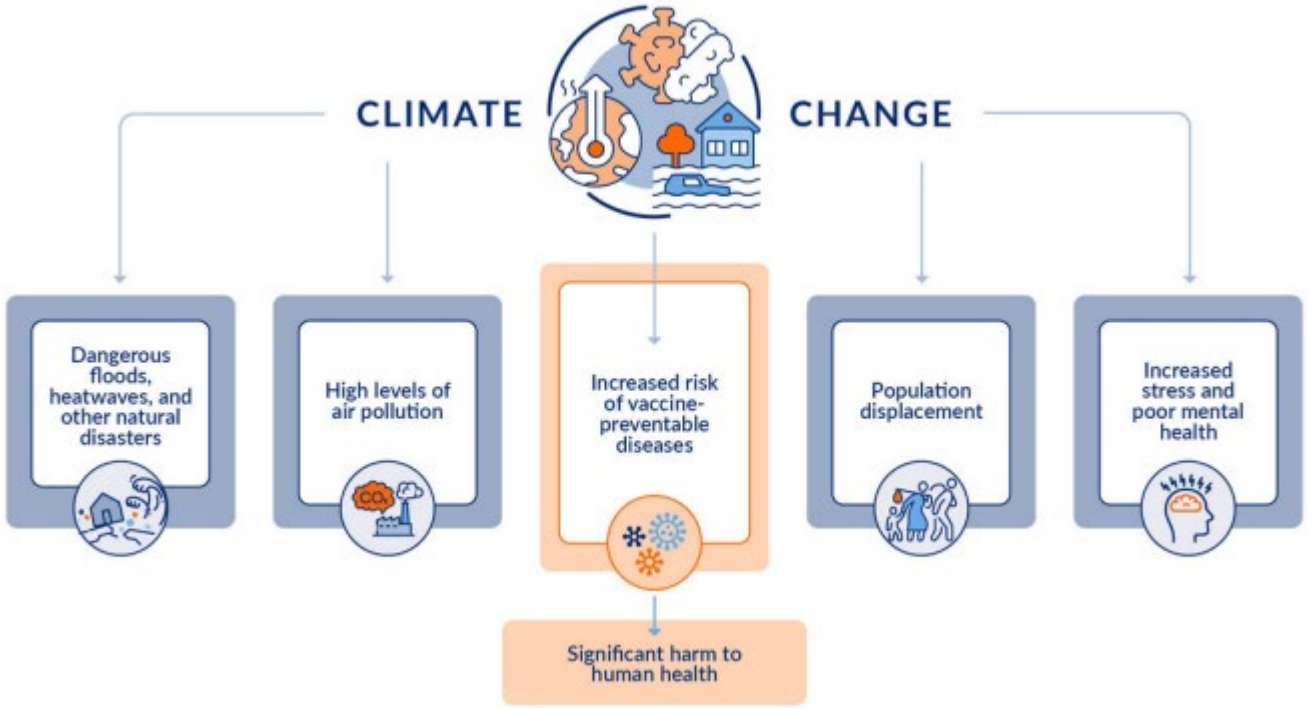


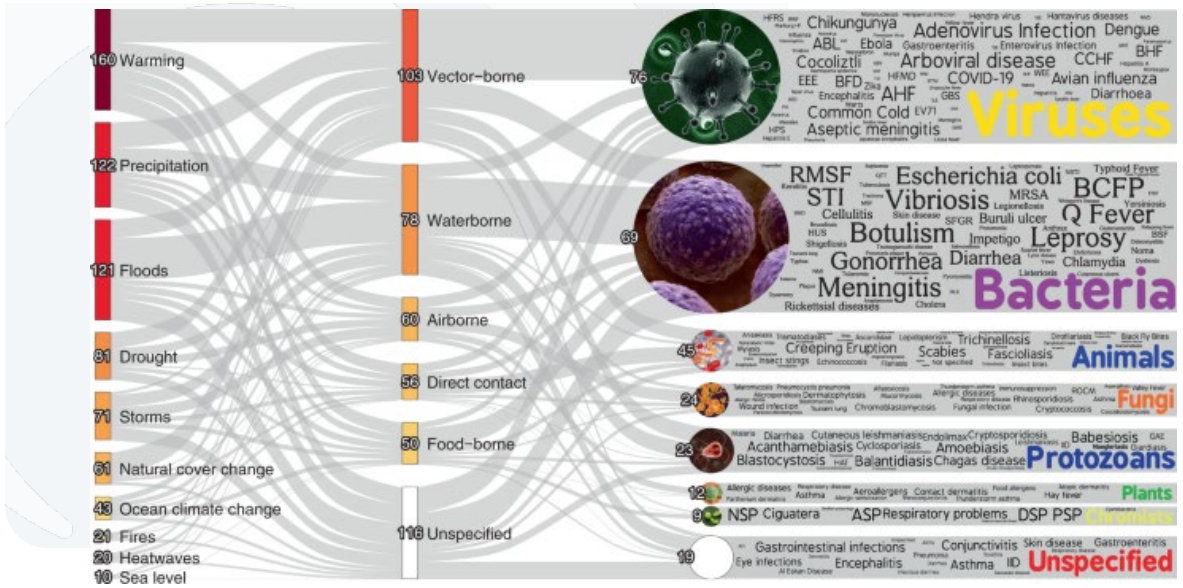




Pathogens and planetary change | Nature Reviews Biodiversity


RESERVOIR SPECIES
INTERMEDIATE / AMPLIFIER SPECIES
HUMANS
Wild vertebrate animals
Wild vertebrate animals
Domesticated vertebrate animals
VECTOR SPECIES
Biting arthropod animals
Pathogen transmission





[Over half of known human pathogenic diseases can be aggravated by climate change | Nature Climate Change](#)

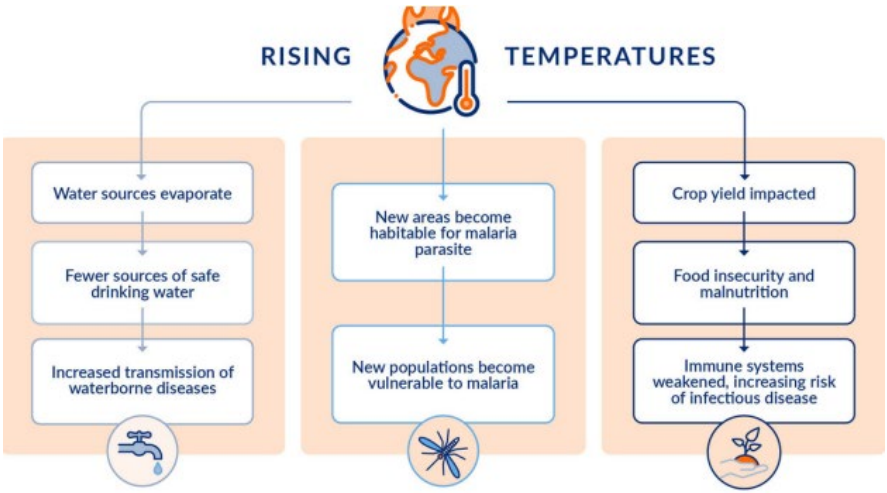
[VoICE Climate Change](#)

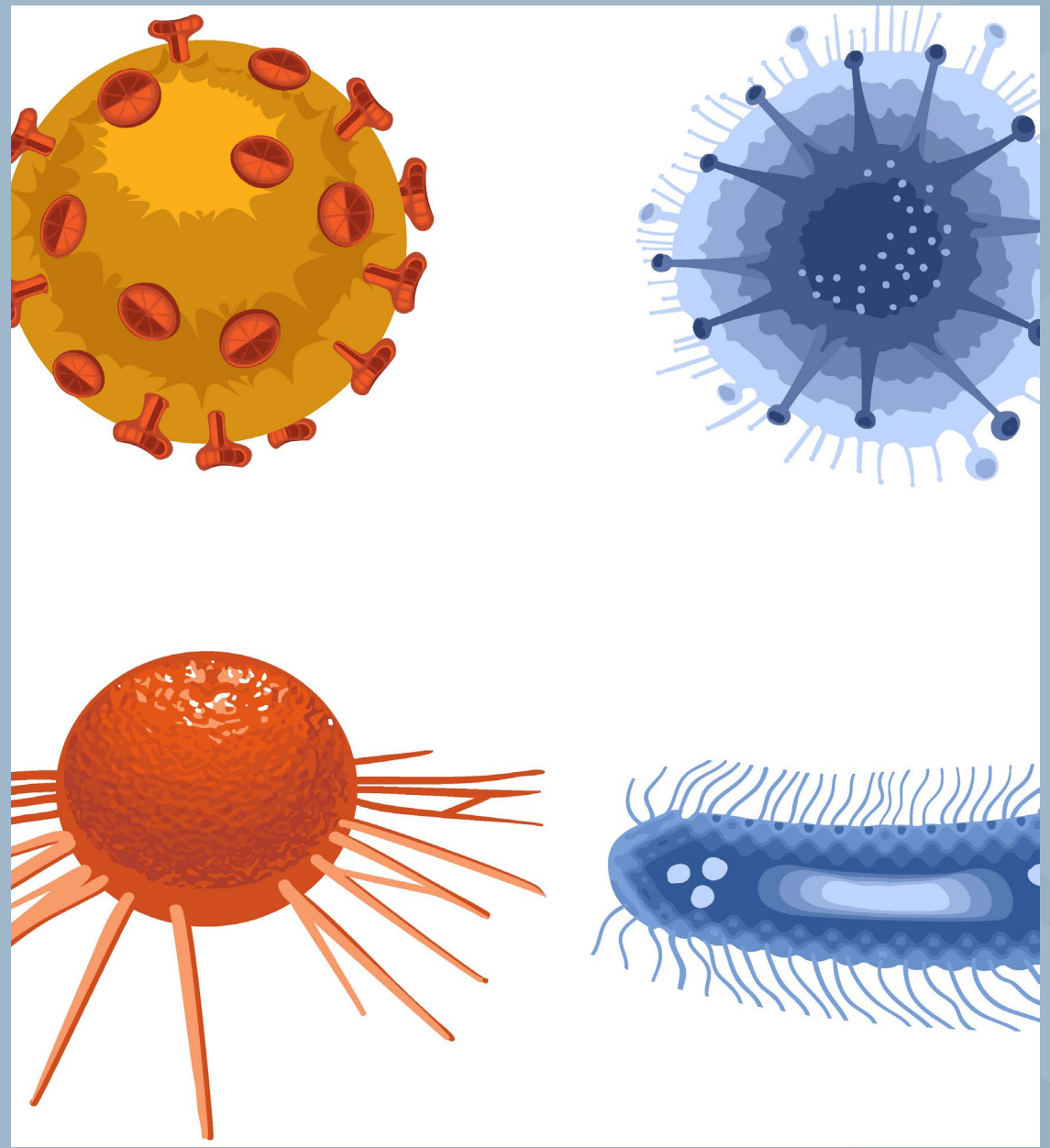


A government vaccinator administering polio drops to a young boy in the Baluchistan Province, Pakistan, following major flooding there in 2022. Credit: Gavi/Asad

Five ways in which vaccines can protect us amid climate change

1. Protecting against diseases spiking from global warming
2. Reducing health vulnerabilities in displaced population
3. Protecting against the rising threat of zoonotic illnesses
4. Ensuring resilience against economic shocks
5. Reducing the strain on health systems





Diseases

Smallpox



Jenner vaccinating James Phipps

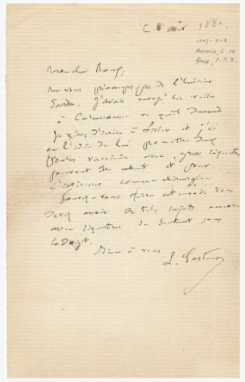
On May 14, 1796 Jenner inoculated eight-year-old James Phipps with matter from a cowpox sore on the hand of milkmaid Sarah Nelmes. Phipps suffered a local reaction and felt poorly for several days but made a full recovery.



Rabies



A 1923 commemorative tag pictures the attack on Joseph Meister, the first person on whom Pasteur successfully used rabies vaccine.



Pasteur wrote this letter to Emile Roux requesting him to send vaccine to Joseph Lister.

July 1885

Pasteur successfully prevented rabies in nine-year-old Joseph Meister by post-exposure vaccination with a course of 13 injections, one each day, of vaccine made from rabbit nervous system tissue. Each successive injection contained less-attenuated virus.

Polio

APRIL 25, 1954

Massive Polio Vaccine Trial Begins in U.S.



A crowd of people receives inactivated poliovirus vaccine in Protection, Kansas *March of Dimes Foundation*

The Vaccine Advisory Committee approved a field test of Salk's polio vaccine. The trial began the next day, with the vaccination of thousands of schoolchildren.

In all, over 1.3 million children participated in the trial. The trial was a randomized, double-blinded test, meaning that children were randomly assigned to either the control group or the vaccine group. Neither the children (nor their parents) nor health

1955



Diphtheria

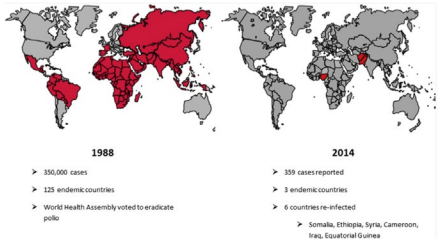
Significant events in diphtheria, tetanus and pertussis vaccination practice in Australia

Year	Month	Intervention
1892		Antitoxin first used to treat diphtheria
1920		CSL began manufacturing diphtheria and tetanus antitoxins (for treatment of cases) and whole-cell pertussis vaccine Limited use of pertussis vaccine
1921–1928		Limited introduction of diphtheria toxin–antitoxin vaccine
1929		Diphtheria toxoid vaccine introduced for vaccinating case contacts
1932		School-based diphtheria vaccination programs commenced
1939		Tetanus toxoid vaccine introduced – used mainly to vaccinate the Armed Forces
1940		Diphtheria vaccination programs introduced for infants at welfare centres
1942		Pertussis vaccination programs started in most states/territories using whole-cell pertussis vaccine (Pw)
1953		Diphtheria-tetanus-whole-cell pertussis vaccine (DTPw) introduced Infant-based schedule involving 3 doses of DTPw vaccine introduced (in addition to school-based programs); schedule varied by state/territory



Albert Sabin demonstrates how the oral vaccine for polio is given to children.

Hauck Center for the Albert B. Sabin Archives, Henry R. Winkler Center for the History of the Health Professions, University of Cincinnati





Two out of three wild poliovirus strains eradicated

Global eradication of wild poliovirus type 3 declared on World Polio Day

Vaccine Timeline | History of Vaccines; History of immunisation in Australia | NCIRS

How many VPDs are there ?

‘Routine’ vaccines

1. Chickenpox (varicella)
2. COVID-19
3. Diphtheria
4. Hepatitis A
5. Hepatitis B
6. Hib (*Haemophilus influenzae type b*)
7. HPV (human papillomavirus)
8. Influenza
9. Measles
10. Meningococcal disease
11. Mumps
12. Pertussis (whooping cough)
13. Pneumococcal
14. Polio (poliomyelitis)
15. Rotavirus
16. RSV (respiratory syncytial virus)
17. Rubella (german measles)
18. Shingles (herpes zoster)
19. Tetanus

Vaccines for travel or specific risk groups

1. Adenovirus*
2. Anthrax*
3. Chikungunya*
4. Cholera
5. Dengue*
6. Ebola*
7. Hepatitis E*
8. Japanese encephalitis (JE)
9. Mpox
10. Rabies/ABLV
11. Smallpox*
12. Tick-borne encephalitis*
13. Tuberculosis
14. Typhoid fever
15. Yellow fever

34 +



Vaccine preventable disease control and elimination

There are >30 VPDs

Goal to Eradicate

Polio

Targets for elimination of transmission

Measles
Rubella

Targets for elimination as a public health problem

Bacterial Meningitis
(*Streptococcus pneumoniae, Neisseria meningitidis*)
Cervical Cancer (HPV)
Cholera
Hepatitis B
Rabies
Tetanus (maternal and neonatal)

With established control targets

Influenza
Japanese encephalitis
Tuberculosis
Yellow fever

Without established control targets

recommended in all country immunization schedules

Diphtheria
H. influenzae type b disease
Pertussis
Pneumococcal disease
Rotavirus gastroenteritis

Without established control targets

with vaccines recommended based on disease burden

COVID-19
Dengue
Ebola virus disease
Hepatitis A
Hepatitis E
Malaria
Mumps
Typhoid
Varicella

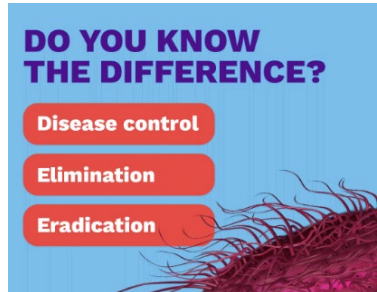
Aims of the Global Immunization Agenda (by 2030)

Reduce by
50%
the number of children missing out on all vaccines

Achieve
90%
coverage for essential vaccines given in childhood and adolescence

Introduce
500
new vaccines in low and middle-income countries

Vaccine-Preventable Diseases | Global Immunization | CDC



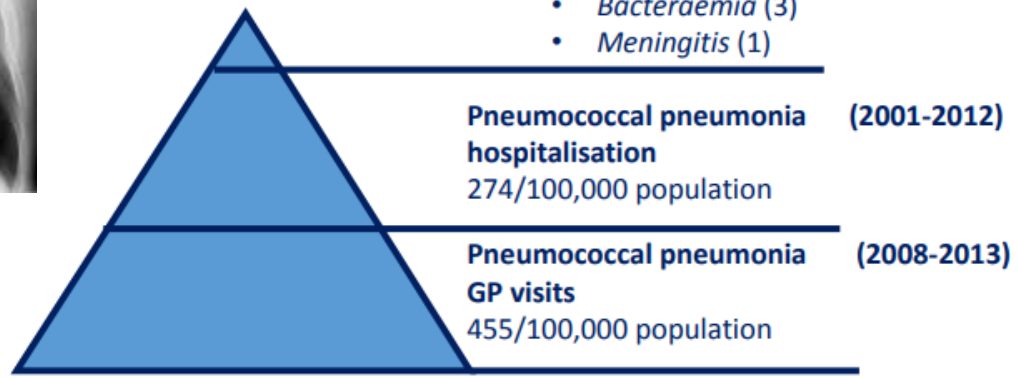
Measuring impact of a pathogen: infection and disease

Ratio of Non-bacteraemic pneumococcal community acquired pneumonia (CAP) to bacteraemic pneumococcal CAP estimates range from 6-11 fold in adults in Australia (2018-2022)

Jayasinghe, S et al, NCIRS, Presented at CDIC Adelaide 2025



Distribution of incidence[1]

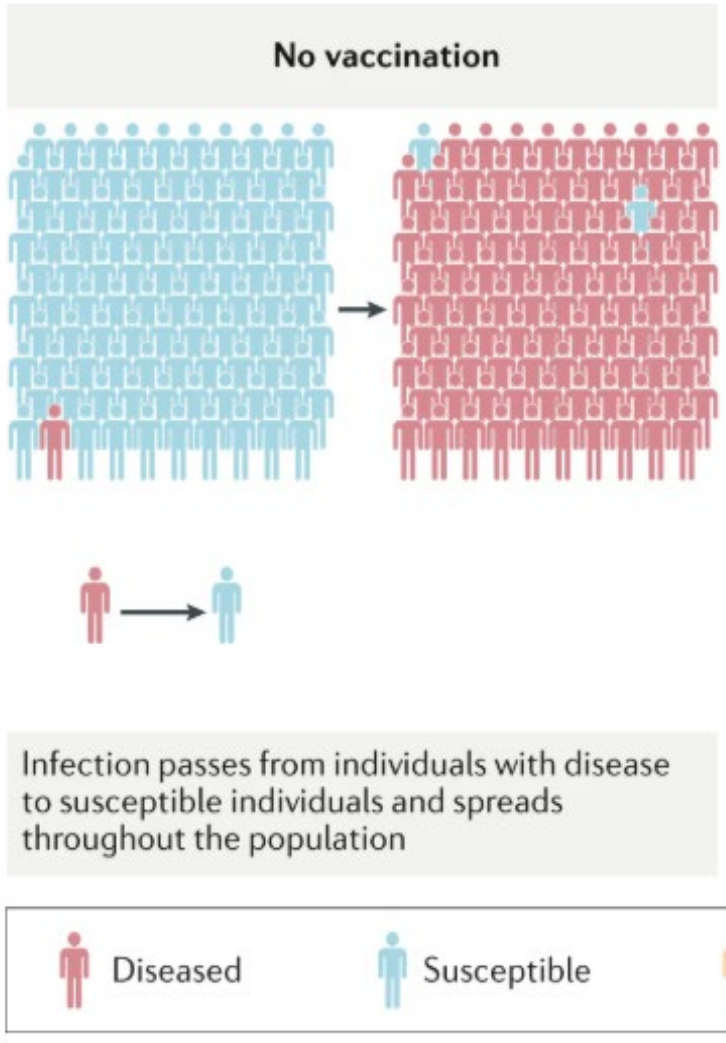


Retrospective cross-sectional study using administrative data from four national databases (Australian Institute of Health and Welfare (AIHW), Bettering Evaluation and Care of Health (BEACH), Australian Bureau of Statistics (ABS), National Hospital Data Collection for public hospitals [Australian Refined Diagnosis Related Groups; AR-DRG]) and published literature, to estimate burden of pneumococcal disease.
GP, general practitioner, IPD, invasive pneumococcal disease.

1. Earle K and William S. *Pneumonia*. 2016:27;8:9.

Graphic Adapted by Immunisation Coalition Dr P van Buynder from: Burden of pneumococcal disease in adults aged 65 years and older: an Australian perspective – PubMed; Company analysis

Herd immunity is an important feature of vaccine (and disease)-induced protection



Estimated Mean Values of $\mathscr{R}_0$ from Data.

Disease outbreak and location	$\mathscr{R}_0$
Smallpox in Indian subcont. (1968–73)	4.5
Poliomyelitis in Europe (1955–60)	6
Measles in Ghana (1960–68)	14.5
SARS epidemic in (2002–03)	3.5
1918 Spanish influenza in Geneva	
Spring wave	1.5
Fall wave	3.8
H2N2 influenza pandemic in US (1957)	1.68
H1N1 influenza in South Africa (2009)	1.33
Ebola in Guinea (2014)	1.51
Zika in South America (2015–16)	2.06

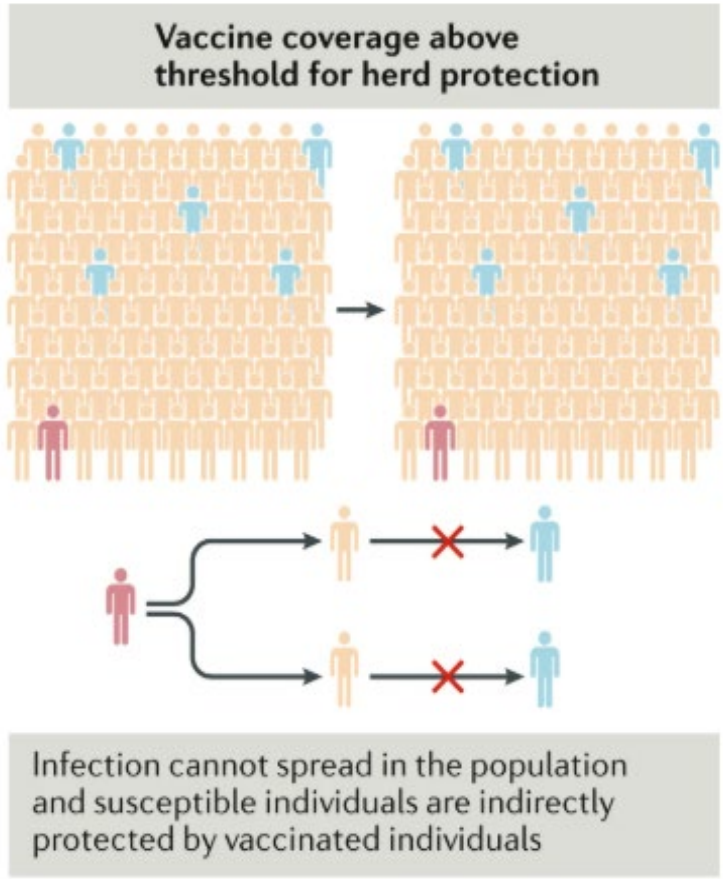
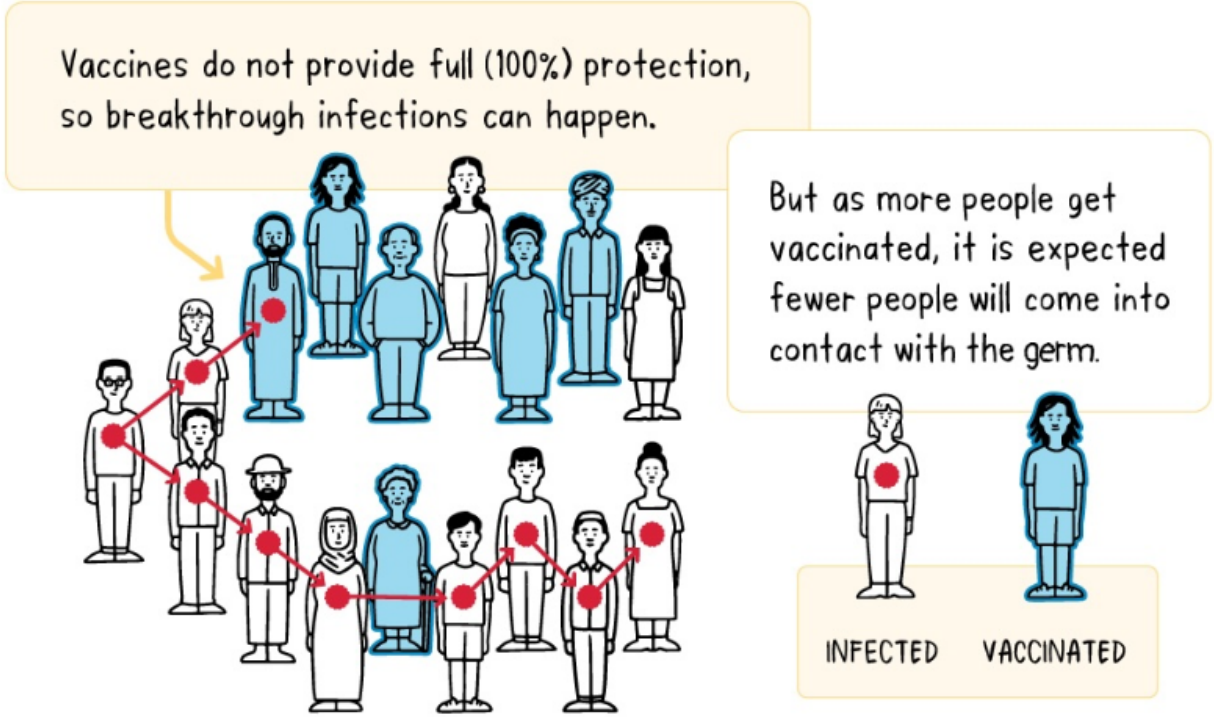
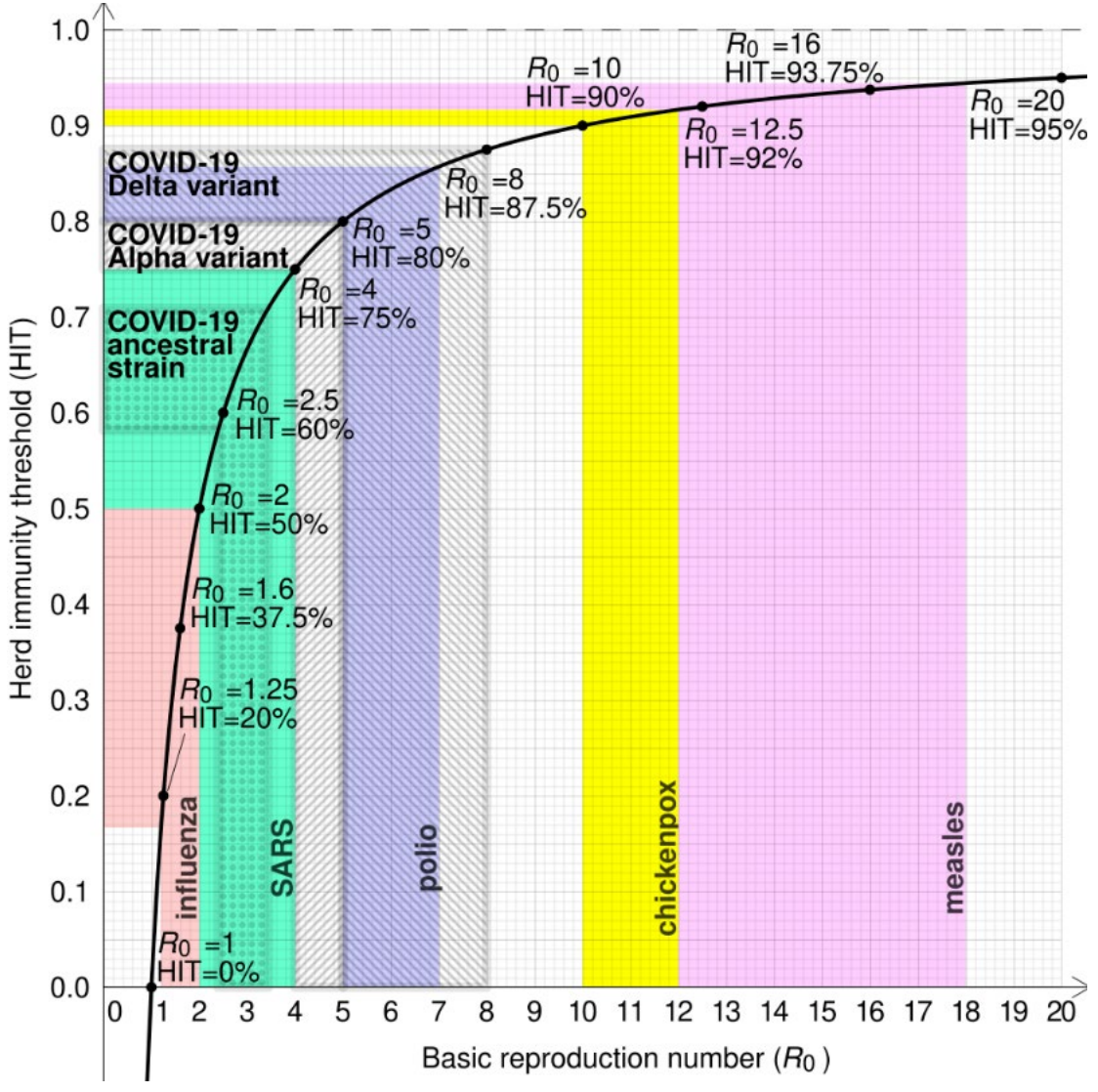


Fig. 5: Herd immunity is an important feature of vaccine-induced protection. | Nature Reviews Immunology

Vaccine efficacy and effectiveness



Highest coverage/immunity is needed for the most transmissible pathogens



File:Herd immunity threshold vs r0.svg - Wikimedia Commons

Measles



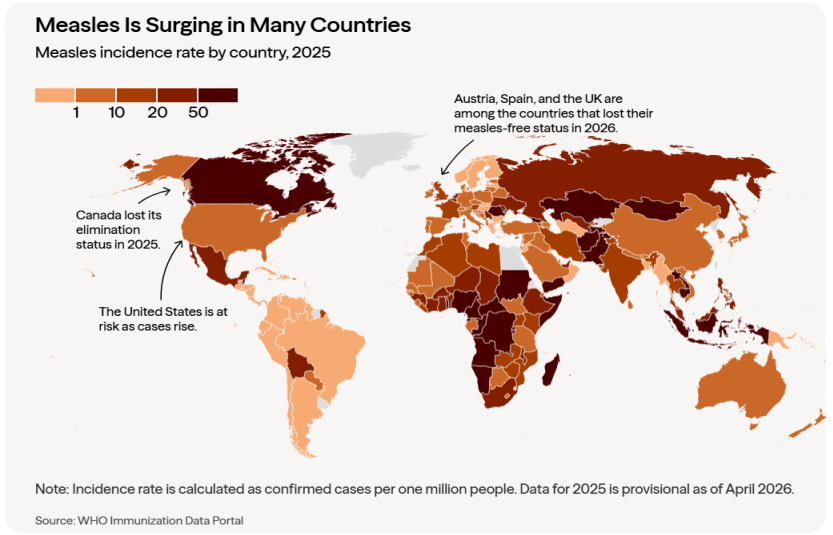


Figure 3. Number of measles cases reported in Canada by year of rash onset from 1998 to March 28, 2026

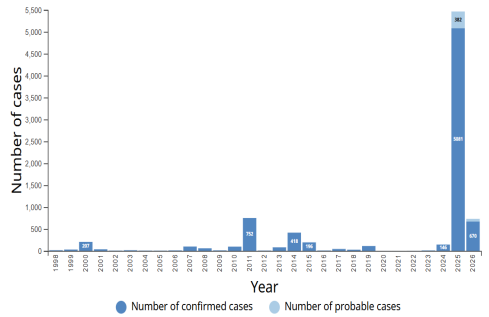
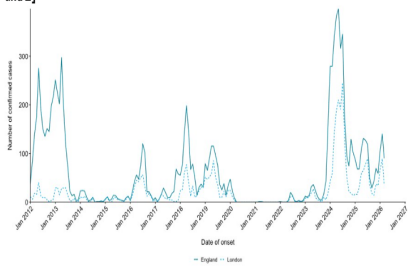
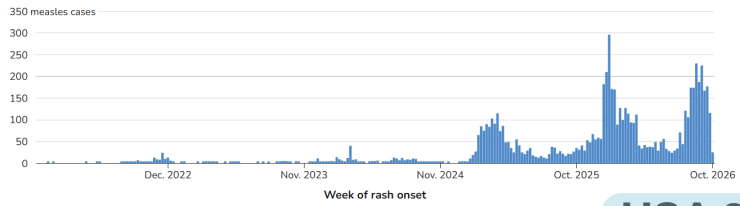


Figure 1. Laboratory confirmed cases of measles by month of onset of rash or symptoms reported, London and England: 1 January 2012 to 30 March 2026 [notes 1 and 2]



Weekly measles cases by rash onset date

2022–2026* (as of October 8, 2026)



* nearly 3 in 4 infants globally (74%) living in countries that have experienced a measles outbreak in the past 5 years







USA 2026

- 4,080 measles cases to date
- 42% under 19 years
- 10% hospitalised
- Pennsylvania 6 measles deaths – involving two infants and three adults
- US CDC – listing 2 nationally

Elimination of measles and rubella in Pacific island countries and areas

David N Durrheim [a] ✉ · Ilisapeci Vereti Tuibeqa [b] · Saia Ma'u Piukala [c]

Panel: **Pacific countries and areas verified to have eliminated measles and rubella**

American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna.



Global 2025 vaccine coverage: 29 mil children under-protected

- 20.8 million children no first dose
- 8.3 million missing second dose.

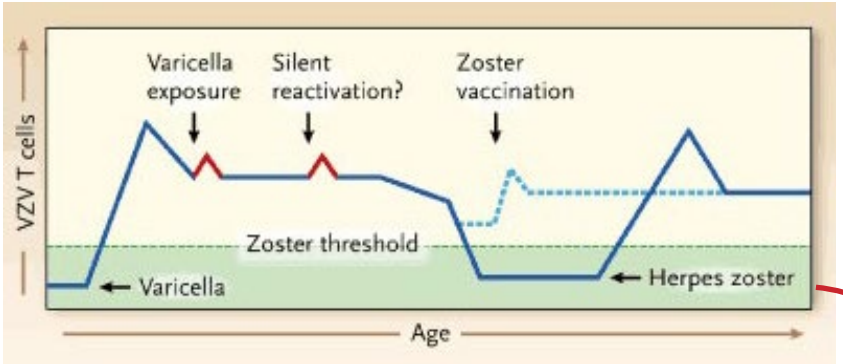


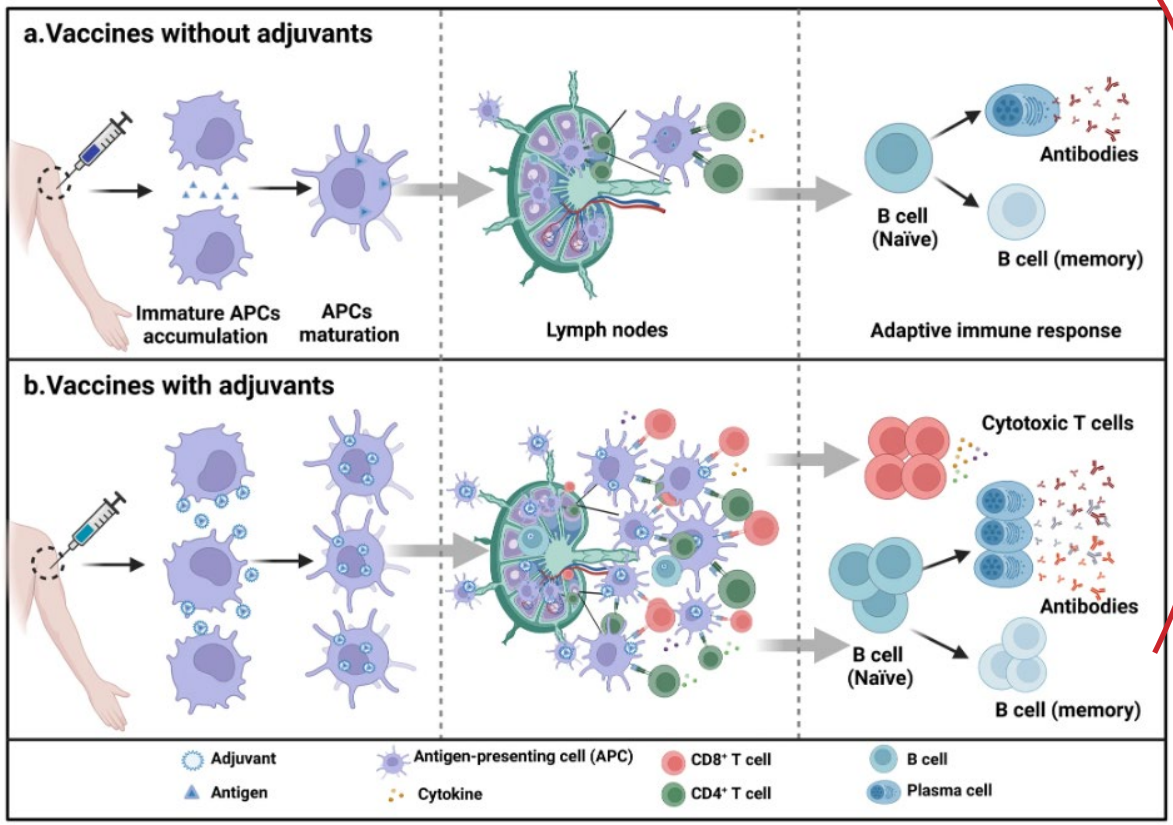
Vaccines

New and old

Vaccine design matters!

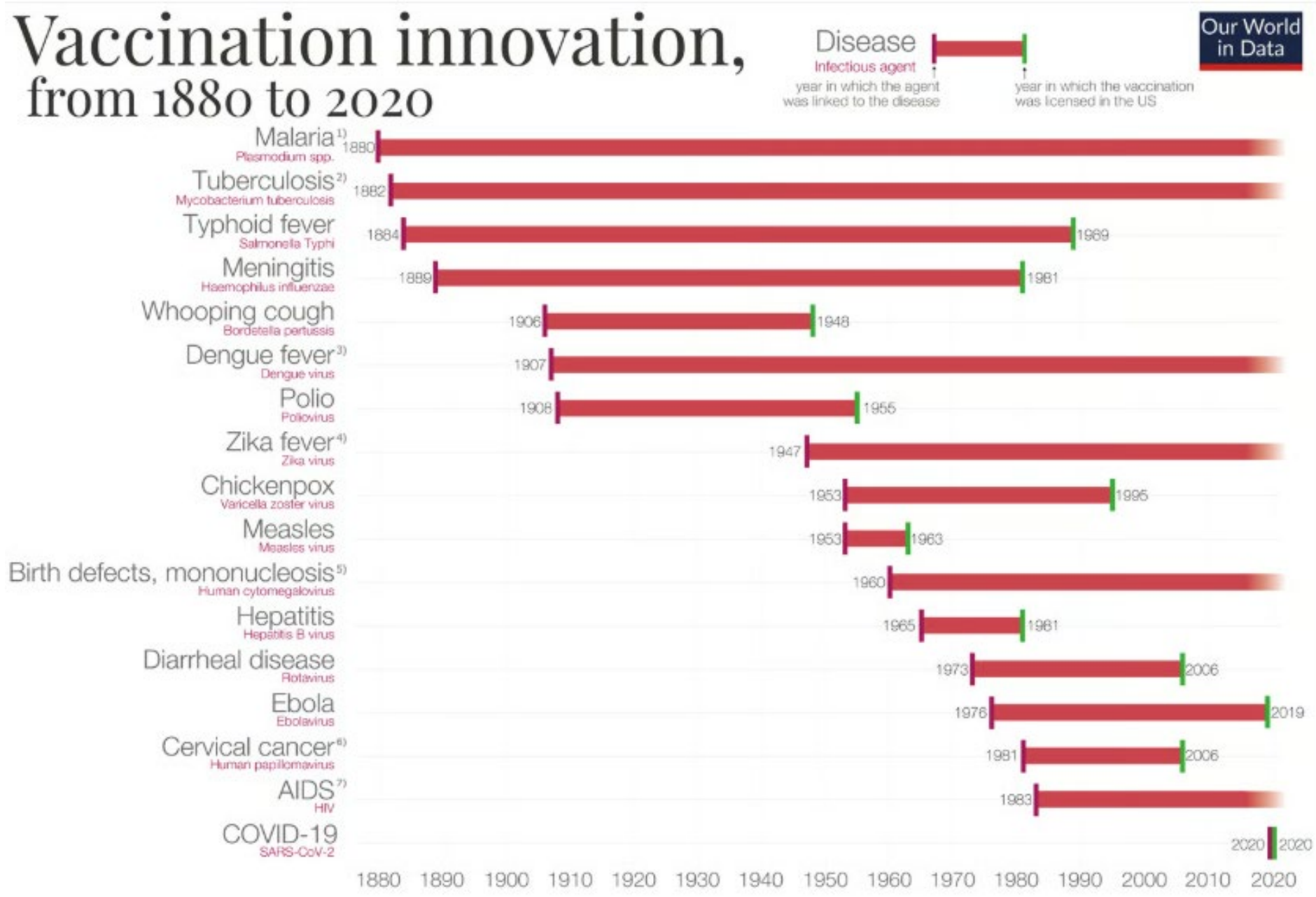
Type of vaccine	Licensed vaccines using this technology	First introduced
Live attenuated (weakened or inactivated)	Measles, mumps, rubella, yellow fever, influenza, oral polio, typhoid, Japanese encephalitis, rotavirus, BCG, varicella zoster	1798 (smallpox)
Killed whole organism	Whole-cell pertussis, polio, influenza, Japanese encephalitis, hepatitis A, rabies	1896 (typhoid)
Toxoid	Diphtheria, tetanus	1923 (diphtheria)
Subunit (purified protein, recombinant protein, polysaccharide, peptide)	Pertussis, influenza, hepatitis B, meningococcal, pneumococcal, typhoid, hepatitis A	1970 (anthrax)
Virus-like particle	Human papillomavirus	1986 (hepatitis B)
Outer membrane vesicle (Pathogen antigen; Gram-negative bacterial outer membrane)	Group B meningococcal	1987 (group B meningococcal)
Protein–polysaccharide conjugate (Polysaccharide; Carrier protein)	*Haemophilus influenzae* type B, pneumococcal, meningococcal, typhoid	1987 (*H. influenzae* type b)
Viral vectored (Viral vector; Pathogen gene; Viral vector genes)	Ebola	2019 (Ebola)
Nucleic acid vaccine (DNA; RNA; Lipid coat)	SARS-CoV-2	2020 (SARS-CoV-2)
Bacterial vectored (Pathogen gene; Bacterial vector)	Experimental	–
Antigen-presenting cell (Pathogen antigen; MHC)	Experimental	–





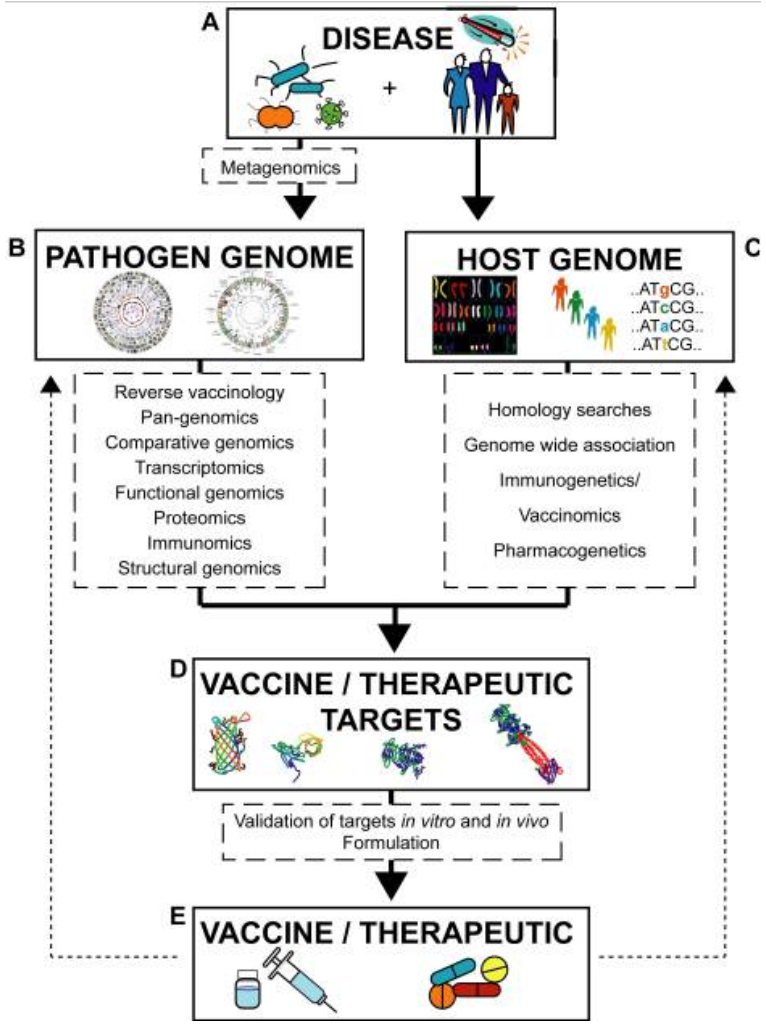
Vaccine adjuvants: mechanisms and platforms 2023 Nature

Vaccination innovation, from 1880 to 2020



1) – 2016 vaccine RTS,S undergoing pilot trials in select countries after being approved by European regulators in 2015.
2) – The only approved vaccine is bacilli Calmette-Guérin (BCG), developed in 1921 but its efficacy in adults is variable. Other tuberculosis vaccines are currently in development.
3) – 2016 partially effective vaccine CYD-TDV, sold under the brand name Dengvaxia.
4) – Successful first human clinical trials of a vaccine against the virus in 2016. Only in 2016 did the WHO issue statements of concern about the zika virus' links to Guillain-Barré Syndrome (GBS) and microcephaly.
5) – A number of vaccine candidates are under investigation.

Genomics, reverse vaccinology, understanding epitopes and more



Reverse vaccinology

Computational technologies used to find possible vaccine targets from pathogen genomes

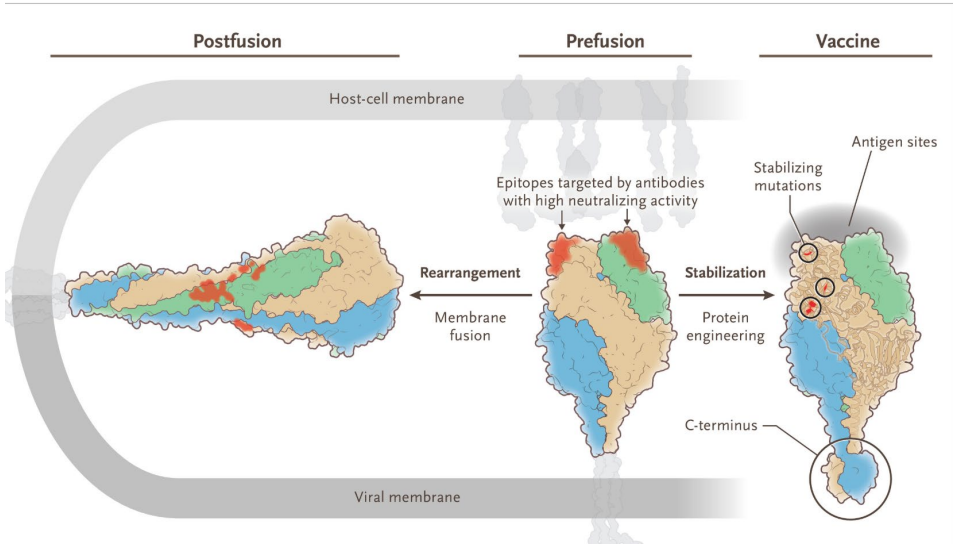
Examples

- ***Neisseria meningitidis* serogroup B vaccine Bexsero -** targets multiple surface-exposed protein antigens, including factor H binding protein (fHbp), NadA, NHBA, and PorA (within outer membrane vesicles).
- **Recombinant subunit vaccine against herpes zoster (from Varicella-zoster virus), Shingrix**. targets glycoprotein E (gE), a major viral surface protein, and uses the AS01B adjuvant system to enhance immune response.
- **Malaria vaccines against *Plasmodium falciparum*** - circumsporozoite protein (CSP) expressed on the surface of sporozoite stage, preventing hepatocyte invasion - **Mosquirix (RTS,S) and R21 vaccine.**

The Journey to RSV Vaccines — Heralding an Era of Structure-Based Design

Author: Barney S. Graham, M.D., Ph.D. Author Info & Affiliations

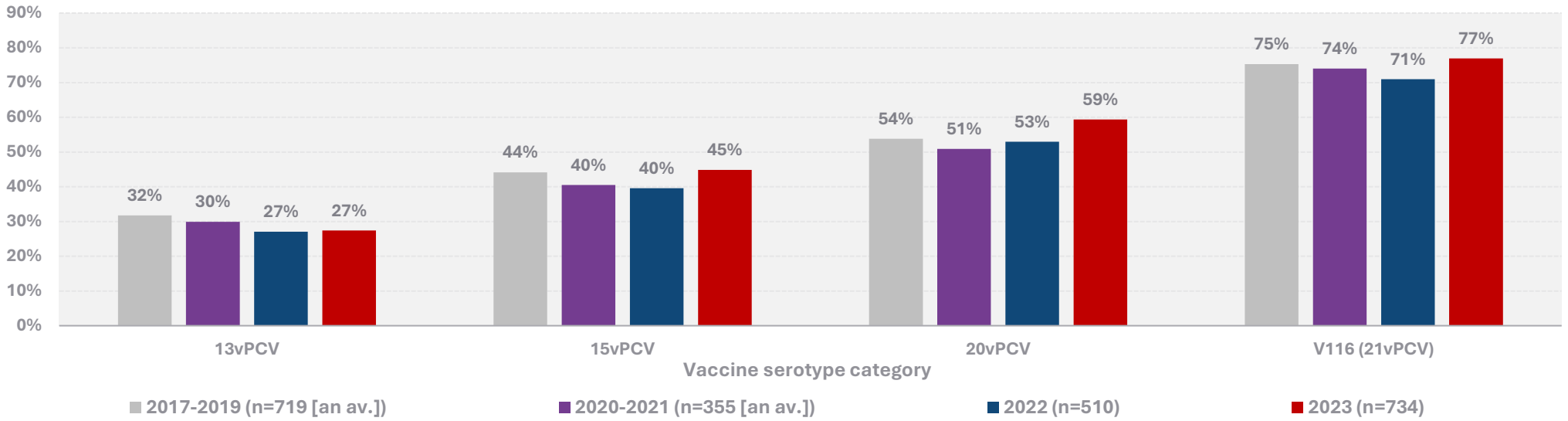
Published February 15, 2023 | N Engl J Med 2023;388:579-581 | DOI: 10.1056/NEJMp2216358 | VOL. 388 NO. 7



The Key Role of Genomics in Modern Vaccine and Drug Design for Emerging Infectious Diseases – PMC;
Reverse Vaccinology: Principle, History, Methods, Uses

Expanded valency PCVs under consideration.....

IPD serotype coverage (%) by vaccine type in non-Indigenous adults aged ≥65 years, 2017-2023 Australia



Data Source: National enhanced IPD surveillance data, NNDSS, EIPDSWG.
Data request ID# 547 (Nov)/2022

Serotype composition																															
PCV13	4	6B	9V	14	18C	19F	23F	1	3	5	6A	7F	19A																		
PCV15	4	6B	9V	14	18C	19F	23F	1	3	5	6A	7F	19A	22F	33F																
PCV20	4	6B	9V	14	18C	19F	23F	1	3	5	6A	7F	19A	22F	33F		8		10A	11A	12F	15B									
PPV23	4	6B	9V	14	18C	19F	23F	1	3	5		7F	19A	22F	33F	2	8	9N	10A	11A	12F	15B	17F	20							
V116*									3		6A	7F	19A	22F	33F		8	9N	10A	11A	12F		17F	20†	15A	15C‡	16F	23A	23B	24F	31	35B

Tuberculosis, BCG vaccine and the future

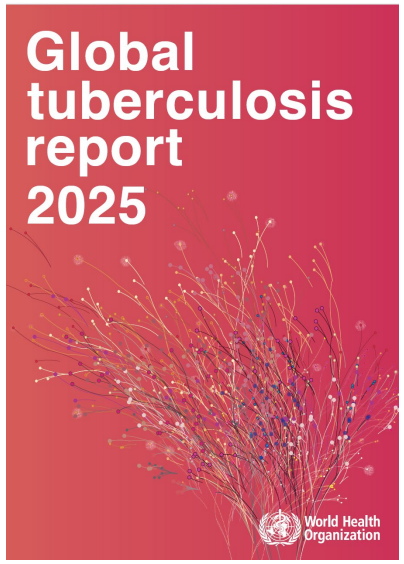
There are 18 new TB vaccines in clinical development, including 4+ in Phase 3 trials

Since 1921, more than 3 billion children have received BCG which makes it also the most widely used vaccine

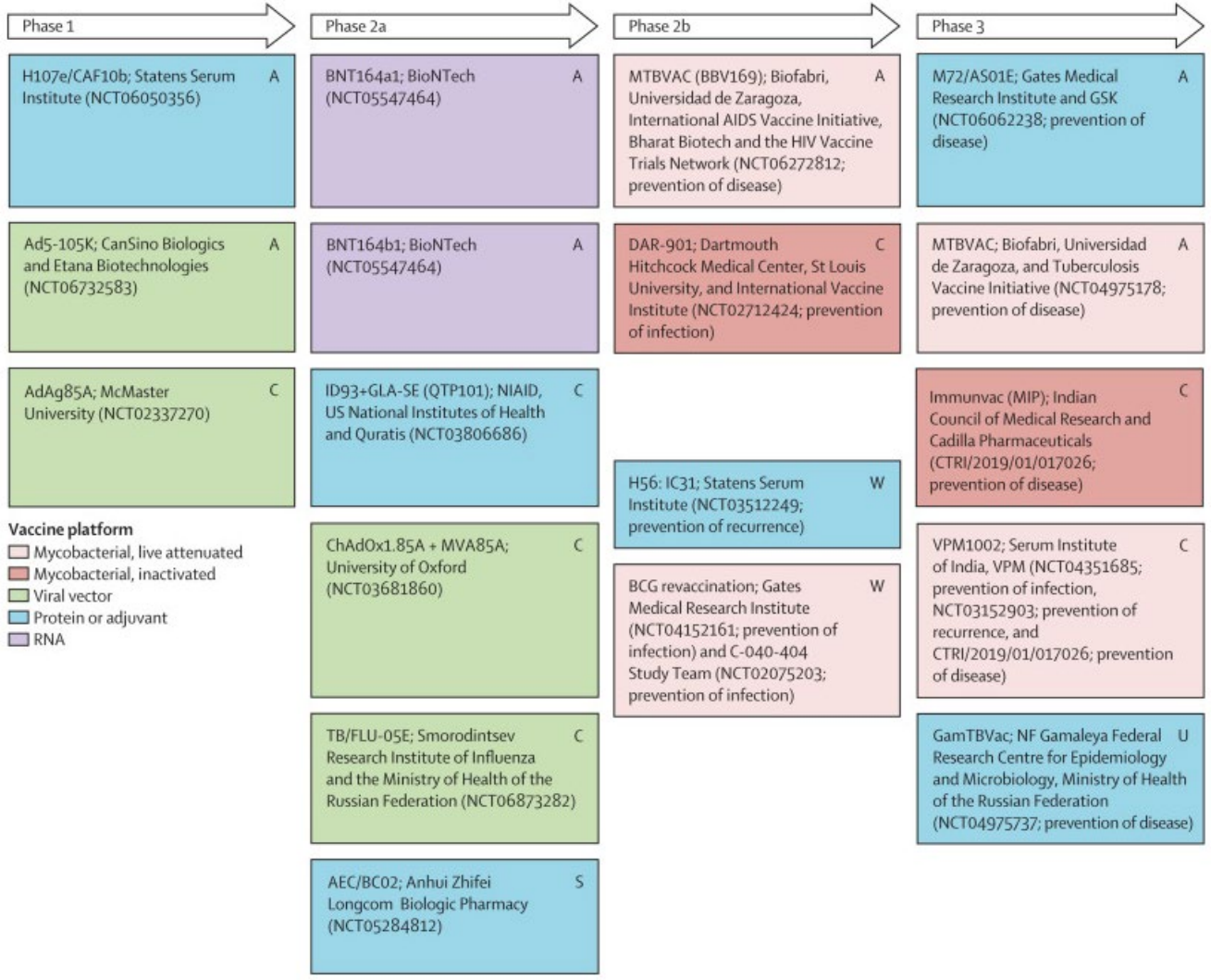
10·7 million cases and 1·23 million deaths globally in 2024

Global elimination of tuberculosis is a WHO strategic goal.





CT scan of head showing basal meningeal enhancement on contrast study. Arrow points to a tuberculoma.



WHO Vaccine market report 2025

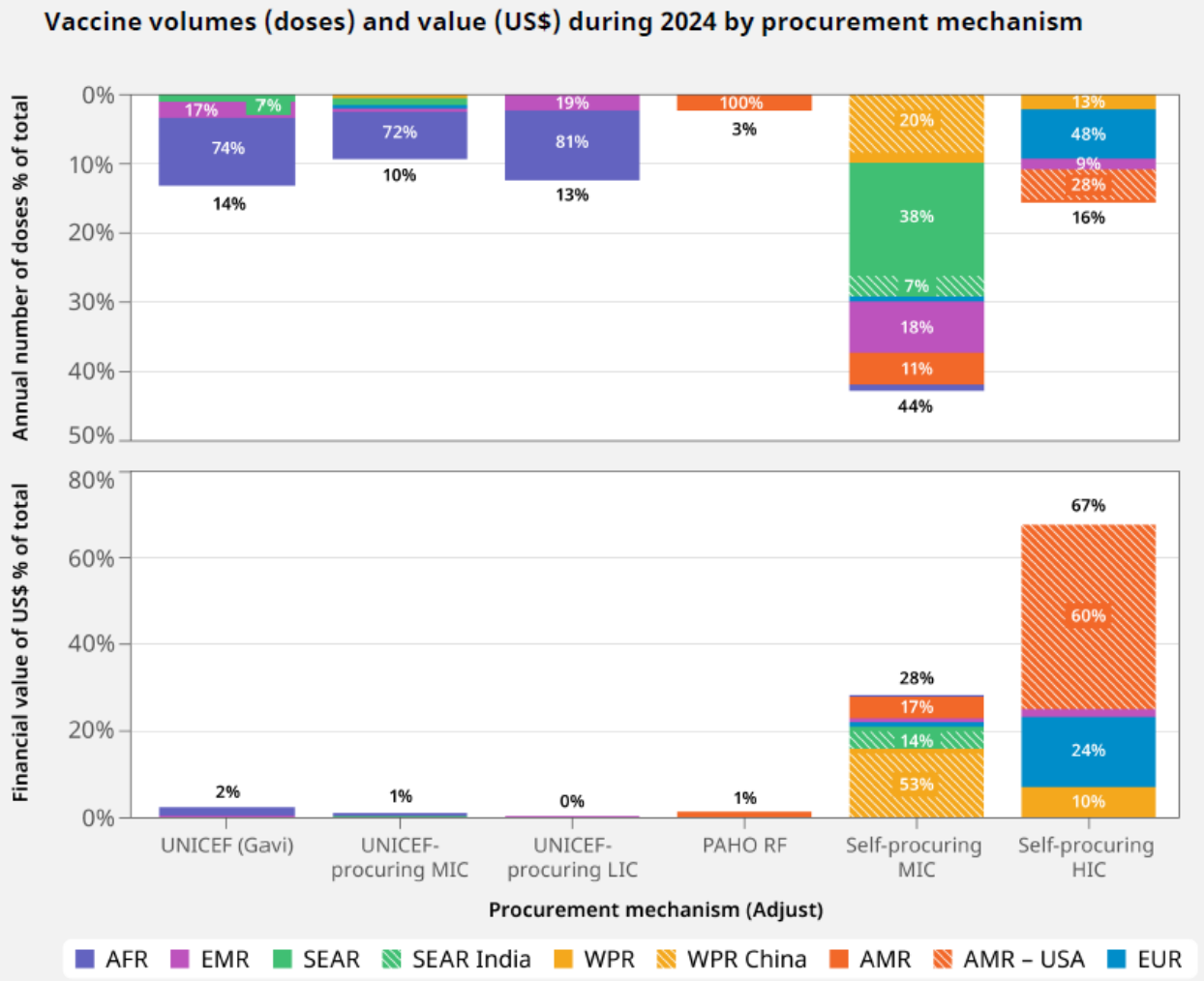
Procurement and pricing

Self-procuring MICs led volumes in 2024, followed by UNICEF SD

- Volume distribution was similar to 2023 with the exception of UNICEF (Gavi) which included an additional ~541 million doses of nOPV2 in 2024, which adds ~US$111 million of value
- MIC volume was dominated by China (23% of self-procuring volume) and India (45% of self-procuring volume) who together accounted for about 25% of the global 2024 volume
- UNICEF procurement of some vaccines (OCV, DTwP primary, Ebola, M-containing, OPV, typhoid, and YF) was ≥50% of global volume for each vaccine
- Self-procuring HIC represented 67% of value, down from 72% in 2023 due to less COVID-19 procurement in 2024. Greater value in HIC than in other income groups was driven by higher prices and procurement of vaccines for older adults

World Health Organization | MI-A

Global Vaccine Market Report 2025

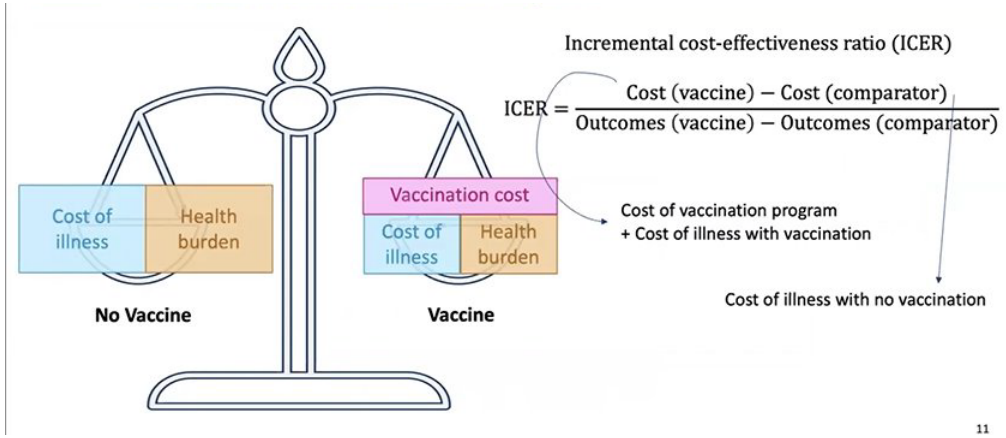


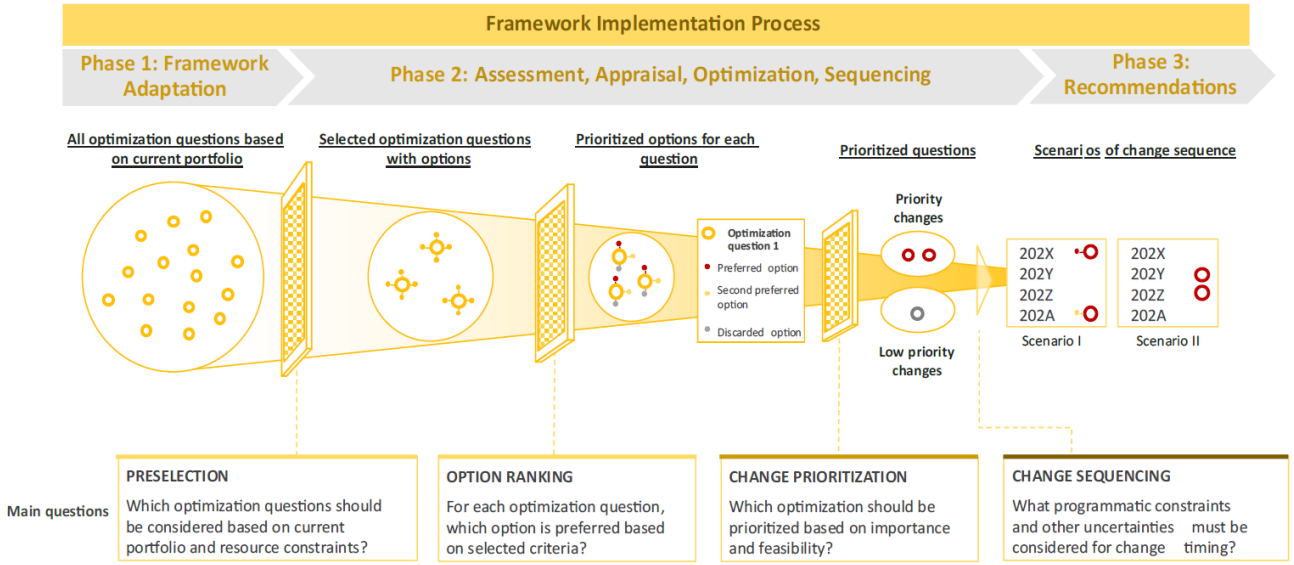
Overview of Analysis

207 countries | 115 vaccine products | 137 manufacturers | 6 years (2019–2024)

2025 WHO Global Vaccine Market Report

Introducing new vaccines is costly and needs to be evaluated against other health (and government) expenditure





Australia's Criteria for Evidence to Decision Framework: Where does economic evidence fit in?

World Health Organization
GNN

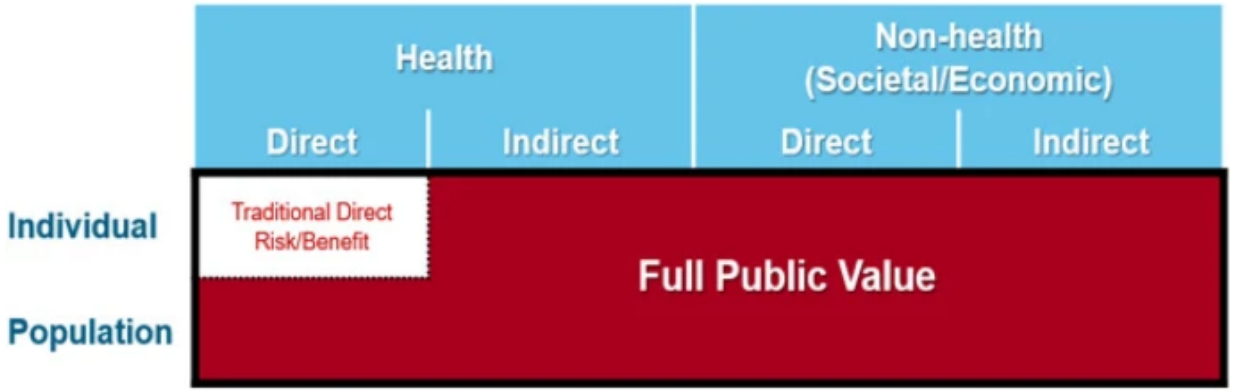
Table 1. CRITERIA FOR GRADE EVIDENCE TO DECISION FRAMEWORK - COVERAGE DECISIONS

	BALANCE OF EFFECTS * Desirable effects * Undesirable effects	CERTAINTY OF EVIDENCE	VALUES	COST EFFECTIVENESS * Resources * Certainty of resources	EQUITY	ACCEPTABILITY	FEASIBILITY
EVIDENCE TO DECISION FRAMEWORK QUESTION	*Does the balance between desirable and undesirable effects favour the option or the comparison?*	*What is the overall certainty of the evidence of effects?*	*Is there important uncertainty about or variability in how much people value the main outcomes?*	*Does the cost effectiveness of the option favour the option or the comparison?*	*What would be the impact on health equity?*	*Is the option acceptable to key stakeholders?*	*Is the option feasible to implement?*
CONSIDERATIONS	Desirable and undesirable effects can be considered separately. The evidence evaluations commissioned from NHMRC for the Natural Therapies Review did not evaluate harms or adverse events.	Measure of how certain we can be that the evidence is correct.	Assess whether consumers, carers and other stakeholders vary in thinking the option would be good (or bad).	Assess whether the net benefit is worth the cost. Includes assessing cost and uncertainty around costs. The evidence evaluations commissioned from NHMRC for the Natural Therapies Review did not evaluate economic impacts or cost effectiveness.	Assess whether the option would increase or decrease inequality.	Acceptability to consumers, carers, healthcare providers and policy makers. Consider who benefits/is harmed and who pays/saves.	Is the option sustainable? Is there sufficient capacity to meet increased demand or should there be restrictions on cover? Can restricted cover be implemented? Are there legal, bureaucratic or ethical constraints that make it difficult (or impossible) to cover the option?
SOURCES OF EVIDENCE TO INFORM JUDGEMENTS	Systematic review of studies examining the effects of the intervention (NHMRC provided evidence, plus additional sources covering harms and adverse effects)	The overall judgement of certainty from GRADE assessment of certainty as presented in evidence evaluations.	Studies reporting direct measures, indirect measures (e.g. health related quality of life), or other ratings of importance of outcomes (surveys) and qualitative data (e.g. representative focus groups)	Economic evaluations. May require judgement of trade-offs. If there is uncertainty about cost-effectiveness compared with standard care, decision makers may delay a recommendation until evidence of cost-effectiveness is available OR cover the option with monitoring of effects and expenditures.	Evidence relating to PROGRESS -Plus* elements.	Program completion, continued use of therapies, qualitative evidence.	Policy makers or key decision makers.

* PROGRESS-plus stands for Place or residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socioeconomic status, Social capital, and personal, relationship or time dependent factors which may be associated with equity

Why is it useful to consider economic evidence ✅ ✅ ✅ ✅ ✅ ✅

The Full Value of Vaccine Assessments (FVVA): a framework for assessing and communicating the value of vaccines for investment and introduction decision-making | BMC Medicine | Full Text



Current approach vs. proposed approach. **a** Traditional direct risk/benefit vs. full public value of vaccines. **b** Addition of global health value



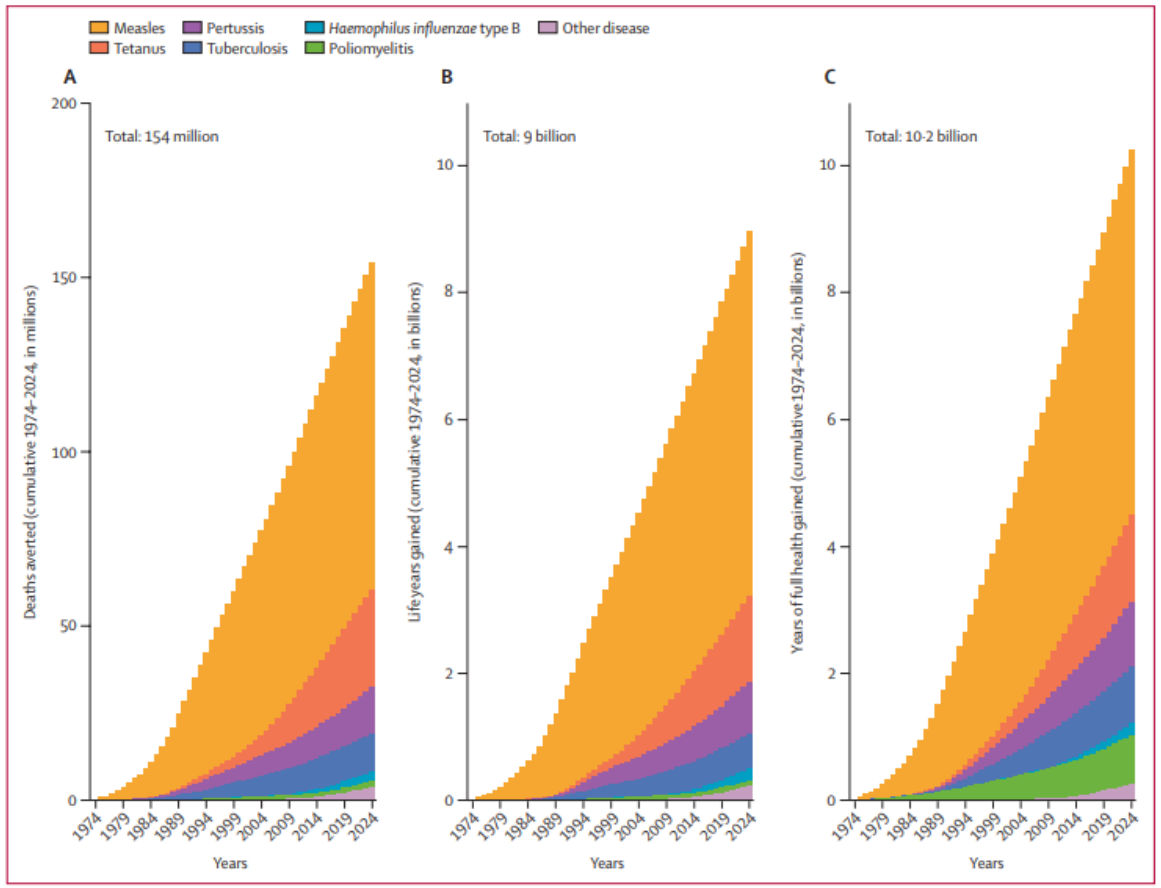
Communities

(and systems and programs)



Global immunization efforts have saved at least 154 million lives over the past 50 years

العربية | 中文 | Français | Русский | Español



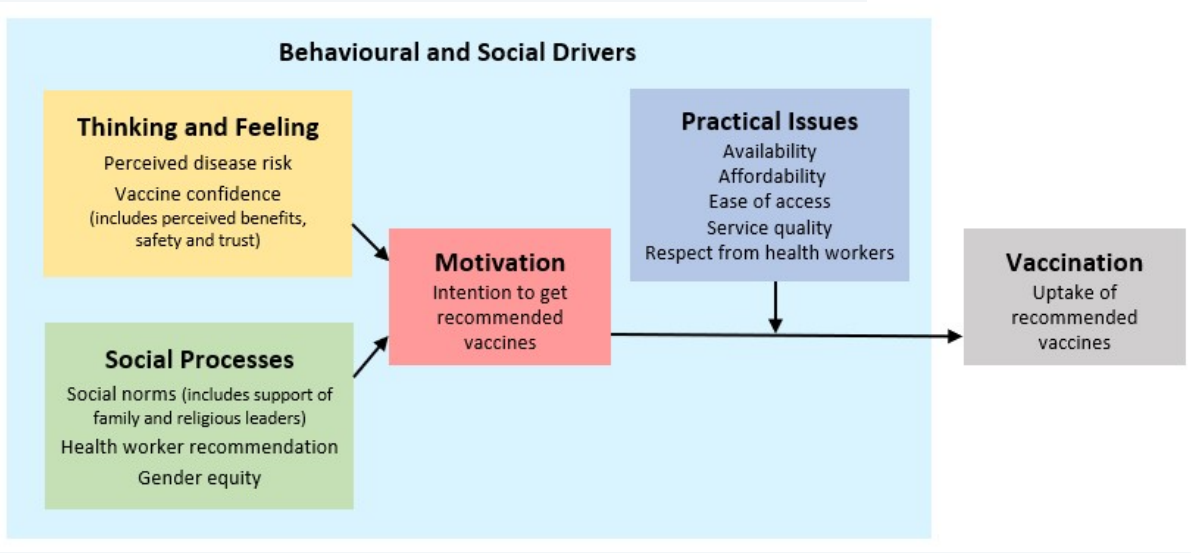


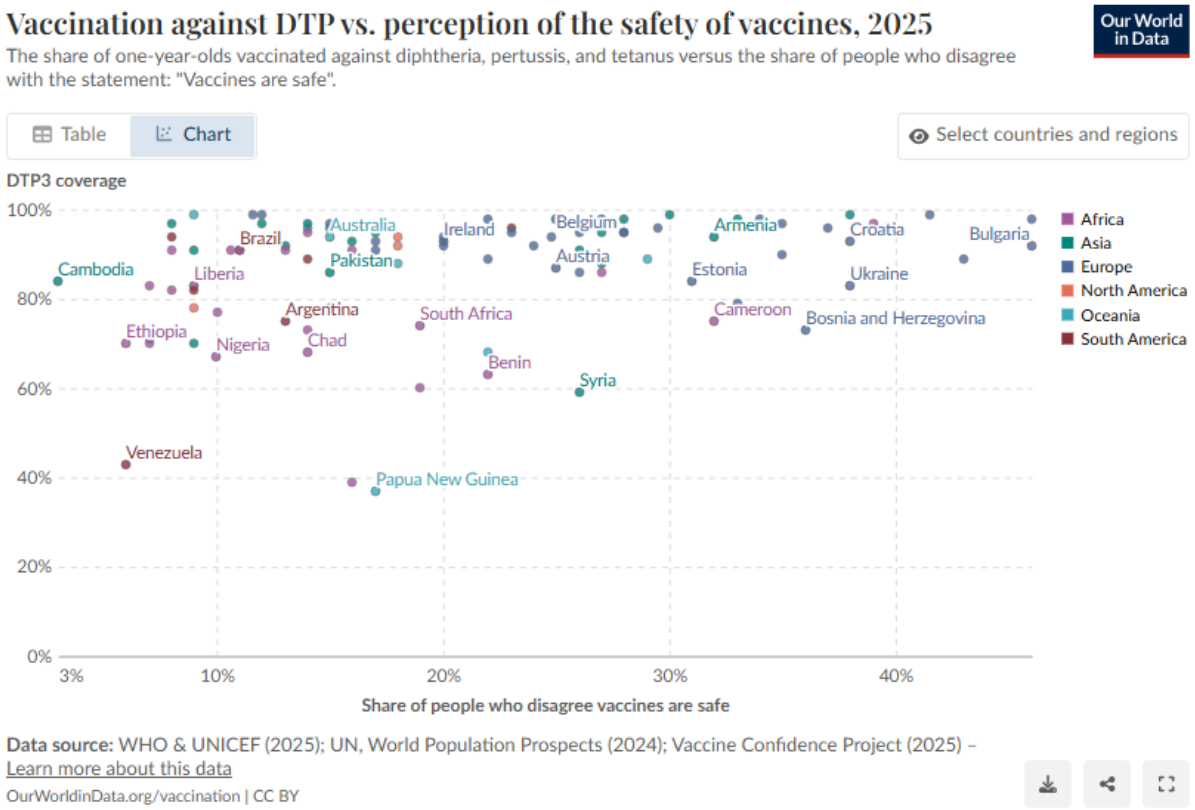
How do we make decisions to have a vaccine?

Activation

Acceptance

Access



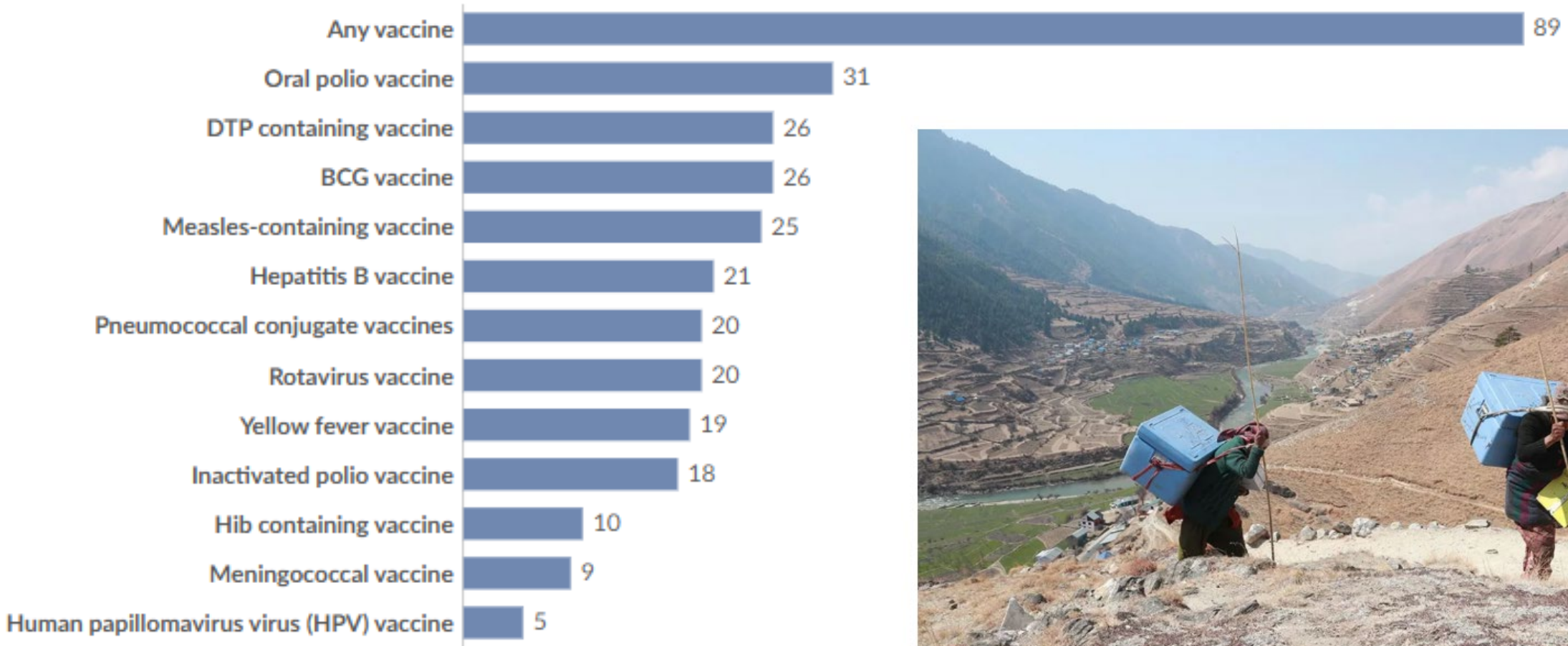


Number of countries with vaccine supply issues, World, 2022

Number of countries where the stock levels of a specific vaccine become exhausted or fall below the recommended three-month buffer stock.

Our World in Data

Table | Chart



© UNICEF/UN0431118/LPNgakhusi

Using cold boxes provided by UNICEF, porters carry COVID-19 vaccines to health facilities in Jumla District in far-western Nepal, in March 2021.



Top Ten Anti-Vaccine Myths Debunked, Again | History of Vaccines

The DNA Dilemma: Do Vaccines Rewrite Your Genetic Code?

The Autism Allegation: A Debunked Connection That Persists

The Microchip Myth: When Sci-Fi Meets Vaccine Fears

Fertility Fables: Addressing Reproductive Health Concerns

The Herd Immunity Hoax: Why Individual Choices Matter

The Speed Stereotype: Understanding Accelerated Development

The VAERS Vortex: Interpreting Adverse Event Reports

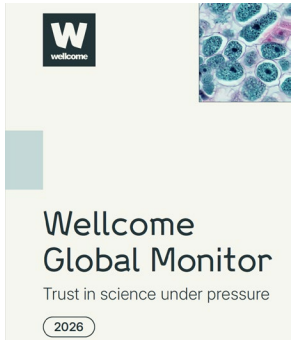
Natural vs. Artificial Immunity: A False Dichotomy

The Variant Vexation: How Vaccines Actually Fight Mutations

The Toxin Fallacy: Understanding Vaccine Ingredients

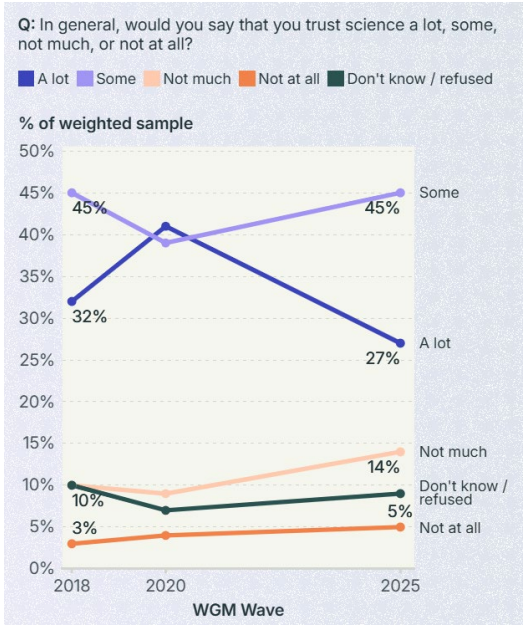


Trust in science and vaccines

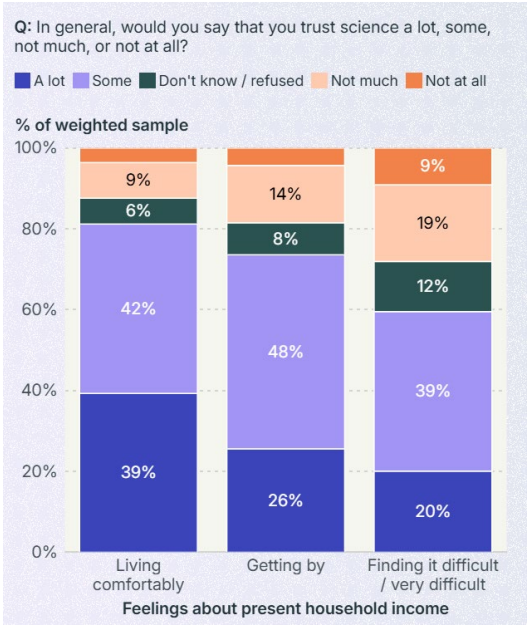


140,000+	140	2025
people	countries	year of fieldwork

Trust in science and scientists has fallen since the pandemic



Trust in science is lowest among people who feel they are struggling to get by



Wellcome Global Monitor 2026: Trust in science under pressure | Wellcome



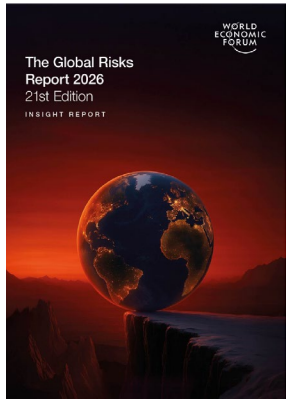
US President Donald Trump signs an executive order calling for more research and flexibility on vaccines, alongside US Secretary of Health and Human Services Robert F. Kennedy Jr. (R) and Jayme Leagh Franklin (L), founder of The Conservateur, in the Oval Office of the White House in Washington, DC, on August 10, 2026 (AFP / Jim WATSON)

Misleading childhood vaccine claims resurface as Trump seeks recommendation overhaul

AFP Fact Check

Published on August 12, 2026 at 07:10 | 3 min read | By Marisha GOLDHAMER, AFP USA

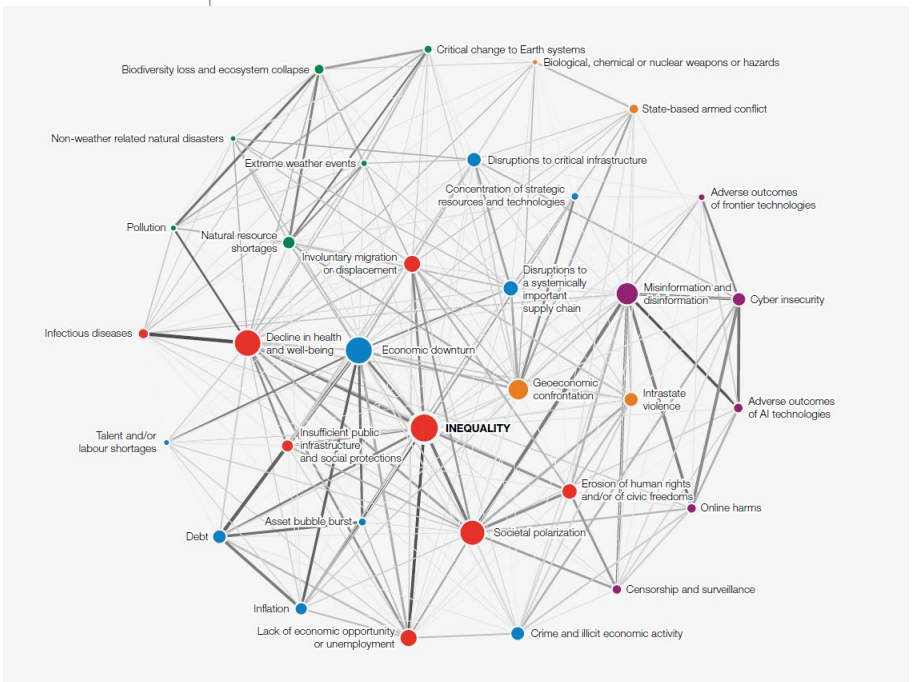
Global Risks 2026: Complex interplay of factors



Adverse economic, environmental, geopolitical, societal and technological changes impact infectious diseases and cause declines in health and well-being



FIGURE 6 | **Global risks landscape: an interconnections map**



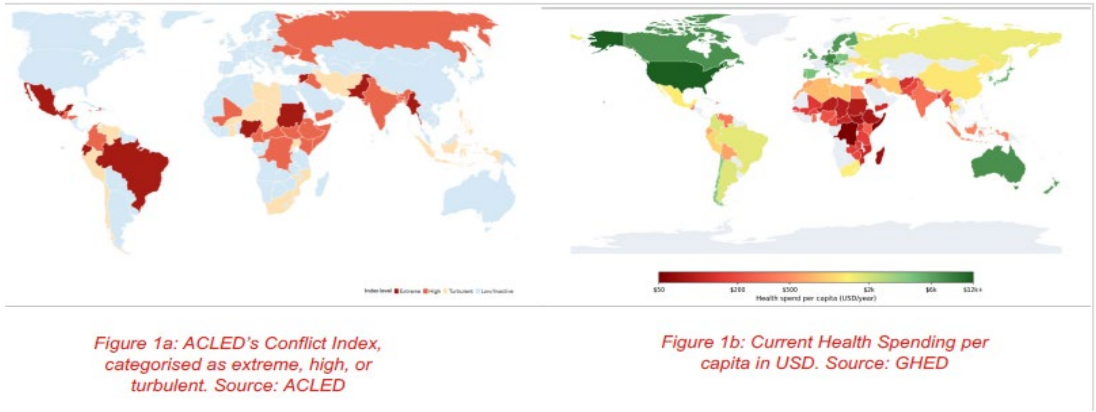


Figure 1a: ACLED's Conflict Index, categorised as extreme, high, or turbulent. Source: ACLED

Figure 1b: Current Health Spending per capita in USD. Source: GHED

- One in six people worldwide now living under active conflict
- Every 1% increase in military spending drives a 0·62% reduction in public health spending
- External health aid to low-income and middle-income countries is collapsing by 30–40

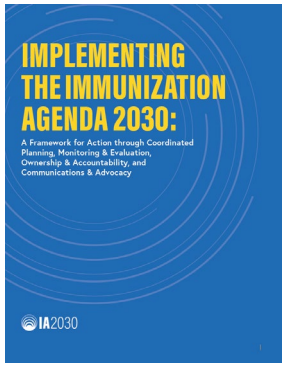
War economies and collapsing health systems - The Lancet

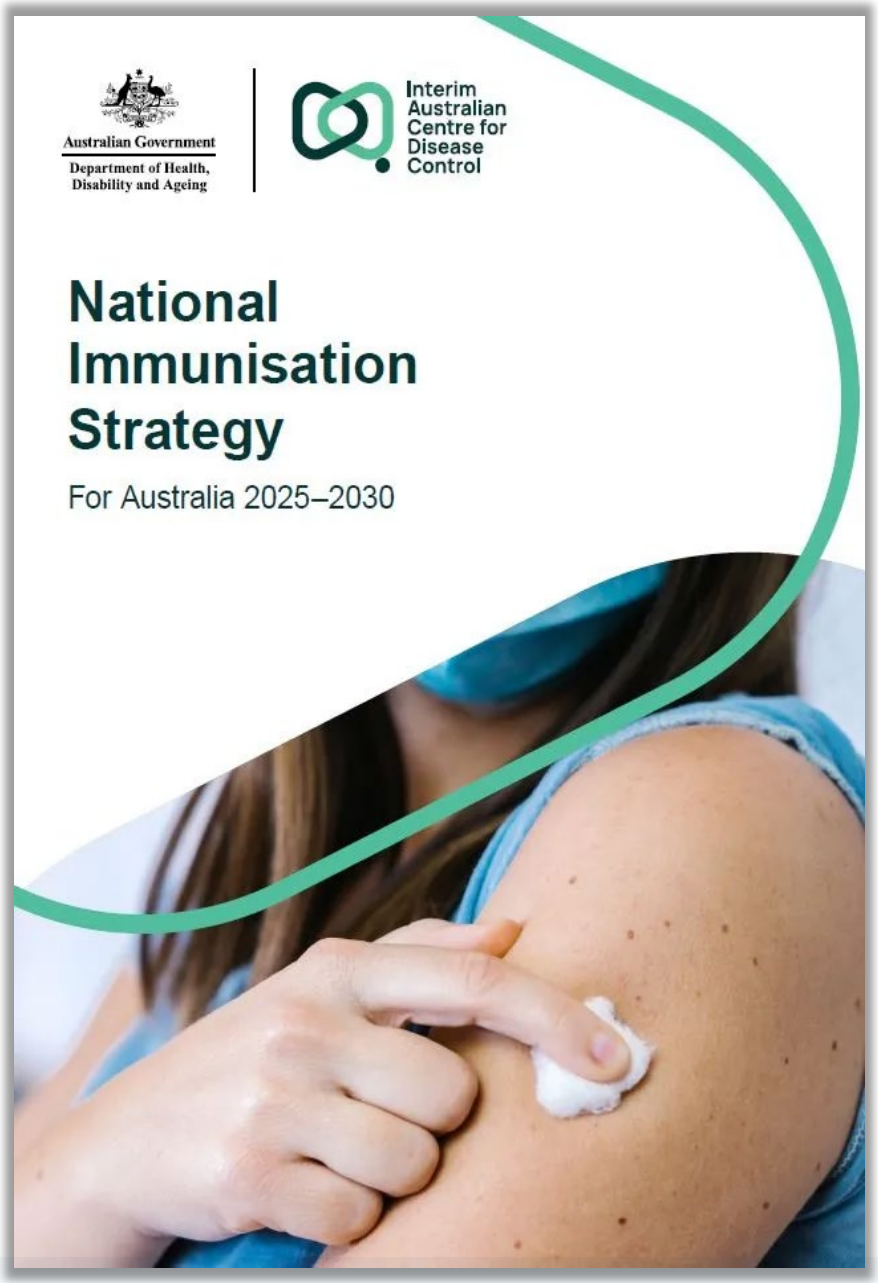
Immunisation strategies



Many countries currently developing or updating their National Immunisation Stategies







NCIRS contributed extensively to the Australia's new National Immunisation Strategy (launched June 2025)


Proud recipients of HPV vaccine

AVC 2026



Be curious

Share your knowledge

Challenge yourselves

Challenge us

Have fun

Take something from this