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A Matter of Trust?

Strengthening Systems to Promote Immunization in an Era of Individuals

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HARRIS CENTRE Memorial University

Health Canada Santé Canada

UNIVERSITY OF TORONTO DALLA LANA SCHOOL OF PUBLIC HEALTH

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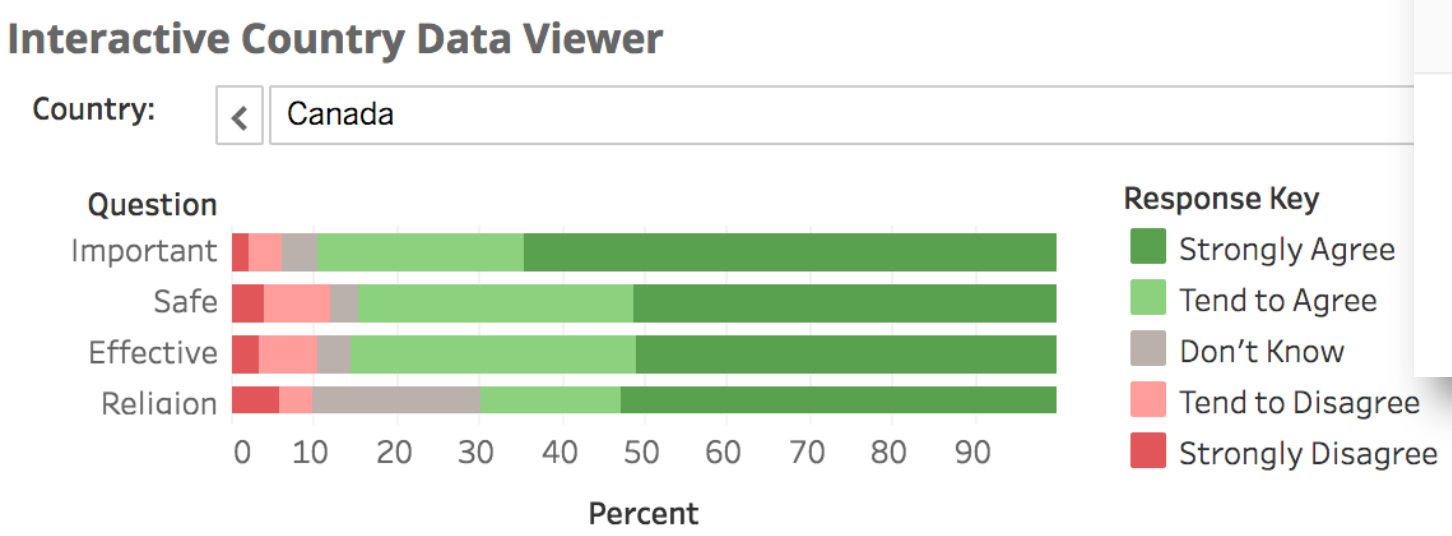
The challenge (and opportunity)

VACCINE HESITANCY

A matter of trust?

WHAT WE KNOW

#1: Accepting vaccination is still the norm



2016 Vaccine Confidence survey: 65,819 individuals across 67 countries, http://www.vaccineconfidence.org/

WHAT WE KNOW

#2:

Vaccine hesitancy is not new

HUMANITIES | MEDICINE AND SOCIETY HEALTH SERVICES

Vaccinating in the age of apathy: measles vaccination in Canada, 1963–1998

Cite as: *CMAJ* 2018 April 3;190:E399-401. doi: 10.1503/cmaj.171238

CMAJ Podcasts: author interview at https://soundcloud.com/cmajpodcasts/171238-medsoc

At an international vaccine symposium held in Toronto on May 17, 1972, US Center for Disease Control Immunization Branch Chief Dr. John Witte commented on the present need "to get more measles vaccine out of the vial and into the child."[1] Vaccination rates varied from 70% in Minnesota to 17% in Pennsylvania, neither of which approached the 95% required for herd immunity. Canadian statistics were not available until the late 1960s, but outbreaks in the 1970s and 1980s show that herd immunity was also a problem in this country. For Dr. John O. Godden, a *CMAJ* editor, and other Canadian experts, lack of uptake meant that vaccination was "a battleground where apathy is [a] greater enemy than disease."[1]

How had this situation developed less than a decade after the commercialization of the first measles vaccine in 1963 in a society that apparently had great trust in biomedicine and faith in biomedical technologies? And what lessons does historical analysis of the contested adoption of vaccines for measles have for current concern about vaccine hesitancy?[2] The history of measles vaccination, long before the Wakefield autism claim in 1998,[3] contextualizes the emergence of active and passive opposition to vaccination and highlights problems with trust that impede effective communication between parents, health care providers and governments.

Parent apathy and anxieties

The turbulent 1960s contributed to the perception of parental apathy toward vaccination in general among Canadian experts as they witnessed the emergence of new styles of parenting, second-wave feminism and the popularization of alternative medicine. In Quebec, the Quiet Revolution, the rise of the nationalist movement and the advent of medicare provided the impetus for Dr. Paul-Émile Chevrefils (a doctor, naturopath and chiropractor) to launch a movement against mandatory smallpox vaccination a medical freedom. His predictions emergence of a "nouveau Québ whose good health was based on organic food and rejecting pharmac

HEALTH

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VOLUME 33 NUMBER 4 — AUGUST, 1965 — 25 CENT

National Immunization Week — September 19-25

OTHER TIMELY FEATURES IN THIS ISSUE
- Measles Vaccination by Dr. Hugh R. Brodie
- Voluntary Health Movement by Basil O'Connor
- Corneal Transplant by Dr. M. Mathieu

Health League of Canada

EXPERT REVIEWS

Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications

Expert Rev. Vaccines 14(1), 99–117 (2015)

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[2]*Centre de recherche du CHU de Québec, Québec, QC, Canada*
[3]*Université Laval, Québec, QC, Canada*
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[5]*Canadian Center for Vaccinology, IWK Health Center, Halifax, NB, Canada*
**Author for correspondence: noni.macdonald@dal.ca*

Despite being recognized as one of the most successful public health measures, vaccination is perceived as unsafe and unnecessary by a growing number of parents. Anti-vaccination movements have been implicated in lowered vaccine acceptance rates and in the increase in vaccine-preventable disease outbreaks and epidemics. In this review, we will look at determinants of parental decision-making about vaccination and provide an overview of the history of anti-vaccination movements and its clinical impact.

KEYWORDS: anti-vaccination • parents • vaccination decisions • vaccine hesitancy • vaccine refusal

Background

Immunization is widely considered to be one of the greatest achievements of public health. Immunization programs have contributed to the major decline in mortality and morbidity of selected infectious diseases, and are responsible for the worldwide eradication of smallpox and the elimination of poliomyelitis in the Americas [1–3]. To be successful in reducing the prevalence and incidence of vaccine-preventable diseases (VPD), immunization programs rely on high vaccine uptake [4,5]. Not only does this provide direct protection for vaccinated individuals, but high immunization coverage rates also induce indirect protection (herd immunity) for the overall community for VPD that are spread person to person [6].

The high rate of childhood vaccination coverage in most countries indicates that vaccination remains a widely accepted public health measure [7]. However, national estimates of vaccination coverage do not reflect variability within a country. Undervaccinated individuals tend to cluster together, leading to increased transmission of VPD [8]. Many studies have also shown that even parents who vaccinate their children can have doubts and fears about immunization [9–12]. Therefore, national estimates of vaccine coverage rate are limited in their ability to reflect anti-vaccine sentiment [13].

In this review, we will illustrate how the interrelation between context, politics, science, public health and the media have played (and continue to play) a role in fuelling anti-vaccination sentiments. We will show that the anti-vaccine movement has been present since vaccines were developed, how some of the anti-vaccine negative arguments have not changed while others have evolved over time and why their arguments are very appealing to some parents. Before looking at the history of anti-vaccination movements and their clinical impact, we will briefly summarize the main determinants of parents' vaccination decisions.

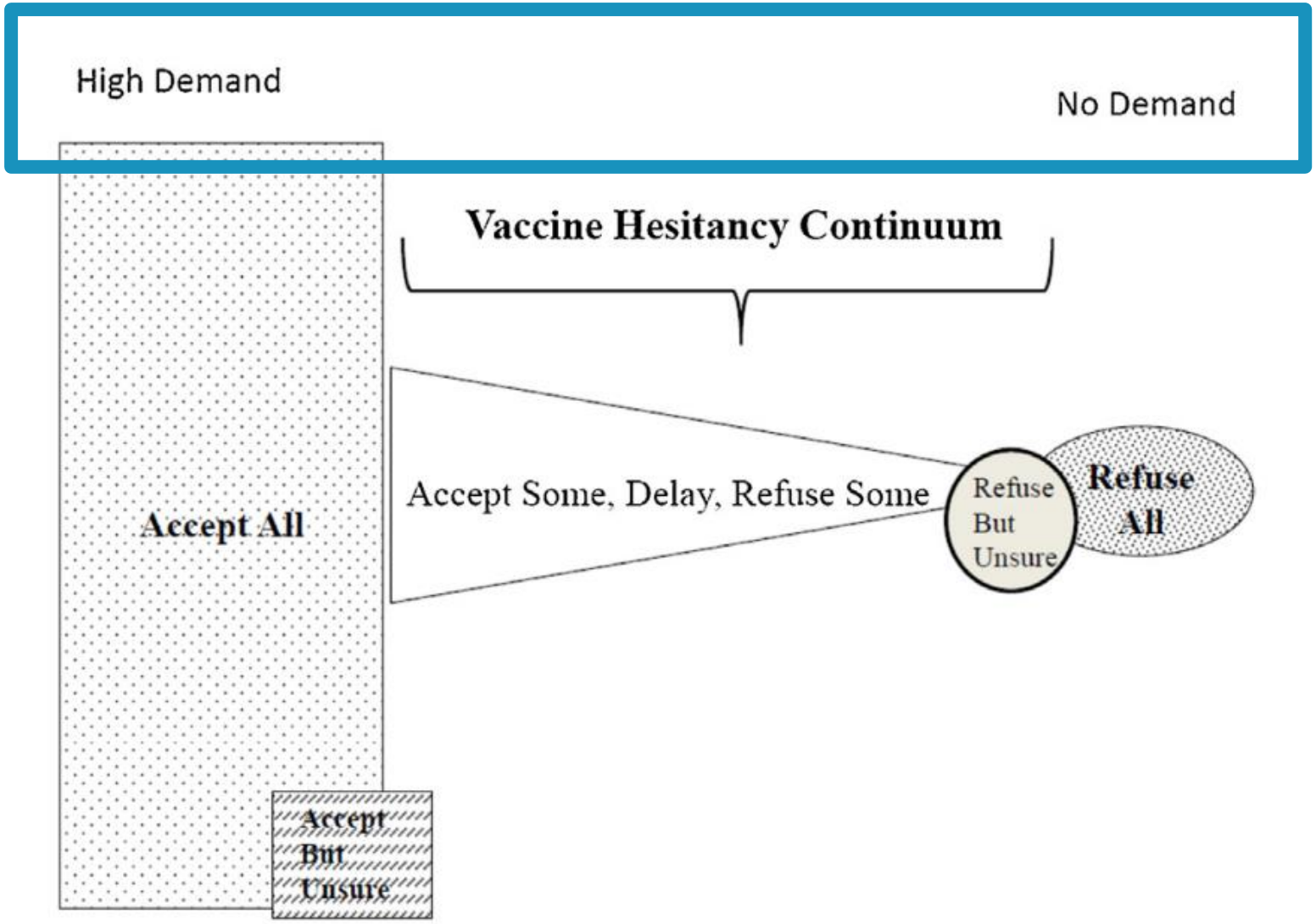
Parental vaccination decisions

Many studies have shown that parental decisions to use or avoid immunization for their children are complex and multi-dimensional. Several recently published reviews have examined the factors associated with vaccination acceptance or refusal among parents [13–18]. While these reviews had different objectives and scopes, similar determinants of vaccination acceptance or refusal emerged including: contextual determinants (broad influences such as communication and media, religious values, social norms, health policies, etc.); organizational determinants (or

WHAT WE KNOW

#3:

Vaccine hesitancy represents a spectrum



MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161-4.

WHAT WE KNOW

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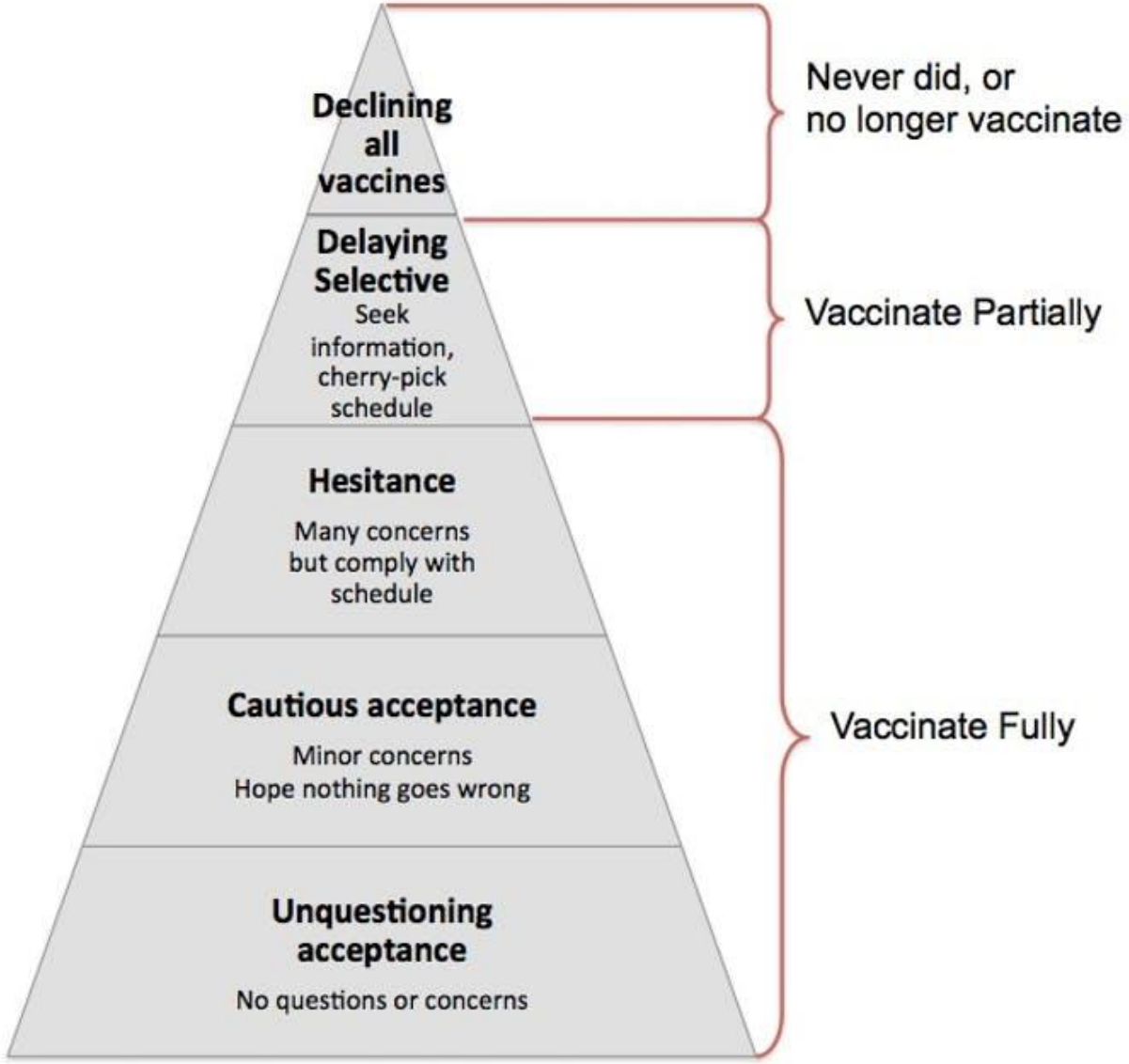


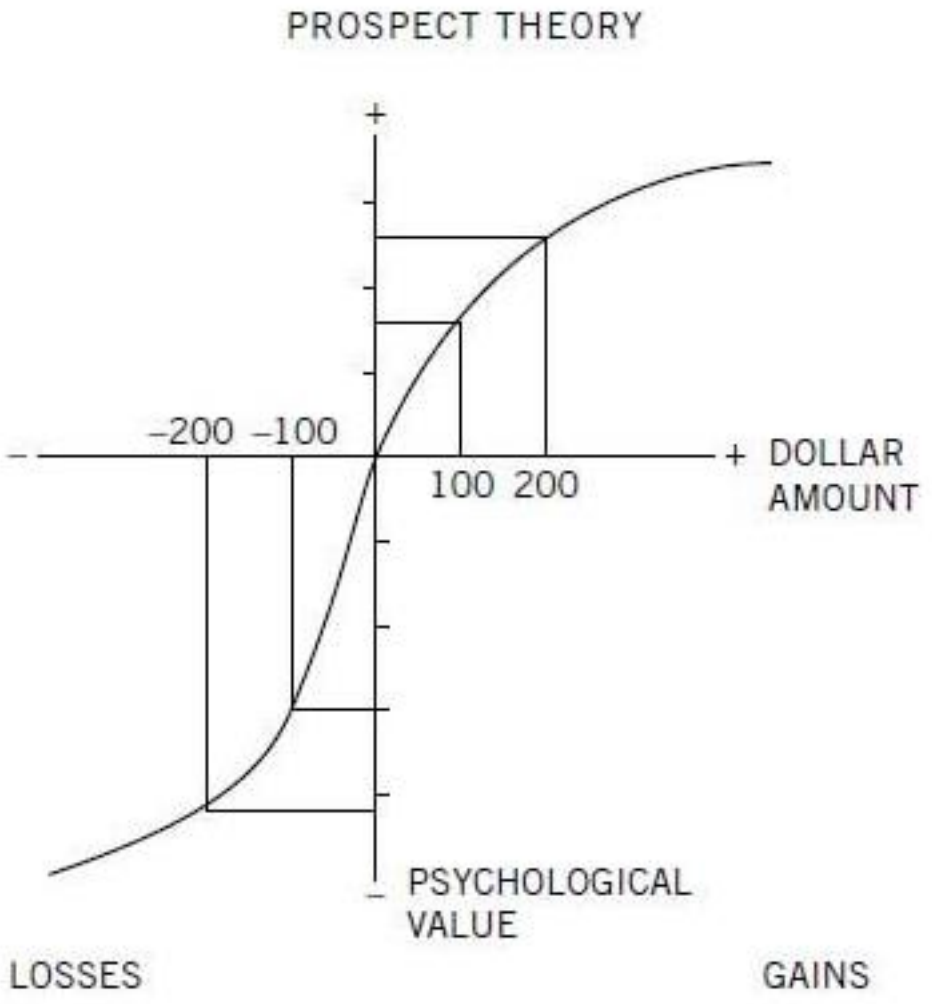
Leask, Danchin, and Berry. In *The Conversation*, March 9, 2017. Australian attitudes to vaccination fall into a spectrum comprised of five unfixed groups. Adapted from Leask et al (2012); Benin et al (2009).

THE PROBLEM

Unlike other population health measures, individuals (often parents) must **actively choose to accept** this intervention

BOUNDED RATIONALITY

The challenge of health-promoting behaviours and decision-making, particularly in the face of risk or cost



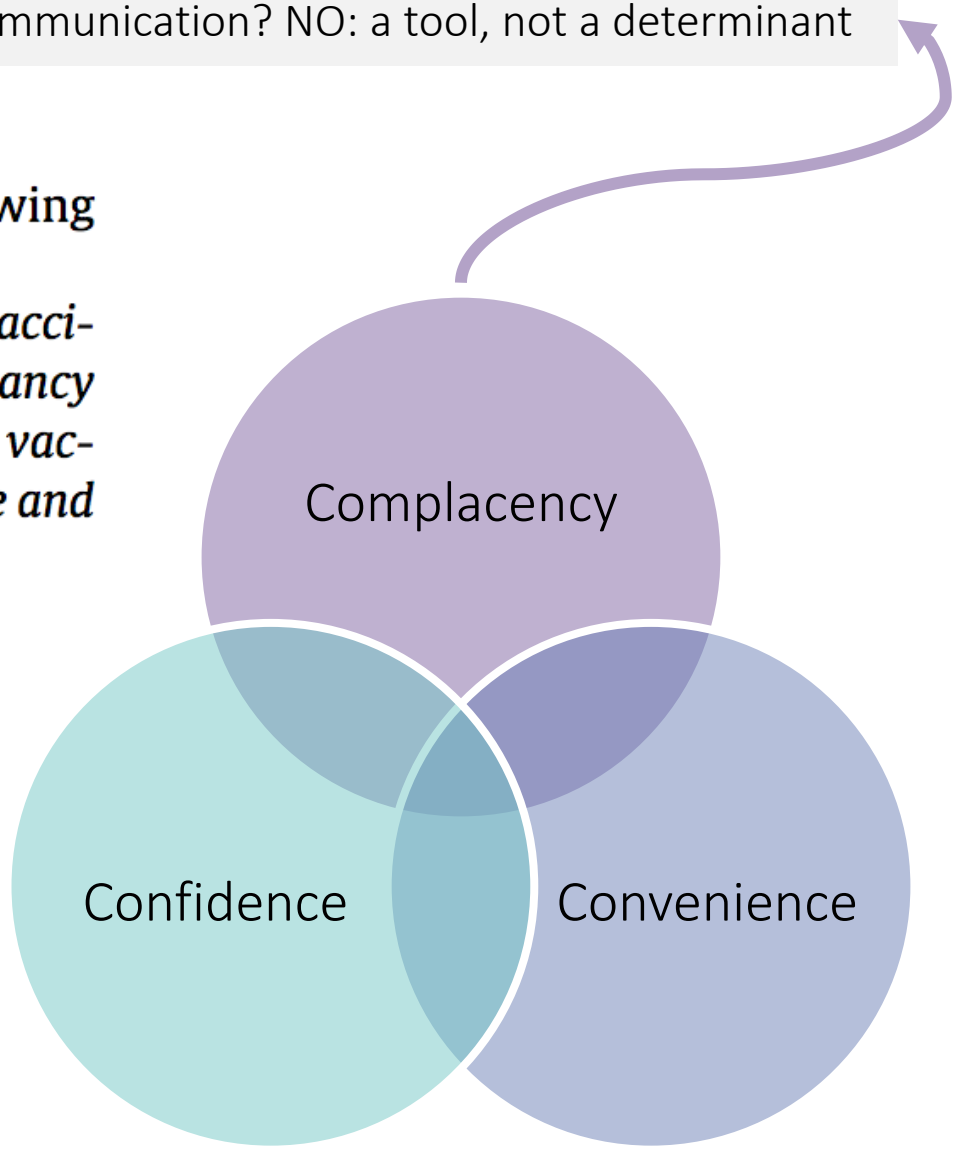
What about Communication? NO: a tool, not a determinant

8. Definition of vaccine hesitancy

Following its deliberations, the WG decided upon the following definition:

Vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence.

MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161-4.



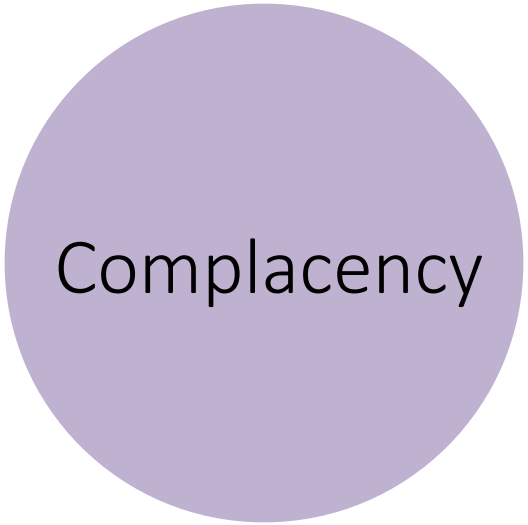
Strategic Advisory Group of Experts Working Group (SAGE WG)

INDIVIDUAL CHOICES

Other life/health responsibilities and priorities

Success of vaccination programs (perceived risk)

Self-efficacy



Reflects key barriers to coverage-optimal individual choice

MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161-4.

SOCIAL DETERMINANTS AND ACCESS

Availability

Affordability (and willingness to pay)

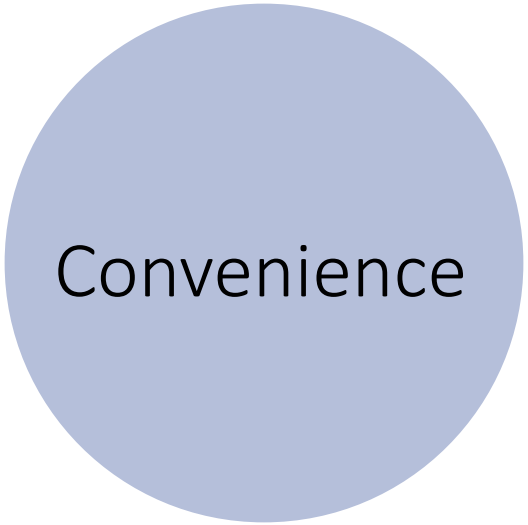
Geographic access

Health literacy

Service quality and appeal

Cultural competence

Comfort



Reflects intersection of social determinants, access, experiences

MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161-4.

TRUST IN SYSTEMS

Trust in vaccines (efficacy and safety)

Trust in delivery systems

Trust in policymakers

Reflects trust in systems—including evidence, care, and policy

MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161-4.

Policy challenge: not only range of determinants but **priority-setting about different models for intervention in society**

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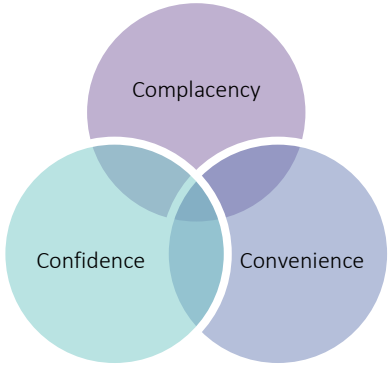
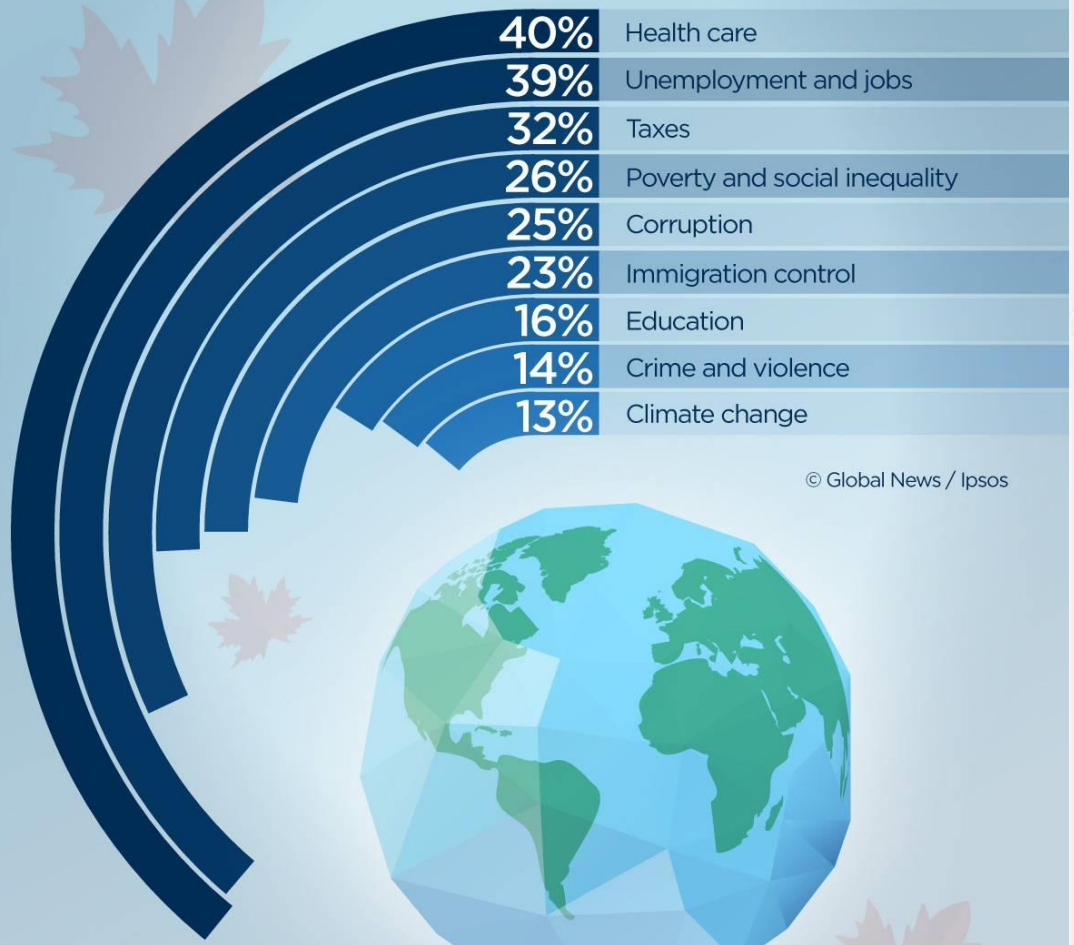


How **concerned** are **Canadians** about **climate change?**

Less concerned than they are about unemployment, poverty, health care and many other issues.

Percentage of times each issue appeared in the top three worries for respondents:



Global News, November 29, 2015

Macleans, June 28, 2012

A shopping list for the average Canadian

Statistics Canada keeps tabs on everything we consume. Here are the average annual bills for just a fraction of the goods and services we buy:

Spending by province

Here are the items and services each province spends the most on

QUEBEC
Bakery products, seafood, cheese, public transit

NEWFOUNDLAND
Beef, cookies and crackers, furniture, leasing and renting vehicles, disposable diapers

P.E.I.
Butter, milk

NOVA SCOTIA
Canned vegetables

ALBERTA
Restaurants, jewellery, gambling

B.C.
Fresh fruit and vegetables, pasta, nuts

NEW BRUNSWICK
Electricity, home security, garden equipment

MANITOBA
Condo fees

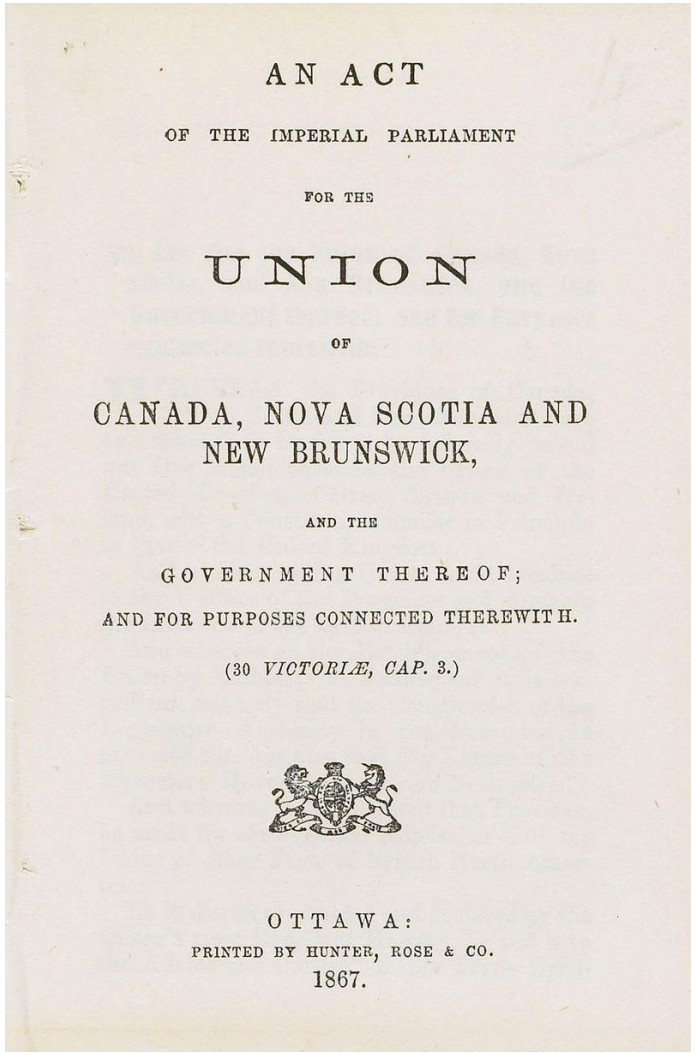
ONTARIO
Property taxes, personal transportation, daycare, hair grooming

SASKATCHEWAN
Washers and dryers, pork, frozen meals, casinos

2015 CANADIAN HOUSEHOLD SPENDING
Shelter 28.9% -- Transportation 19.4% -- Food 14.3%

SECTIONS 91 and 92

Division of powers makes the establishment of a relevant sharing community to address vaccine hesitancy a difficult prospect in Canada



AN ACT

OF THE IMPERIAL PARLIAMENT

FOR THE

UNION

OF

CANADA, NOVA SCOTIA AND NEW BRUNSWICK,

AND THE

GOVERNMENT THEREOF;

AND FOR PURPOSES CONNECTED THEREWITH.

(30 *VICTORIÆ, CAP.* 3.)

OTTAWA:
PRINTED BY HUNTER, ROSE & CO.
1867.

Matters of national concern (products and behaviours) and national security, otherwise POGG clause and contentious use of fiscal levers


JANUARY: SAFER AND HEALTHIER FOODS


FEBRUARY: CONTROL OF INFECTIOUS DISEASES


MARCH: HEALTHIER ENVIRONMENTS

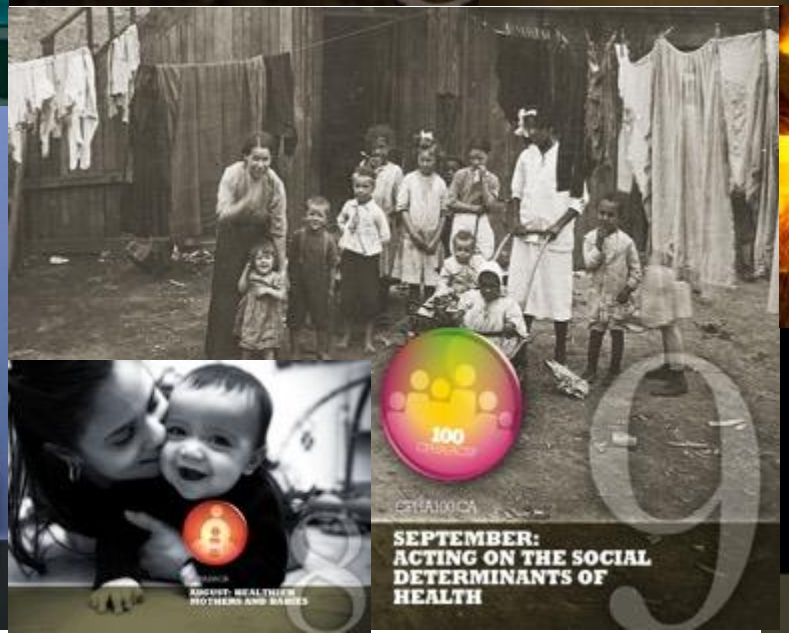

APRIL: VACCINATION


MAY: RECOGNIZING TOBACCO USE AS A HEALTH HAZARD


JUNE: MOTOR-VEHICLE SAFETY


JULY: DECLINE IN DEATHS FROM CORONARY HEART DISEASE AND STROKE

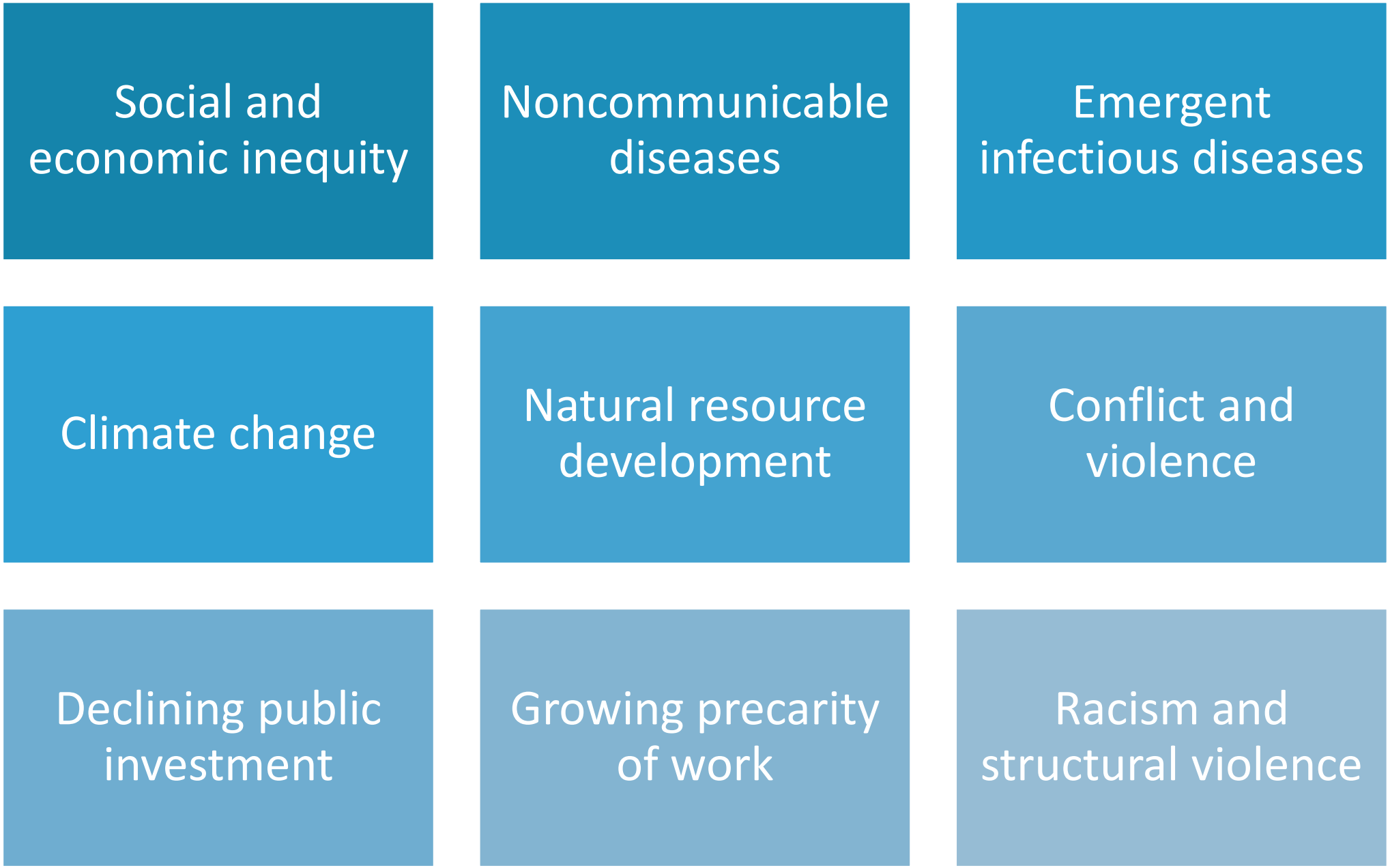

OCTOBER: UNIVERSAL POLICIES


SEPTEMBER: ACTING ON THE SOCIAL DETERMINANTS OF HEALTH

AUGUST: HEALTHIER MOTHERS AND BABIES

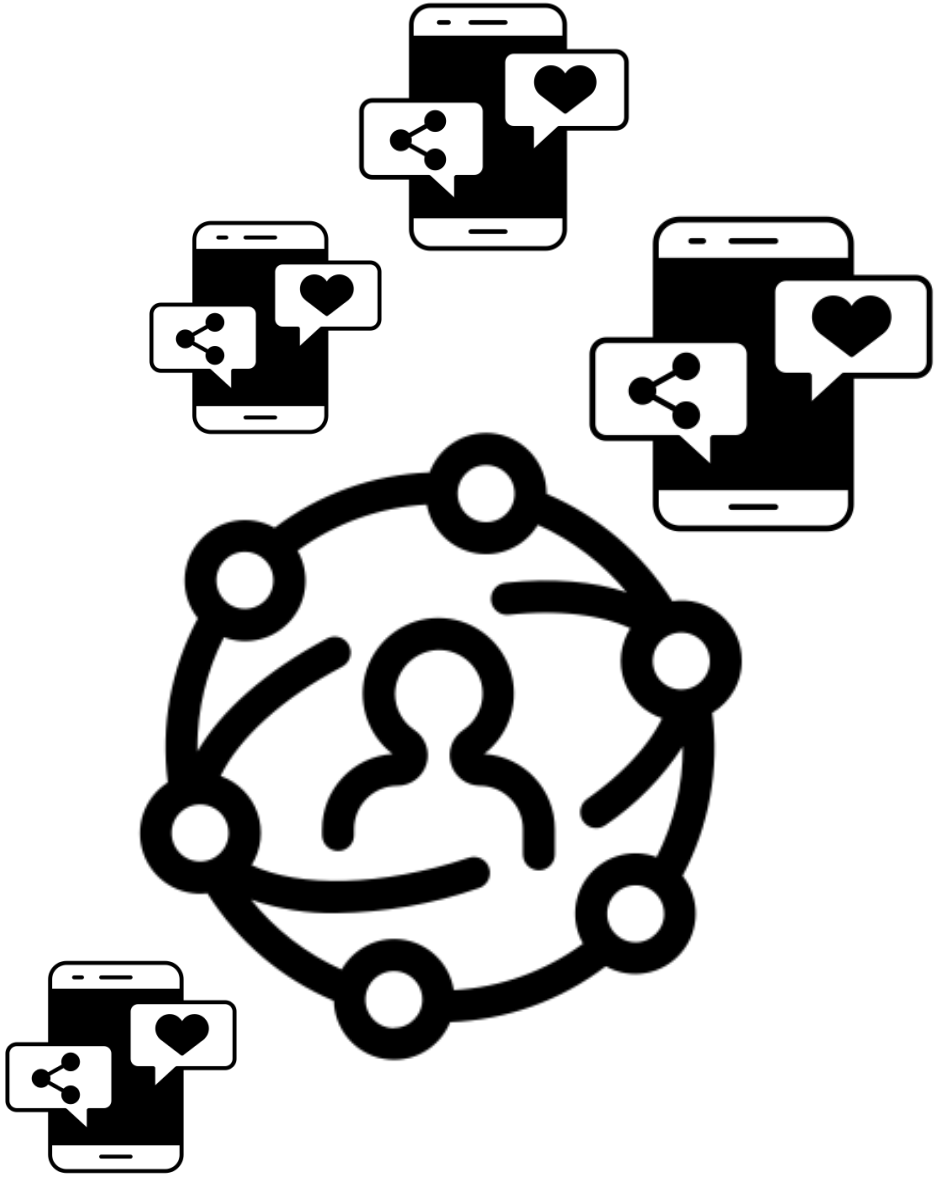

NOVEMBER: SAFER WORKPLACES


DECEMBER: FAMILY PLANNING


Social and economic inequity
Noncommunicable diseases
Emergent infectious diseases
Climate change
Natural resource development
Conflict and violence
Declining public investment
Growing precarity of work
Racism and structural violence

SYSTEMS CHANGE FOR VACCINE PROMOTION

1. Vaccination hesitancy exists across political spectrum
2. Rise of pragmatist, populist, and anti-establishment politics
3. Individual agency still (and increasingly) pitted against structural change



FILTER BUBBLES

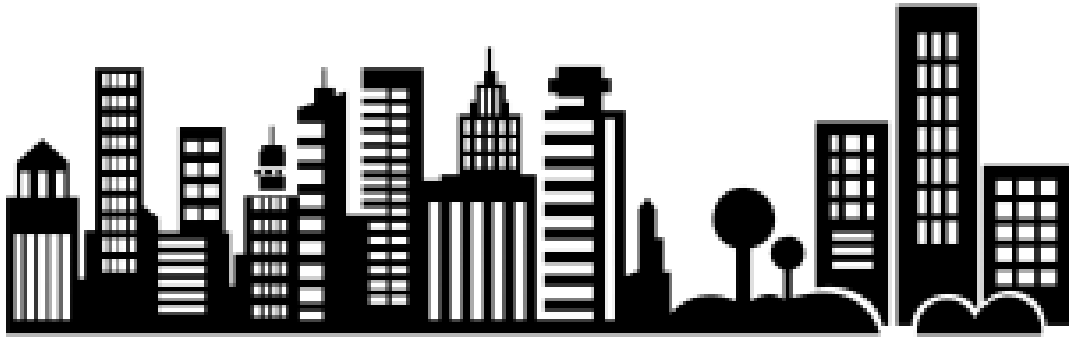
How many modern amenities extinguish our curiosity about one another's paths, especially if they don't fit into a single, unified narrative?

HUA HSU, *New Yorker* [DATE], 2018

Toril Aalberg, Norwegian University of Science and Technology. 2017. Populist political communication in Europe project. https://www.youtube.com/watch?v=Z0r23OG4mB4

SYSTEMS CHANGE FOR HEALTH PROMOTION

Prevailing dilemma for health promotion policy goals: must we shift people's behaviour or is it enough to change the environment?



SYSTEMS CHANGE FOR HEALTH PROMOTION

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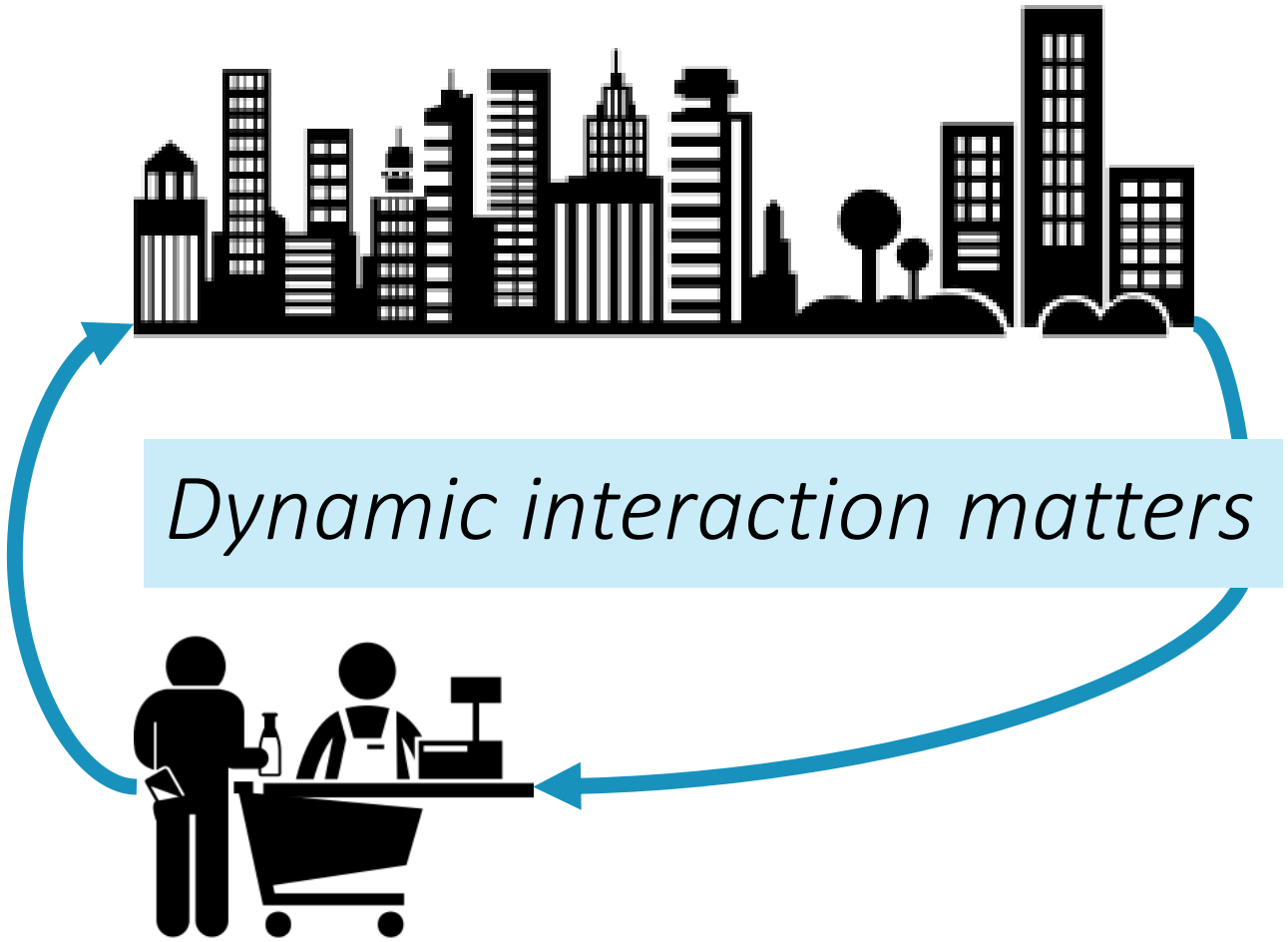


Trust in vaccination arises from the interactions among experiences with the health system, the various forms of communication and social capital – **both external and internal to communities**.

When experiencing system-wide shocks … distrust is reinforced by feedback between the health and immunization systems.

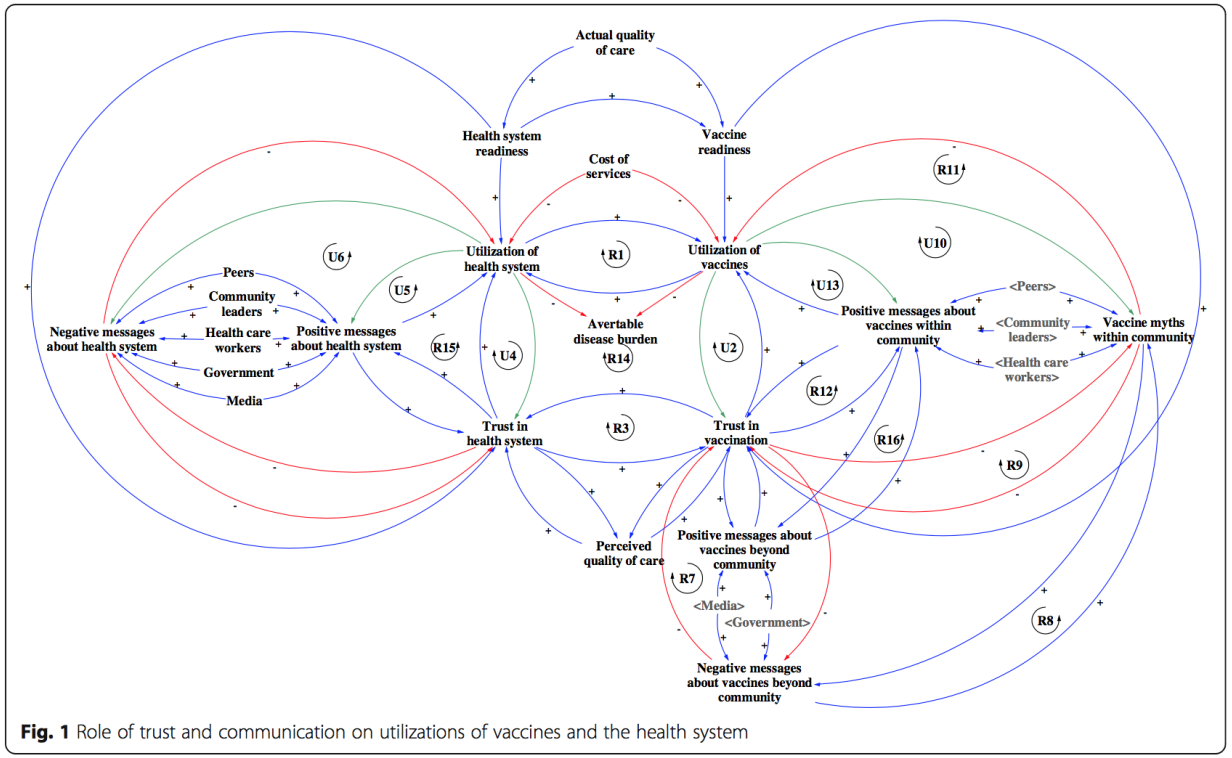


Fig. 1 Role of trust and communication on utilizations of vaccines and the health system

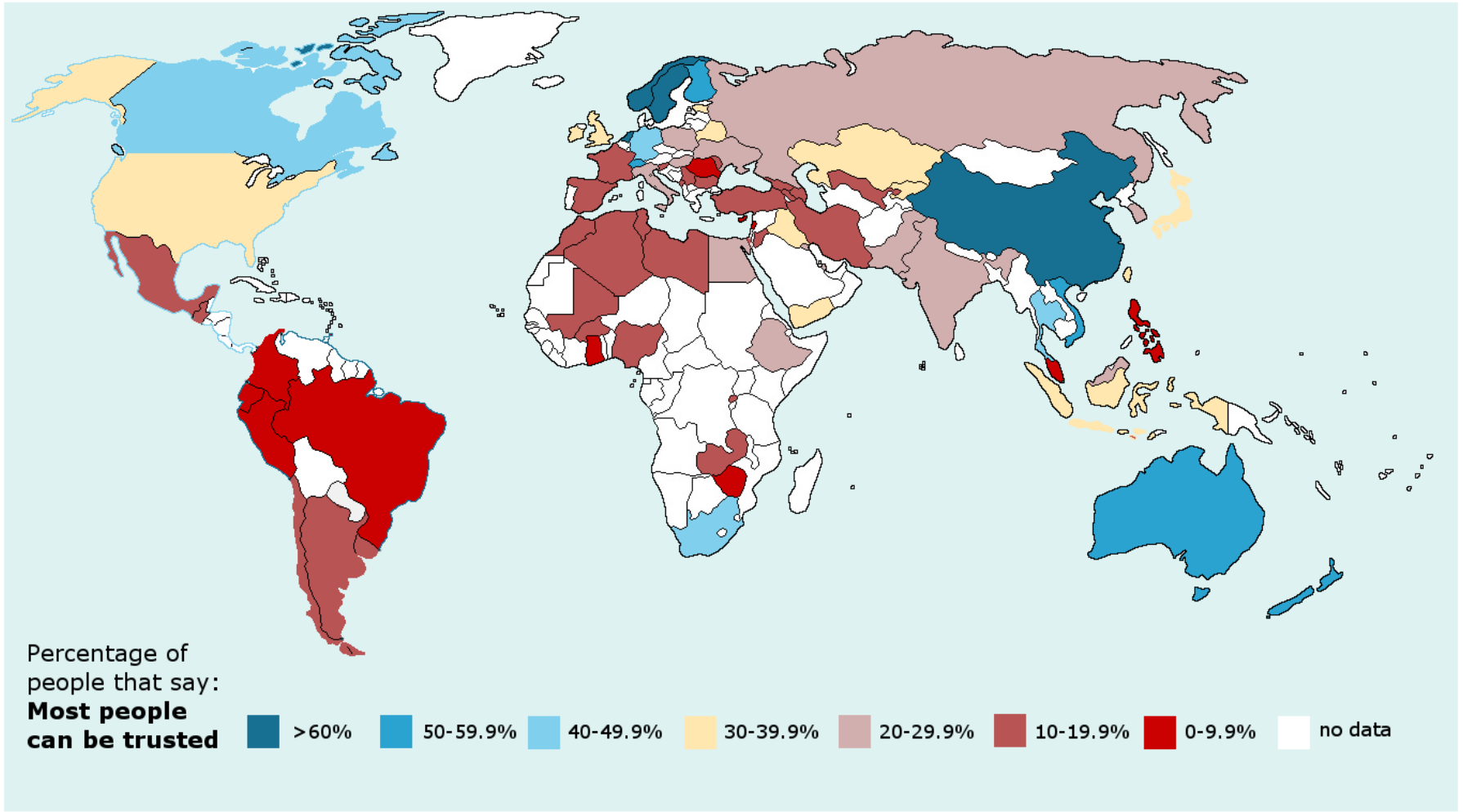
Ozawa S, Paina L, Qiu M. Exploring pathways for building trust in vaccination and strengthening health system resilience. BMC health services research. 2016 Nov;16(7):639.

Considerations for countries

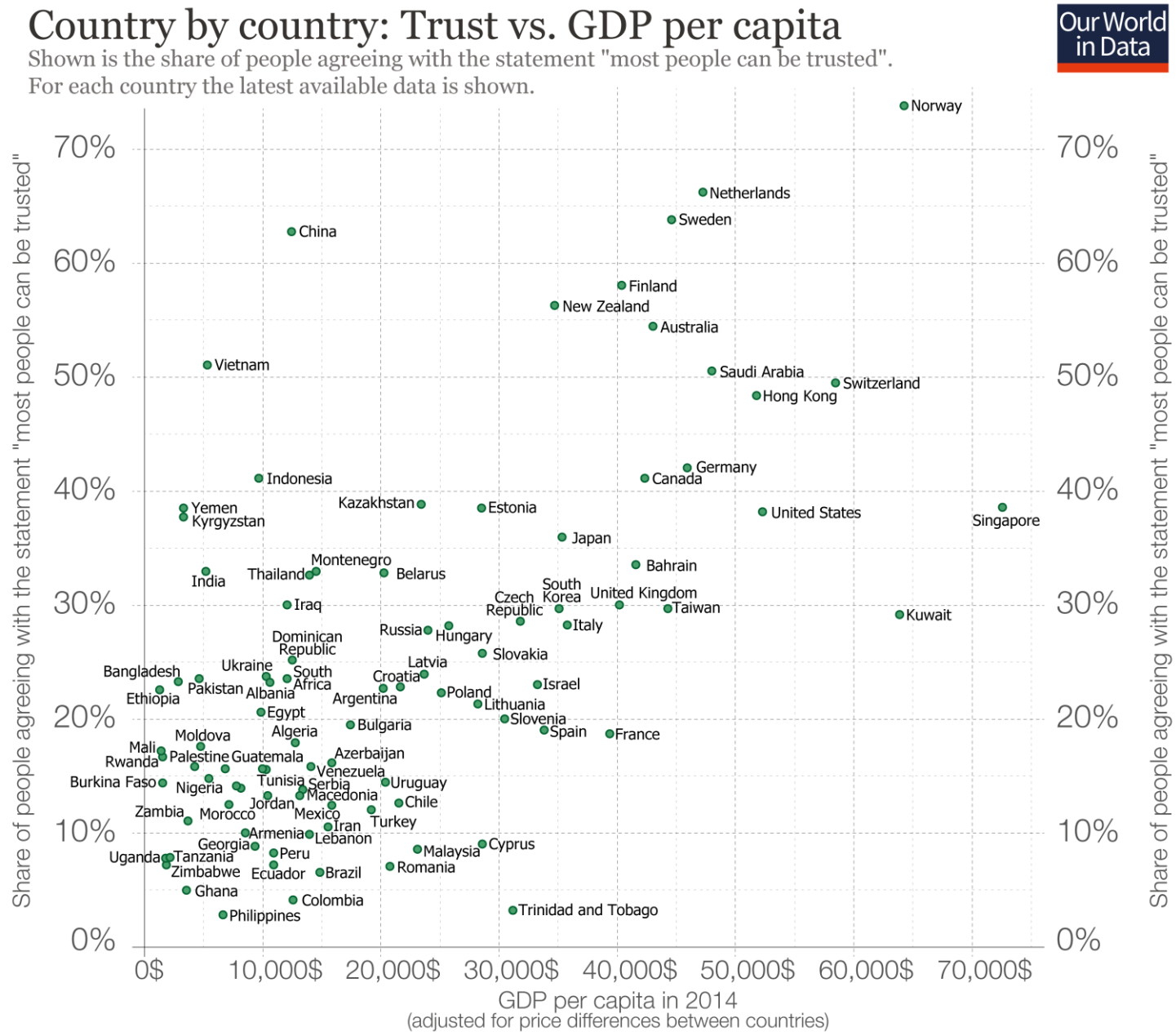
Countries need to take into consideration that in low vaccine uptake situations, where lack of available services is the major factor impairing adequate vaccination coverage, vaccine hesitancy can be present but is not the priority to address and should not be the focus of their resources.

Countries should incorporate a plan to measure and address vaccine hesitancy into their country's immunization programme as part of good practice, using and validating the compendium of potential vaccine hesitancy survey questions as this facilitates inter-country comparisons.

General Trust



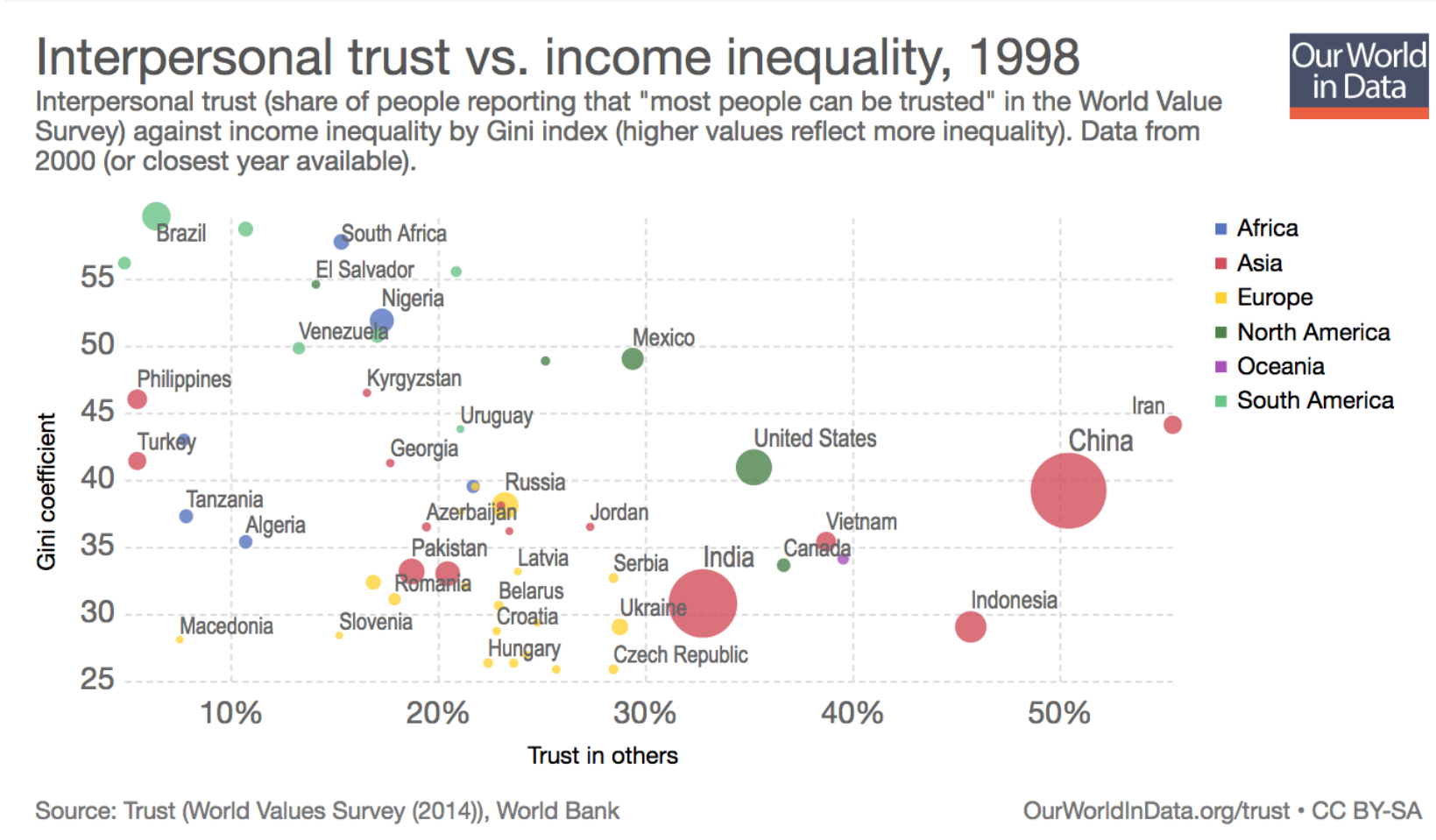
World Values Survey Wave 6 (2014-2010) & Wave 5 (2009-2005) V23/24.-Most people can be trusted. Question wording:Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? a) Most people can be trusted; b) Need to be very careful; c) No answer; d) Don't know



Data source: World Value Survey for data on trust and Penn World Table for data on GDP per capita
This visualization is available at OurWorldinData.org. There you find the raw data and more visualizations on this topic.

ECONOMIC DEVELOPMENT

Measured as GDP, positive relationship with interpersonal trust



INCOME INEQUALITY

Measured as Gini coefficient, negative relationship with interpersonal trust

IT'S THE INSTITUTIONS

Modernity is based on social organization in the form of **institutions** (markets and states), designed to diminish people's dependence on ingroups—but requires daily cooperation with diverse others.

Key: **outgroup trust =** widening the circles of cooperation, and which must emerge from **ingroup trust.**

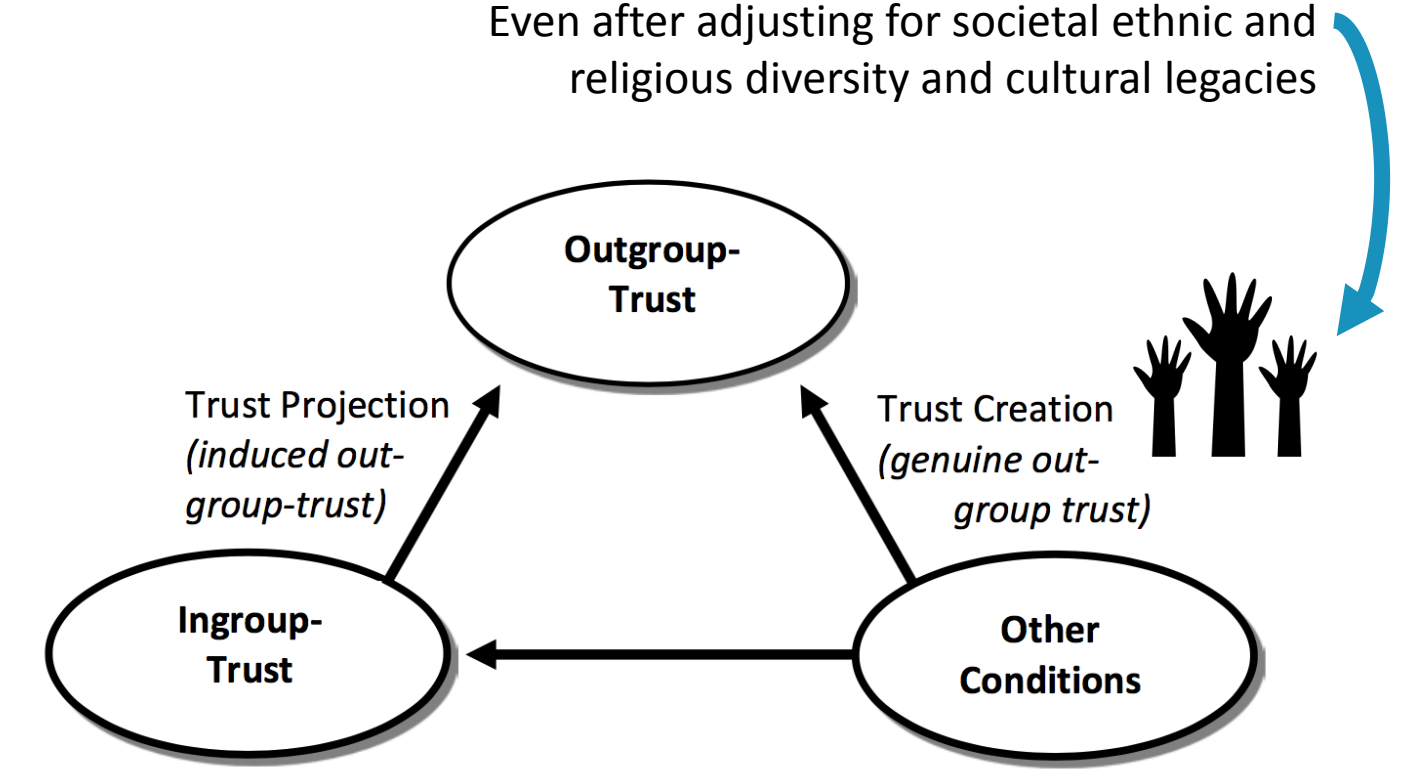


Figure 1. A Model of the Trust Generalization — Projection and Creation

Delhey & Welzel, 2012, World Values Research 5(3): 46-69

WOMEN'S MARCH U.S.

POWER TO THE POLLS

WOMEN'S MARCH GLOBAL

LOOK BACK, MARCH FORWARD

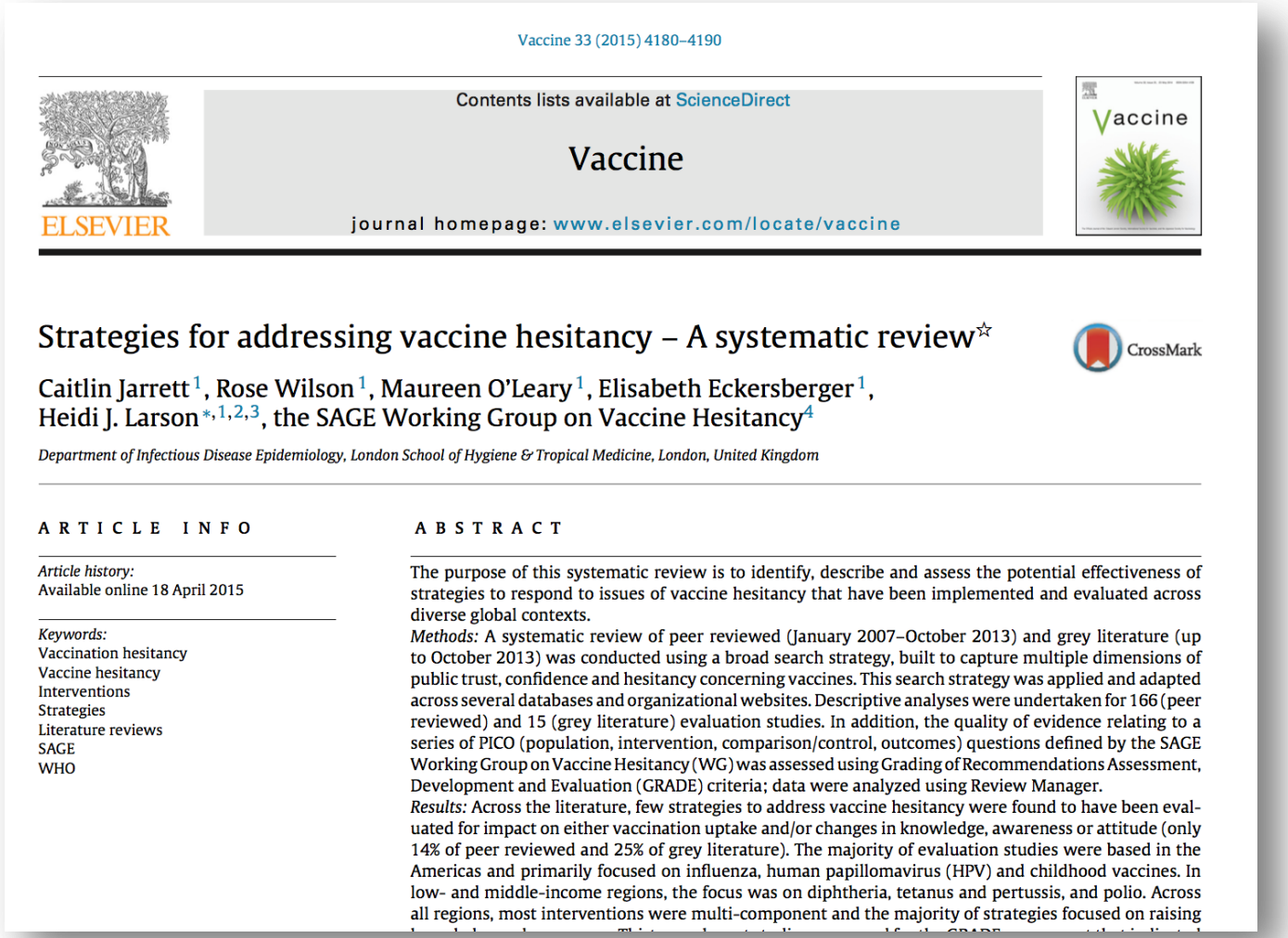
WOMEN'S MARCH GLOBAL
JAN 21, 2018

Issei Kato / Reuters / www.theatlantic.com

BOYCOTT GRAPES

UNITED FARM WORKERS OF AMERICA
AFL-CIO


Amr Abdallah / Reuters / www.theatlantic.com



Vaccine 33 (2015) 4180–4190

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Vaccine

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

Strategies for addressing vaccine hesitancy – A systematic review☆

Caitlin Jarrett[1], Rose Wilson[1], Maureen O'Leary[1], Elisabeth Eckersberger[1], Heidi J. Larson*[,1,2,3], the SAGE Working Group on Vaccine Hesitancy[4]

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Vaccine hesitancy
Interventions
Strategies
Literature reviews
SAGE
WHO

ABSTRACT

The purpose of this systematic review is to identify, describe and assess the potential effectiveness of strategies to respond to issues of vaccine hesitancy that have been implemented and evaluated across diverse global contexts.

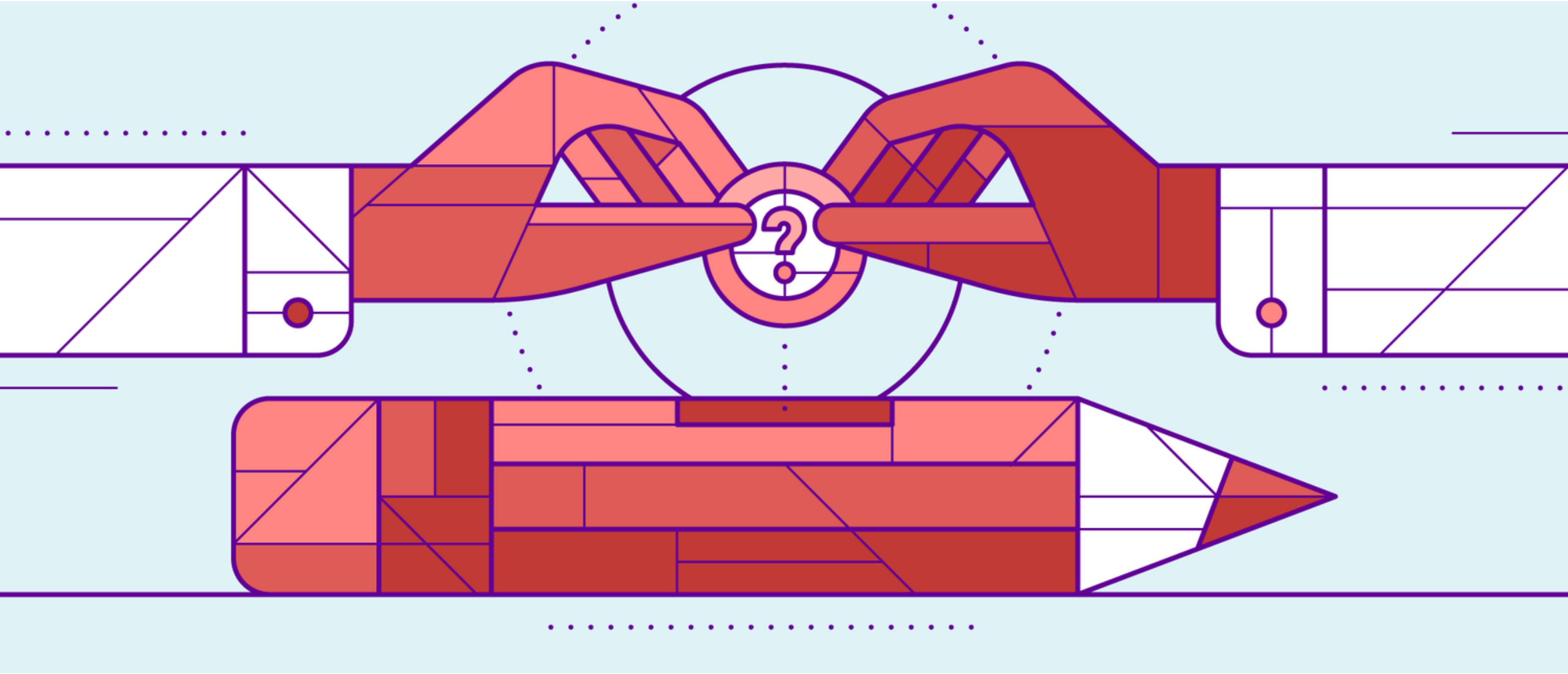
Methods: A systematic review of peer reviewed (January 2007–October 2013) and grey literature (up to October 2013) was conducted using a broad search strategy, built to capture multiple dimensions of public trust, confidence and hesitancy concerning vaccines. This search strategy was applied and adapted across several databases and organizational websites. Descriptive analyses were undertaken for 166 (peer reviewed) and 15 (grey literature) evaluation studies. In addition, the quality of evidence relating to a series of PICO (population, intervention, comparison/control, outcomes) questions defined by the SAGE Working Group on Vaccine Hesitancy (WG) was assessed using Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria; data were analyzed using Review Manager.

Results: Across the literature, few strategies to address vaccine hesitancy were found to have been evaluated for impact on either vaccination uptake and/or changes in knowledge, awareness or attitude (only 14% of peer reviewed and 25% of grey literature). The majority of evaluation studies were based in the Americas and primarily focused on influenza, human papillomavirus (HPV) and childhood vaccines. In low- and middle-income regions, the focus was on diphtheria, tetanus and pertussis, and polio. Across all regions, most interventions were multi-component and the majority of strategies focused on raising

WHAT WORKS?

Knowledge and awareness-raising necessary, but not sufficient—multi-component strategies needed, and those that address specific concerns for specific populations

Importance of **dialogue-based interventions**



Stearns 2017 https://medium.com/trust-media-and-democracy/local-news-is-a-building-block-to-rebuild-trust-fab8752f3659, from https://membershippuzzle.org/