The perceived full public health value of vaccines and vaccine hesitancy among patients and providers

Pauline Paterson

Annecy, December 2016

The team at The Vaccine Confidence Project conduct global research on vaccine confidence, examining local and global dynamics which influence vaccine decision-making.

THE VACCINE CONFIDENCE PROJECT

Confidence in vaccines

Confidence in providers

Confidence in systems

Team lead: Heidi Larson
Co-lead: Pauline Paterson
Communication: Jay Dowle
Researchers: Richard Clark, Valerie Heywood, Emilie Karafillakis, Antonis Kousoulis, William Schulz, Clarissa Simas, Elizabeth Smout, Rose Wilson

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While most people vaccinate…

… some groups or individuals delay or refuse vaccines

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Polio
(2003)

Muslim leaders in the historic city say the vaccine has been laced with anti-fertility drugs.

'US conspiracy'

Some 15 million children in West Africa are at risk of contracting polio.

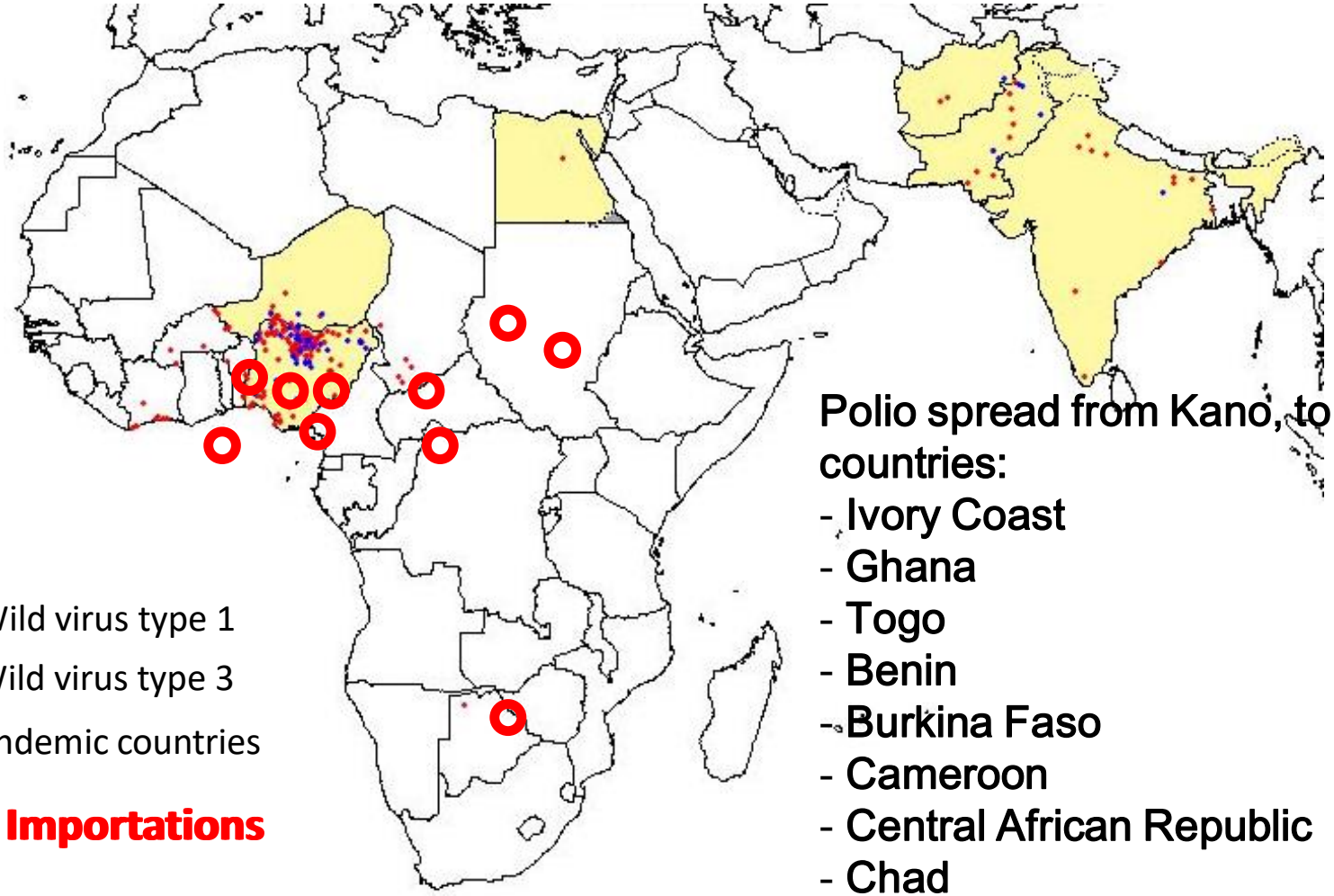
The WHO is carrying out anti-polio vaccinations in the six worst affected states in Nigeria - except Kano.

Datti Ahmed, the President of the Kano-based Sharia (Islamic Law) Supreme council, has told the BBC that the vaccine is part of a United States-led conspiracy to de-populate the developing world.

The BBC's Anna Borzello in Nigeria says fears like these are now common in Kano where anti-American sentiment is on the rise.

Impact (2004) Nigeria: from local to international

Kano State became the epicenter of a fast spreading outbreak of polio: 83% global cases came from Nigeria.

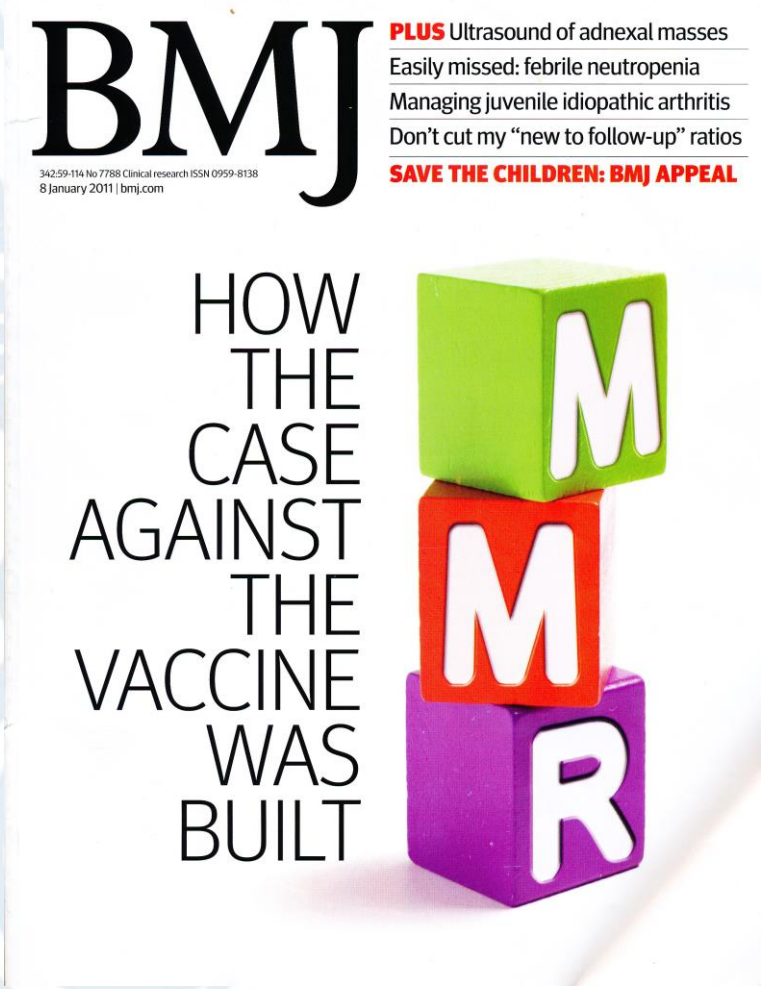


Polio spread from Kano, to 10 countries:

- Ivory Coast
- Ghana
- Togo
- Benin
- Burkina Faso
- Cameroon
- Central African Republic
- Chad
- Sudan
- Botswana

Polio cases as of June 15, 2004

MMR (1998..2011..ongoing..)



BMJ Lambastes Autism Vaccine Study, Brands It 'Fraud'

Posted by GPSN on January 7, 2011 0 Comment

The British Medical Journal (BMJ) yesterday (January 6) labelled as "an elaborate fraud" the study that created a major health scare by linking autism to the measles, mumps and rubella (MMR) vaccine for children. The study's senior author was Andrew Wakefield and it was published in 1998. Last year The Lancet retracted the study that has led to hundreds of thousands of children in Britain being unshielded against these three diseases. In 2008, measles was declared endemic, or present in the wider population much like chicken pox, in England and Wales. After a long-running hearing by the General Medical Council, Wakefield was barred from medical practice last year for conflict of interest and the unethical treatment of patients involved in the research. The BMJ, meanwhile, yesterday branded the study a crafted attempt to deceive, among the

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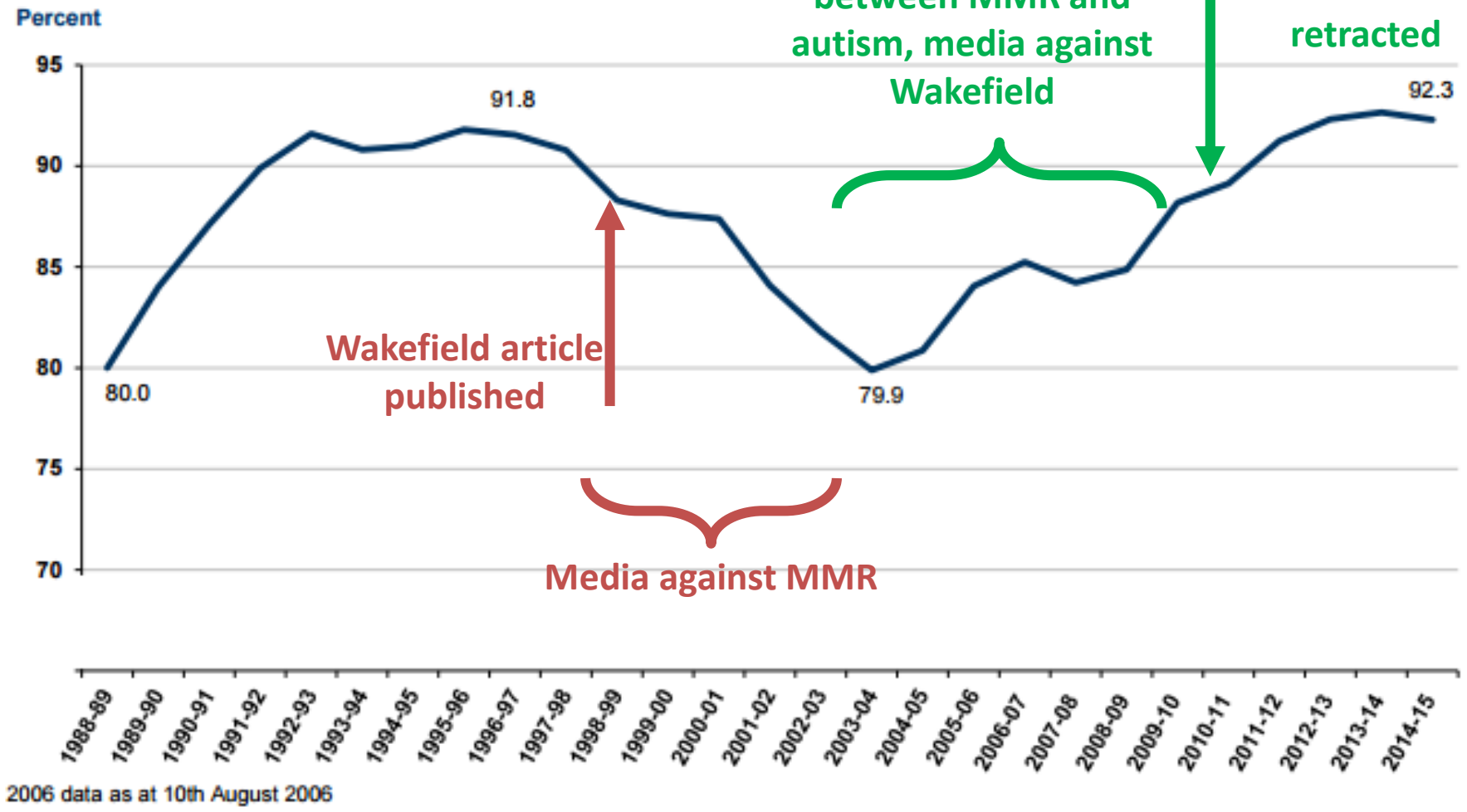
Perceptions of risks persist over time

Figure 5: MMR1 coverage at 24 months[15]

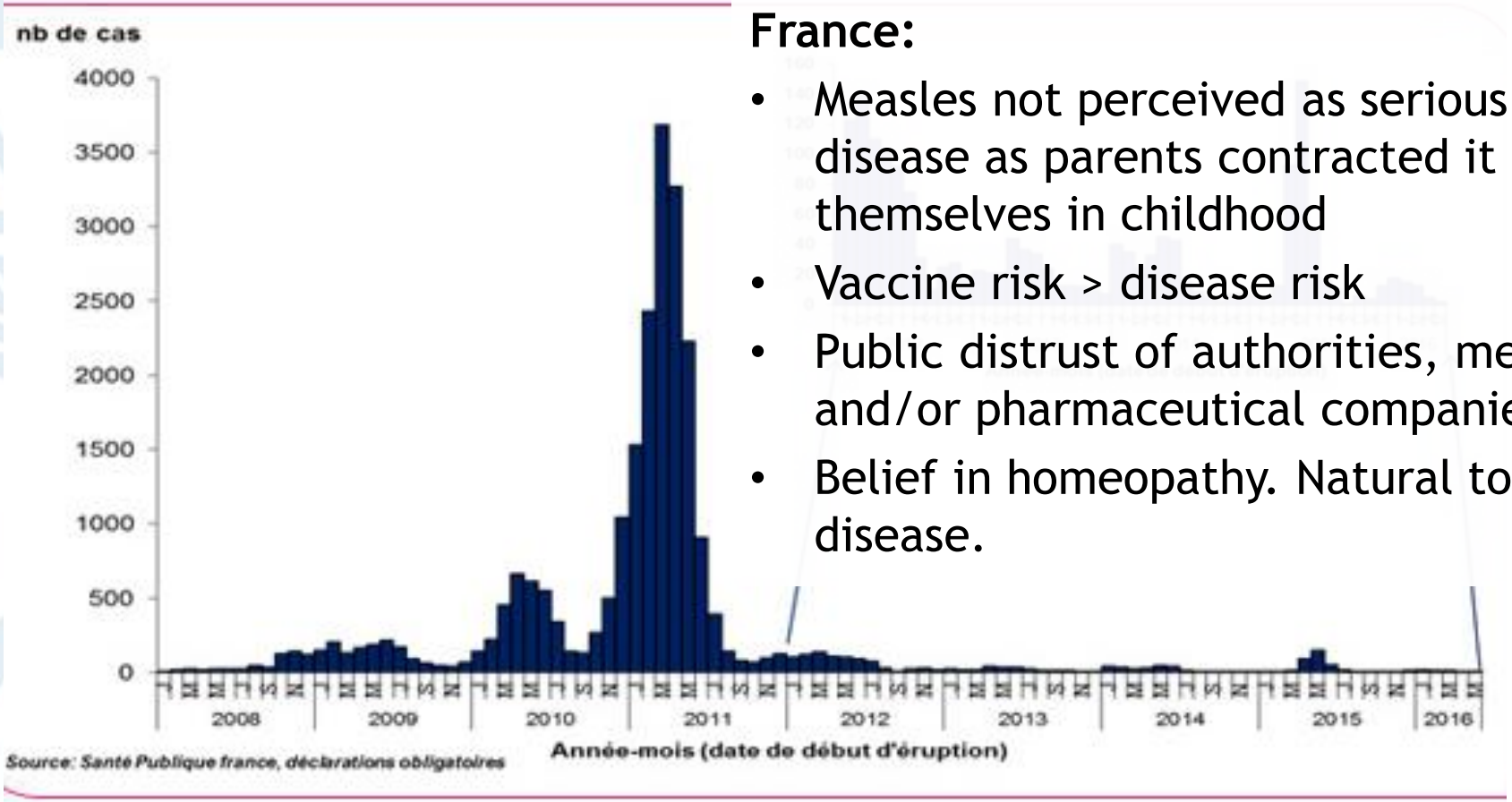
England 1988-89 to 2014-15



2006 data as at 10th August 2006

NB: The MMR vaccine was introduced in 1988 when it replaced the single measles vaccine.
Source: COVER, Health and Social Care Information Centre. See also Tables 2 and 9 in the Data Tables.

Cas de rougeole par mois - Déclarations obligatoires, France, Janvier 2008 – Mai 2016 / *Number of measles cases per month – Mandatory notification, France, January 2008 – May 2016*

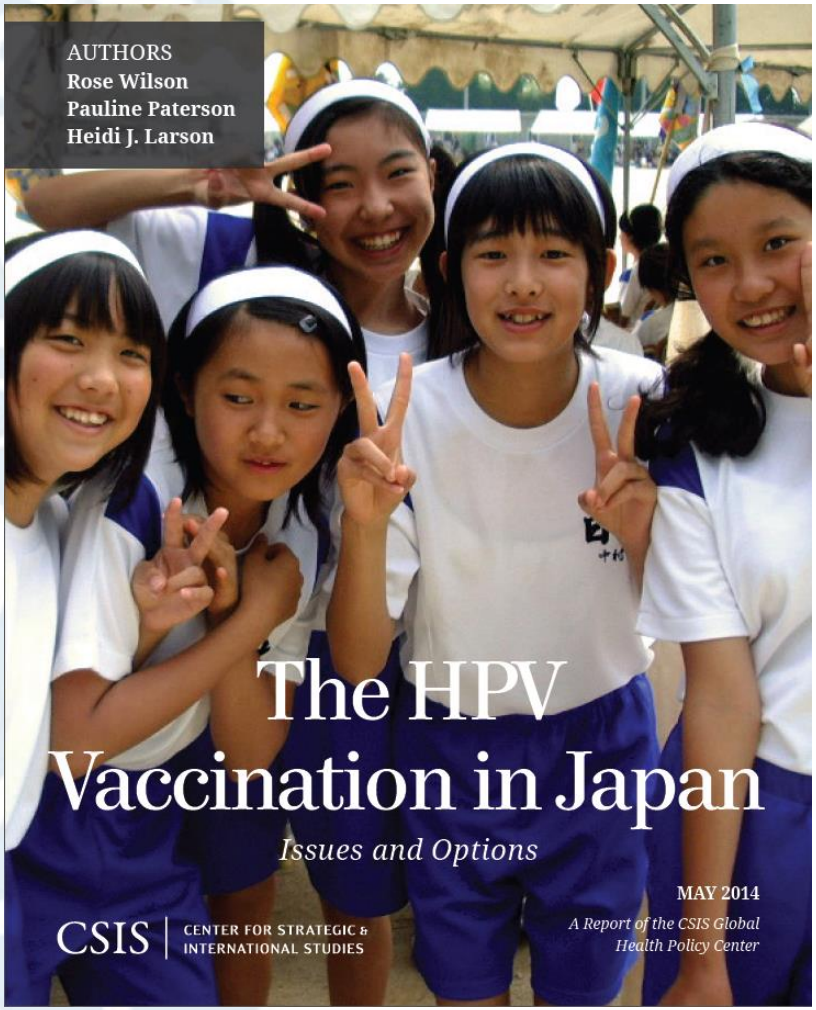


Reasons for non-vaccination of MCV in France:

- Measles not perceived as serious disease as parents contracted it themselves in childhood
- Vaccine risk > disease risk
- Public distrust of authorities, medicines and/or pharmaceutical companies
- Belief in homeopathy. Natural to have disease.

http://invs.santepubliquefrance.fr/Dossiers-thematiques/Maladies-infectieuses/Maladies-a-prevention-vaccinale/Rougeole/Points-d-actualites/Epidemie-de-rougeole-en-France.-Actualisation-des-donnees-de-surveillance-au-20-juin-2016

HPV Japan (2013)



Concerns

- Side-effects (Convulsions, seizures, severe headaches, partial paralysis)

Japanese Ministry of Health, Labor, and Welfare decision in June 2013 that HPV vaccine cannot be proactively recommended or promoted

- One-sided media coverage
- Compensation agreed for one family

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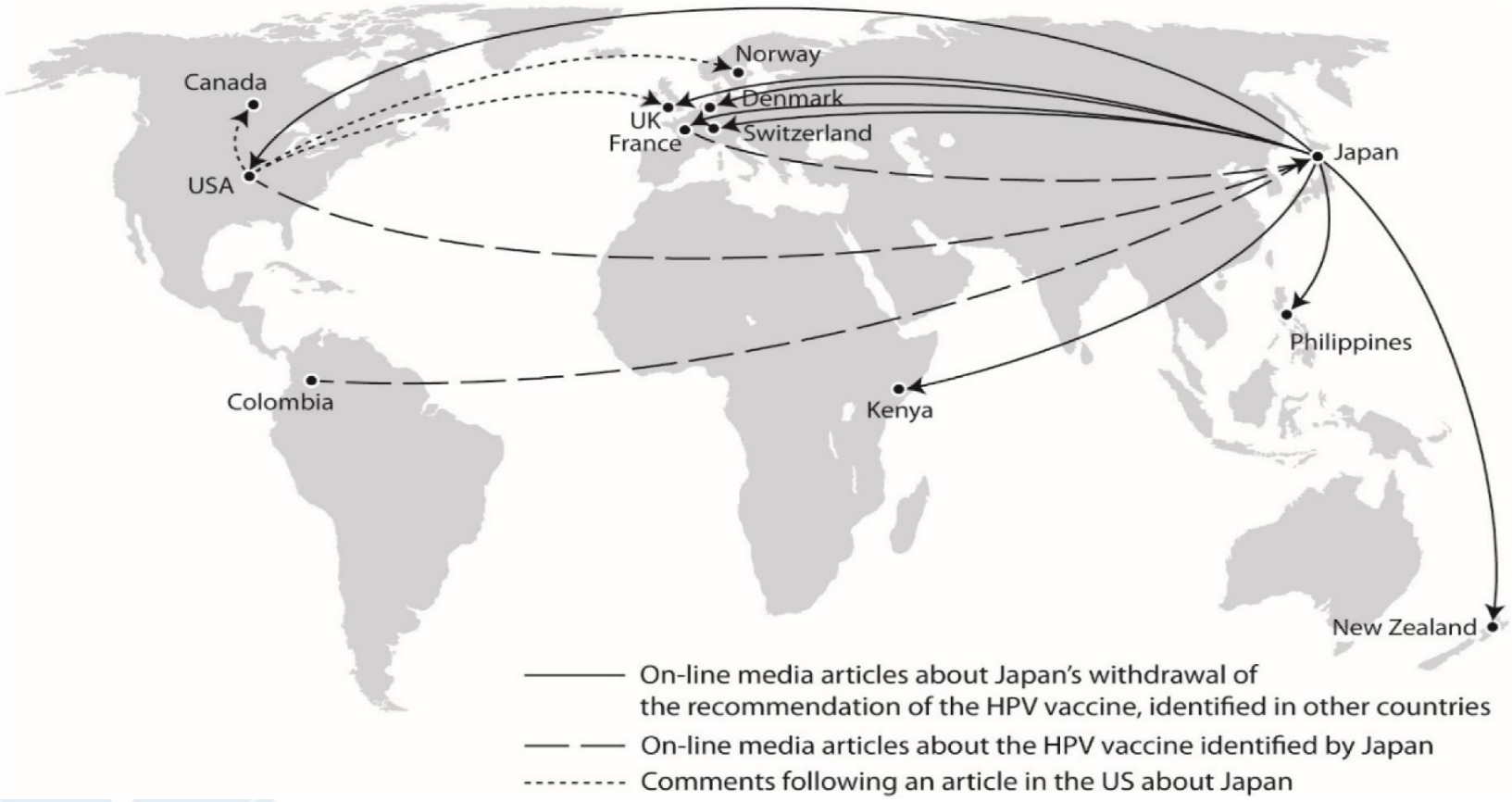
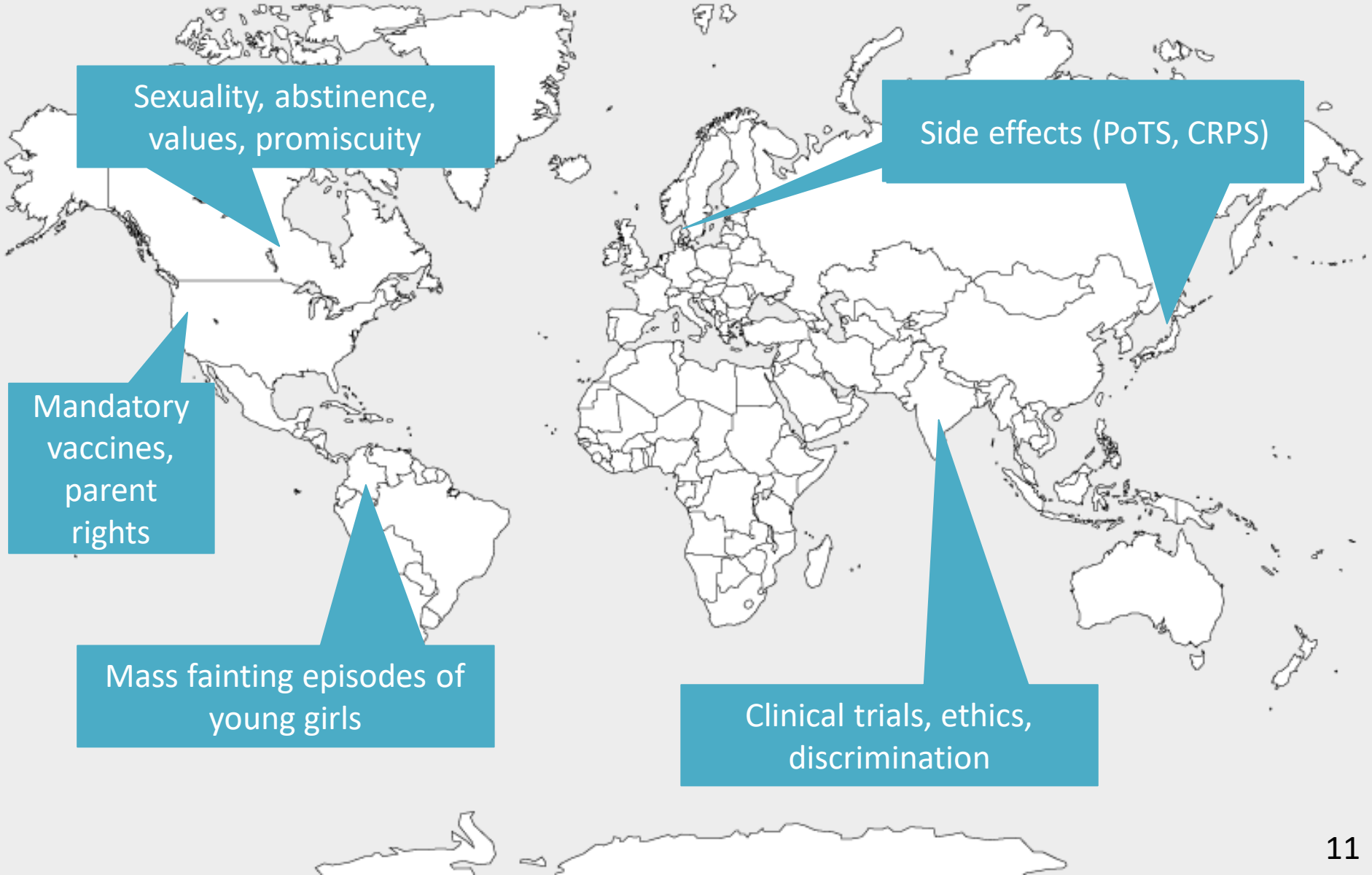
Map showing global transmission of: 1) Information about other countries' HPV situation reported in the Japanese media; and 2) reporting and discussion on the Japanese suspension of the HPV vaccine recommendation outside of Japan (January 2014–April 2015)



Source: Heidi J. Larson et al., "Tracking the global spread of vaccine sentiments: The global response to Japan's suspension of its HPV vaccine recommendation," *Human Vaccines & Immunotherapeutics* 9, no. 10 (2014): 1–8.

Confidence in HPV Vaccination : a global challenge with local differences



Vaccine Hesitancy

"A behaviour, influenced by a number of factors including issues of **confidence** [do not trust vaccine or provider], **complacency** [do not perceive a need for a vaccine, do not value the vaccine], and **convenience** [access]"

Larson et al. (2014) Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007-2012. Vaccine.

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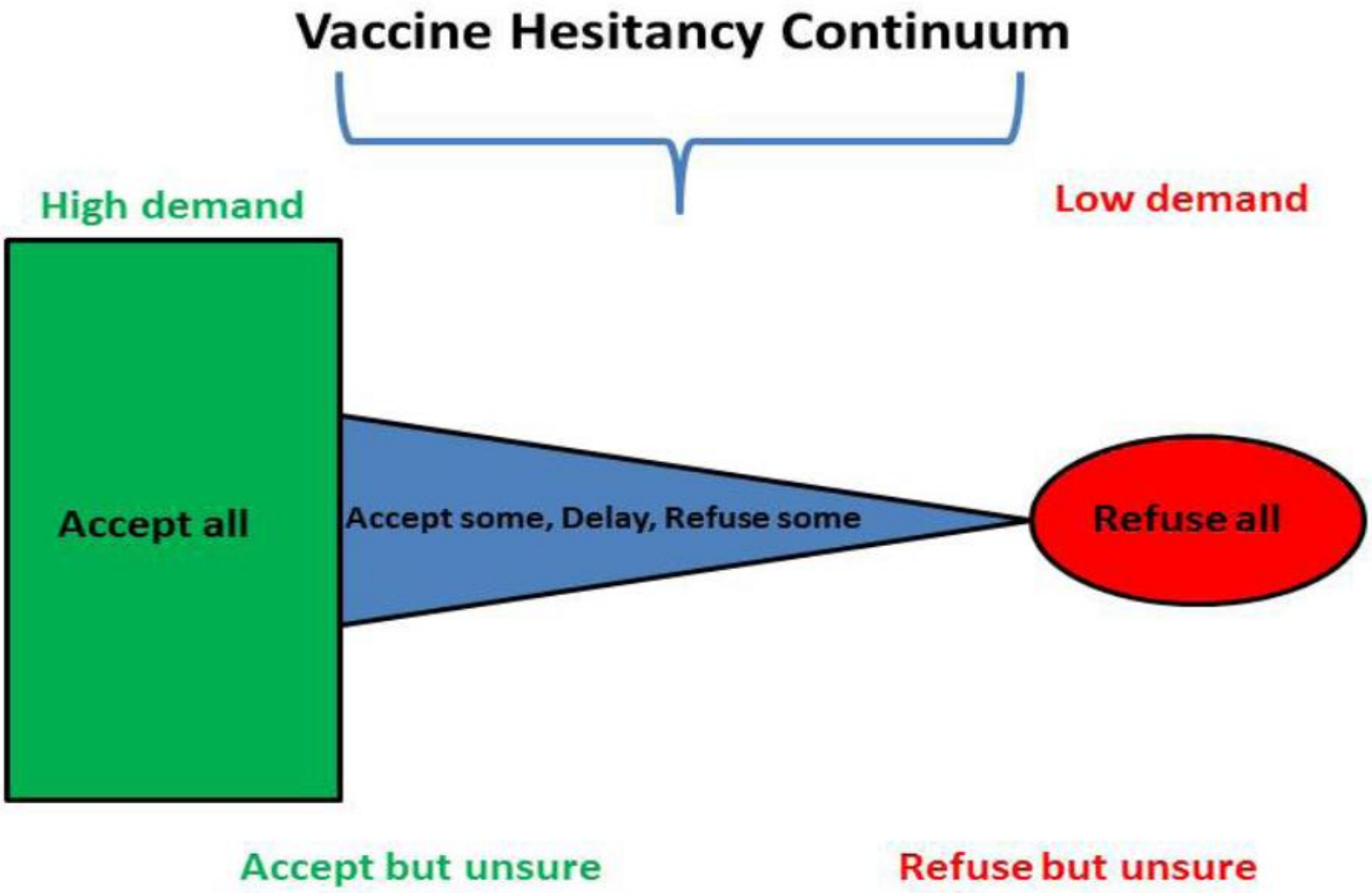
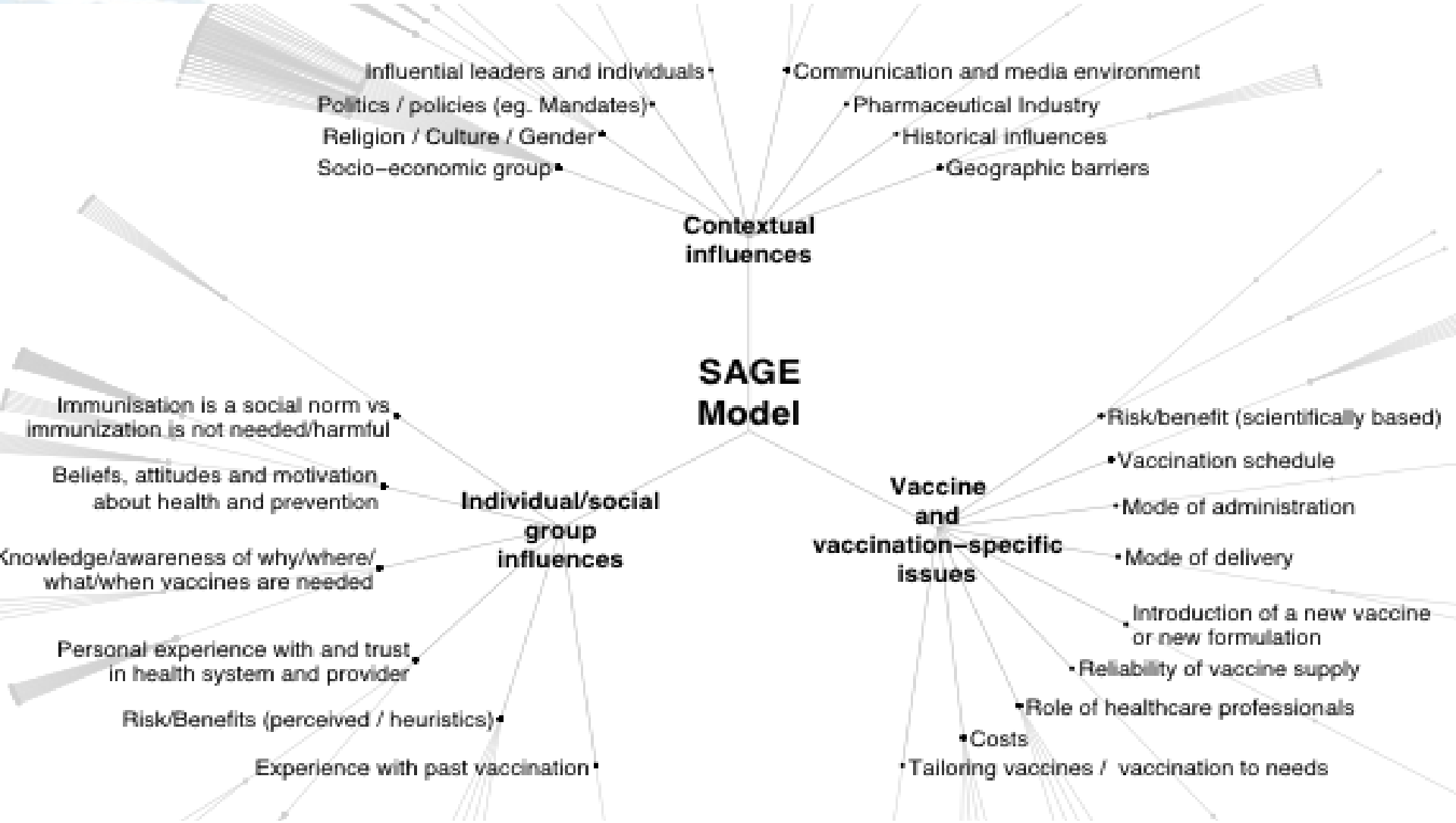
The continuum of vaccine hesitancy



Report of the SAGE Working group on Vaccine Hesitancy. 2014.

The SAGE Model:

Determinants of Vaccine Hesitancy



Larson et al. (2014) Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007-2012. Vaccine.

Systematic review on vaccine hesitancy in childhood vaccination: Findings

- **Research has doubled in the last five years**
- **Majority of articles conducted in AMERICAS and EURO regions**
  - not where majority of children live
  - does not necessarily mean more vaccine hesitancy
- **Determinants of vaccine hesitancy are complex and context-specific – varying across time, place and vaccines**
- **Few studies examine the inter-relationship of factors which contribute to vaccine hesitancy**

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Larson et al. (2014) Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007-2012. Vaccine.

N=262	Promoters to vaccination	Barriers to vaccination
Income	**Low** (NGA)	**Low** (USA, NGA) **High** (BFA, USA)
Education	**Lower** (USA) **Higher** (GRC, NGA, NLD, PAK)	**Lower** (CHN, DRC, IND, KGZ, NGA, USA) **Higher** (BGD, DRC, ISR, LBN, USA)
Cost (financial, time)		**Longer distances to vaccination clinic** (GRC, IND, NGA, PAK) **Extra time, administrative & financial burden for HCWs** (USA)
Encouragement, or belief that imm. is social norm	(CAN, DRC, GBR, NGA, NLD, TWA, USA)	
Beliefs, attitudes & motivation around health	**Belief in scientific medicine** (DEU) **Seeing value in vaccination** (CAN, CHE, GBR, ITA, NLD)	**Health knowledge influenced by myths or rumours** (NGA) **Anthroposophist beliefs and alternative medicine** (NLD)
Knowledge / awareness	**Awareness of VPD** (NGA) **Perception that VPD dangerous** (CAN, NLD, USA, TWA) **Confidence in knowledge for HCWs** (CAN, FRA, NZL, PAK)	**VPD considered less severe** (USA)

Larson et al. (2014) Vaccine.

The broader economic impact of vaccines

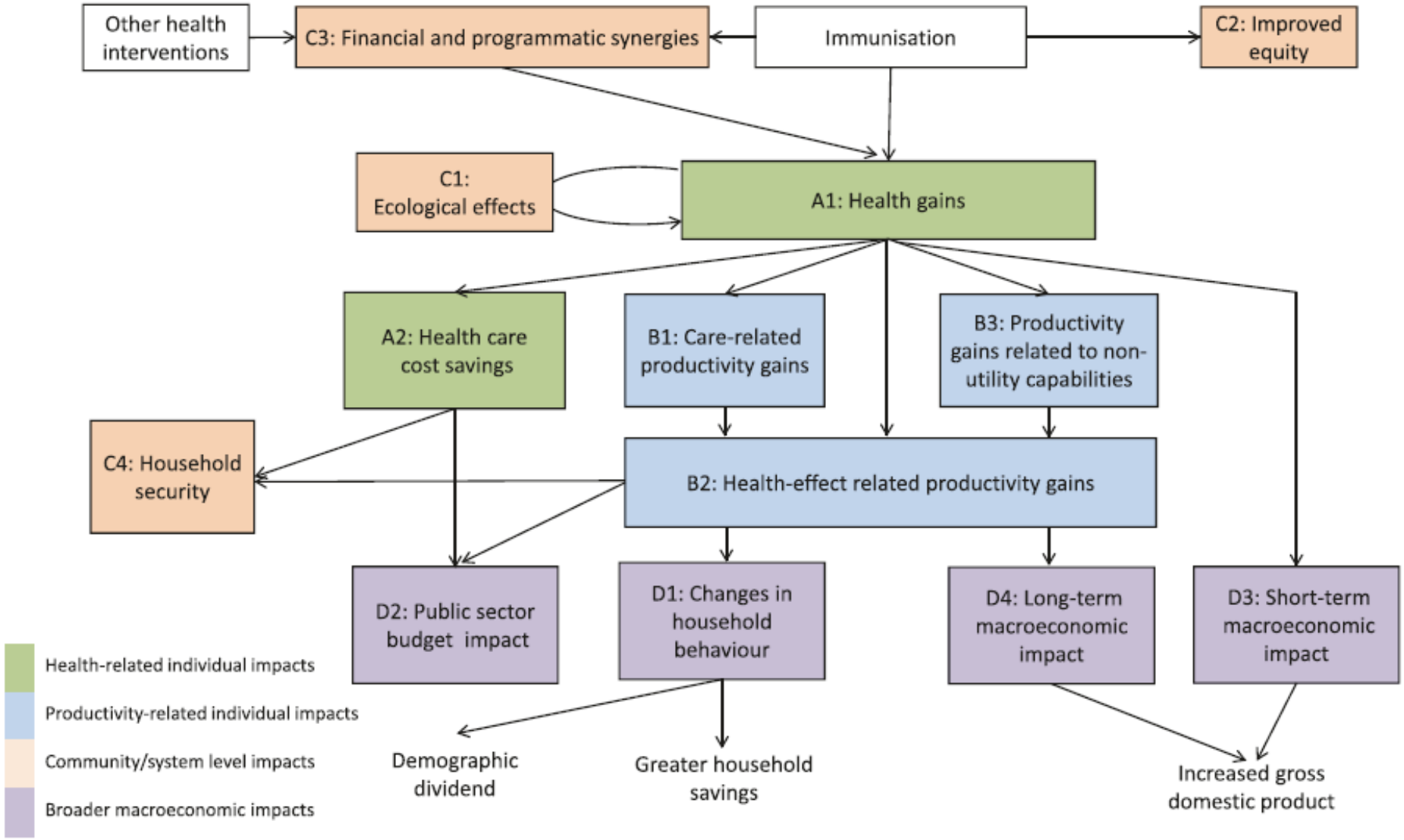

Fig. 1 A conceptual framework for pathways to the broader economic impact of vaccines. Boxes are shaded in colours corresponding to different major categories in Table 1

Jit et al. (2015) The broader economic impact of vaccination: reviewing and appraising the strength of evidence. BMC Medicine.

Study to identify motivators and barriers to vaccination in the Charedi orthodox Jewish community in London

Applied WHO's "Tailoring Immunisation Programmes"

- **Epidemiological analysis of measles**
  - **Four times higher in Charedi community than in the rest of Hackney**
- **Analysis of measles outbreak in 2007**
- **Parent / carer questionnaire**
- **In-depth interviews with parents and key informants**

Charedi community study – Reasons for vaccinating

'The doctors know what they're doing and if it's said to be done then it's to be done.' (P8)

Trust doctors

Protection from disease

To prevent spread of disease

Anticipatory regret

Risk of disease > risk of vaccine

Lack of concerns

20 interviews with parents and key informants

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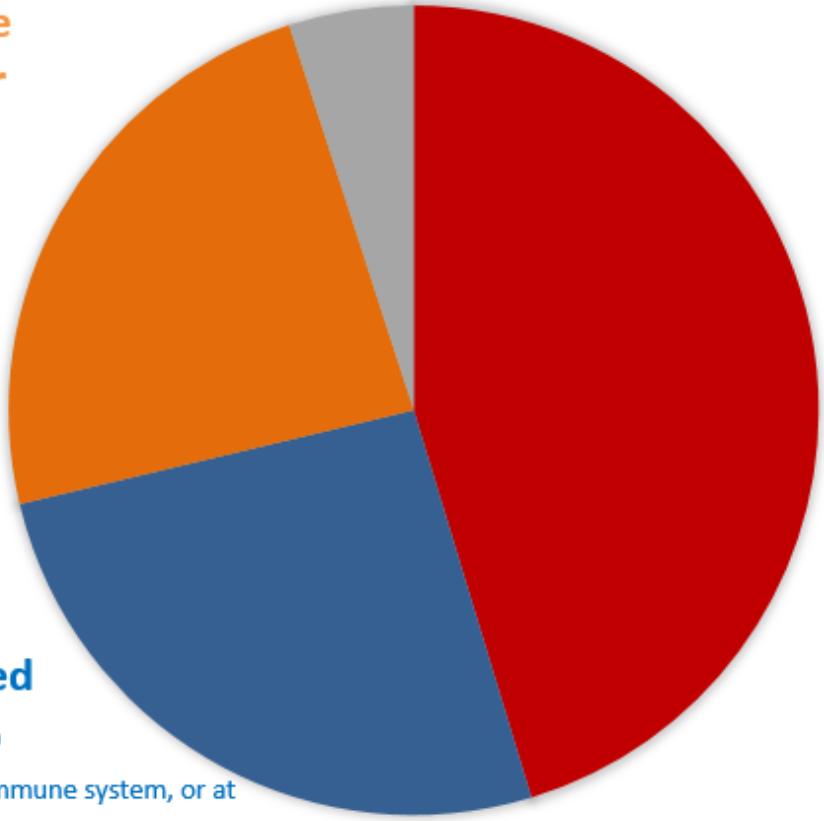
- How does immunisation work?
- Is immunisation safe?
- Will giving my child so many immunisations at the same time overload their immune systems?
- Are the diseases that we immunise against dangerous?
- Isn't it better for my child to get the disease itself, to build up their own immunity, rather than to vaccinate them?
- What are the common side effects of immunisation?
- Why do we have to start immunising our children at such a young age? I would rather wait until they are older.

Qualitative study exploring parental reasons for not accepting flu vaccine for their child in England 2014/15

133 responses, 181 reasons

Blank form or no reason given, 9, 5%

Child vaccinated or wanted the vaccine but had not yet for various reasons, 43, 24%



Concerns, 82, 45%

Porcine gelatine
Effectiveness
Side effects

Lack of perceived need, 47, 26%

Child is healthy, with a strong immune system, or at low risk of catching flu
Better to build immune system with disease
If get flu low risk of complications

NHS National Institute for Health Research

Public Health England

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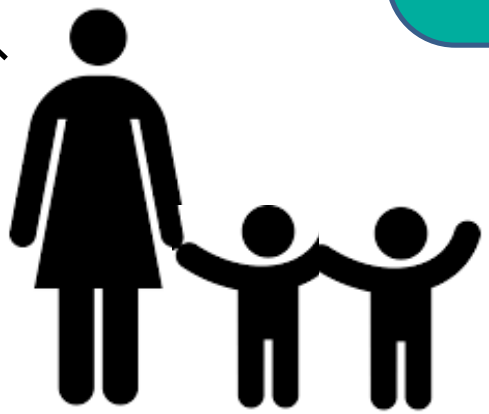
Pauline.paterson@lshtm.ac.uk

Reasons parents may be more likely to accept flu vaccination for their child in the future

More or new information about the vaccine and vaccination programme

An increase in risk of complications from flu or an epidemic

Reassurance from religious leaders



25 parent interviews

'Has the vaccination really made a difference because that will influence my next year's decision on whether anything is worth having.' (P10)

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Public Health England

NHS

Protecting your child against flu

Information for parents

STAY WELL THIS WINTER

Flu immunisation 2016/17

5 reasons

to get your child vaccinated

1. The nasal spray helps protect against flu, has been given to millions of children worldwide and has an excellent safety record

2. The nasal vaccine is painless and easy to have

3. Flu can be really serious, especially for children with medical conditions like heart disease and diabetes

4. If your child gets flu you may have to take time off to look after them

5. Protecting your child can stop flu spreading to other children and the family, especially babies and grandparents, who may be at higher risk from flu

www.nhs.uk/child-flu

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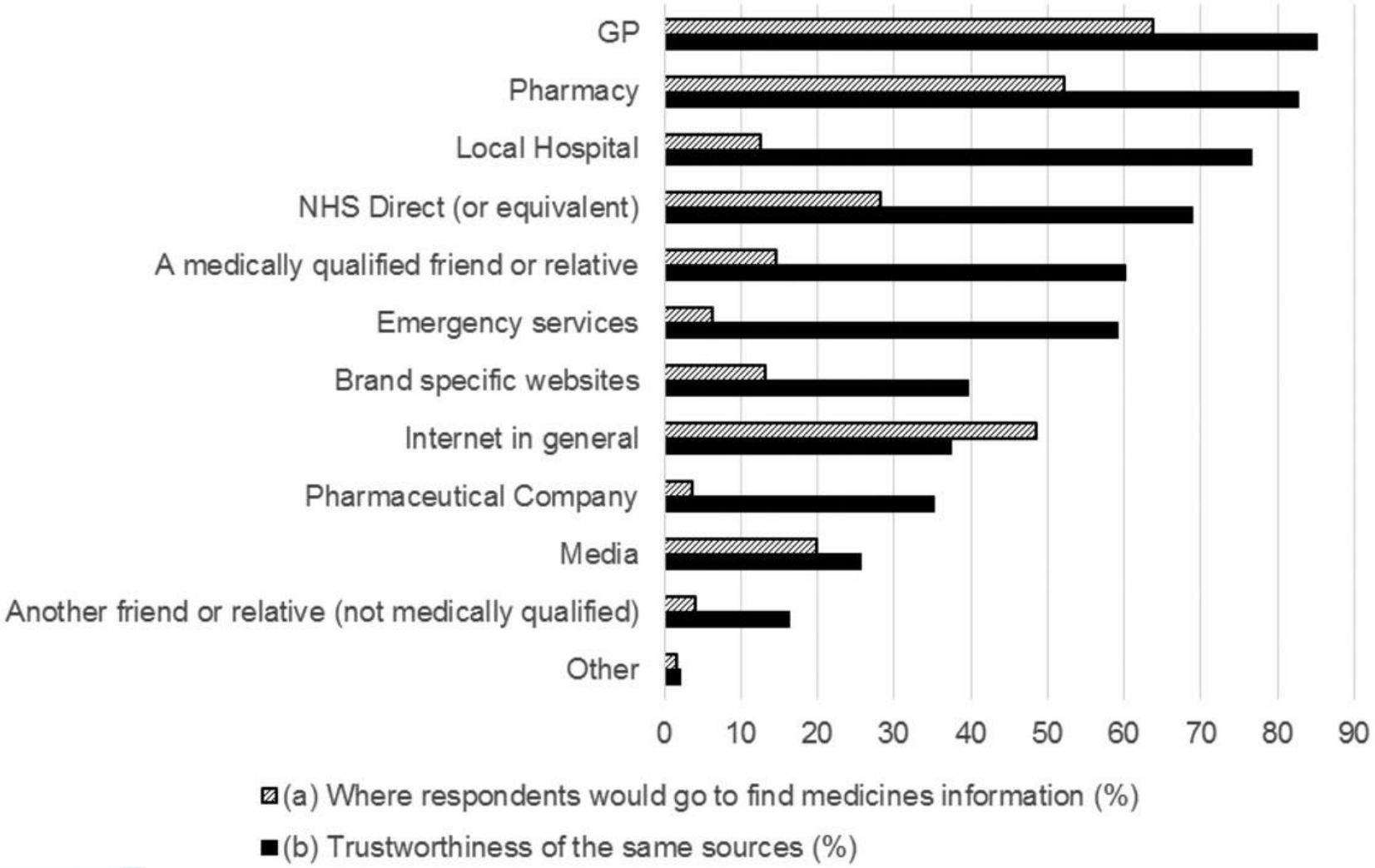
Produced by Williams Lea for Public Health England

Who do people turn to?

5,648 respondents from France, GB, Germany, the Netherlands, Spain



Bouder et al. (2015) Transparency in Europe: A Quantitative Study. *Risk Analysis.*

Review on vaccine hesitancy and healthcare providers (HCPs): Findings

- **HCPs remain the most trusted advisor and influencer of vaccination decisions**
- **The capacity and confidence of HCPs are stretched**
  - Time constraints and increased workload
  - Limited resources and often have inadequate information or training support to address parents' questions.
- **HCPs need more support**

Paterson et al. (2016) Vaccine hesitancy and healthcare providers. Vaccine.

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Review on strategies addressing vaccine hesitancy

- **Few strategies have been evaluated for effectiveness (14% of n=166)**
- **Effective strategies include social mobilization, mass media, communication tool-based training for HCWs, non-financial incentives and reminder/recall-based interventions**
- **Despite variability in effectiveness, strategies that are multi-component and dialogue-based tend to perform better.**

Jarrett et al. (2015) Strategies for addressing vaccine hesitancy – A systematic review. Vaccine.

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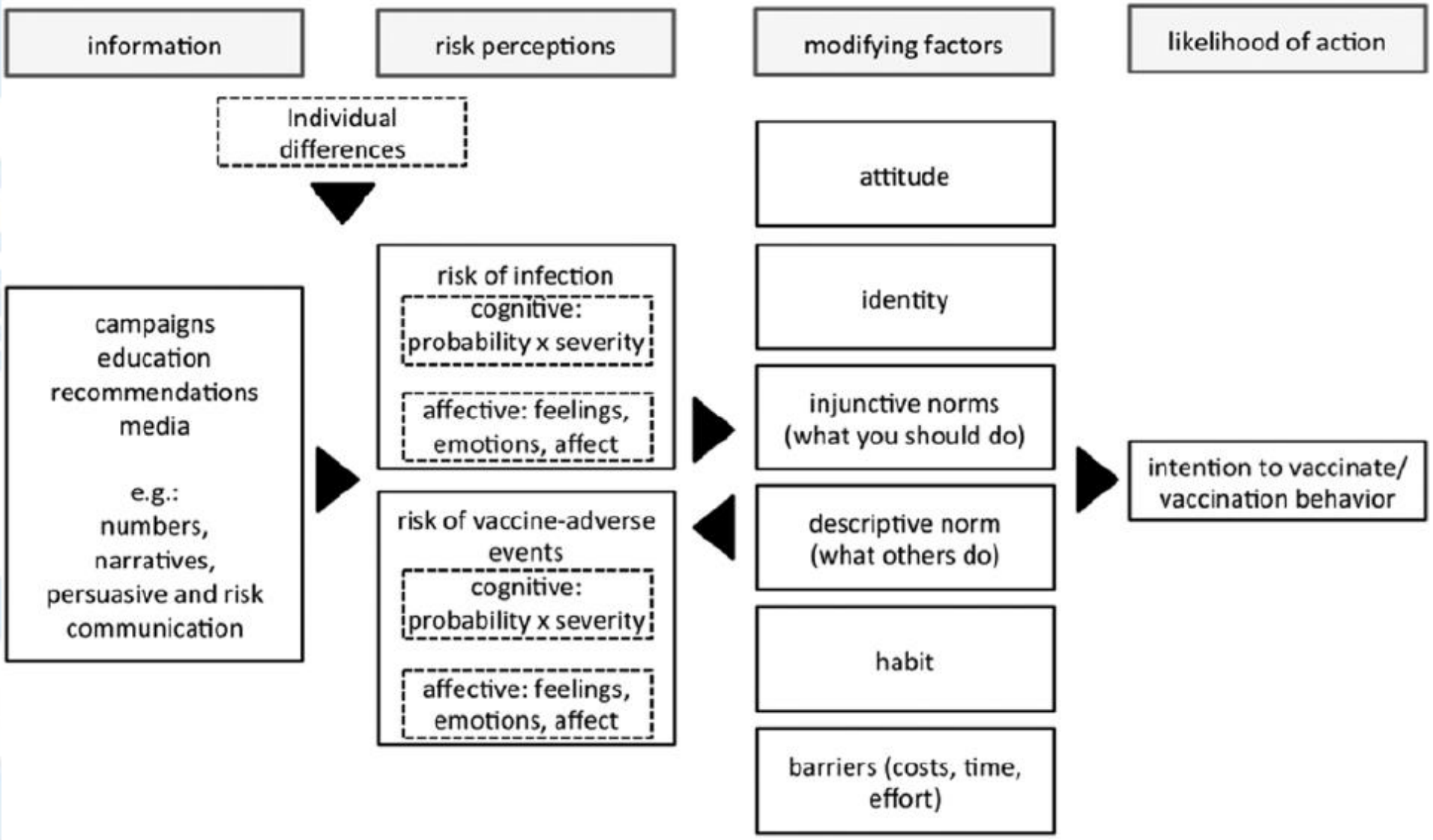
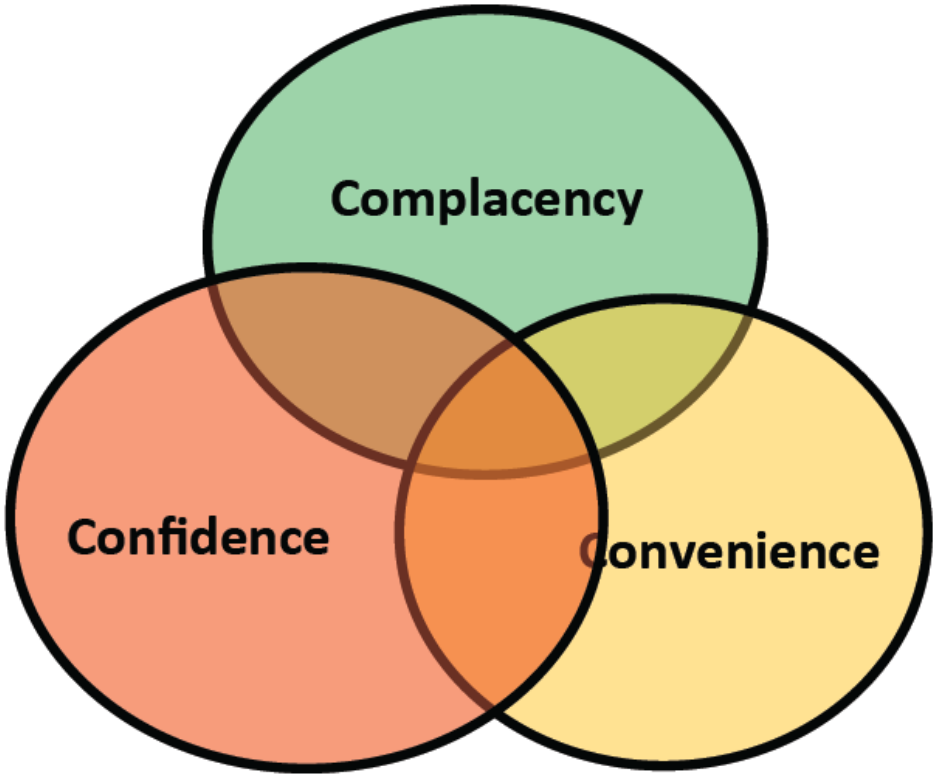
Determinants of vaccine decision making



Betsch et al. (2015) Using Behavioral Insights to Increase Vaccination Policy Effectiveness. Policy Insights from the Behavioral and Brain Science.

Focus on vaccine hesitancy or on reasons for vaccinating?



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Public Health England
NHS England
World Health Organization
REGIONAL OFFICE FOR Europe
NHS
National Institute for Health Research

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