TiGRE
Trust in Governance and Regulation in Europe

TiGRE Webinar Series
"Trust & Regulatory Governance in an Age of Crisis"

Trust & Vaccination

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Overview

- Part I. Vaccination and vaccine hesitancy
- Part II. Trust and the vaccination decision
- Part III. Trust, vaccination and compliance in times of crisis: empirical evidence
- Part IV. Empirical studies on trust and vaccination in light of the coronavirus crisis
- Part V. Conclusion

Part I.
Vaccination and vaccine hesitancy

Vaccination, a public health achievement

- Vaccination is an important success story of modern-day medicine
- Mass vaccination programmes in the 20th century
  - Mitigating or (nearly) eliminating various infectious diseases (e.g. smallpox, poliomyelitis and MMR)
  - Herd immunity
- WHO: “Vaccinations prevent 2-3 million deaths every year”
- Economic and societal benefits

Vaccine hesitancy, a threat to global health

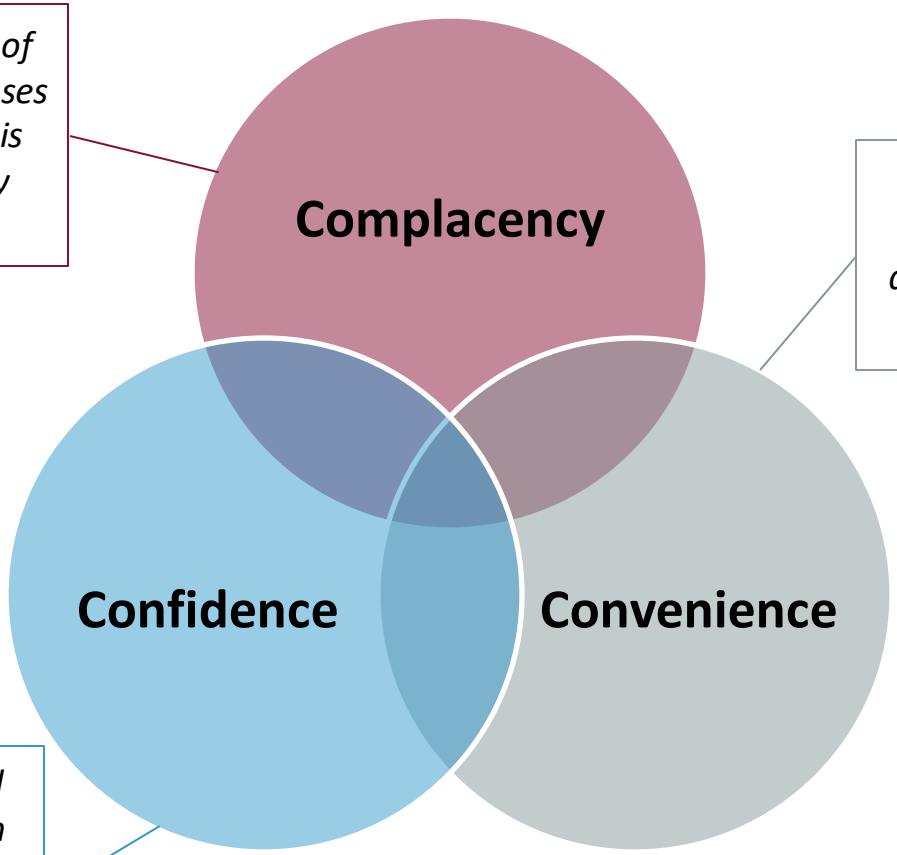
- High uptake levels are crucial to the success of vaccines, i.e. in order to create herd immunity
- Anti-vaccination movement challenges legitimacy, safety and necessity of vaccination
- Vaccine hesitancy

> *"Delay in acceptance or refusal of vaccines despite availability of vaccine services"* – WHO, 2014

  - Vaccine-specific attitude

Understanding vaccine hesitancy: 3C's model – WHO, 2014

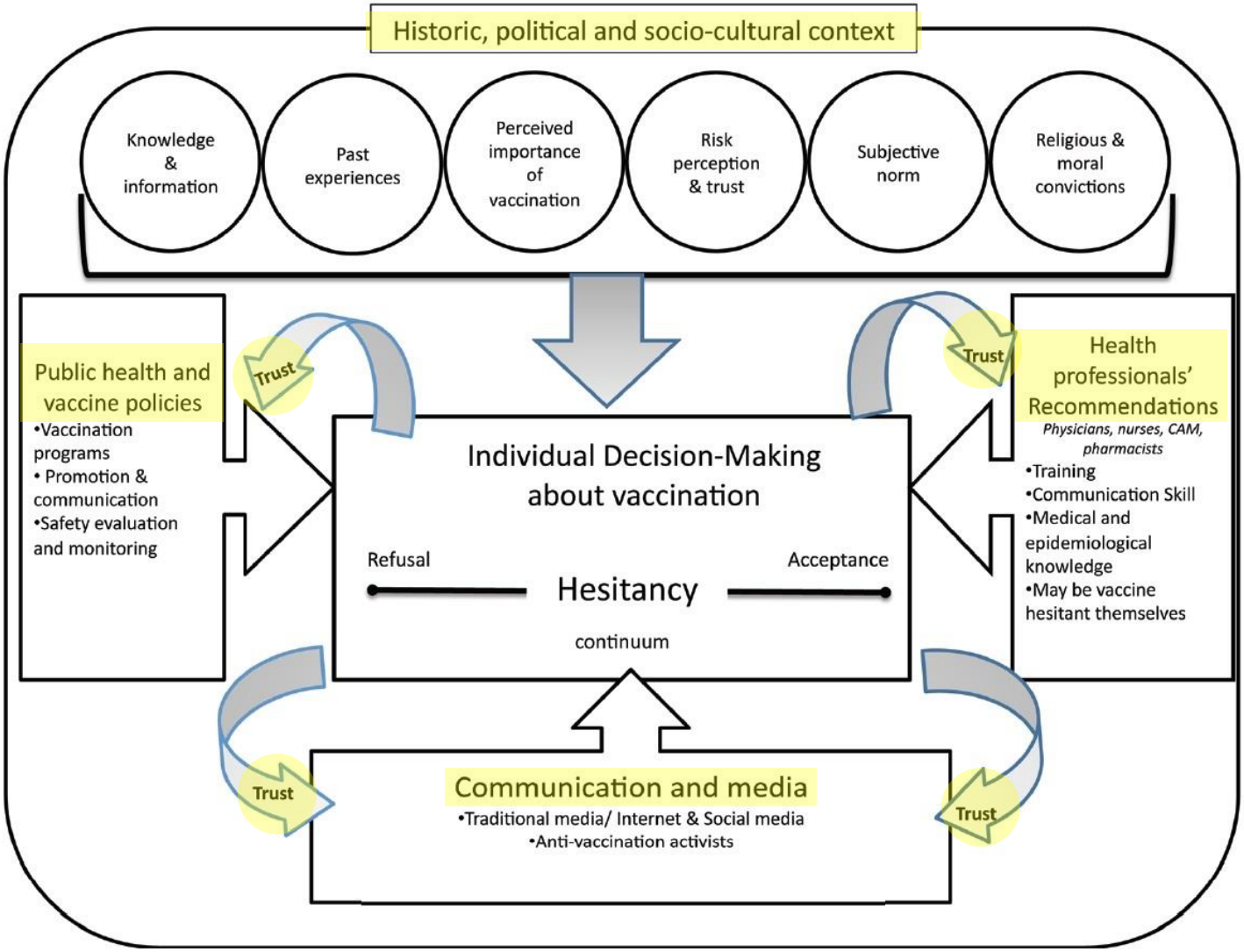
The perception that risks of vaccine-preventable diseases are low and vaccination is not deemed a necessary preventive action.



The extent to which vaccines are available, affordable, accessible and understandable.

***Trust** in the effectiveness and safety of vaccines, the system that delivers them and the motivations of the policy-makers who decide on the needed vaccines.*

Conceptual model of vaccine hesitancy – Dubé et al., 2013



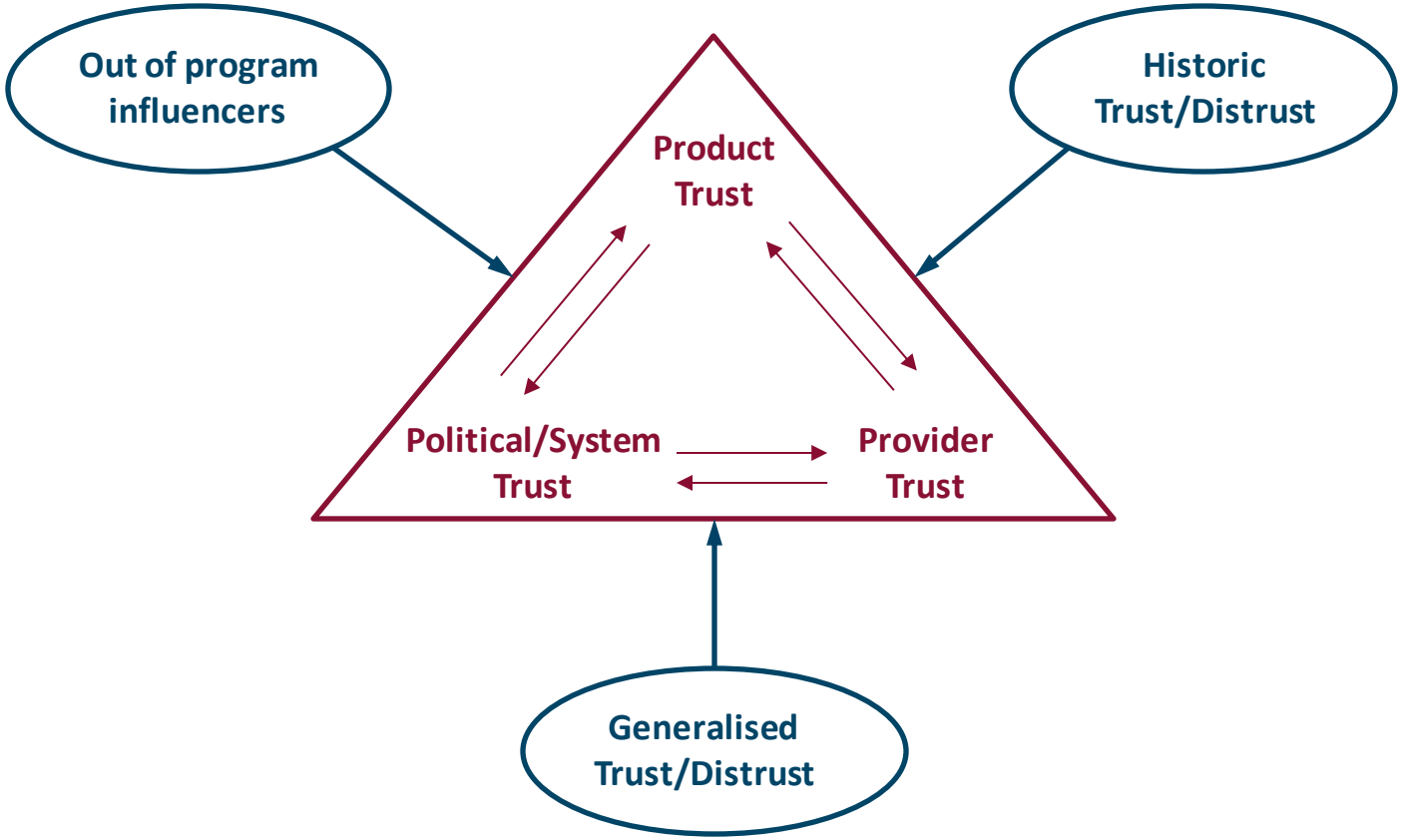
Part II.
Trust and the vaccination decision

Trust as a key factor in today's societies

> *"Trust is a psychological state comprising the intention to accept vulnerability based upon the positive expectations of the intentions or behaviour of another"* – Rousseau et al., 1998

- Trust as a relational concept (trustor X trusts trustee Y to do Z)
- Trust process: 3 steps (Dietz, 2011)
  1) Assessment of trustworthiness (ability, benevolence, integrity)
  2) Actual decision to trust
  3) Trust-informed actions
- Sources of trust
  - Interactions between trustor and trustee
  - Institutions: formal rules, informal routines, social norms
  - Individual predisposition: propensity to trust

Visualisation trust-vaccination relationship – Larson et al., 2018a

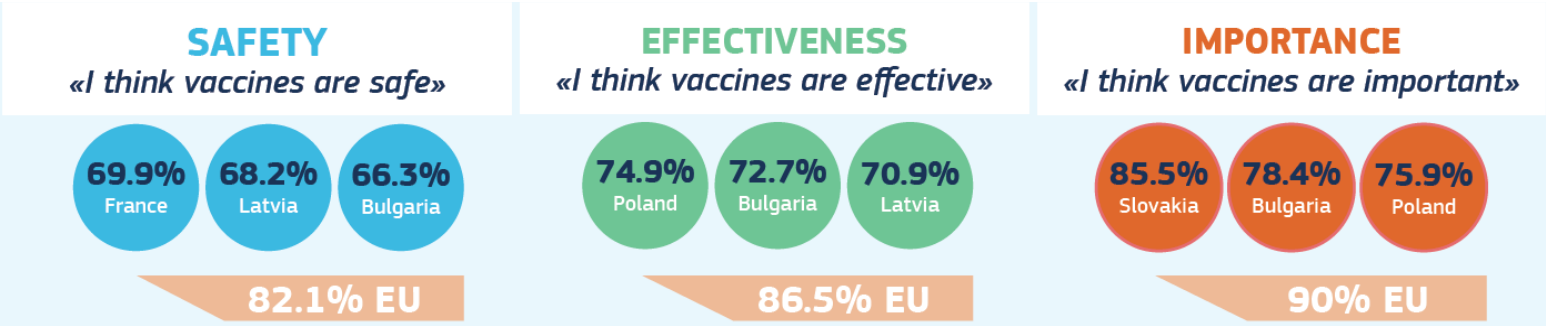


www.vaccineconfidence.org

Trust in the vaccine

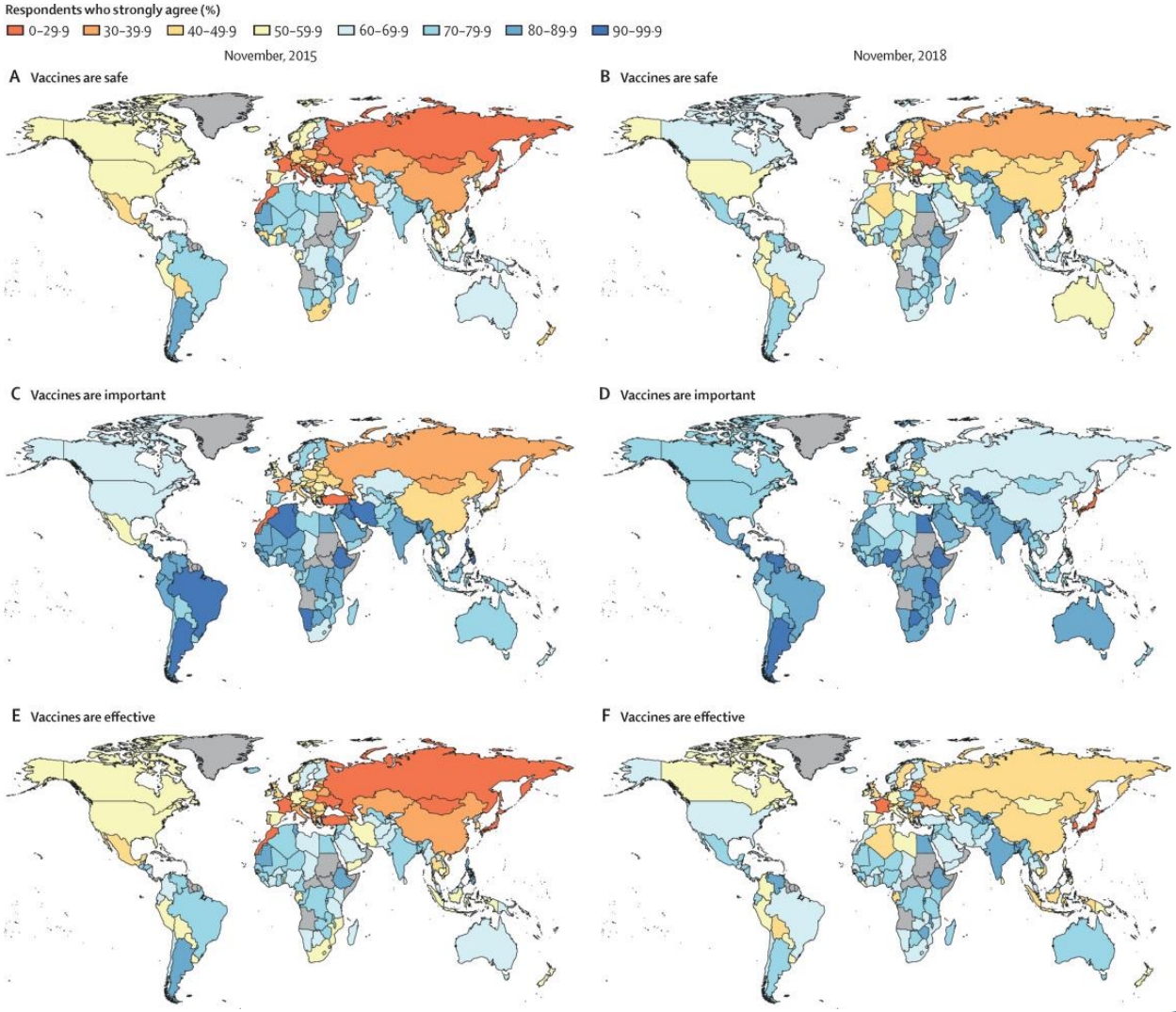
– product trust

- Vaccine safety concerns (Dror et al., 2020)
  - Quality control issues, speed of development (e.g. COVID-19 vaccine)
  - Potential side effects and controversies
- Vaccine effectiveness
- Vaccine importance
- E.g. the EU has among the lowest confidence in the safety and effectiveness of vaccines worldwide (Larson et al., 2018b)



Trust in the vaccine

– *product trust*



Source:
de Figueiredo et al., 2020

Trust in healthcare professionals / scientific experts *– provider trust*

- Healthcare professionals are the most trusted source of information on vaccination (Badur et al., 2020; de Figueiredo et al., 2020; Dubé et al., 2013; van der Weerd et al., 2011)
- Healthcare professionals convey trust through their (Badur et al., 2020; Hilton et al., 2007; Simone et al., 2012)
  - Knowledge on vaccination, impartial advice
  - Attitude (e.g. endorsing vaccination)
  - Clear communication
- Structural crisis of confidence in science (Badur et al., 2020; Bocquier et al., 2018; Jamison et al., 2019; Peretti-Watel et al. 2015; Verger & Dubé, 2020)
  - Balkanisation of scientific knowledge
  - Denialism & discrediting established experts

Trust in governments / policymakers
– political/system trust

- Vaccines are regulated, and sometimes mandated, by government
- Overall positive relation between trust in government and vaccine uptake (e.g. Baumgaertner et al., 2018; Freimuth et al., 2017; Larson et al., 2018a)
  - General (dis)trust in government is extended to (dis)trust in vaccines (Larson, 2018)
  - Trust in information from government sources (Lazarus et al., 2020)
  - Trust in the government's technical and organisation skills (Mesch & Schwirian, 2015)

Evidence for the effect of trust on vaccination (for well-known diseases)

- Overall positive relation between trust and vaccine uptake
  - Literature review by Larson et al., 2018a (35 studies)
    - Trust in the health system, healthcare professionals, the government, science or trusted others (e.g. friends, family, alternative healthcare professionals, non-official internet sources, celebrities), …
  - Measles outbreak in 2014/2015 (Bocquier et al., 2018; Cataldi et al., 2016)
    - Parental trust in information sources shapes vaccine hesitancy
  - HPV
    - Parental trust in healthcare professionals or the government increases odds of receiving vaccination (Fu et al., 2017; Marlow et al., 2007)
    - Information on vaccination increases trust in health system…
      BUT too much information may reduce trust (Scherrer et al., 2016)

Part III.

Trust, compliance and vaccination in times of crisis: empirical evidence

Vaccination as compliance issue and the role of trust in times of crisis

- During a health crisis (epidemic/pandemic), governments forge a crisis management strategy aimed at
  - controlling the spread of (rather unknown) disease
  - monitoring its evolution and infectivity
  - developing a suitable therapy and a vaccine

  → Vaccination as part of a crisis management strategy deployed by government
- The extent to which a major health crisis can be controlled depends strongly on public compliance with crisis measures, incl. vaccination
- Stopping the spread of the virus and allowing societies to return to normal will only be possible if the population is sufficiently immunised, i.e. herd immunity
- However, high pressure to develop and apply a new vaccine as quickly as possible in a context of uncertainty
- In that context: trustworthiness of government and of (scientific) expertise particularly important

Trust and compliance in general

- Positive relationship between trust and compliance
  (e.g. Ayres & Braithwaite 1992; Braithwaite & Makkai 1994; Murphy 2004; Six 2013; Six & Verhoest 2017)

    - Tax regulation (trust in tax authorities – e.g. Alleyne and Harris 2017)
    - Traffic rules (trust in police effectiveness – e.g. Bradford et al 2015)
    - Food safety (mutual trust between food business and government agencies – e.g. Bradford-Knox and Neighbour 2017)

Trust, compliance and vaccination in times of crisis: selected studies

van der Weerd et al., 2011

- 2009 H1N1 pandemic in the Netherlands
- Data: 16 cross-sectional telephone surveys (N = 8060)
- Trust in government measure: composed measure integrating (1) trust in government in general, and (2) crisis-related trust in government, information, measures, decisiveness in fighting the crisis.
- Results:
  - Higher levels of trust in government associated with
    - A higher intention to adopt protective measures
    - A higher intention to accept vaccination
  - Other *positive* significant factors: fear, vulnerability, age, education

Trust, compliance and vaccination in times of crisis

Mesch & Schwirian, 2015

- 2009 H1N1 pandemic in the US
- Data: secondary analysis of a large sample survey in Oct 2009 (N = 968)
- Trust in government measure: trust in governments' ability to deal with the H1N1 outbreak (crisis-related trust)
- Results:
  - Higher levels of trust in governments' ability to deal with the H1N1 outbreak increased the willingness to get vaccinated, just like trust in local hospitals and health agencies
  - Political partisanship matters too (Democrats more willing than Republicans)
    - Confirms Baumgaertner et al. 2018 – ideology has direct and indirect effect (through trust)
  - Other *positive* significant factors: risk perception, age, ethnicity

Trust, compliance and vaccination in times of crisis

Vinck et al., 2019

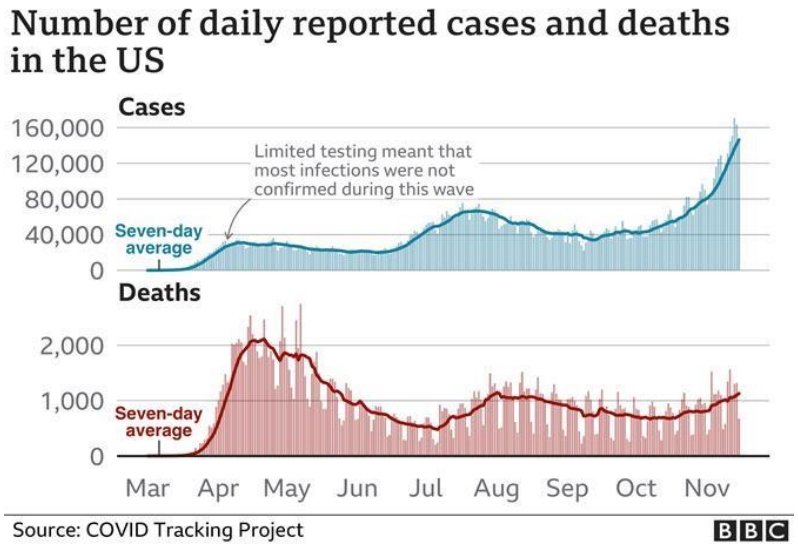
- 2018 Ebola outbreak in Congo
- Data: interview survey (N=961)
- Trust measure: institutional trust
  - General trust in government (trust in local authorities, city authorities, provincial authorities, national authorities)
  - Crisis-related trust (trust in government and health professionals for Ebola response)
- Results:
  - Both general and Ebola-related trust in government and trust in health professionals
    - associated with increased likelihood of adopting preventive behaviours
    - associated with increased likelihood of accepting Ebola vaccines
  - Other significant factors: risk perception (+), belief in misinformation (-)

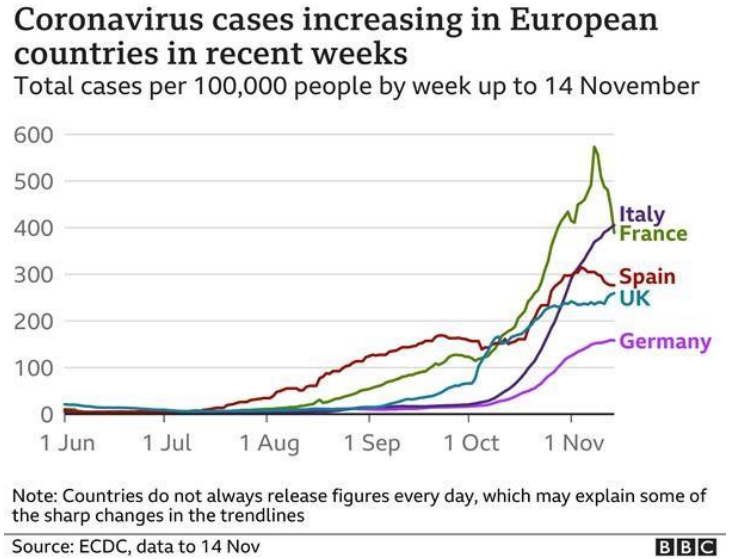
What can we learn from these and other studies?

- Trust is an important determinant of the public's acceptance of the government's health crisis strategy, including vaccination
- What kind of trust?
  - Trust in government (and health care professionals/experts) in general
  - Crisis-related trust in government to control the spread of the virus/to handle the crisis in a good way
  - Trust in information sources
    - Government, hospitals, medical experts, NGOs, media…
    - The effect of trust in public information sources (from the government) not always positive (Hong & Collins, 2006)
- Role of other factors (in crisis): risk perception and vulnerability, political partisanship, age, education

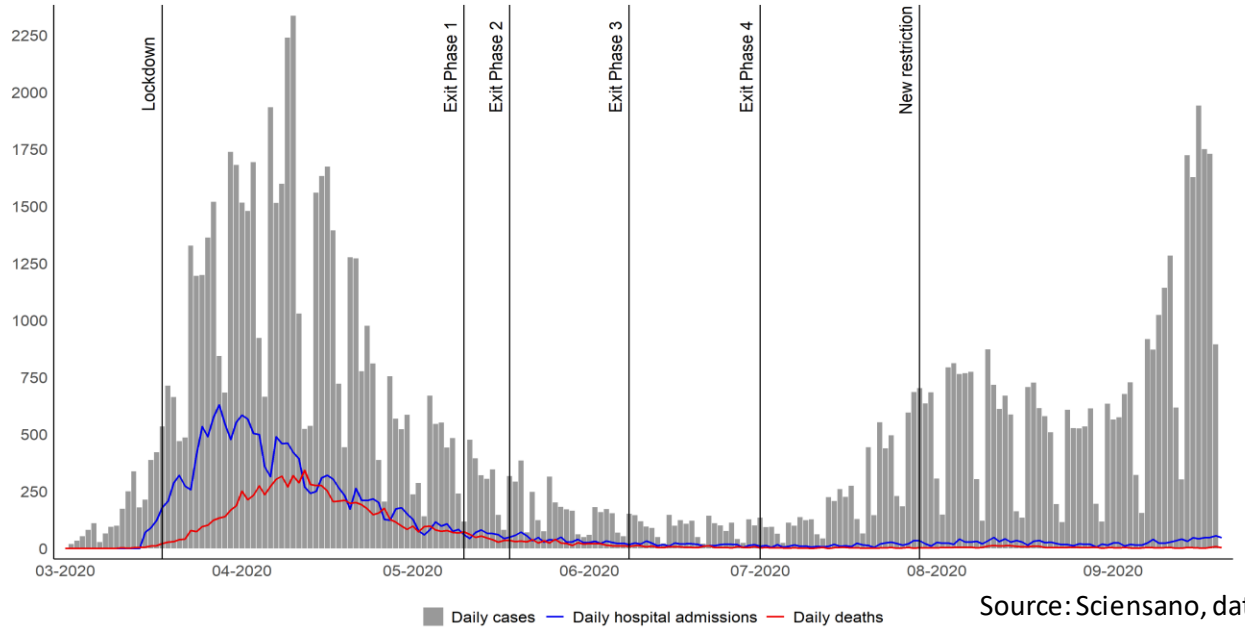
Part IV.
Trust, compliance and vaccination: evidence from the coronavirus crisis

The 2020 coronavirus crisis





Coronavirus daily cases, hospitalisations and deaths in Belgium with restrictions and exit strategy dates



Source: Sciensano, data to 30 Sept 2020

Trust and compliance during the coronacrisis

- Trust as important factor promoting compliance with COVID-19 measures: some examples (see Devine et al. 2020)

  - US: trust in the governor who announced local lockdowns (Grossman et al., 2020)
  - France: trust in the country's president (Brouard et al., 2020)

  - Denmark: Higher institutional trust, higher compliance (Jørgensen et al., 2020)
  - Italy: High-trusting regions decreased their mobility to non-essential travel significantly more than low-trusting regions. Based on EES survey (Bargain & Ulugbek, 2020)

  - Role of science/experts: trust in science predicts compliance with COVID-19 prevention guidelines (Plohl & Musil, 2020)
  - …

Trust and vaccination during the coronacrisis

- COVID-19 vaccination as crucial part of the crisis management strategy
- Vaccines still under development

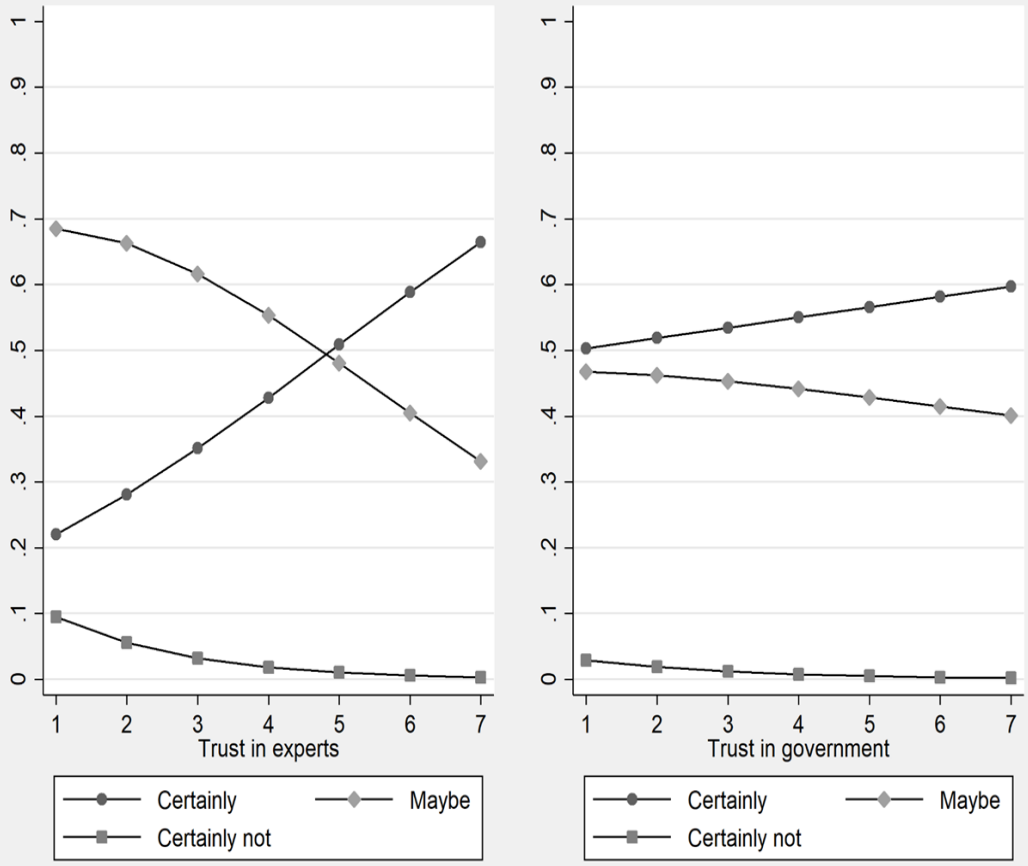
- Studies highlight COVID-19 vaccine hesitancy
  - E.g. a multi-country European study (Neumann-Böhme et al., 2020)
    - 7.2% of respondents not wanting to get a COVID-19 vaccine and 18.9% being unsure
  - Differences between groups (Dror et al., 2020; Graffigna et al., 2020)
- The role of trust?
  - Not yet much written on the effect of trust on vaccination intention
  - Exceptions, like Lazarus et al. (2020) in a study of 19 countries find that trust in government information has a positive effect

Trust and the intention to get vaccinated against COVID19 in Belgium

Wynen, Op de Beeck, Verhoest, Glavina, Six, Van Damme, Pepermans & Hendrickx (paper close to submission)

- Corona Survey University of Antwerp (www.coronastudie.be)
  - Impact of the coronavirus crisis in Flanders (Belgium)
  - Wave: 25th of August 2020
  - Sample size: 21,604 observations (self-selection, sample limited to Flanders)

Trust and the intent to get a COVID-19 vaccine in Belgium



- Trust matters
- Trust in experts has larger effects compared to trust in government
- Extremely small effects on vaccine refusal
  - → Other factors at play in case of vaccine refusal (e.g. religion)
- Effect of trust on vaccination intention is not different...
  - … For young versus old people, with low versus high education, or with low versus high risk perception
- Positive effect of risk severity, vulnerability and prosocialness

Part V.
Conclusion

Key takeaways

- Trust, in its many forms (product, provider, political/system), is key in understanding vaccination hesitancy…
- …but trust is definitely not the only factor
- Vaccination as a question of compliance with crisis management strategy
  - Trust in government in general and trust in government to handle the crisis
  - Trust in experts and health care professionals
  - Role of (trusted) information
  - Other relevant variables:
    - Risk perception,
    - Political partisanship,
    - Prosocial values, besides generalized trust
    - Age, education, religion…
- Interdisciplinary approach to vaccine hesitancy studies
  - Health sciences, political & policy sciences, regulatory governance, communication science, psychology/behavioural sciences, etc.
  - Future research could delve deeper in the multi-actorness of government, communication patterns, and different relations

Overcoming vaccine hesitancy

- Multicomponent and dialogue-based interventions are most successful
  (Jarrett et al., 2015; Lazarus et al., 2020; Wilson et al. 2019)
  - Training for healthcare professionals
    - Knowledge on vaccination + relational, participatory approach to the vaccination conversation
  - Increase vaccination knowledge and awareness
    - Traditional and social media
    - Changing healthcare institution rhetoric (e.g. 'herd' vs. 'community' immunity)
    - More in-depth, personalised vaccination discussions (in addition to traditional leaflets)
  - Directly targeting unvaccinated or under-vaccinated populations and address their concerns
  - Improve convenience and access to vaccination
  - Incentivise vaccination
  - Engage religious or other influential leaders to promote vaccination
  - Involve community and family members
- Trust-building strategies by government and experts

Q&A

GOVTRUST Centre of Excellence

Trust and distrust in multi-level governance

- Studies the dynamics, causes and effects of trust and distrust between actors in multi-level systems, with a special focus on regulatory governance
- Integrating expertise from 5 disciplines at University of Antwerp
  - Political science, communication science, law, behavioral economics and public administration
- Visit our website: www.uantwerpen.be/govtrust

Contact

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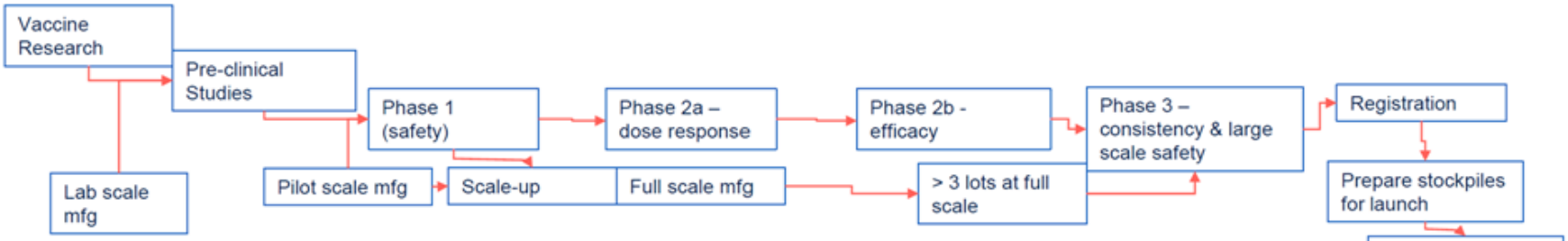
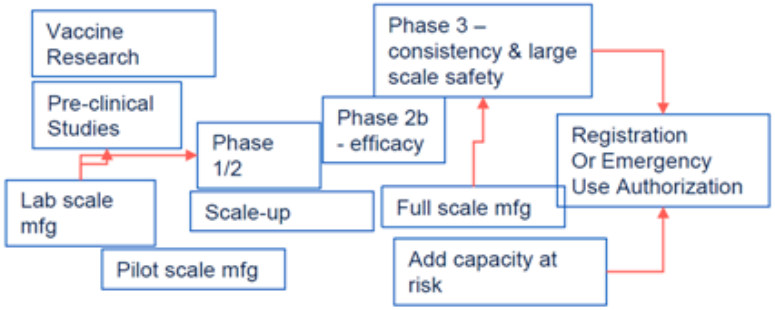
Background slide

COVID-19 Manufacturing in Fast Forward

Typical Vaccine Development Process & Timing (4-7 years on average)



COVID-19 Vaccine Development (12-18 months)



We are funding up to 12 programs but expect only 2-3 to reach licensure

No time for new facilities, must find existing capacity

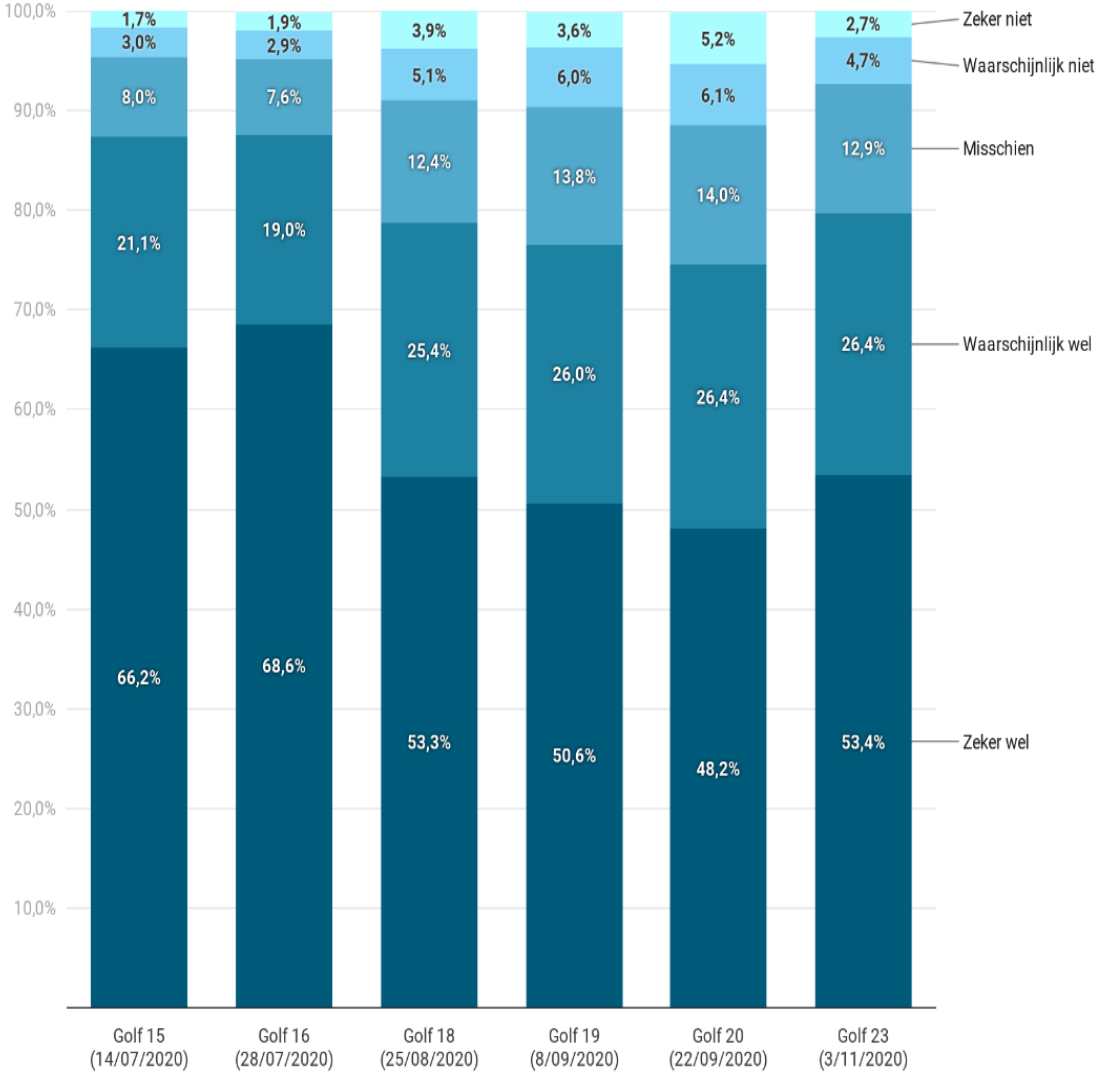
The risks we take are financial, not human safety, risk.
All regulations are followed to protect human subjects

16

Source:
Presentation Dr Melanie Saville (CEPI) during General assembly Joint Action on Vaccinaton Sept2020

De Grote Corona studie 2020: Stel dat er een veilig en werkzaam vaccin tegen COVID-19 komt. ... Zou je je dan laten vaccineren?

Evolutie vragen vaccin golf 15, 16, 18-20 en 23



(Vraag: stel dat er een veilig en werkzaam vaccin tegen COVID-19 komt. Stel dat het vaccin wordt aanbevolen voor jouw leeftijdsgroep en jou volledig gratis aangeboden en toegediend wordt in jouw woonplaats. Zou je je dan laten vaccineren?)

Grafiek: UAntwerpen - UHasselt - KU Leuven Corona studie 2020 - golf 15, 16, 18-20 en 23 (gewogen data) • Bron: UAntwerpen • Gecreëerd met Datawrapper