

How a model for evaluating communication strategies could help to unpack and address vaccine hesitancy

Jessica Kaufman

Centre for Health Communication & Participation
La Trobe University | Melbourne, Australia

*Vaccine Acceptance Science, Policy, and Practice in a “Post-Fact” World
Fondation Mérieux Conference, 25-27 September 2017*

Communication interventions for childhood vaccination

- Communication strategies are widely used to address vaccine awareness and acceptance
 - Examples:
 - Provider discussions with parents
 - Motivational interviewing
 - Tailored print or multimedia resources
 - Social media messaging
 - Peer and community-based discussions



Determining the effects of communication is challenging

- **“How do we know what works?** Identifying and prioritising stakeholder-relevant outcomes to measure the effects of communication for childhood vaccination” (doctoral research)



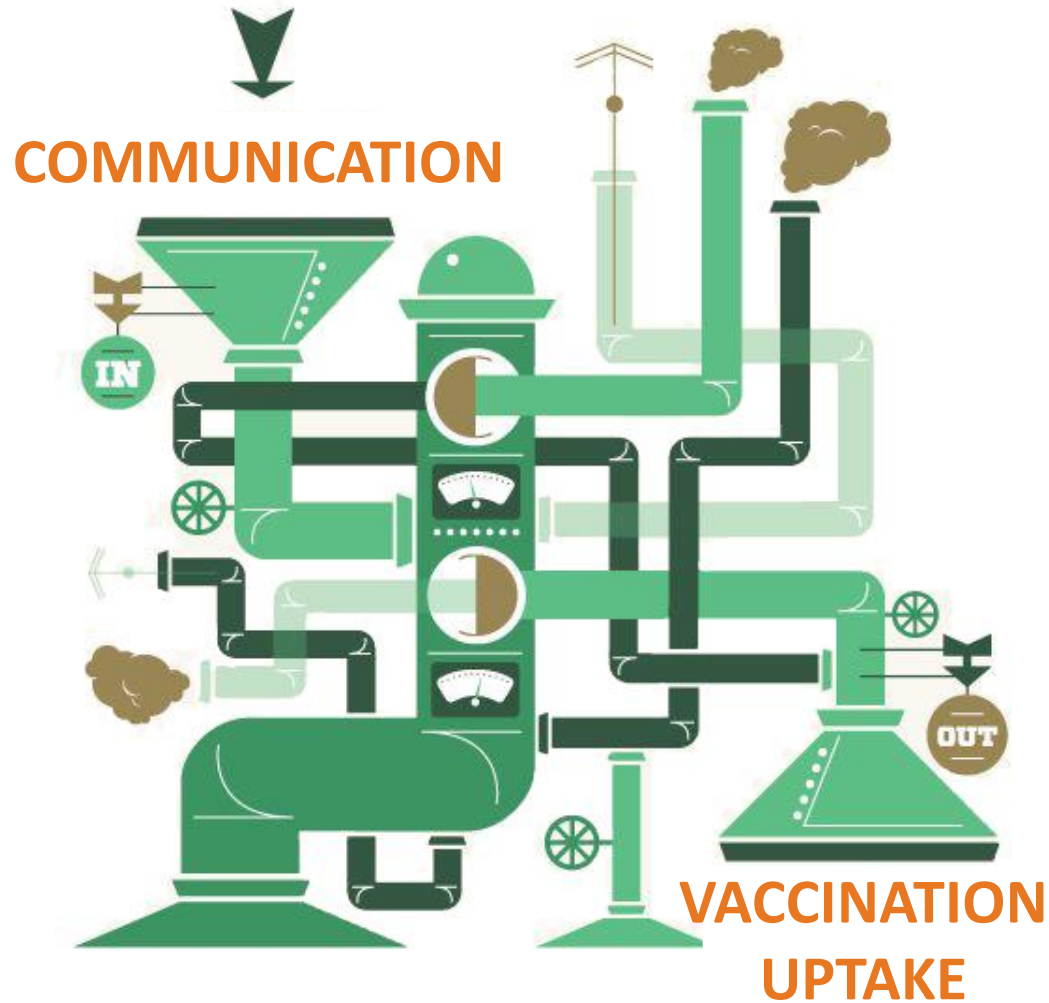
Commonly measured endpoint outcomes

- Though communication is often multi-faceted, most evaluations only measure endpoint outcomes related to **vaccination status or behaviour**

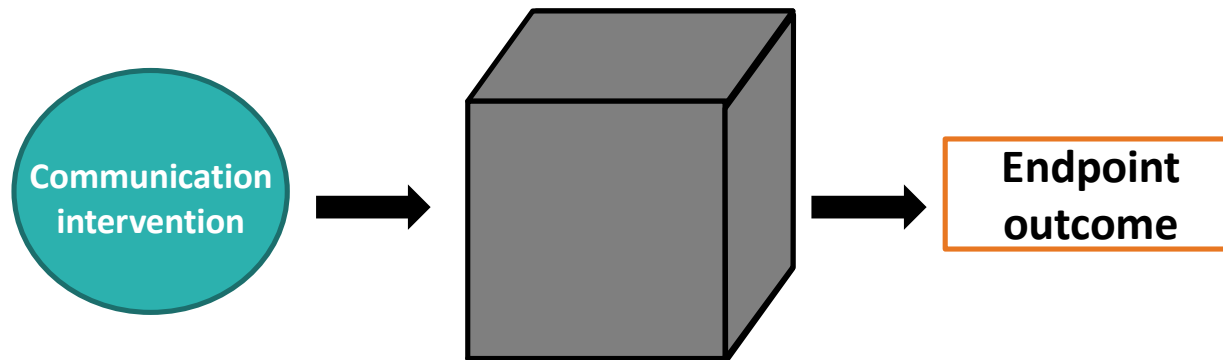
| | |
|-------------------------------|---------------------------------------|
| Vaccination status | Time to vaccination |
| Receipt of vaccine/s | On-time vaccination |
| Appointment attendance | Rate of non-medical exemptions |

Primary outcomes drawn from review of trials evaluating vaccination communication interventions
(Kaufman *J Clin Epi* 2016)

How can we unpack the effects of communication on hesitancy?

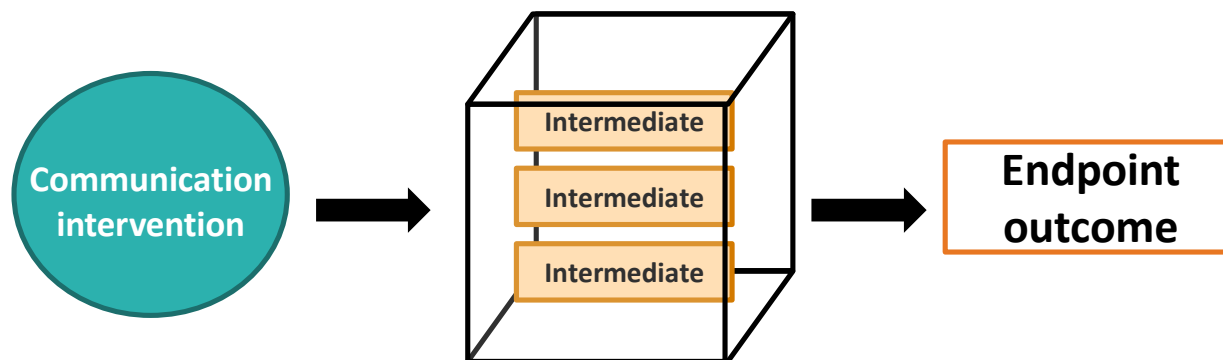


What else is impacted by communication?



What else is impacted by communication?

- 'Intermediate' outcomes can tell us:
 - whether communication is impacting hesitancy
 - when there may be potential external barriers
 - if the communication is being delivered in inconsistent or problematic ways



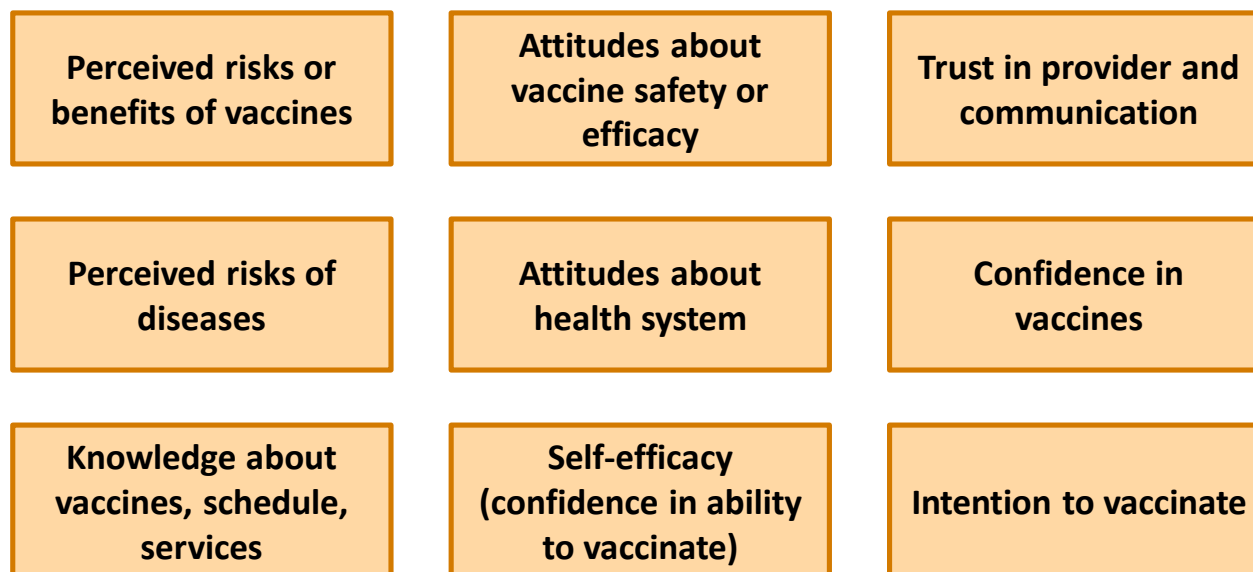
Outcomes associated with hesitancy

- Theories

- e.g. Health Belief Model, Integrated Behavioral Model¹

- Tools

- e.g. Parent Attitudes about Childhood Vaccines survey², Vaccination Confidence Scale³



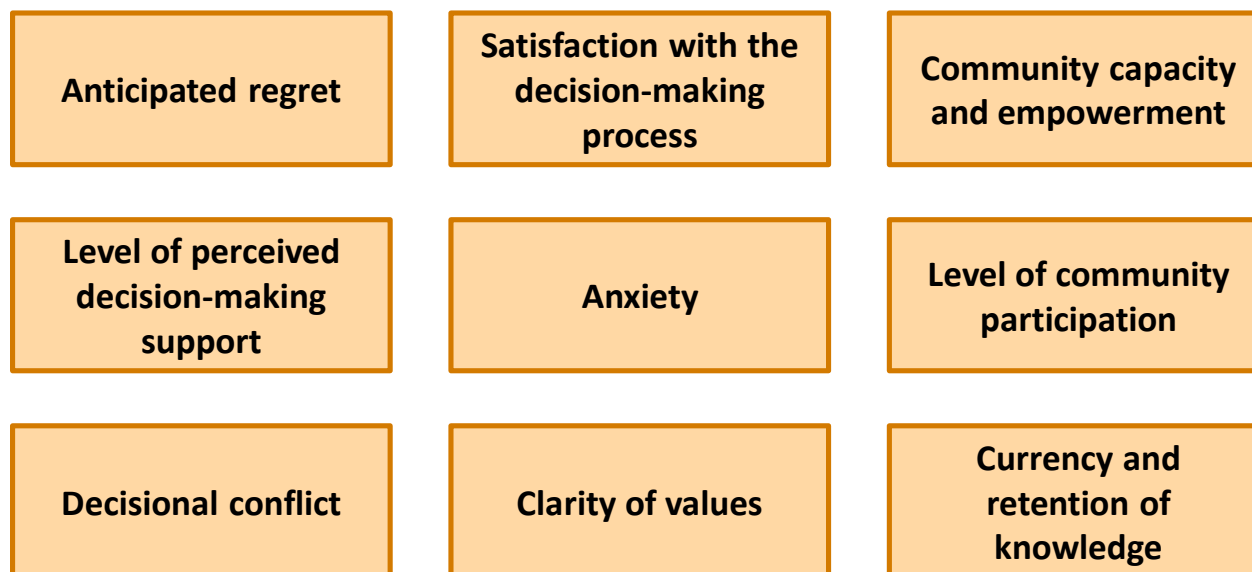
¹ Glanz 2008

² Opel 2011

³ Gilkey 2014

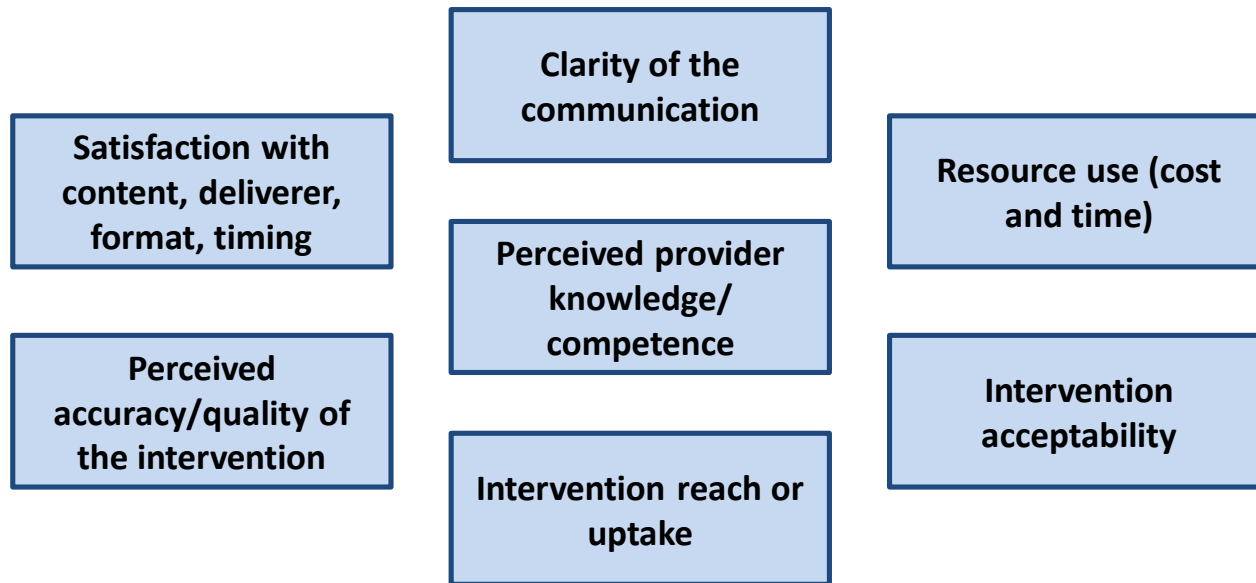
Outcomes associated with health communication

- Decision-making and decision aids
- Consumer health communication
- Community engagement communication



Outcomes associated with communication design and delivery

- Communication effectiveness depends on how it is delivered and perceived



| CORE AREAS | DOMAINS | OUTCOMES | |
|--|--|---|--|
| Psychosocial impact | Knowledge or understanding | <ul style="list-style-type: none"> • Knowledge or understanding <ul style="list-style-type: none"> – related to vaccines, schedule, diseases, risks, accessing services, finding and judging information, child health, vaccination guidelines, or communication | <ul style="list-style-type: none"> • Up-to-date knowledge (currency of knowledge) • Ability to recall information (retention) |
| | Attitudes or beliefs | <ul style="list-style-type: none"> • Attitudes or beliefs <ul style="list-style-type: none"> – related to vaccines, reactions, delivery or pain, safety, diseases, or health system • Intention to vaccinate • Degree of vaccine acceptance • Level of perceived support to access vaccination | <ul style="list-style-type: none"> • Trust <ul style="list-style-type: none"> – in communication deliverer, provider, communication content, health system • Confidence in one’s own ability (self-efficacy) <ul style="list-style-type: none"> – to vaccinate on time, find and understand information, make decisions, or deliver vaccines or information |
| | Decision-making | <p><u>CONSIDERING THE OPTIONS</u></p> <ul style="list-style-type: none"> • Predicted feelings of regret (anticipated regret) • Degree of certainty (decisional conflict) and clarity of values • Factors influencing the decision <ul style="list-style-type: none"> – perceived risks of vaccine or disease, perceived ability to vaccinate, views of others (social norms) | <p><u>MAKING THE CHOICE</u></p> <ul style="list-style-type: none"> • Feelings and features of the decision-making process <ul style="list-style-type: none"> – satisfaction with process, perceived control, perception of shared decision-making, informed consent • Decision-making support <ul style="list-style-type: none"> – perceived support, satisfaction with support • Feelings about the choice <ul style="list-style-type: none"> – value congruence, decision satisfaction, confidence in decision, decision anxiety, regret |
| Health impact | Vaccination status and behaviours | <ul style="list-style-type: none"> • Vaccination uptake/coverage • Timeliness of vaccination | <ul style="list-style-type: none"> • Appointment attendance • Vaccination consent card return rate • Missed opportunities to vaccinate |
| | Health status and well-being | <ul style="list-style-type: none"> • Level of well-being, anxiety or stress <ul style="list-style-type: none"> – related to receiving or delivering communication intervention, vaccination, diseases • Health outcomes (morbidity or mortality) <ul style="list-style-type: none"> – related to vaccination or disease | <ul style="list-style-type: none"> • Rate of reported adverse events <ul style="list-style-type: none"> – related to intervention or vaccination • Complaints and litigation <ul style="list-style-type: none"> – related to intervention |
| Community, social or health systems impact | Intervention design and implementation | <ul style="list-style-type: none"> • Satisfaction with the communication intervention • Views about communication intervention <ul style="list-style-type: none"> – perceived accuracy, quality, effectiveness or influence of intervention on decision • Use or uptake of communication intervention • Patient-centredness of the communication encounter | <ul style="list-style-type: none"> • Assessment of the provider/deliverer <ul style="list-style-type: none"> – confidence in abilities, perceived competence or knowledge, adherence to planned intervention • Acceptability of the intervention <ul style="list-style-type: none"> – cultural appropriateness, acceptability of time required to receive/deliver communication • Accessibility or clarity of the intervention |
| | Community participation | <ul style="list-style-type: none"> • Level of community participation of individuals <ul style="list-style-type: none"> – in vaccination events, intervention design, programme delivery, research, policymaking, coalitions or programmes • Features and perceptions of vaccination coalition or committee members <ul style="list-style-type: none"> – membership numbers or diversity, perceptions of coalition influence, satisfaction or confidence in coalition functioning, perceptions of leadership or of being a member • Vaccination coalition or committee functionality <ul style="list-style-type: none"> – communication between staff/ members/ community, meeting frequency, adherence to goals, community perceptions of functionality | <ul style="list-style-type: none"> • Vaccination coalition or committee influence in the community <ul style="list-style-type: none"> – percentage of community who know their committee members • Capacity and empowerment of community members <ul style="list-style-type: none"> – perceived ability of the community to organise or influence decisions, perceived knowledge facilitated by programme, perceived ability to participate, social inclusion • Functioning of the vaccine programme <ul style="list-style-type: none"> – new programmes, services, and practices facilitated, policy changes influenced, involvement of local leaders • Resources <ul style="list-style-type: none"> – mobilised or required to scale up/down |
| | Resource use | <ul style="list-style-type: none"> • Cost (money, time, other resources) related to intervention or vaccination | <ul style="list-style-type: none"> • Cost-effectiveness of intervention development, delivery, or design |

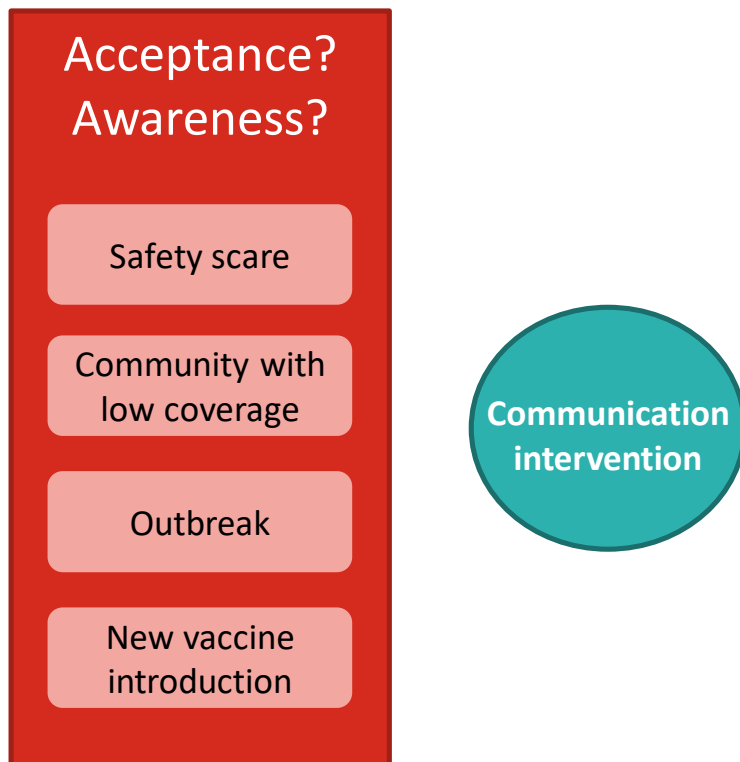
Developing an evaluation model

- Evaluation is necessary to:
 - build on previous developments
 - reduce wasted resources
 - identify how to adapt strategies for different settings

- Not always possible to evaluate comprehensively, but any assessment of impact is better than none

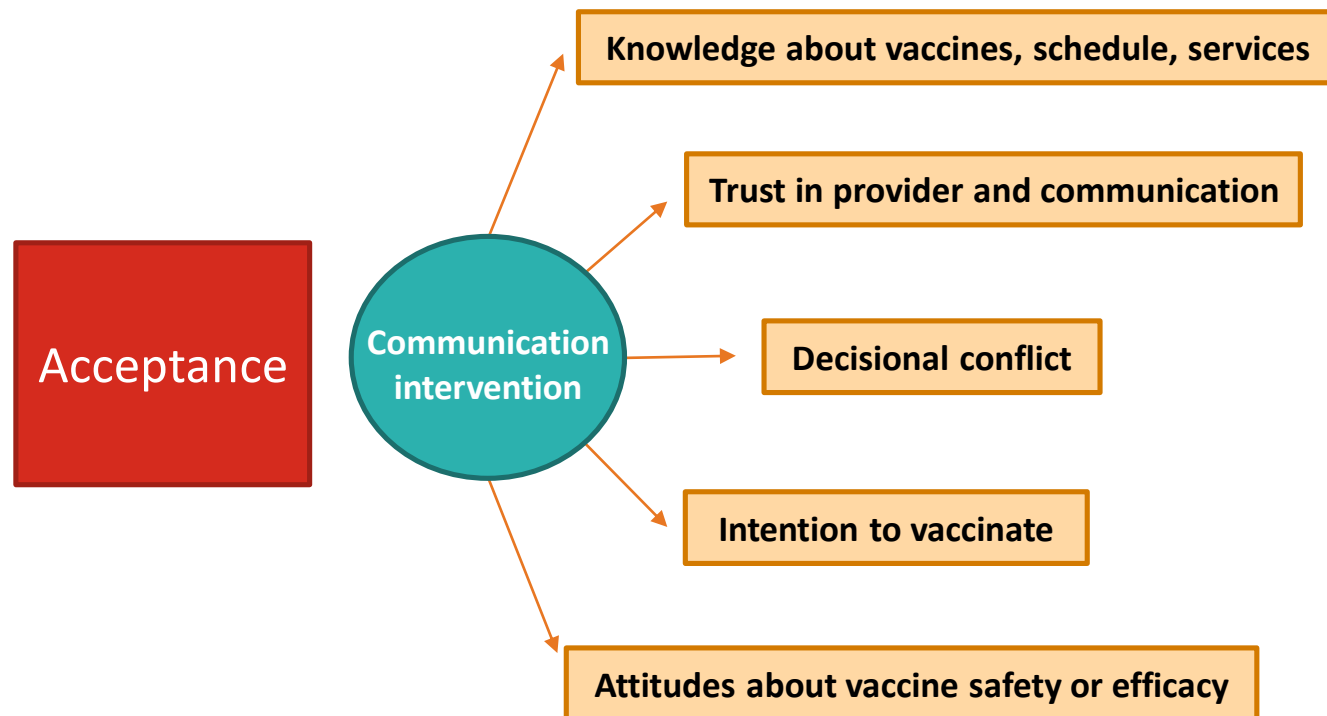
1. What is the purpose of the communication?

- Identify the problem and population to be targeted
- Design the communication to address this problem

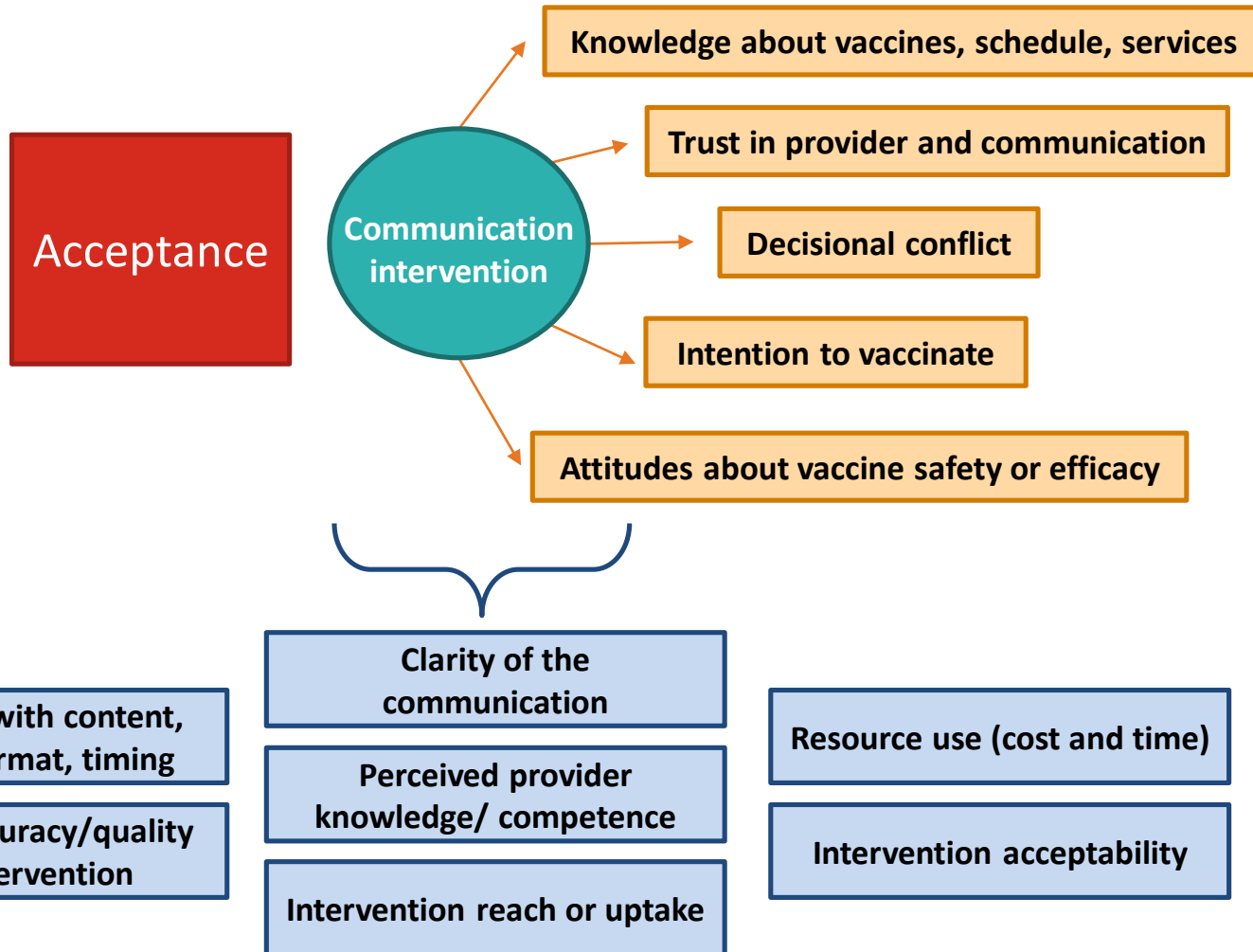


2. Select intermediate outcomes that reflect the communication purpose

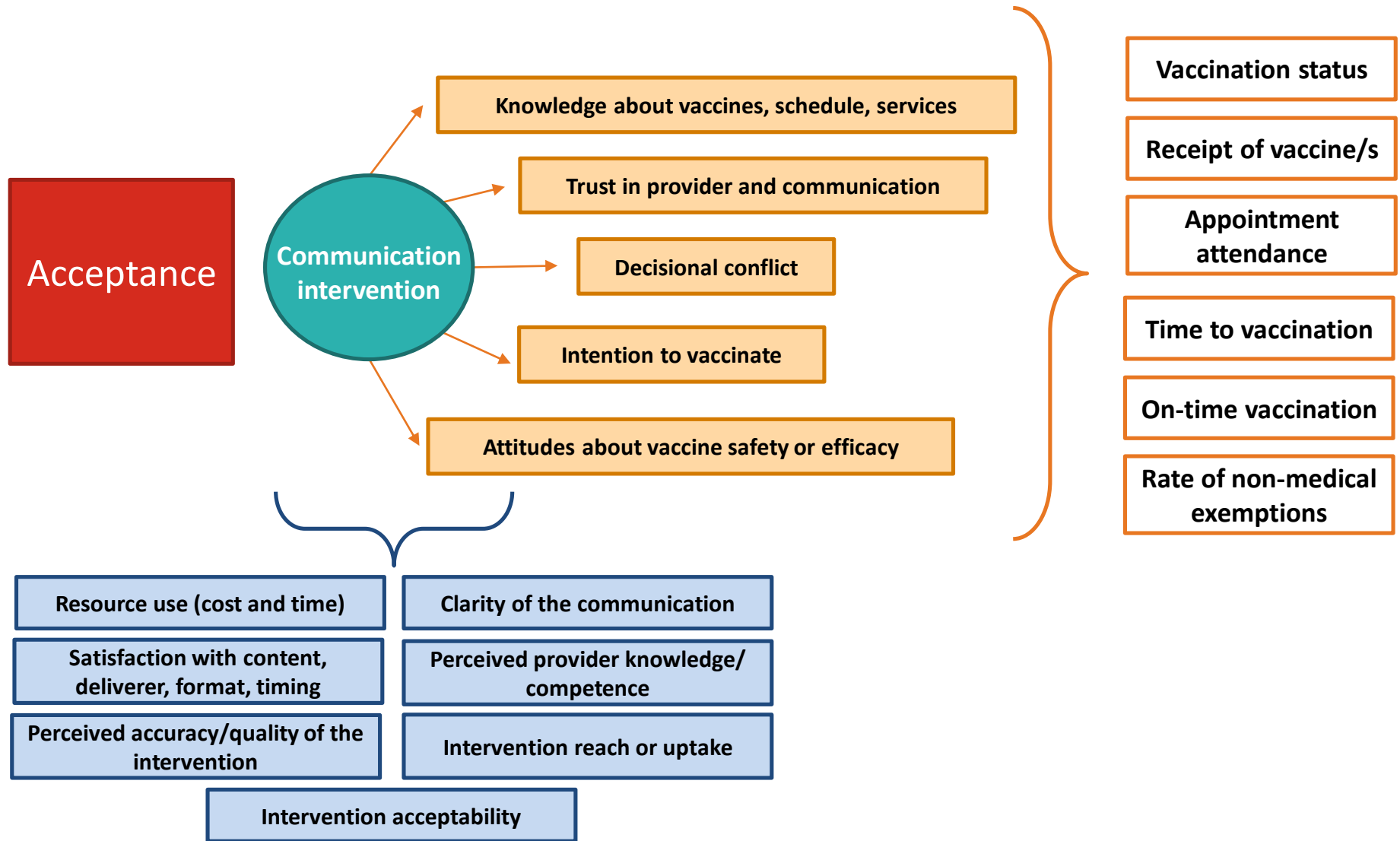
- Not every outcome can be measured
- Which are feasible and can indicate whether the intervention is making a difference?



3. Include outcomes that assess the design and delivery



4. Select pragmatic range of outcomes and report all selected



References

- Gilkey M, et al. The Vaccination Confidence Scale: A Brief Measure of Parents' Vaccination Beliefs. *Vaccine* 2014 October 29, 32:6259.
- Glanz K, et al., editors. Health Behavior and Health Education. 4th ed. San Francisco: John Wiley and Sons, Inc; 2008.
- Kaufman J, et al. Outcomes mapping study for childhood vaccination communication: too few concepts were measured in too many ways. *J Clin Epi* 2016, 72:33. (Review of outcomes measured in trials)
- Kaufman J, et al. Childhood vaccination communication outcomes unpacked and organized in a taxonomy to facilitate core outcome establishment. *J Clin Epi* 2017, 84:173. (Comprehensive taxonomy of potential outcomes)
- Kaufman J, et al. The comprehensive 'Communicate to Vaccinate' taxonomy of communication interventions for childhood vaccination in routine and campaign contexts. *BMC Public Health* 2017, 17:423. (Communication interventions organised by purpose)
- Kaufman J, et al. Identification of preliminary core outcome domains for communication about childhood vaccination: an online Delphi survey. *Vaccine* 2017, doi: 10.1016/j.vaccine.2017.08.027. (Prioritisation of outcomes)
- Opel DJ, et al. Development of a survey to identify vaccine-hesitant parents: The parent attitudes about childhood vaccines survey. *Human Vaccines* 2011, 7:419.