

Challenge Examples

During the diagnostic process, our scope of possible diagnoses will in many ways be limited by ourselves. It's impossible to spot and evaluate the entire universe of potential reasons for what we see and hear in the field. In large part, we rely on our own existing knowledge that attunes us to what we should look for, and on our own explanatory models that we've developed over time. Unfortunately, there's little way around that.

The best we can do is to incrementally expand our knowledge—to widen our scope of possibilities. The more options we have in the back of our minds about what to look for—the underlying reasons behind the problems we spot—the better.

These examples offer some recurring challenges that constrain and impede the ability of users to successfully make use of immunization services.

They are by no means exhaustive. In fact, we hope that many of the challenges you may be familiar with are not here, and that at least some of the challenges listed here are less frequently discussed. Reviewing these challenges might help to prompt new thinking about why the problems we witness in the field persist.

“They tell me that vaccinations will help my entire community, but I don't see others doing it for our community.”

“I didn't have time for it this week, but I will next week.”

“I know that the rumor isn't true, but still, I have heard about that side-effect before.”

“People like me in the community aren't getting their children vaccinated; this service isn't really for me.”

“It seems there's a lot I don't know; maybe I should learn more before making any decisions about vaccinations.”

“Are the people at the health clinic telling me the truth about vaccinations?”

“Why are these vaccines coming from that country? Do they work as well?”

Challenge Examples (continued)

Omission

Action can be scarier than inaction.

People tend to favor harmful omissions over equally or more harmful commissions. In the context of vaccinations, carers can prefer to allow harm rather than do harm—such as allowing a child to get sick, rather than risk getting the child sick through side-effects—even if allowing harm is much riskier and more likely to occur.

In a hypothetical scenario provided by researchers, subjects preferred not to vaccinate a child when risk of death from disease was 10 in 10,000, but risk of death from the vaccine was 5 in 10,000 or less. The discrepancy is explained by the fact that even in the riskier scenario, parents are concerned that they might be directly responsible for harm (commission) more so than letting harm happen (omission).⁵⁰

50 Ritov & Baron (1992), Status-quo and omission biases

“It would be worse if the child died from the vaccine—because that is my fault—than if she died from the disease.”

Hidden Costs

Free isn’t always free.

In addition to non-financial costs (such as travel time), small financial costs can also become large impediments, especially among the poor. Even when vaccinations are ‘free’, users can face fees for ancillary elements of immunization services—such as health cards—or encounter illicit fees.

In Malawi, researchers observed that although “there are no direct user fees, carers usually pay a small amount for a health card that is needed for the recording of vaccinations and other health status information.”⁵¹ In Nigeria, carers were required to show that they’ve paid into an annual development levy fund prior to receiving vaccines. Despite the ‘low’ cost (three US dollars), “[m]ost of the poor cannot afford to do this and so desert public facilities, especially children’s education and health services.”⁵²

51 Holte et al (2012), The decision to vaccinate a child: An economic perspective from southern Malawi

52 Oluwadare (2009), The Social Determinants of Immunization in Ekiti State of Nigeria

“I had to pay a fee before receiving my child’s health card after she received the vaccinations.”

Social Norms

Perceived group rules regulate behavior.

People tend to behave in ways that conform to how they perceive others are or would be behaving in certain situations. Vaccination-related behavior can be affected by the degree to whether such behavior is or is not seen as a ‘norm,’ or a behavioral expectation in a community.

As one study illustrated, “[p]eople have their children vaccinated because everybody does so and it seems the normal thing to do. There are not necessarily deep reflections behind mothers taking their infants to the child health clinic. They do so because everyone else does, and because it is what good mothers seem to do.”⁵³

53 Streefland et al (1999), Patterns of vaccination acceptance

“I doubt that other mothers I know get their children vaccinated this much.”

Challenge Examples (continued)

Inertia

Ambiguity and uncertainty foster inaction.

The perception of missing information, conflicting information, or unknown probabilities can incline people toward inaction. When it is unclear whether the decision to vaccinate is evidently good or not, carers are more likely to opt for inaction—or non-vaccination—as the safer choice.

It's easier to avoid taking an action like getting vaccinated than to search for accurate (or convincing-enough) information. As studies suggest, non-vaccinators in many cases are not 'refusing' as much as they are 'fence-sitting'—what one group of researchers referred to as 'a state of indecision'. This can be caused, for example, "when doctors present different information than friends..."⁵⁴

⁵⁴ Betsch et al (2015), Using Behavioral Insights to Increase Vaccination Policy Effectiveness

"I'm being told different things by different people, so it's better that I just avoid this."

Attention Scarcity

The 'now' matters most.

People tend to devote most attention to present tasks while neglecting tasks with consequences farther into the future, as with immunization. This bias towards the present is further aggravated by poverty, which requires the poor to address pressing present concerns at the cost of dedicating mental resources towards the long-term. This can lead people to 'defer' health-seeking behavior, passing off actions and their associated costs (such as mental energy) to their future selves.

One study involving low-income parents in Baltimore found that for those "with limited time or resources... the importance of decision making about vaccines may be far less pressing than other issues in the family's life... Among parents' concerns, which included drugs, street violence, and negative peer pressure, immunization did not emerge as a high-priority issue."⁵⁵

⁵⁵ Sturm et al (2005), Parental Beliefs and Decision Making About Child and Adolescent Immunization: From Polio to Sexually Transmitted Infections

"I needed to focus on this week's harvest; I can think about vaccines later."

"I didn't have time for it this week, but I will next week."

Service Experiences

The bad outweighs the good.

Negative experiences tend to outweigh neutral or negative ones, proving 'stickier' in people's memory of an event. This bias towards negativity suggests that 'minor' negative incidences during an immunization-related experience can overshadow the positives.

In Ethiopia, small negativities as perceived by carers risked dominating their memories of vaccination-related experiences. Researchers observed that "outreach vaccination teams tend to arrive late, but leave on time, speeding up vaccination practices to the extent that needles are used immediately after sterilization, when they are still hot."⁵⁶ While it may not be surprising that "[a]ttitudes and behavior of health staff... are frequently cited as discouraging children's vaccination"⁵⁷ in many contexts, the disproportionate power of negative incidences adds a challenging element to service experiences.

⁵⁶ Streefland et al (1999), Patterns of vaccination acceptance

⁵⁷ Favin et al (2012), Why children are not vaccinated: a review of the grey literature

"I was rushed, my child cried a lot, and I didn't have any time to ask questions. That's what I remember most."

Challenge Examples (continued)

Practical Knowledge

More effort means less action.

Despite having a positive intention to access immunization, the effort to figure out how can de-incentivize action-taking. Needing to seek out practical information, such when and where to access immunization services, presents a cost (in time, in mental energy) and can therefore impede health-seeking behavior.

In studying barriers to childhood immunization in Mozambique, researchers found that two thirds of mothers at various ‘mobile brigades’ didn’t know when to return for the next vaccination. As the study concluded, this piece of missing information was in part to blame for suboptimal coverage—as opposed to knowledge about diseases or the perceived importance of vaccinations.⁵⁸ Another study on flu vaccination in the U.S. found that even though logistical information such as the location of a clinic was technically available to participants, vaccination rates decreased when it wasn’t made immediately and easily available.⁵⁹

58 Sheldon et al (2003), A study to describe barriers to childhood vaccination in Mozambique

59 Ross et al (2013), Using Behavioral Economics for Postsecondary Success

“I planned to take my child for her vaccinations, but I didn’t know if the clinic was open.”

Optimism

It won’t happen to me.

People tend to overestimate the likelihood of positive events occurring and to underestimate the likelihood of negative events occurring. This bias towards optimism can manifest itself in discounting the likelihood of contracting a disease or in overestimating the likelihood of surviving it, decreasing people’s motivation to seek out immunization services.

In studying parents who forewent a pertussis vaccine for their children, researchers found that many “believe that statistical analyses of pertussis and vaccine risks are accurate.” At the same time, they “believe that they do not pertain to their children.” This is in part due to a belief that “they have control over whether their child gets the disease or how it progresses”—an optimistic perspective on events that are largely out of their control.⁶⁰

60 Meszaros et al (1992), Cognitive influences on parents’ decisions to forego pertussis vaccination for their children

“Other people might get sick from that disease, but it won’t happen to my kid. And if it does, I can take care of it.”

Availability

The easier to recall, the more influential.

People tend to rely on immediate examples that come to mind when calculating a probability to evaluate a decision. A bias towards ‘easily available’ information—such as a recent story—can skew the probabilities people make when evaluating the likelihood of possible adverse events.

Consider a story spreading through a community about an unlikely event, such as adverse effects from a vaccination. As one group of researchers concluded in regards to such a scenario, “negative side-effects of vaccination, because they are rare, may get more attention than positive effects of vaccination, both in the news and in the community more generally, and this may contribute to overestimation of the likelihood of such events.” The result is that “[t]he choice between vaccinating and not vaccinating can therefore be seen as a choice between two gambles,”⁶¹ rather than as a choice between a low-risk and high-risk decision.

61 Cappelen et al (2010), Demand for Childhood Vaccination: Insights from Behavioral Economics

“I recently heard about a child that got very sick from the vaccine, so I think I’ll avoid that one.”

Challenge Examples (continued)

Confirmation

Comfortable information takes priority.

People tend to seek out and agree with information that conforms to their pre-existing beliefs. Contrary information can be uncomfortable and so is more likely to be avoided. A bias towards information that confirms rather than conflicts with pre-existing beliefs can translate into not just ignoring contrary information, but doubling-down on pre-existing beliefs in the face of that new information.

In one study comparing vaccinators to non-vaccinators, when the latter “were presented with the sort of risk-benefit information that leads many medical and public-health experts to conclude that the risks of the disease are worse than the risk of the vaccine, they became more committed to nonvaccination, not less.”⁶² Another study witnessed a similar backfire effect, finding that corrective information designed to reduce misperceptions around vaccines actually “decreased intent to vaccinate among parents with the least favorable attitudes towards vaccines.”⁶³

62 Meszaros et al (1992), Cognitive processes and the decisions of some parents to forego pertussis vaccination for their children

63 Nyhan et al (2014), Effective Messages in Vaccine Promotion: A Randomized Trial

“Seeing that information from the health care workers just makes me even more skeptical of it.”

Fundamental Attribution Error

Blaming the person, not the situation.

People tend to place an undue emphasis on an individual’s characteristics, or elements of personality, to explain his or her behavior in a given situation rather than considering the situation’s external factors.

In the context of healthcare, especially among HCWs, this misattribution manifests itself as a “tendency to be judgmental and blame patients for their illnesses (dispositional causes) rather than examine the circumstances (situational factors) that might have been responsible. In particular, psychiatric patients, minorities, and other marginalized groups tend to suffer from this CDR [cognitive disposition to respond].”⁶⁴ This might result, for example, in pegging a carer’s decision-making to inherent ‘laziness’ rather than to contexts of poverty, potentially affecting the equitable rendering of services by HCWs.

64 Croskerry (2003), The Importance of Cognitive Errors in Diagnosis and Strategies to Minimize Them

“She must be a neglectful mother; she should be ashamed of herself for not getting her child immunized.”

Status Quo

Past behavior predicts future behavior.

When given the choice between continuing as-is or making a change, the latter often wins out. People tend not to change an established behavior unless the incentive to do so is compelling enough. Accordingly, past experience with vaccinations is a very strong predictor of future behavior; for those not vaccinated previously, it’s likely they will continue not to seek out vaccinations. Importantly, this is less a matter of strong beliefs or thoughtful decision-making and more a matter of comfort and .

As one study found, “those who had been vaccinated in the past were much more willing to be vaccinated than the average person, while those who had never been vaccinated were much less willing than the average person.”⁶⁵ In fact, among those who had been vaccinated in the past, this bias towards the status quo trumped what might otherwise be problematic beliefs, such as their subjective probability of getting sick.

65 Tsutsui et al (2010), A policy to promote influenza vaccination: A behavioral economic approach

“A new vaccination? I’ll just do whatever I did last year.”

“I’ll look into where and when I need to go for the vaccines later.”