

Community and provider based interventions to address vaccine hesitancy

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Vaccination acceptance is increasingly recognized as a challenge to the success of vaccination programs. The global immunization community is realising that top-down monologues, provision of information and education do not change behaviour. So what does work? There are of course some interventions that are working for vaccination uptake. However, they are scattered and hard to find. Examples of community or provider levels interventions to increase vaccine uptake and lessons learned were discussed during the first session of the conference entitled: “Demand side interventions to increase and sustain vaccination uptake”, organized by the Fondation Mérieux from September 28-30, 2015 (Annecy-France) and are summarized in the present report.

Determinants of vaccine uptake

Coverage rates are still far from being optimal in both developed and developing countries despite remarkable improvements in global immunization programs. Parental refusal or hesitation due to the loss of confidence and concerns over the side-effects of vaccines are increasing in particular in the developed world. In developing countries, the contribution of vaccine hesitancy to poor uptake in terms of low trust in or fear of vaccines has been limited said Anne Lafond (John Snow Inc., USA). Rather, there is a confluence of interacting factors that continue to influence the success of immunization programs [Rwashana 2009]. In low resources settings, hesitancy may have more to do with health system delivery services and experience of the user than to do with vaccine itself i.e. fear of side effects. It is necessary to understand vaccine uptake in the context of the relationship between providers and clients and the importance of engaging individual and community actors in shaping program design.

As evidenced by the literature, the main causes of drop-out in developing countries include service delivery (e.g. vaccine shortage, cold chain breakdown), long waits, infrequent outreach sessions, missed opportunities, poor communication of HCPs on vaccination schedule and outreach dates, lack of parental understanding of need for multiple doses, competing priorities, lack of sufficient engagement with community leaders, negative or religious beliefs, misinformation, and absence of trust on health care system [Favin 2012, Cargano 2012, Rainey 2011]. As stressed by A. Lafond, improving quality and convenience of services together with intensifying outreach interventions, engagements of the community to build trust, to improve access to services and to clarify practical information could most probably increase vaccine uptake in the developing world.

While barriers of vaccination have been subject of several studies and literature reviews, less is known regarding motivating factors. A. Lafond (John Snow Inc., USA) presented the results of case studies in Ethiopia, Cameroon and Ghana she was involved in to explore drivers of immunization

coverage improvement [Lafond 2015]. DTP3/Penta3 coverage trends were compared in 12 districts (4 districts in each country), 9 of which have reported coverage improvement between 2006 and 2010. Overall, six common drivers of uptake improvement emerged. Regular review of immunization programs and HCPs performance, health system and community partnership, taking vaccination directly into the community (e.g. outreach, home visits, community meetings, birth registration and defaulter tracing) and immunization system tailored to community's needs were found to have a direct influence on immunization coverage. Political and social commitments to immunization and actions of development partners (capacity building, technical advices, equipment, etc.) were identified as enabling drivers.

Driving and sustaining demand for vaccination services need a better understanding of what work and what does not work, concluded A. Lafond. Demand side interventions to sustain and enhance immunization outcomes should include human centred techniques to create empathy, mixed methods research to understand the interplay of supply and demand, placing the responsibility of immunization to the hand of ministry of health, linking the community and local authorities to develop shared accountability and to advocate for reliable and good quality service and cultivating resiliency in communities and local health systems to counter mistrust and threats [Johri 2015; Lafond 2015].

Community level interventions to increase and sustain vaccine uptake

As stressed by Rustam Nabiev from the Shifo Foundation (Sweden), a key factor to increase and sustain vaccination uptake in developing countries is to have adequate and real-time data that allow HCPs and decision makers to identify and follow-up children that are missing their vaccines, to develop interventions and allocate resources to cover the gap in child health service delivery. He presented MyChild system, an information technology platform (WWW.shifo.org/mychild) currently being used in 48 health centres in Uganda. All information regarding vaccination of a child (missed vaccines, dates dues, etc.) are registered in the system and available along the healthcare chain with a unique ID given to each child. The reports released from the system are used as the basis for quality improvement meetings in the District Health Offices. Since its implementation, the system allowed a more efficient use of human resources, improved the quality of care and helped the decision makers to better understand the reasons why children in different areas miss their vaccines or drop out (e.g. vaccine stock-out, no outreach performed, nurse unavailability, family related reasons). R. Nabiev concluded that identification of these issues facilitate set-up, implementation

and evaluation of interventions to close the gaps to reach every child with preventive health services no matter where they live.

India has some of the lowest immunization rates in the world in particular due to reaching underserved and hard-to-reach populations such as migrant communities, nomads, construction workers, slums and other migrants. However, on February 25, 2012, the World Health Organization (WHO) has declared the country as 'polio-free' country [PAHO website]. This success was achieved through the Global Polio Eradication Initiative (GPEI), spearheaded by national governments, WHO, Rotary International, the US Centers for Disease Control and Prevention (CDC) and the United Nations Children's Fund (UNICEF), and supported by key partners such as the Bill & Melinda Gate Foundation, the Gavi Alliance and private foundations and corporations. Strategies for polio eradication in India included microplanning, independent monitoring, adequate vaccine delivery, set-up of outreach interventions, social mobilization and many more other strategies said Olivier Rosenbauer from the WHO (Switzerland). In particular, intensified social mobilization interventions have largely contributed to the success story. Indeed, more than 30,000 community influencers were recruited by UNICEF's social mobilization network, including religious and education institutions and mosques with public announcement systems. In parallel, mass media involving popular actors were mobilized, and distinctive branding were displayed in different areas of cities. Advocacy efforts focused also on mobilizing mothers (targeted mother's meetings) who are often the primary decision-makers on child immunization and older children (polio classes, polio rallies, and children's calling groups) to bring the younger ones to vaccination. Seasonal migration leads to missed opportunities in India. To reach children on the move, vaccination campaigns were performed in running trains, at India-Nepal borders, in congregations and festivals. The example of polio eradication in India is a unique example of a global public good, where children everywhere are able to benefit from a health intervention in an equitable manner, concluded O. Rosenbauer.

Confidence and trust building is the foundation for demand side interventions said Cheikh Ibrahima Niang from the Institute of Environmental Science, university of Cheikh Anta Dipo (Senegal). Communities' confidence is the result of an interactive process going beyond approaches boundaries and classical paradigms, he said. Standard program strategies exist but should be adapted to local context. An example is given by the recent epidemic of Ebola in Guinea where the social context of Ebola before the vaccine trials was dominated by fear, hostility and distrust towards biomedical responses. Ebola is still a metaphor in Guinea. Frequent rumours used to accuse the health system staff of inoculating Ebola to patients through vaccines. However, after the trials started, this context changed significantly into a more appeased and peaceful relations between the public and health authorities and the vaccine was widely accepted by the frontline HCPs, and people who have been in

contact with confirmed cases of Ebola. Several elements including putting forward principals of discretion, empathy, freedom to accept or not the vaccine, integrating religious leaders, the elders, traditional healers, youth groupings, and women traditional networks to be part of collective thinking/decision were among factors that have favoured constructing peace through re-establishing trust. Demand side community-based interventions requires large community dialogue, concertation and communication, re-introduction of empathy and confidence, listening, and restoring dignity and responsibility, concluded Cheikh Niang.

Provider-based interventions to increase and sustain vaccine uptake

Physicians working in primary health care centres and paediatricians are among community key opinion leaders that can enhance the success of immunization programs [Omer 2009]. However, there are substantial knowledge gaps for provider intervention in developing countries said Saad B. Omer from the Emory University (USA). The effort of providers is focused on communication to parents or patients and this communication can be missed in developing countries because of the large number of people involved in the vaccination process. A study carried out in India by Omer SB and his colleagues among a sample of paediatricians and physicians provided evidence of good understanding of the beneficial health impact of vaccines and favourable attitudes towards routine vaccinations programs but found gaps in accurate practice [Cargano 2012]. Vaccines were reported as only the fourth most important services for protecting the children's health, suggesting that they were not a top priority for a significant proportion of HCPs. Correlates of missing an opportunity to vaccinate for physicians included holding other HCPs responsible for vaccination. Indeed, physicians were 50% to 70% less likely to vaccinate a child themselves if they thought another type of HCP was responsible. Both paediatricians and physicians reported parent's lack of awareness and illiteracy as the greatest barriers to vaccinate children with routine immunization. So how to deal with? As well illustrated by the MMR vaccine and its discredited link with autism, misinformation about vaccine safety may contribute to hesitancy and under-vaccination. Thus, reducing misperceptions by effective messages could be considered as a possible intervention that enhance immunization rates. However, in a randomized trial testing four information approaches, none increased intent to vaccinate with MMR [Nyhan 2014]. Countering anti-vaccination attitudes by steering the conversation from misinformation to disease risk seems to have a more positive impact on vaccination attitude changes [Horne 2015]. Another alternative perspective consist in framing immunization as the default choice, said SB Omer, by using a language that emphasize that vaccination is the norm and presume they will vaccinate. An example is the Campaign VacciNorm that premise to make clinical and promotional changes that emphasize season influenza vaccine

receipt is the norm. The idea is to provide all health care employees (physicians, nurses, front-desk personnel, etc.), already immunized against seasonal influenza, with a lapel pin on their identity card. Involvement of front-desk personnel is also essential as they are often the first staff patients encounter and can initiate a simple discussion. Subsequently, a presumptive approach and provider pursuit of vaccine recommendation could promote patient participation and increase vaccine acceptance. The positive impact of presumptive approach on vaccine acceptance has already been reported in initially resistant parents [Opel 2013]. Preparing providers for a good discussion is crucial, said SB. Omer. Discussion around vaccine should be broad and mostly focused on the disease rather than on the vaccine.

Although HCPs recommendation is a major driver of vaccine acceptance [Wheeleck 2013; Williams 2013; Opel 2013; Gust 2003], HCPs may have low perceived self-efficacy to influence a person's decision around vaccination [Wallas 2006]. A first step is therefore to insure that they have the essential skills to deliver adequate and straightforward information to those who will receive vaccines. Medical doctors are good to treat but not so good to provide health to no-patients, i.e. healthy individuals who come for a vaccine, said Eugenijus Laurinatis (Vilnius University, Latvia) and John Parrish-Sprowl (Indiana University, USA). The standard approach based on prescriptive, heavily factual language and delivery of information alone has shown limited effectiveness in changing behaviour [Opel 2013]. A paradigm shift from "talking to" to "talking with" the individual person is therefore needed. This genuine conversation mixes HCPs expertise with the attitudes and beliefs of the individual to create a pathway for change. The overall process should be used contextually i.e. adapted to the local situation and the relationship should be based on equality and honesty. Much exiting research consider only the "what" i.e. messages and materials [Henrickson 2015; Nyhan 2014; Williams 2013] and there is a lack of studies that consider "how" a message is delivered or the "impact" of message delivery as part of the HCP-person discussion and few studies consider the change in focus from message to conversation [Ferrer 2015; Henrickson 2015; Nyhan 2014; Caims 2012]. Conversation skills are different from communication skills and so far no studies considered what an effective conversation should look like. The speakers presented the Talking Protection Working Group, a practical framework that aims at increasing the effectiveness of the HCP-person discussion on health preventive behaviours, using vaccination as a model. The program will move away from traditional approaches that primarily rely on a defined message, to focus on a simple behavioural segmentation that informs the conversation process by improving HCP understanding of the individual person. The three pillars of the framework are the WHO (i.e. behavioural segmentation of individual people), the HOW (i.e. proven behaviour change methodology for managing the conversation) and the WHAT (i.e. evidence-based materials to support the conversation).

Segmenting the population would allow identifying a person's "latitude of acceptance", enable HCPs to classify people by their attitude to the behaviour and help HCPs to decide how best to talk with people from their perspective and position. Holistic behaviour-change interventions will then be used to guide the individuals towards healthy behaviour. This can be achieved by a toolkit of techniques and communication materials that can be targeted to the different behavioural groups defined. Standard perspective messages are likely to be ineffective. Listening and asking appropriate questions construct trust and empathy during a conversation. Subsequently, effective message tailored to the individual person and using message in the context can help a better adaptation of healthy behaviours. The expected outcome of the framework is to increase the proportion of persons adapting health behaviours thanks to higher self-efficacy of HCPs for health-related conversations, concluded the speakers.

As stated by Melissa Stockwell from the Columbia University (USA), although the causes of under-vaccination are multi-factorial, patients and families' misperception regarding the need for vaccination and concerns about vaccine effectiveness and safety are playing an increasing role. Health information technology interventions linking communication methods like text messaging, or electronic vaccination data such as electronic health record or immunization information systems offer low-cost scalable opportunities that can provide educational messages that foster vaccine illiteracy and encourage vaccination. As compared to vaccine-reminder recalls by phone, text messaging offers several advantages including stability of contact information because cell phones are more stable over 6 month period than home addresses and phones [Clarck 2011]; they allow to reach intended participant and are of parental interest [Hofstetter 2013; Ahlers-Schmidt 2010; Kharbanda 2009]. An increase in vaccination rate in recipients of text messages as compared to the control group has been reported in several randomized controlled studies in the United States [Stockwell 2015; Stockwell 2014; Stockwell 2012a; Stockwell 2012b], providing evidence that text message vaccine reminders can be an effective way to reach out patients and their family. These studies showed also that messages are more effective if they are brief and personnel, do not include abbreviations, contain a maximum of 160 characters and are send during the working days. However, messages need to be validated with target users for example by focus groups before their use concluded M. Stockwell. Implementation of such method in low-income countries is feasible but will probably face more difficulties due to the absence of electronic cards. Beside, voice messages might be more convenient in these settings where the proportion of illiteracy is higher.

Lessons learned

Immunization gaps can be closed by effective behaviour change interventions. In this regard, the social and cultural context has important implications for the acceptance of such interventions. They should be designed for people in line with their needs, and situation and should be built on trust and empathy. Setting vaccines as a norm and talking with people as “individual persons” not as “patients” are key factors for vaccine acceptance.

Engagement with the right community influencers and full partnership between health systems, governments and communities at all level is crucial. Communication strategies need to understand how to target different subgroups, understand and support appropriate behavioural triggers, use meaningful engagements that support realistic action and ensure that the intervention is appropriate for the context and setting. Text messaging, as a communication tool, is ready for prime-time use and cost-effective even in developing countries.

There is an immediate need to find and share best practices with the global immunization community. Success histories such as Ebola vaccination trial in Guinea and polio eradication in India should be shared extensively. Developing a web-based intervention repository can be a way to best collect and share best practices and lessons learned.

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