



Vaccine Hesitancy, Acceptance, and Demand

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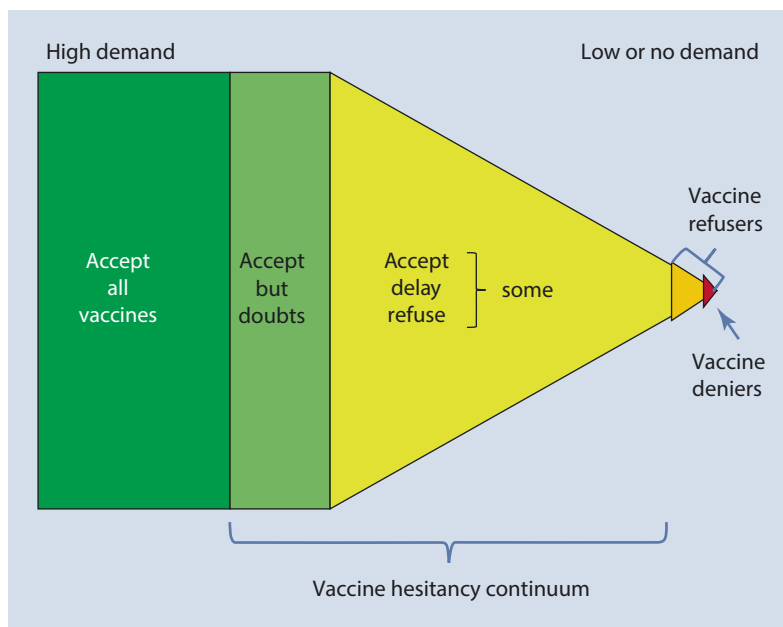
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4.1 Background

The World Health Organization defines vaccine hesitancy as “...a delay in acceptance or refusal of vaccines despite the availability of vaccination services. Vaccine hesitancy is complex and context specific varying across time, place and type of vaccine.” The hesitancy continuum extends from those that accept all vaccines, but are unsure about their decisions for some or all vaccines, through to those who refuse all vaccines, but are unsure about these decisions (■ Fig. 4.1). In that sense, hesitancy affects demand and is most closely associated with negative demand. Addressing vaccine hesitancy requires an understanding of the magnitude and setting of the problem, diagnosis of the root causes, tailoring strategies based on local evidence to address the causes, evaluation to gauge if the intervention has been successful in improving vaccine acceptance, and monitoring.

In March 2012, the Strategic Advisory Group of Experts (SAGE) on immunization established a working group to define vaccine hesitancy and its scope and provide advice on how to address vaccine hesitancy, including a

landscape analysis of stakeholders working on the issue and identifying promising practices. It presented its work to SAGE at the WHO premises in Geneva, in October 2014 (► http://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf), and shortly thereafter published a supplement in *Vaccine* in August 2015. Later that same year, an informal working group was established to develop an understanding of “demand” (definition, components, actors, and determinants) and to explore the means of measuring progress on improving demand. The informal working group has been instrumental in building consensus and understanding around the term demand and its determinants, sharing promising practices from around the globe and considering the best approaches and methods to measuring demand and the impact of demand-generating initiatives. For the purposes of this chapter, we align with the hesitancy and demand working groups’ definitions and understanding of demand – considering hesitancy and acceptance as factors of demand. We focus primarily on hesitancy, its scope and expression in the European Region,



■ Fig. 4.1 History of vaccine acceptance in Europe. Noni Mac Donald, ► www.sabin.org/sites/sabin.org/files/1-vaccine_hesitancy_final_draft_7_jan26_2017.pdf

and strategies to address it from a program planning and an individual (provider–parent/patient) perspective.

■ Figure 4.1 demonstrates the spectrum of demand and the effect of vaccine hesitancy.

In Europe, program organizers have become acutely aware of the potential damage and threat that vaccine hesitancy, public mistrust of vaccines and immunization services, and the rejection of vaccines pose. It is unclear whether vaccine hesitancy and associated risks have increased within the European public over recent years (as some observers suggest) or whether, instead, vaccination programs have become more sensitive and aware of the phenomena as they attempt to reach remaining under-immunized populations and meet ambitious coverage targets and disease control goals.

Vaccine hesitancy is not a new phenomenon. Following the introduction of small pox immunization, as early as the mid-1800s, hesitancy and vaccine objection have been documented in Europe. In the UK, the smallpox vaccination induced fear and protest: some believing that the practice of inoculation was un-Christian and others skeptical of Edward Jenner’s ideas or objecting on the grounds that the practice violated their personal liberty (mandatory vaccination for infants up to 3 months of age was introduced in 1853). At that time, anti-vaccination lobbies or “leagues” were established with their own journals and communication materials.

A resurgence and lingering of vaccine-preventable diseases such as measles, rubella, diphtheria, and pertussis, resulting in hospitalization and deaths of infants, children, and adults over the past decade, have prompted renewed interest in understanding why Europe, a region rich in resources and capacity, has been unable to close the immunity gaps and meet regional disease control and elimination goals. Immunization service managers and administrators are, in turn, eager to better understand parent/patient hesitancy and health-seeking behaviors to appropriately motivate them to vaccinate and remove factors limiting their ability or opportunity to utilize immunization services. Member States of the European Region

restated their commitment to immunization by adopting the European Vaccine Action Plan (EVAP) 2015–2020 in 2014, the first regional plan to openly acknowledge the extent of vaccine hesitancy, vaccine skepticism, and sub-optimal parent/patient demand for immunization services and need for vaccine trust. The EVAP second strategic objective calls for “individuals [to] understand the value of immunization services and vaccines and demand vaccination,” and the third calls for “the benefits of vaccination (to be) equitably extended to all people through tailored, innovative strategies.”

4.2 Shortcomings of Terminology

As a term, “hesitancy” has often been used synonymously and interchangeably with “lack of confidence” or “confidence-gap” by some academics and practitioners alike. However, in Europe its expression is multifaceted, including but not limited to trust in vaccines and/or the authorities that provide them. Attributing recent disease incidence and outbreaks in Europe to parental or provider confidence is arguable and may deflect attention from systemic and service delivery shortcomings by placing responsibility solely on the “hesitant” parent/patient. In this sense, the term should be used with caution. In Europe, other system side factors have contributed to disease burden. Even when demand is evident, there are factors that prevent action, despite an intention to vaccinate by a parent/patient. Demand for immunization services does not equate to immunization service utilization. Vaccine supply disruptions, economic/financial/societal crises, program delivery disruption or weaknesses (e.g., delayed introduction of a second dose of measles, or a period of health worker shortages), and poor-quality service delivery, including poor communication, for example, have all resulted in sub-optimal coverage and underutilization of vaccination services in Europe. Some of these factors continue to affect program reach, coverage, and utilization, particularly in countries challenged by high vaccine prices, lack of long-term secured domestic funding for their

programs, and unstable vaccine supply. Some countries, particularly those with weak infrastructures, have had to face the additional burden of addressing the migrant influx into Europe, many of whom also require immunization in addition to having other support needs.

4.3 Vaccination Complacency, Convenience, and Confidence in Europe

Vaccine hesitancy includes factors such as complacency, convenience, and confidence, each of which is exhibited at parent/patient, provider, and decision-making levels in Europe today.

In terms of convenience, parent/patients are not presented with opportunities to access immunization services outside traditional working hours and in locations other than health facilities. Very few countries have considered pharmacies as an option for immunization service delivery (Ireland and Portugal are the exceptions to this), despite strong evidence from the USA and Canada that influenza vaccine rates have been boosted by the use of pharmacies, mini-marts, and other nontraditional outlets, for many years now.

Immunizations can be unnecessarily stressful and anxious events for many children and adults who fear needles and the pain of immunization. This can lead to long-term nonadherence with recommended schedules, missed immunizations, and even a shunning of healthcare services in general. Very few programs have considered the negative impact of pain of immunization. Few have made efforts to improve provider and parent/patient knowledge and skills to mitigate stress and anxiety during immunization. There are evidence-based strategies including noninvasive methods such as liquid-jet injection or even distraction techniques with better positioning that can address this problem. New technologies such as microneedles also promise to not only minimize pain but potentially enable the delivery of services through nontraditional outlets using nonmedical personnel.

Many parents/patients in Europe have grown complacent about diseases that most communities have not seen in decades. Complacent individuals thus consider the risks of the vaccine to outweigh the risk of contracting the disease. In that sense, vaccines have become a victim of their own success. This even extends to healthcare providers where many have not seen, first-hand, diseases such as measles, rubella, diphtheria, and pertussis in their practice. Complacency is also evident in political decision-making, with many countries unable to secure domestic resources for their programs against competing health, economic, and security priorities. This is particularly apparent in countries that have not experienced outbreaks recently. The decision-making environment in these countries faces an additional dilemma as the direct and indirect costs of outbreaks have not been calculated and appropriately understood, thereby hampering adequate planning.

The overall confidence and trust in vaccine effectiveness and safety, and in the authorities that deliver them, are positive, but do vary across Europe. The proliferation of conflicting information, from multiple sources within and outside of the region, has challenged decision-making regarding parent/patient vaccine acceptance and eroded the value of and trust in provider-delivered advice and recommendations. The ability of a single anti-vaccine individual to influence the health seeking behavior of others, including the intention to vaccinate, is greater now than ever before. Indeed, such individuals who understand how new media platforms are leveraged effectively is often more influential and may even be perceived as being more trustworthy than a trained medical or public health professional. This phenomenon has damaged vaccine acceptance and trust in many European countries. In some extreme cases, a single vaccine opponent has been responsible for the suspension of a vaccine program or severely undermined vaccine acceptance and uptake (human papilloma virus, Denmark, 2014). At the extreme end of the demand/hesitancy spectrum are vaccine deniers who oppose vaccines for diverse rea-

sons, but are not open to a change of mind. In Europe, these very small groups are not organized into a cohesive, financed, coordinated body and therefore cannot be considered a “movement” or “lobby,” as is more commonplace in the USA or in Australia, for example. Recent work to mitigate the negative influence of “vocal” vaccine deniers has been undertaken by the WHO in Europe with a guidance document and training program based on psychological research into persuasion, on research into public health, on communication studies, and on WHO risk communication guidelines.

Many immunization programs in the region have relied over the years on communication campaigns solely focused on addressing misconceptions and misinformation. These fail to decrease hesitancy and, in some cases, backfire entirely. To some degree, this can be attributed to a lack of understanding by the program organizers that informed individuals are not necessarily behaviorally responsive ones and that knowledge does not predict action, and as such, closing the information gaps through awareness campaigns does not address hesitancy, ensure demand, or guarantee utilization. Social copying and behavioral imitation are also manifest among parent/patients, which are largely seen to be beneficial in increasing and maintaining vaccination coverage but are also evidently having a negative impact by amplifying nonvaccination behavior and anti-vaccination sentiment.

4.4 Strategies to Address Hesitancy

4.4.1 Understanding the Target Population: Diagnosing Hesitancy

As demand, hesitancy, and acceptance are context-specific, and program and community resilience variable across Europe, it should be considered a prerequisite for a program to locally gauge and diagnose the factors influencing vaccination intentions,

decisions, and behaviors, with participation of affected (under-immunized) communities. General public and subgroup attitudes, knowledge, and behaviors must be regularly monitored and assessed frequently, to be able to inform and tailor program delivery and response to match the needs of the target subgroups. Success in countering anti-vaccination sentiment and safety concerns depends on this in particular. By tracking patient/parent sentiment and behavior with the use of operational research (such as surveys or rapid assessments), the immunization program ensures that people and communities, not only diseases, are at the center of immunization systems and empowers people to take a more active role in their own health. Using WHO tools, behavioral insight studies have uncovered the reasons for lower vaccination uptake in Roma, migrant, Jewish ultra-orthodox, and anthroposophic communities and found that both vaccine hesitancy (individual) and inappropriate or insufficient service delivery (program) affect uptake in each of these communities. The application of such “insight” and social science techniques and methods in some European contexts clearly demonstrates how programs can adopt approaches to tailoring the extension of service delivery according to the needs of communities.

Alongside the importance of diagnosing vaccine hesitancy and demand determinants in any population group, in addition to a consideration of the factors and determinants previously noted in this chapter, we should consider evidence-informed strategies for addressing vaccine hesitancy and improving vaccine uptake from the program perspective and from the individual provider–parent/patient perspective. Some of the strategies covered in this section are adapted from MacDonald et al. (2018) and are considered appropriate options in the European Region.

4.4.2 Communications Planning

The primary demand indicator of EVAP measures the presence of a communications plan as a proxy for resilience and a signal of com-

munications and advocacy capacity. Crisis (outbreak and vaccine safety-related “events”) and risk communication plans should be developed and tested by programs. The communication plans should adhere to best practice and the key principles of risk communications and be proactive in nature. Clear roles and responsibilities of vaccination programs and emergency communication tasks should be accounted for, including the costing and resourcing of immunization communication activities. Audiences should be clearly identified and multiple channels of communication and messages envisioned. Communication plans must be bidirectional with the immunization programs being sensitive to the values and incorporating the concerns of the target audience. The drafted messages should be tailored to fit the target audience and strengthen or reinforce individuals’ understanding of the benefits and risks of vaccination and the diseases it prevents, enabling them to make evidence-based informed choices and encouraging them to seek immunization services and overcome barriers to vaccination. National vaccination programs should also acknowledge that by developing effective communications plans and capacity, the public’s perception of the credibility, trustworthiness, and competence of the program is enhanced.

4.4.3 Optimizing the Provider’s Role

Healthcare providers, pediatricians included, remain the most trusted source of information and health advice; however, there is a significant minority of providers in Europe today that do not actively promote vaccination, are vaccine-hesitant, or are outright anti-vaccination. These providers influence their patients and parents. Therefore, national immunization programs need to ensure that the concept of vaccinology and immunology features on medical curricula in medical and nursing colleges and that opportunities for in-service training of healthcare providers are continuously provided and kept up to date. Such education and training should include

interpersonal communication techniques and skills to tackle hesitancy.

National vaccination programs should consider reinforcing the learning about vaccine hesitancy and demand determinants with fact sheets and job aids that assist healthcare providers in explaining the risks and benefits of vaccination in a clear and concise way to the parents and patients without the use of jargon or medical terminology. Parents and patients behave more rationally when they receive information in such formats from their credible and trusted healthcare provider. Inconsistent messaging and contradictory information among healthcare providers can confuse patients and parents, prompting mistrust and inaction.

Those healthcare providers that actively advocate and champion vaccination should be identified and supported to share their opinions and engage a broader audience (than the parent/patient and clients they see on a daily basis). These same gatekeepers and influencers also have a role to play in communicating the value and full benefit of vaccines to other providers who themselves are hesitant and those being educated/trained to become healthcare professionals. Professional societies and associations should be considered here as partners in addition to prominent scientists and renowned healthcare luminaries. There is also substantial evidence that vaccine acceptance can be increased by engaging local religious and community leaders, and this should be considered.

4.4.4 Interpersonal Risk Communication

People are hesitant for various reasons, and their levels of concern range from very high to very low. Providers should avoid confrontation and adversarial situations. Rarely do such encounters end with a positive outcome. Providers should adopt an easy-to-understand approach and use frameworks for facing hesitancy, those based on the principles of good risk communication practices. 4-step Framework for Communicating Science: Making the CASE for Vaccines presents such

an approach from the University at Albany's School of Public Health.

■ 4-step Framework for Communicating Science: Making the CASE for Vaccines

Corroborate: – Acknowledge the parents' concern and find some point on which you can agree. Set the tone for a respectful, successful talk.

About me: – Describe what you have done to build your knowledge base and expertise.

Science: – Describe what the science says.

Explain/advise: – Give your advice to the patient, based on the science.

Example: – “I want to spread out the shots so they won't overwhelm my child's immune system.”

Corroborate: – Children today certainly have more shots than years ago.

About me: – Our practice follows the national schedule because it is carefully designed to protect children at the time they are most vulnerable to disease. I recently returned from a meeting, or I served on a committee, that reviewed the schedule...

Science: – Although children undergo more shots today, they actually receive fewer antigens than when they had fewer shots, because technology has enabled us to make vaccines that have only the part of the cell that induces immune response. Plus, the immunological challenge from a vaccine is nothing compared with what kids fight off every day. An ear infection is a greater immunological challenge (“Drop in the ocean”).

Explain: – We want all the kids in our practice to be immunized so that they have the greatest chance of a long, healthy life. My own children are fully vaccinated.

Providers are advised to communicate the roles and responsibility that the hesitant parent/patient needs to take on if they choose not to vaccinate and to convey that as a health professional he or she is uncomfortable with the parent/patient's decision, emphasizing that it is against the overwhelming scientific consensus. How the healthcare provider introduces immunization at a visit also matters.

Taking a presumptive approach, e.g., “Tom is due his vaccinations today,” as opposed to a participatory one, e.g., “what do you want to do about vaccinating Tom today?” may also affect the likelihood of immunization acceptance; however, more research is required on this approach. For a very worried hesitant parent/patient, the provider should consider how to find and present extra evidence, information, and narratives and how to dedicate more time, possibly through follow-up appointments. Consider using images and other ways of explaining risks, avoiding jargon and sticking to the facts. At all costs, the provider must maintain the relationship. Parent/patients who are dismissed or feel alienated ultimately find a source, possibly a provider, who supports and agrees with their decision not to vaccinate.

4.4.5 Role of the School

Reaching parents of today and tomorrow by educating pupils (and their parents) in school settings may significantly boost immunization acceptance and resilience of communities. Although little evidence has been generated from vaccination education in school settings, there is evidence that in other areas such as alcohol and substance abuse, sexual and reproductive health, nutrition, and bullying, curricula have shaped beliefs, including the successful development of “Health Promotion schools” under the WHO's Global School Health Initiative. In general, schools provide an important setting for health promotion, with the potential to reach over one billion children worldwide and through them, school staff, families, and whole communities. Providing education on vaccines and immunization in school settings can help children to develop informed critical thinking and decision-making skills, provide knowledge about vaccinations, promote positive attitudes toward immunization, and help to prepare them to make informed choices as parents/patients in the future and be more resilient in the face of anti-vaccine misinformation, including influencing health-related behaviors of the teachers. Pupils around the age of

10 years might be selected as a starting point as they have the cognitive maturity and ability to understand the complexity of the immune system and think beyond the concrete concepts. There are few immunization examples to share, but inclusion of digital learning material, “edutainment,” and “gaming,” through which teachers and/or parents can guide students to make their own scientific discoveries and witness and understand the history of vaccines, could be adapted from methods used for delivery of other health and social development curricula. Just as education on the environment and ecology has shaped a generation’s perception of climate change, so can immunization perceptions be shaped.

4.4.6 Role of the Internet

For active seekers of information, the Internet is an important channel that is growing in terms of its reach and influence on vaccination decisions. In Europe, reliable, trustworthy, easy-to-understand web-based information on vaccine-preventable diseases and the benefits of vaccines is often not available, is difficult to find, or is not in a language that is helpful. Programs have a responsibility to address this and to offer parent/patients and providers a website that is well managed, well resourced, reviewed (format and content), and regularly updated with qualified and well-referenced information. Preferably, these sites should include a mechanism where user feedback and interaction are accommodated – such as a question–answer function. The WHO Global Advisory Committee on Vaccine Safety (GACVS) has compiled a list of websites that provide information on vaccine safety and follow good information practices. GACVS developed four categories of criteria for good information practices – regarding credibility, content, accessibility, and design to which sites providing information on vaccine safety should adhere. Programs are recommended to consider the VSN project when establishing their website and to become a member by meeting the criteria.

4.5 Pain Management

Immunizations are the most commonly recurring health-related procedure undertaken in childhood and the one most associated with needles. For many children, these procedures can cause unnecessary stress and anxiety, which, if not mitigated, can lead to long-term non-adherence with recommended healthcare interventions and missed immunizations. For parents, vaccination sessions can be stressful and involve strong emotional reactions from both the infant/child and the parent. Providers are recommended to familiarize themselves with the WHO position paper *Reducing pain at the time of vaccination (September 2015)* and consider some of the practices proven to reduce pain and anxiety. These include, but are not limited to, techniques to position the child differently or to distract the child. In addition, topical local anesthetic is very effective; however, it was not included in the guideline as it was not readily accessible in low-income countries, but is recommended in Canada’s guideline.

4.6 Conclusion

It is evident that the immunization end-user’s experiences and perceptions have been undervalued and consequently under-researched. Without understanding these, in addition to the practical and structural barriers to vaccination that people face, immunization programs continue to struggle to equitably extend the benefits of vaccination to protect populations throughout the course of life and across all sectors of society.

There is no strong evidence to recommend any specific intervention for addressing vaccine hesitancy/refusal. Multipronged programs and community- and individual-level strategies, including innovative new methods, should be considered. Interventions should be based upon a degree of audience insight and take into consideration both supply-side modification and parent/patient behavior change, addressing more than a knowledge deficit in addressing hesitancy or sub-optimal demand. Interventions should be tested according to the

target population, the context within which the intervention is to take place, and the degree to which interventions can be tailored. At best, we can be moderately confident in the strategies presented in this chapter, as little research has been conducted into strategies and very few have been evaluated, suggesting that immunization programs might still require focus.

The attention to demand-side factors, themselves at least the counterbalance to supply-side issues, and acknowledgement of the value of behavioral and community insight to direct and inform policy and strategy are necessary developments in Europe. However, it is apparent that immunization program delivery in Europe has some way to go before it becomes people-centric: designed to meet the needs of the end-users and responsive to evolving parent/patient and provider expectations of immunization service delivery.

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