

ADDRESSING VACCINE HESITANCY IN THE 'POST-TRUTH' ERA

By: Karam Adel Ali and Lucia Pastore Celentano

Summary: In the context of the so-called 'post-truth' era, immunisation programmes face a new set of challenges calling for novel interventions to prevent or address public concerns around vaccination. Understanding and undertaking necessary action to address the issue of individuals who have lost or are losing confidence in vaccines is a multi-faceted public health challenge, as the added benefits of vaccination require adequate uptake levels. Political commitment is required as well as additional investment, not only in finance, but also in the skillset necessary to appropriately design and implement culturally competent monitoring and intervention strategies and the flexibility to learn by doing.

Keywords: Vaccines, Vaccine Hesitancy, Immunisation, Communication, Trust

Introduction

Vaccines and vaccination are often praised for the immense benefit they have brought and continue to bring to individuals, populations, health, the economy, and society as a whole. No doubt vaccination is one of the most cost-effective public health interventions and remains a mainstay of prevention programmes worldwide. Vaccination has eradicated smallpox and will hopefully soon eradicate polio. In all European Union (EU) countries, the old predominant killers of our children such as diphtheria, tetanus and pertussis are now rare events, and there is hope that the success achieved in controlling measles makes this disease another possible target for elimination sometime soon.

Despite the recognised tremendous value brought by vaccination, increasing questioning, mistrust, scepticism and even outright denial of the effect and/or safety of vaccines are becoming a challenge for immunisation programmes internationally. This is of concern not only for disease-control public health goals, but also for health care systems' sustainability, and raises fundamental issues of health and social equity.

In reality, the history of concerns around vaccine safety is as old as vaccines themselves, and can be traced back to the first attempts to prevent and immunise against smallpox. In 2017, vaccines in use in Europe are highly complex and sophisticated biological products which undergo some of the most rigorous testing for efficacy and safety prior to licensing

Karam Adel Ali is Programme Manager of the Vaccine-Preventable Diseases Programme and **Lucia Pastore Celentano** is the Head of the Vaccine-Preventable Diseases Programme at the European Centre for Disease Prevention and Control, Stockholm, Sweden. Email: Karam.Adelali@ecdc.europa.eu

and approval for their introduction in national immunisation programmes. In the EU, Directive 2001/83/EC and Regulation (EU) No. 726/2004 provide regulatory authorities with the mandate to promote and protect public health by authorising the use of safe and effective vaccines, and by continuously assessing their benefit and risk profile following the granting of marketing authorisation. The European Medicines Agency plays a key role in this regard, and carries the responsibility of coordinating the pharmacovigilance system, which helps, inter alia, with identifying and informing (in a timely manner) on signals of possible unexpected adverse reactions or changes in severity, characteristics, or frequency of expected adverse reactions.¹

The complexity of vaccine hesitancy

Nonetheless, in the so-called ‘post-truth’ or ‘post-factual’ society, the rapid spread of fake or unsubstantiated news through online media risks hampering the resilience of, and trust in, immunisation programmes. Sifting science facts from

science fiction and understanding which information to trust and which to ignore can become a real challenge for a parent seeking trustworthy answers to genuine questions concerning a given vaccine. More so, as disease rates go down and only poor knowledge or awareness is left, apprehensions triggered by potential or putative side effects of vaccination become more important to some individuals than the risks of the disease.

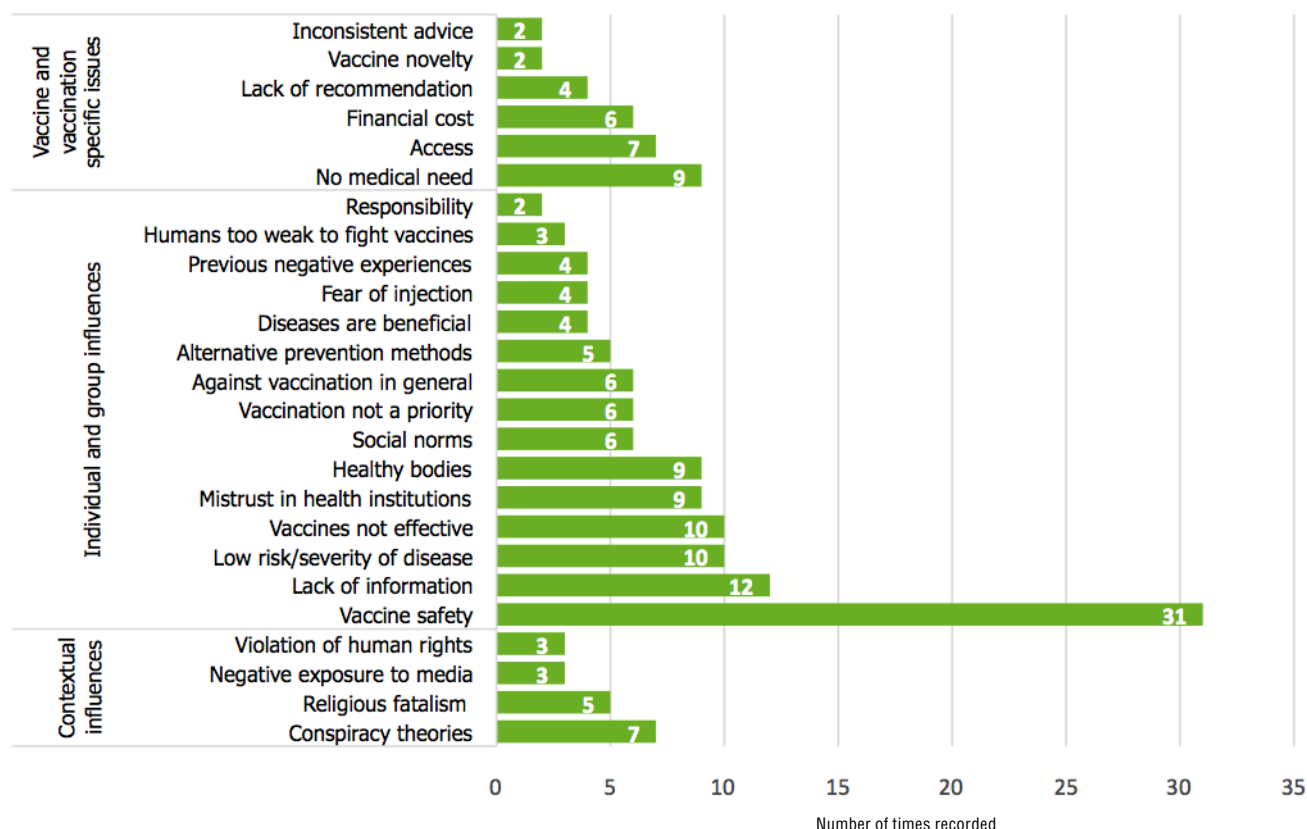
The Oxford Dictionaries chose ‘post-truth’ as the Word of the Year 2016 and defined it as ‘*relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief*’. It has been argued that such a phenomenon has impacted several vaccination programmes in Europe and around the world, even before the definition of the term was coined. Known examples include the putative link between the MMR vaccine and autism, between the HepB vaccine and multiple sclerosis, and more recently the HPV vaccine-POTS (Postural Orthostatic Tachycardia Syndrome) claim, which have

all resulted in dramatic consequences on vaccination coverage rates in different countries, at different times and settings.

“Sifting science facts from science fiction can become a real challenge

The dynamic of attitudes towards vaccines and vaccination is often very complex and rooted in or impacted by several often hard-to-identify and/or address factors. Rightly so, the WHO Strategic Advisory Group on Immunisation has defined the now very widely used term ‘vaccine hesitancy’ as ‘*the delay in acceptance or refusal of vaccines despite availability of vaccination services*’. Vaccine hesitancy

Figure 1: Main determinants of vaccine hesitancy in Europe



Source: ²

is complex and context specific varying across time, place and vaccines. It includes factors such as complacency, convenience and confidence'.

This definition aims to capture the complexity and fluidity of the issue, as well as the fact that it can be a rapidly changing problem with no one-size-fits-all solution. The definition also highlights that the underlying determinants of hesitancy can be numerous and need to be studied in the specific setting where hesitancy is observed. Such determinants can be as varied as the perceived low risk of a disease or low efficacy of a vaccine (complacency) to a challenging or perhaps costly implementation or delivery service (convenience), or a fundamental issue of trust in the vaccine, the provider, the manufacturer, or even the public health system as a whole (confidence). Studies have shown that even vaccinated individuals can have apprehensions or doubts regarding vaccines. The term thus intends to capture concerns in both vaccinated and unvaccinated individuals.

This article aims to generate knowledge and awareness not only on what vaccine hesitancy entails, but on what key evidence shows as to how this manifests itself specifically in Europe. In addition, we provide perspectives on key trends to be factored into the design of intervention strategies, and describe the role of the European Centre for Disease Prevention and Control (ECDC) in supporting countries in addressing the issue.

Who is vaccine hesitant in Europe?

Although no group is entirely hesitant, evidence shows that pockets of hesitancy are to be found in potentially all population groups. In general, the most commonly studied groups are parents and mothers, health care workers, teenagers for vaccination programmes specifically targeting this age group, pregnant women, under-served populations, some religious or anthroposophic communities and, more recently, social media users.

This broad spectrum of populations has raised questions and concerns as to the extent to which such groups can influence each other, and, as a consequence, lead

to the formation of clusters of hesitant individuals that might expand more broadly and affect the general public.^[2] Central to this debate is the role of health care professionals, where evidence has shown not only that they remain the most trustworthy source of information in the matter of vaccine decision-making, but also that they themselves believe it is their role to respond to and address patient hesitancy.

As a matter of fact, hesitant doctors and health care professionals have the potential to generate or further fuel concerns about the value of vaccination among hesitant parents and members of the public, and the issue of health care workers being hesitant – whether considering vaccinations for themselves, or for their patients – has been documented.^[3] Furthermore, the impact of doctors publicly condemning vaccination cannot be neglected, as it has been shown to bear a heavy impact on uptake rates.^[4]

Qualitative research conducted by the ECDC has revealed some inconsistencies in perceptions about vaccinations amongst the health care workers surveyed.^[5] Though praising the benefits of vaccination, many have also shared concerns about its effectiveness and safety, with fear of side effects being the most important concern. In particular, some of the newer vaccines were singled out due to a perceived lack of sufficient data on their safety and effectiveness profile and, in some specific settings, doctors expressed strong feelings about their responsibility to protect patients. Furthermore, though having feelings of trust in health authorities, some also raised issues of mistrust in pharmaceutical companies,^[6] bringing to the fore the complex broader influential factors that can impact on attitudes.

That said, the proportion of hesitant health care workers in Europe is not known, and there is scope for identifying barometer-like tools that can be used and implemented to better monitor and understand trends in this regard.

Nonetheless, the evidence available corroborates findings that tailored training programmes for health care professionals, both pre- and in- service, can be crucial to

effectively respond to their own, as well as their patients' concerns. Such training can strengthen not only knowledge in vaccines and immunology but also interpersonal messaging and communications skills to effectively respond when faced with hesitant behaviours.

What are the main determinants of vaccine hesitancy in Europe?

Vaccine safety-related sentiment has been reported to be particularly negative in the European region.^[7] This is further corroborated by a previous literature review-based study conducted by the ECDC in collaboration with the London School of Hygiene and Tropical Medicine, which ranks the main determinants of vaccine hesitancy in Europe as shown in **Figure 1**.

It is evident that concerns around vaccine safety in Europe appear to be by far the most critical factor for both members of the general public and health care workers.^[2, 8] Interventions aimed to build trust and confidence in immunisation should therefore address both parents and health care professionals, appropriately taking into account the fact that the specific underlying drivers are likely to be context specific.

It must, however, also be noted that it is often not possible to completely disentangle specific determinants of hesitancy from broader factors and influences, and the determinants can be linked and influence each other. To illustrate, a perceived or experienced lack of information can fuel concerns around safety, and mistrust in health institutions can lead to poor credibility of the information provided.

In addition, while attention is often primarily given to sentiments and behavioural patterns of the individual – that is on the part of the vaccinee, parent, or health care provider – **Figure 1** also brings to the fore that hesitancy can be triggered by aspects such as inconsistent advice and/or recommendation from providers within but also across countries. Hence, while acknowledging the challenges faced on the 'demand side' of immunisation, we cannot neglect

the question of how effective we are on the ‘supply side’ – that is, in designing programmes and access, delivery, and implementation mechanisms that do not result in unintentional consequences and fuel hesitant attitudes.

Moving forward

National responses

In this context, countries and immunisation programmes in Europe and worldwide are putting forth significant efforts in addressing the diverse situations in which vaccine hesitancy may be arising in their specific context. The range of measures being used differs and they are often geared towards a stronger engagement with health care workers and members of the public alike, as well as a wider and more strategic deployment of modern online means of communication to effectively promote vaccination and build trust. A catalogue of interventions being put in place has been made available by the ECDC⁹ with a view to informing on ongoing initiatives and encourage peer-learning, bearing in mind, however, that what works in one context may not necessarily translate into results in another.

There is certainly a continued need to research context-specific factors, as the end user perspective remains under-researched. This should feed the purpose of adopting tailored approaches to immunisation, in line with WHO recommendations. Moreover, evaluation is key, and should be implemented both *ex ante* – to listen to and understand real drivers of hesitancy and enable relevant practice – and *ex post* – to measure the effectiveness of interventions in time.

Some authorities are also responding to waves of hesitancy by considering changes in legislation or other direct or indirect measures aimed to increase vaccination coverage rates. Examples include the introduction of school mandates or mandatory vaccination policies. Ultimately, regardless of whether mandatory or recommended, a national health care system should promote and actively offer the vaccines that have been proven to be safe, effective and with a positive public health impact,

and that are included in the national vaccination programme. This should be optimally done using the means that are considered best in response to the local context, culture and habits, and in view of identifying the approach thought to be most suited to achieve the intended public health objectives.

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ECDC support

As part of its efforts to provide technical and scientific support to countries in the face of such challenges, the ECDC strategy in the area of vaccine hesitancy has aimed to strengthen know-how and capability to develop more targeted and effective public health interventions that can prevent or address hesitancy. The ECDC has developed communications guides and toolkits,^{9 10} particularly targeted to health care professionals, in recognition of their fundamental and highly trusted role, and with a view to empowering them to become more effective advocates of vaccination. Such guides are the object of national adaptation projects where technical experts from the ECDC support immunisation teams in the Member States in translating and adapting the toolkits available into culturally relevant products that can be of use within the given local setting.

Furthermore, targeted research continues to be undertaken to shed light on vaccine-specific determinants of hesitancy, so as to inform relevant national practice and action accordingly. In this regard, an ECDC report on the specific determinants of vaccine hesitancy in relation to HPV

vaccination will soon become available. A pilot is also being set up to monitor online media messaging and conversations and capture relevant sentiment that can help to identify and evaluate, in advance, possible signals of a crisis and, at the same time, help to inform on the real needs of those who are truly hesitant (versus the vocal deniers of vaccination). Such a pilot also aims to better map and study the main drivers of negative sentiment towards vaccination, and understand how networked the actors behind rumours and fake news are, with a view to assessing the potential impact they might have on members of the public genuinely looking for answers.

Finally, and more recently, the ECDC has also set up a Technical Advisory Committee of experts representing different sets of stakeholders with a view to brainstorming and discussing creatively how to better support national communication campaign efforts, how to respond and build resilience in crises situations, as well as how to better engage with grassroots and civil society organisations that can support advocacy for vaccination.

Conclusion

With the polarised media and information landscape, immunisation programmes are ushered into a new set of challenges which require novel thinking and targeted intervention strategies. It is evident that the traditional, mechanistic and one-way communication has become obsolete, and novel multi-dimensional efforts are critical to developing meaningful solutions. This requires political commitment as well as a sound understanding of the ‘enabling’ factors that must be put in place to empower immunisation programme coordinators, public health managers, and health care workers to successfully address hesitant attitudes. This ultimately means investment and additional resources, not only in terms of finance, but even more critically in terms of the skill-set made available to appropriately design and put in place culturally competent monitoring and intervention strategies and, at the same time, have the flexibility to learn by doing.

Ultimately, we need to endeavour to inject into the delivery of vaccination programmes and the communications around them as much science as we put into the Research & Development of the vaccines themselves, bearing in mind that *“the best vaccine in the world is worth nothing if people don’t use it – be it because the vaccines don’t reach them, because they are too expensive, because the health system doesn’t reach out to the most vulnerable populations, or because people believe rumours about potential side effects”* (Geoghegan-Quinn, former EU Commissioner for Research and Innovation).

References

- 1 Plotkin SA, Orenstein WA, Offit PA, Edwards KM. *Vaccines, 7th Edition*. Philadelphia: Elsevier, 2018.
- 2 European Centre for Disease Prevention and Control. *Rapid literature review on motivating hesitant population groups in Europe to vaccinate*. Stockholm: ECDC, 2015.
- 3 Verger P, Fressard L, Collange F, et al. Vaccine Hesitancy Among General Practitioners and Its Determinants During Controversies: A National Cross-sectional Survey in France. *EBioMedicine* 2015;2(8) August:891–97.
- 4 Brown KF, Long SJ, Ramsay M, et al. U.K. parents’ decision-making about measles-mumps-rubella (MMR) vaccine 10 years after the MMR-autism controversy: a qualitative analysis. *Vaccine* 2012;30(10):1855–64.
- 5 European Centre for Disease Prevention and Control. *Vaccine hesitancy among healthcare workers and their patients in Europe – A qualitative study*. Stockholm: ECDC, 2015.
- 6 Karafillakis E, Dinca I, Apfel F, et al. Vaccine hesitancy among healthcare workers in Europe: A qualitative study. *Vaccine* 2016;34(41):5013–20.
- 7 Larson HJ, De Figueiredo A, Xiaohong Z, et al. The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey. *EBioMedicine* 2016;12:295–301.
- 8 European Centre for Disease Prevention and Control. *Catalogue of interventions addressing vaccine hesitancy*. Stockholm: ECDC, 2017.
- 9 European Centre for Disease Prevention and Control. *Let’s talk about protection*. Stockholm: ECDC, 2016.
- 10 European Centre for Disease Prevention and Control. *Let’s talk about hesitancy*. Stockholm: ECDC, 2016.

In Memoriam: Heidi Langaas (1951–2017)

We commemorate Heidi Langaas, our dear colleague from the Norwegian Ministry of Health and Care Services, who passed away on 14 November 2017. For many years Heidi was an appreciated and respected member of the Observatory’s Steering Committee, always proactive, rigorous, and supportive to the Observatory’s work. Heidi was committed to the cause of sharing knowledge and experience for improving health systems in Europe. When



she was working as health attaché for the Norwegian EU Mission in Brussels from 2008 to 2012 she invited us to meet with Norwegian delegations of health stakeholders who were on a visit. Also after her return to Norway, she called on the Observatory to inform the health decision-making process. This was also the case for the last big project that she undertook and

successfully delivered, the National Health and Hospital Plan that was adopted by the Norwegian Parliament in 2015. Next to being a dedicated professional Heidi was also a kind, optimistic and had an enthusiastic personality. Our thoughts are with her family, friends and colleagues. She will be missed dearly!