TECHNICAL DOCUMENT

Communication on immunisation – Building trust

www.ecdc.europa.eu

ECDC TECHNICAL DOCUMENT

Communication on immunisation – building trust

This report was commissioned by the European Centre for Disease Prevention and Control (ECDC), coordinated by the Communication Knowledge Group within the Public Health Development Section, and the Programme on Vaccine-Preventable Diseases. The document was produced in the context of a framework service contract with a consultancy group, which undertook the necessary operational work as requested, and was overseen by Andrea Würz, Ülla-Karin Nurm, Pierluigi Lopalco and Niklas Danielsson.

A draft of this report was sent for consultation to the members of ECDC's European Vaccination Scientific Consultation Group (EVAG).

Suggested citation: European Centre for Disease Prevention and Control. Communication on immunisation – building trust. Stockholm: ECDC; 2012.

Stockholm, April 2012

ISBN 978-92-9193-333-4

doi 10.2900/20590

Contents

Abbreviations

AEFI	Adverse events following immunisation
AFSSaPS	Agence française de sécurité sanitaire des produits de santé
CCIAP	Canadian Coalition for Immunisation Awareness & Promotion
CDC	United States Centers for Disease Control and Prevention
DPT	Diphtheria–pertussis–tetanus vaccine
ECDC	European Centre for Disease Prevention and Control
EIW	European Immunisation Week
EU	European Union
EVAG	European Vaccination Scientific Consultation Group
EEA	European Economic Area
EFTA	European Free Trade Association
EMA	European Medicines Agency
FIFA	Federation of International Football Associations
FAQ	Frequently asked questions
GACVS	Global Advisory Committee on Vaccine Safety
GPs	general practitioners
HPV	human papillomavirus
MMR	measles, mumps and rubella
NRW	North Rhine-Westphalia
PCV1	porcine circovirus 1
Q&A	Questions and answers
RKI	Robert Koch Institute
Td	tetanus–diphtheria toxoid
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VACSATC	Vaccine Safety, Attitudes, Training and Communication
VAESCO	Vaccine Adverse Events Monitoring and Communication
Venice	Vaccine European New Integrated Collaboration Effort
WHO	World Health Organization

Executive summary

This guide highlights the importance of trust and credibility for public health organisations in order to communicate effectively on immunisation. The document aims at supporting Member States in planning and implementing communication initiatives on vaccination, by presenting an overview of the main issues that public health institutions need to consider in relation to building and maintaining trust.

Trust

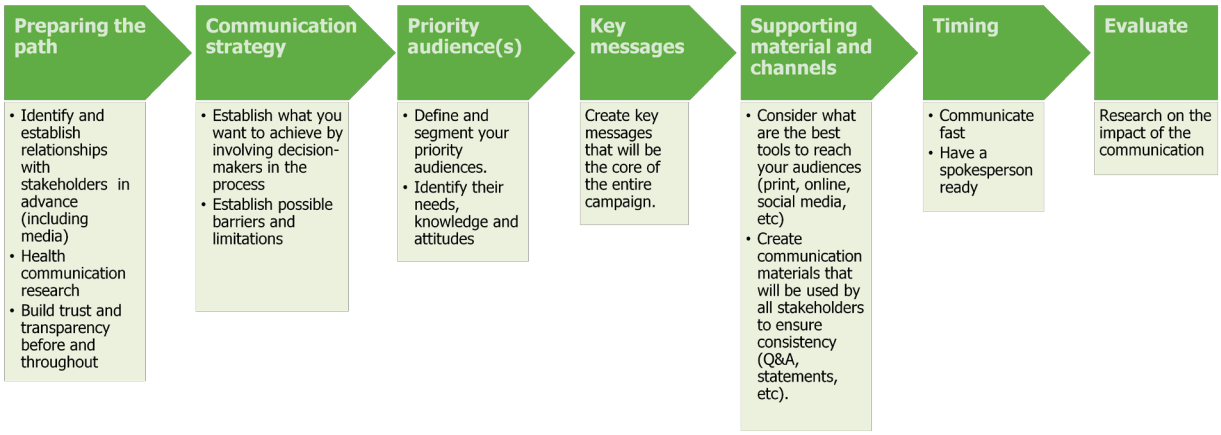
The guide covers the notions of trust and related issues such as reputation and adequate risk communication. In order to be successful in their communication activities, public health authorities need to build and foster their reputation as trustworthy sources of evidence-based information, as this will impact how the public perceives and acts upon their messages. Each action matters and can make a difference by either reinforcing a positive reputation or destroying it very quickly.

Transparency

Transparency is essential in maintaining public trust. It allows the general public to understand the information-gathering process, as well as the risk-assessment and decision-making processes associated with immunisation issues. Public health authorities should ensure that information is accessible, accurate, consistent and easy to understand. Depending on the topic to be communicated, this may include presenting clear information on how the process of licensing of vaccines works, which stakeholders are involved in a specific vaccination campaign, ensuring that there are no conflicts of interests or perceptions of undue commercial influence, as well as acknowledging adverse events following immunisation. By being transparent authorities can clarify a situation to the general public, acknowledge the public's concerns, and provide relevant information about issues where the public has limited knowledge.

Communication in immunisation programmes

The various steps in preparing and implementing a communication programme on immunisation are outlined in the chart below:



Conclusion

Transparency and trust are parameters to work with – before and while undertaking any communication activities – to ensure that information on immunisation is acknowledged by the public and advice is followed. Undertaking the different steps for preparing and implementing a communication programme will increase effectiveness of immunisation campaigns. This includes managing stakeholders, selecting priority audiences and assessing their knowledge, attitudes and behaviours, selecting the most appropriate communication channels to reach them, as well as formulating key messages, being consistent and creating materials that address the information needs and concerns of the priority audiences.

1. Introduction

Immunisation programmes are a powerful tool in the fight against diseases. In the European Union (EU) successful vaccination programmes have led to a substantial drop in the incidence of many infectious diseases. However, these programmes can also become a victim of their own success, as some vaccine-preventable diseases have become so rare that people can fail to realise the benefits of immunisation.

Recent outbreaks of vaccine-preventable diseases in Europe confirm the challenges faced by public health authorities in maintaining optimum vaccination coverage levels. A resurgence of measles cases in recent years in several EU countries has set back targets for elimination. In 2010, a poliomyelitis outbreak in a Central Asian republic and cases of polio in the Russian Federation marked the first time that polio was re-introduced in the European Region since it was declared polio-free in 2002.

While a majority of Europeans appreciate the benefits of vaccines and appear to trust the information and recommendations from immunisation programmes, public health institutions face an ongoing communication challenge. They need to make their voice heard in a context of abundant and even conflicting messages about benefits and safety of vaccines in the media (and in particular in new and social media). They need to build and maintain visibility as a reliable source of evidence-based information in order to address obstacles such as, for example, uninformed perceptions that have led certain population groups to question the benefits of vaccination, or to the public becoming more worried about alleged adverse effects of a vaccine than about the disease itself.

About this guide

The aim of this guide is to support Member States in planning and implementing communication activities in relation to immunisation programmes, with a focus on the notions of trust and transparency as fundamental principles for effective communication.

The guide builds on existing research, as well as on good practices developed by international organisations and examples of media coverage and communication campaigns for specific vaccines. It discusses the importance of planning and developing an integrated approach to communications. The notion of trust in relation to public health is presented, with a discussion of the factors that influence public trust and the importance of transparency when addressing issues such as vaccine safety, the vaccine licensing process and adverse events following immunisation.

The guide summarises results from recent research on which are the preferred sources of health information for the public and which are regarded as most trusted. These types of studies provide useful insights into issues to consider when deciding on the most appropriate messages and channels to reach specific audiences. The particular challenges that new and social media pose for communication on immunisation are also discussed in this context.

A draft of this guide was circulated to the members of ECDC's European Vaccination Scientific Consultation Group (EVAG) for external review. The external expert Dr. Theo Paulussen, research manager at TNO Quality of Life, Netherlands, also gave input to the draft document. Comments and input received during this external consultation were taken into consideration for the development of the current version.

How to use this guide

This document has been developed to serve as a handbook for those involved in planning and implementing health communication activities to promote immunisation. It provides suggestions on issues to consider when developing a communication strategy, with a focus on the notions of trust and transparency.

This is the second guide published by ECDC in the area of communication on immunisation. The first one, 'Conducting health communication activities on MMR vaccination' was published in September 2010 and provides hands-on advice on strategies and activities for the development of a health communication programme to promote measles, mumps and rubella (MMR) vaccination.

ECDC's role and responsibilities

Established in 2005, the European Centre for Disease Prevention and Control is a European Union agency whose mandate is to strengthen Europe's defences against infectious diseases through identifying, assessing and communicating current and emerging threats to human health posed by infectious diseases. In order to achieve this mission, ECDC works in partnership with national health protection bodies across Europe to strengthen and develop continent-wide disease surveillance and early-warning systems. ECDC is based in Stockholm, Sweden.

In its Multiannual Strategic Programme 2007–2013, ECDC has set out a specific target area concerning the communication of information on communicable disease prevention and control. Strategies to reach this target include the development of the means, procedures and necessary partnerships for the efficient and coordinated

communication of key public health messages and information, as well as support to the EU Member States' health communication capacities. This guide on the importance of trust for effective communication on immunisation is one of several ECDC initiatives in this field and can be used as a support tool by health authorities in the Member States. It can easily be adapted to suit national strategies and requirements.

Contact

ECDC Communication Knowledge Group

Public Health Development Section in the Public Health Capacity and Communication Unit

European Centre for Disease Prevention and Control (ECDC)

SE-171 83 Stockholm, Sweden
Tel: +46 (8) 586 01 000 / Email: info@ecdc.europa.eu

Website: www.ecdc.europa.eu

2. General concepts

The following chapter presents an overview of the notion of trust and related issues such as reputation, risk and risk communication. It also explains the important role trust and reputation play in public health communication, notably in vaccination programmes for prevention of communicable diseases. It sets a conceptual background for the following chapters of this guide, which then go into more detail on how organisations involved in public health can build and maintain public trust and credibility when communicating on vaccination.

Trust influences almost every interaction we have. Every communication is shaped in some way by the **trust** and **reputation** that we grant to the people and organisations that we deal with in our daily lives. Trust and reputation are not, however, created overnight, but are instead created and nurtured through a history of previous experiences which serve as a foundation for people's evaluation and placement of a person or institution on their trust scale.

In this process each action matters: it can add value to a positive reputation and enforce it or destroy it in a day. That is to say – it might take ages to build an image of a company or an individual as trustworthy, and it might take one day to damage or destroy it.

> 'It takes many good deeds to build a good reputation, and only one bad one to lose it.'
>
> - Benjamin Franklin

2.1. Trust in modern society

Trust and reputation management are related to the notions of **risk** and **risk management**, because people generally need to trust someone (or something) to protect them from risks.

For some sociologists (e.g. Anthony Giddens, Ulrich Beck), 'risk' is a product of the modernisation process – and today's risks differ markedly from those faced by previous generations: they are often seemingly invisible, e.g. a nuclear war, a massive environmental disaster, or a pandemic. German sociologist Ulrich Beck defines risk management as 'a systematic way of dealing with the hazards and insecurities induced and introduced by modernisation itself' [1]. In order to decrease public insecurities, and because these new risks are largely invisible, communicating **knowledge** (i.e. educating people) plays an important role in the process of building trust and reputation.

With regard to vaccination, research shows that concerns about the safety of vaccines and the risks of side-effects, along with perceptions on the low importance of a given vaccine, are among the commonly quoted reasons for not vaccinating children [2]. People fear the unknown, and may have a tendency to exaggerate.

An improved approach to communicating about vaccination is needed to reinforce and sustain the disease prevention achievements of the previous century. It requires communication that supports well-informed decisions by the public, healthcare providers and policymakers, by conveying information about the risks of disease and the benefits of vaccination.

When communicating, it must be carefully decided how information is provided and presented. While it is important to provide the audience with all the necessary information that is available to enable them to make an informed decision, it is also important to balance how that information is put forward to ensure that the benefit–risk balance (health benefits of getting a vaccine vs. risk of possible side effects) is addressed. Due to the fact that some vaccine-preventable diseases have become so rare, people can tend to forget how serious these are and how important immunisation is for prevention. Putting emphasis on the benefits will help prevent misconstrued views on what is perhaps a small risk blown out of proportion, as highlighted in a review on vaccine risk communication interventions [3].

However, it also needs to be highlighted that communicating knowledge alone is not the panacea for behavioural change (i.e. to convince people who are reluctant to vaccinate or are delaying immunisation). Communication research shows that behavioural change is a complex process which entails more than having adequate knowledge about an issue, as it is also related to cultural factors, people's attitudes, motivations and experiences, information needs, social norms and structural barriers. Understanding the multiple factors involved in people's decisions is therefore relevant. This in turn confirms the importance of health communication research as a foundation for effective communication interventions and the need for tailored approaches.

2.2. Trust and healthcare

Earning the public's trust in public health is challenging for two reasons. Firstly, good health is believed to be among the most important assets that people can have, which means people tend to take all related subjects very seriously. Secondly, a key element in public health, as Professor David Shore of Harvard University puts it, is a principal–agent relationship[4]: 'In such a relationship, one person (the principal/the public) gives another person (the agent/public health system) authority to make decisions on their behalf. Trust is of paramount importance, because the general public likely cannot assess the correctness of any public health recommendation.'

In an age where public information is so readily available on the internet (and contradictory information is abundant), the public needs to be certain that the authorities are working with the public interest in mind and can be trusted as a key source of accurate information on issues such as risks and benefits of vaccination, public health decisions and preventive methods. Any gaps in information can be easily detected on the internet and misconstrued. Public perception that authorities are keeping something important from them may be viewed as 'hiding' vital information, with the sole purpose of ensuring a positive uptake in immunisations (rightly or wrongly).

A high degree of trust is involved when communicating to the public about vaccination, as vaccines are generally administrated to healthy people to prevent diseases. Every time a parent holds a healthy infant to be immunised, she or he is demonstrating enormous faith in the potential benefit and safety of the vaccine, as well as trust in the clinician who recommended it, as mentioned in a article on protecting public trust in immunisation [5].

2.3. Building dialogue

A broader conception of communication, that goes beyond raising awareness, informing, persuading or changing behaviour, is presented in the sourcebook on development communication published by the World Bank. It highlights that dialogue is a vital ingredient in building trust, sharing knowledge and ensuring mutual understanding [6].

What does two-way communication entail?

- Transparency about actions and decisions
- Opportunity to be heard by all
- Ongoing process, consisting of a chain of interrelated actions, reactions and feedbacks
- Generating new knowledge and solutions (both about the audience as well as the best ways to communicate it), rather than simply being a transmission of information
- Avoiding problems by anticipating crises through feedback received from your audience
- Identifying or confirming any necessary changes.

It is also important to understand how to communicate with the general public. As explained by Thomas Abraham [7], public health authorities and the general public may take part in the same 'dialogue' but have a different understanding of the conversation. Using the example of a vaccine being 'safe', from the point of view of the general public, if a vaccine is described as 'safe', it implies there are no serious adverse effects. As Abraham puts it: 'Public health and the public speak different languages', therefore there may be differing understandings of the risks and benefits of vaccination. As will be highlighted in the following section, the role of healthcare practitioners in this 'dialogue' is of utmost importance.

The public should not feel that it lacks knowledge, or that it needs to seek it in other sources – any gaps of information should be anticipated and resolved.

2.4. Trust and sources of health information

As was described above, trust is considered an important factor in developing effective communication, and in particular in managing risk communication. However, it is also important to define which channels different populations trust most and are more receptive to. Perception of trust might vary across different segments of society and can differ between countries. The following paragraphs summarise recent research addressing these issues. Although several of the results refer to studies in the US, they may provide useful insight into issues to assess when planning how to reach specific audiences.

- A survey done in the US in 2007 on trust in health information showed that doctors and healthcare providers were the most trusted source of health information for all groups. In addition, individuals over 65 were much less likely to trust information from the internet compared to those under 65. Also, there was a positive relationship between the level of education and trust for both internet and public health authorities. Another interesting conclusion is that females are more likely than males to trust print media, the internet and television as a source of health information [8].

- Another survey, which was conducted amongst the adult population in 2003 in the US, indicated that despite recently available communication channels, physicians remained the most highly trusted information source to patients, with 62.4% of respondents expressing a high degree of trust in their physicians. However, 48.6% reported going online first, with only 10.9% going to their physicians first [9].
- A study based on 30 in-depth interviews with American parents to discuss vaccination for their children, both generally and in response to communications drawn from sources supporting and opposing vaccines, found that even parents favourable to vaccination can be confused by ongoing debates around immunisation. Many parents showed a lack of basic knowledge on how vaccines work, and consider that the standard information they find is not helpful. When asked what source(s) they would consult for more information, 10 parents (33%) said that they would ask their doctor or look for a government source and 21 (70%) said that they would look on the internet. When asked to explain their choice, 21 (70%) cited convenience whereas five (17%) cited trustworthiness. When asked explicitly if they would use the internet to find information, 27 (93%) said yes. The others explained that they lacked easy internet access, but could look on the internet if they wanted to. Of these 27, only five (19%) said that they would look at a medical website; 25 (93%) said that they would use a general search engine. All respondents generated search engine terms (e.g., 'vaccination',' 'MMR vaccine', or 'measles'), or provided one to three separate search terms. Anti-vaccine websites were most likely to rank higher than pro-vaccine sites with searches using simple terms like 'vaccine', meaning that they might be most accessible to individuals with the least knowledge. Searches with more precise terms, like 'MMR vaccine' or 'vaccination' routinely found official public health websites in the first 10 hits [10].
- Other interesting findings came from research undertaken in the Netherlands during the influenza A(H1N1) pandemic. The aim of this study was to examine perceptions and behaviours of the general public in this country during the early phase of the pandemic. Researchers concluded that during an outbreak public health authorities should take different actions to build trust and prevent misconceptions. All the scenarios should be communicated (positive and negative). The researchers state: 'Health authorities should not only communicate with the public about "what is known" (the certainties), but they should also communicate about "what is not known" (the uncertainties).' When more information becomes available during the outbreak authorities should regularly update the messages, inform and motivate the public to take preventive measures [11].

This type of research shows the importance of healthcare professionals as generally trusted sources of health information. The face-to-face communication is important to instil trust between the physician and the patient, with the physician providing the opportunity for patients to ask questions and fully understand all the information that is available. The strong, long-standing relationship between a doctor and patient should not be taken lightly when developing communication initiatives. If patients feel that they do not have the support of their doctor, the trust in public health authorities' advice may diminish.

However, the level of trust in healthcare professionals may need to be monitored, as it can differ depending on contexts. A study conducted in the Netherlands in 1999 examined the factors that influence parents' decisions to have their children vaccinated under the Dutch National Immunisation Programme. It showed that parents with lower vaccination intentions had the impression that doctors mention only the advantages of the vaccines and disregard the drawbacks [12]. The study points out that 'trust in the objectivity of doctors had most impact on parents' self-efficacy' (i.e. the confidence parents have in their ability to have their child vaccinated). It is acknowledged that medical doctors and other healthcare providers play an important role in the process of educating parents about vaccination. But the above-mentioned research highlights that 'vaccination intention is mainly affected by parents' attitudes toward vaccination, and the beliefs underlying these attitudes were in most cases not the result of a detailed search for information or thorough thinking about the issue. Educational messages about vaccination should, therefore, contain full information about the benefits and drawbacks, enabling parents to make well considered decisions'. Furthermore, this knowledge in turn allows parents to be 'more prepared to resist counter-arguments that question their initial positive attitudes towards vaccination'.

The factors influencing trust in healthcare professionals are multifaceted. When discussing the influence of the media in the perception of risk, Hackett [13] indicates that healthcare professionals need to provide 'clear, consistent, evidence-based information to clients, ensuring that any areas of uncertainty are acknowledged and clarified'. Not doing so undermines the public's trust in the healthcare professional. Furthermore, the author mentions research focusing on the MMR vaccine that shows that parents would have more trust in healthcare professionals if they were to disclose whether their children had been immunised with this vaccine. This shows that personal testimony from healthcare professionals can be highly influential.

2.5. The influence of the internet and social media

The context in which patients consume health information has changed dramatically with the internet. Internet and social media have undoubtedly become important sources of information. The following section discusses some of the issues to consider when engaging in online communication and social media.

The evolution of the internet and the increased use of social media should be considered by public health authorities on a continual basis as research shows the impact that these new tools have on trust and credibility. Nowadays, everyone can receive varied and conflicting messages from all kinds of sources, especially through social media. When engaging with social media, public health authorities should be ready to be active, as it requires a 'two-way' communication, even more than with any other method and gives the possibility to receive abundant and immediate feedback. Rather than sending a message unilaterally, social media is about dialogue. There is therefore a risk of people talking openly about the immunisation campaign, potentially also in a negative way. That is why careful consideration should be given to the approach, ensuring that the organisation has the right know-how and human resources available, when deciding on integrating social media into a campaign.

Transparency is necessary when engaging with social media, as was confirmed by communication professionals in a recent a study that looked into how companies were using social media [14]. Another survey showed that 75% of people interviewed viewed companies that microblog (sending short messages through Twitter or Facebook) as more deserving of their trust than companies that do not [15]. Public health authorities can therefore use social media as one of the channels to build trust and reach priority audiences.

As times change, so does the online behaviour of people. In recent years the informative web has changed into a social web. This social web puts audiences in touch with each other and makes it possible to provide feedback and express all kinds of emotions. Everyone has become a medium and this evolution has had a big impact on how people deal with online information. People can also use the information on the social web to reduce their level of anxiety associated with health issues.

In the past when someone became ill, he or she would immediately go see a doctor. Nowadays people often turn first to the internet and use the gathered information to formulate their thoughts. According to a health survey, a growing number of patients currently make their own judgements about what treatment and medicine they would like to have prescribed by a doctor [16].

A literature review on health information-seeking behaviour on the web shows that, according to different articles and studies reviewed, interest in the internet as a communication tool for health-related information is growing rapidly. This review also cites a WHO eHealth cross-country survey of seven countries which showed that 71% of internet users surveyed had used the internet for health purposes [17].

The internet, forums and social networking tools have allowed anti-vaccination advocacy groups to have a broader reach than ever before. While years ago, vaccine-related rumours would have been restricted to certain countries, online tools allow these to spread more quickly and to different countries, as experts highlight [18].

Regardless of how accurate or not the information found is, the internet provides convenience, as opposed to complex medical literature or the inconvenience of visiting a healthcare professional. However, over-reliance of internet-sourced information can blur the reader's judgement as to what is incorrect information and what is 'scaremongering'. Figures show that over half (52%) of internet users believe 'almost all' or 'most' information on health websites is credible, raising fears that inaccurate and deceptive information is being given the same credibility as correct and trustworthy information. Parents who do not vaccinate their children are more likely to have based their decision on information obtained on the internet (mainly from anti-vaccination websites) as compared to those parents who have had their children vaccinated. On anti-vaccination websites, misinformation is abundant and it is believed that many 'hardcore' activists cannot be persuaded through further (accurate) information. As a result, these activists and their arguments should not be dismissed but, according to Kata, instead should be addressed and a 'greater appreciation of the discourses underlying "anti-vaccinationism" is needed in order to understand the ideologies that support such beliefs [19]'.

The benefits of social media are numerous. In a way, it allows health organisations to listen to the audience instead of simply sending messages, and it enables them to engage in a dialogue with the general public by being able to reply and possibly correct any misconceptions.

Public health authorities need to be active and reactive when engaging in social media. Feedback must be given almost instantly in order to maintain trust and authorities should ensure they have the resources (time and people) to do so.

2.6. Trust and commercial information

Although more research may be needed on the issue, it can be argued that citizens and professionals across Europe may not fully trust information about vaccines if it is perceived to be driven by commercial interests, in particular on behalf of pharmaceutical companies. While recognising the input that the pharmaceutical industry provides for vaccine development and production, public health authorities must stay clear of any commercial influence in the health communication programmes and to transparently acknowledge which organisations are involved in any initiative. It may also be necessary for health communication programme coordinators to ascertain

that the messages issued by all sources are scientifically sound and are not contradictory, so as to strengthen the positive impact of messages delivered through public health communication efforts [2].

Pharmaceutical companies can be regarded by the public as having vested interests in scientific results, in order to help them develop products, and can be viewed as suppressing evidence of potentially harmful effects. An example of public trust in this sense can be seen from the results of a Eurobarometer study conducted in November–December 1999 and reported in early 2000 on European attitudes towards science and technology. In this survey, the public was asked specifically about their trust in information originating from different sources concerning modern biotechnology. People were asked to identify the source they trusted the most and to indicate whether they trusted other types of organisations. The study noted that consumer organisations and the medical profession were considered the most trustworthy entities, with environmental groups following behind them. Industry and political parties were considered the least trustworthy [20].

The following chapter will expand on the practical applications of the points outlined above. We will look at how public health institutions can build and maintain their role as trusted sources of evidence-based information whilst conveying their message in an open and transparent context.

3. How public health institutions can make their voice heard

'It is far easier to build trust before it is needed'
- World Health Organization [21]

The process of building, maintaining or restoring trust rests on a number of essential components. Trust is a key factor when it comes to being recognised as a credible and relevant source of information. This chapter will elaborate on the conditions and strategies relevant for public health authorities to get their messages across to the public, health experts and other parties involved in immunisation programmes.

3.1. Transparency

Transparency is vital for maintaining public trust. Information should be easily accessible, accurate, complete, and it should be easy to understand. Transparency allows the general public to 'view' the information-gathering process, as well as the risk-assessment and decision-making processes associated with immunisation issues.

Transparency is powerful, especially during times of uncertainty such as disease outbreaks, because it clarifies a situation to the general public and provides people with vital information about issues that they usually know little about. It can also have the effect of reassuring the public, even when the information provided is not positive or when it is still incomplete.

In some situations, health authorities may have to strike a balance between protecting the rights of individuals and the need to provide comprehensive and accurate information for the public good. Being very clear about any limits imposed on transparency, and explaining how and why specific limits are being set, is usually accepted and will help to defuse public criticism, provided that the limits can be justified.

Transparency on its own will not ensure widespread trust. The public must see that competent and well informed decisions are being made.

Be transparent: provide information and, wherever possible, a source, unless there is a reasonable justification as to why the information is being withheld.

Transparency on vaccination

An important first step in reaching vaccination coverage goals is to provide clear and comprehensive information and recommendations. These should include: how to vaccinate, when to do it and why there is a need for it. For example, an Italian survey conducted in 2008 on vaccine coverage found that lack of information accounted for 9.9% of non-MMR vaccination or delayed MMR vaccination [22].

The study conducted in the Netherlands on factors that influenced Dutch parents' decisions to vaccinate their children [23], indicates that attitudes towards vaccination did not appear to be the result of a thorough deliberation or detailed search for information. The study observed that the belief that vaccination is safe and the best way to protect children against infectious diseases positively influenced parents' attitudes, whereas the idea that children receive too many vaccines simultaneously and that vaccination interferes with natural development of the child's immune system had a negative effect. As mentioned earlier, the results of the survey stress that educational campaigns and practitioners' advice should provide complete information about all aspects of the vaccination, enabling parents to make well-considered and enduring decisions [23].

In an Australian study, which aimed to explore how mothers of infants respond to competing media messages about vaccine safety [24], researchers found that mothers considered it important to discuss vaccine risks and benefits with an informed expert so that they could make a competent decision based on all the facts. The researchers concluded that 'personal experiences, value systems and level of trust in health professionals are fundamental to parental decision making about vaccination'.

Clear information and recommendations about vaccination must be given:
when to do it and **why** there is a need for it.

Transparency on vaccine safety and adverse event following immunisation

Safety is an important aspect of any vaccination programme. The key is to reassure the public about vaccination safety at each and every stage of the process, starting with communication from the healthcare professional to the parent. During mass immunisation campaigns, communication on safety issues should include information concerning the assured source of safe vaccines, together with supplies of safe syringes and other materials, as well a system in place for monitoring and managing 'adverse events following immunisation' (AEFI) [25].

While it is important to be completely transparent about the side effects of a vaccine, it is considered relevant also to address the risk–benefit balance, stressing that the benefits outweigh the risks. As acknowledged by the Director of ECDC, Dr. Marc Sprenger, parents are nowadays more worried about alleged side effects than the disease itself: 'Recent history showed that alleged adverse events following immunisation impaired vaccination programmes and seriously harmed public health [from MMR and autism, to hepatitis B vaccine and multiple sclerosis]... [Therefore,] the public health sector must intervene with top-class, unbiased expertise.' He furthermore stresses that 'health professionals are the main communication channel to the public. They have to be convinced if we, in return, want them to convince their patients... We should not underestimate the importance of this challenge – otherwise the vaccines remain unused on the shelf [26].'

The role of healthcare professionals when advising parents on immunisation is challenging, mainly due to the large amount of information currently available (either via leaflets, the internet or anecdotal). According to the US Centers for Disease Control and Prevention (CDC), healthcare professionals should take time to listen and explain, solicit and welcome questions, acknowledge the benefits and risks, and conduct follow-up, in cases where parents express extreme concern or doubt. Healthcare professionals should also be able to balance scientific information with anecdotal information, because many parents will not fully comprehend the pure science of vaccination safety [27].

There have been numerous examples of vaccine safety scares in recent years, often linked to a vaccine's possible side effects. Further in this section some examples will be presented. In many cases, factors other than the vaccine itself were demonstrated to be the cause of the side effects. Nevertheless, in cases where adverse events linked to a specific vaccine have been proven, they must be acknowledged and communicated [28]. Withholding information, particularly on safety issues, will only result in misinformation and the risk of rumours being spread.

If allegations regarding vaccine-related adverse events are not addressed, it can undermine public trust and thus the confidence in a vaccine and result in negative uptake in the vaccine campaign. Vaccine-associated adverse events may affect healthy individuals and should be promptly identified to allow additional research and appropriate action to take place. In order to respond quickly, efficiently, and with scientific rigor to vaccine safety issues, the WHO has established a Global Advisory Committee on Vaccine Safety (GACVS).

Key points of the GACVS

- There is no such thing as a 'perfect' vaccine which protects everyone who receives it *and* is entirely safe for everyone.
- Effective vaccines (i.e. vaccines inducing protective immunity) may produce some undesirable side effects which are mostly mild and clear up quickly.
- The majority of events thought to be related to the administration of a vaccine are actually not due to the vaccine itself – many are simply coincidental events, others (particularly in developing countries) are due to human, or programme, error.
- It is not possible to predict every individual who might have a mild or serious reaction to a vaccine, although there are a few contraindications to some vaccines. By following contraindications the risk of serious adverse effects can be minimised [29].

The national monitoring and reporting systems for vaccine safety must be efficient, well coordinated and kept up to date with the latest information. The WHO Global Training Network offers training courses to help public authorities understand how and when to act with regard to adverse events following immunisation [30].

Healthcare professionals are the main channels of communication with the public: they should be the first to be convinced so that, in turn, they can welcome questions and acknowledge the benefits and risks with parents.

The effect of vaccines scares in immunisation programmes

An example of how a vaccine scare can affect a national immunisation programme is presented in a document from UNICEF on building trust. It describes how in the late seventies in Sweden an influential medical leader questioned the need for pertussis vaccination and made his view known to the public. 'This resulted in many paediatricians losing confidence in the pertussis vaccine. DPT (diphtheria–pertussis–tetanus vaccine) coverage decreased rapidly from 90 percent in 1974 to 12 percent in 1979. The government changed the national policy in 1979, abandoning pertussis vaccine. In subsequent years, a pertussis epidemic with more than ten thousand cases a year and a number of tragic deaths occurred in the country. The example from Scandinavia demonstrates the

influence of public opinion leaders on immunisation policies, and the importance of addressing public opinion concerns' [31]. Universal vaccination against pertussis for infants was reintroduced in Sweden in 1996.

Another vaccine scare occurred in Jordan, as presented in the document from UNICEF. It shows the impact that a small cluster of AEFI can have on an entire national vaccination campaign [31]: 'In September of 1998, more than 800 school children in Jordan believed they had suffered from side-effects of the tetanus-diphtheria toxoid (Td) vaccine administered during a nationwide school-based campaign. More than a hundred students were admitted to the hospital. Initially, the government, when informed about the first reported events, advised all schools to immediately stop the vaccination campaign. It did not take long for the media to broadcast the story on TV and radio throughout the country, resulting in mass panic among parents. The AEFI investigation later established that for the vast majority, the symptoms did not result from the vaccine but arose from mass psychogenic illness ("hysteria"). Only ten cases were identified to have been true AEFI – which is within the expected range of adverse reactions to Td. This cluster of AEFI occurred against a background of public distrust of government's handling of previous public health issues, and a background of misinformed media which immediately suggested that a "bad vaccine" was used. After the investigation, the Jordanian Ministry of Health reinstated the Td vaccination campaign, spending time and resources on restoring public confidence in immunisation programmes'.

In the European context perhaps one of the most relevant cases of a vaccine scare started in the late 1990s. Media in the UK ran a number of 'scare stories' about a potential link between the MMR vaccine and incidences of autism. In his article exploring how media has contributed to and generated 'risk' and 'risk perception', the researcher A.J. Hacket cites various studies related to the issue of the MMR vaccine [13]. A study conducted by Casiday, et al. is mentioned, which found that many parents were unsure how much trust to invest in government communication on the safety of the MMR vaccine, due to previous experiences and the way the media reported on this issue. The high media interest had a significant effect on the amount of children being immunised against MMR in the UK and subsequent outbreaks of disease. Media coverage invoked feelings of fear, anxiety and confusion in many parents.

Evidence-based support

Vaccine 'scares' demonstrate the need for evidence-based support for immunisation programmes. During a meeting on advocacy and communications on immunisation held jointly by the UK Department of Health and the WHO Regional Office for Europe, lessons learnt from past vaccine-related scare stories were discussed and the following factors were considered relevant to counter claims of anti-vaccination lobbyists: Make better use of the scientific information that is already available or can be quickly obtained, make more effective use of communications channels and strategies, and have appropriate contingency plans for rapid implementation 'to prevent vaccine scares becoming vaccine crises' [32].

There are currently several initiatives at EU and international level that address vaccine safety issues and which offer information on research and study results. When planning vaccination programmes at national level, this evidence can also be helpful for the development of materials addressing common uninformed perceptions, concerns regarding adverse events and the process of introduction of new vaccines.

- The World Health Organization (WHO) established in 1999 the Global Advisory Committee on Vaccine Safety (GACVS) to respond promptly, efficiently, and with scientific rigour to vaccine safety issues of potential global importance.
  More information on: http://www.who.int/vaccine_safety/en/
- The Brighton Collaboration is a global research network that conducts collaborative research and builds research capacity for reliable vaccine safety information. It has developed case definitions that allow countries to share a common understanding for AEFI detection, guidelines and template protocols so that public health decision makers can have the most accurate results available.
  More information on: https://brightoncollaboration.org/
- The Vaccine European New Integrated Collaboration Effort (Venice) project, aims to collect, share and disseminate knowledge and best practices in the field of vaccination through a network of European experts with the goal of reducing the heterogeneity among the countries' immunisation programmes.
  More information on: http://venice.cineca.org/
- The Vaccine Adverse Events Monitoring and Communication (VAESCO) project, is a network of investigators from EU Member States and European Free Trade Association (EFTA) countries with the overall aim of contributing to enhanced monitoring, epidemiological investigation and communication of AEFI in the EU and European Economic Area (EEA). It is coordinated by the Brighton collaboration and is funded by ECDC.
  More information on: https://brightoncollaboration.org/vaesco.html
- The European Medicines Agency is an agency of the EU responsible for the scientific evaluation of medicines developed by pharmaceutical companies for use in the EU. In the event of a pandemic, the agency is able to carry out fast track authorisation procedures for vaccines as well as monitor vaccine safety and effectiveness. The agency also constantly monitors the pharmacovigilance of authorised medicines and takes appropriate action if adverse drug reactions suggest that the benefit–risk balance of a medicine has changed since it was authorised.
  More information on: http://www.ema.europa.eu/

- Vaccine Safety, Attitudes, Training and Communication (VACSATC): In light of an increase in rumours and concerns for vaccine safety and in an attempt to understand the perceptions of immunisation and vaccine safety, improve healthcare professional trainings, and improve the availability of information, the VACSATC project was set up in 2006. It ran for three years and was funded by the European Commission's Directorate General for Health and Consumers [33].
  More information on: www.vacsatc.eu

Transparency on licensing of vaccines

In the EU, the licensing of new vaccines is done at community level, via a centralised procedure coordinated by the European Medicines Agency. This process provides a single market authorisation valid for the entire EU, as well as Iceland, Liechtenstein and Norway.

The existence of clear procedures for the decision-making process for introduction of new vaccines, as well as clear criteria for licensing, both in line with international guidelines, contributes towards ensuring transparency and trust. An example of how this process is explained to non-specialist audiences can be found on the US CDC website in a section on vaccine safety (http://www.cdc.gov/vaccinesafety/Vaccine_Monitoring/history.html); where the steps taken during pre-licensing of a vaccine to ensure its safety are detailed.

As part of this procedure, the credibility and independence of the experts involved is crucial. The ways in which an institution can ensure it is working with reliable experts will be discussed later on in this chapter.

Transparency on collaboration and conflicts of interest

If other non-governmental parties or stakeholders – such as professional associations, patient groups, or experts – are actively involved in developing communication materials on immunisation, this should be clearly indicated on all documents (by for example including their logo) to identify and acknowledge any interests they may have.

As discussed in the previous chapter, when it comes to building public trust in health authorities, working with any parties that have a commercial interest, such as pharmaceutical companies, can be counterproductive. Authorities need to demonstrate and communicate clearly that they are operating completely independently from any commercial interest.

To ensure independence, all medical experts providing advice to public health services need to be thoroughly screened for possible conflicts of interest. However, while commercial ties are the obvious conflict, other conflicts of interest can be more subtle. For example, an expert whose research is focused on vaccination for a specific disease might wish to highlight the importance of his personal research – and give it additional credibility – through cooperation with the health authority, as pointed out in an article on vaccination and trust [34].

Conflicts of interest might jeopardise the credibility and threaten the (perceived) objectivity of public health authorities. It might therefore be relevant to consider implementing a conflict of interest policy. This policy seeks to ensure that individual and institutional decisions serve professional and institutional goals and are not influenced by personal, commercial or other interests. This policy could include the disclosure of financial relationships, which can serve as a first step towards identifying and responding to possible conflicts of interest [35]. According to ECDC's own guidelines, any 'personal or vested interest in the outcome of decisions resulting from that function' would constitute a conflict of interest. The ECDC has a wide view on what exactly an 'interest' is and this can range from the obvious financial interest to indirect internal bias as a result of work conducted in the person's previous job which could influence the current issue. In line with this policy, ECDC Management Board members, members of the Advisory Forum, scientific panels' experts and the Director are required to submit a 'declaration of interest' form which provides information on any direct or indirect interests of relevance to ECDC's mission [36].

Consider implementing a conflict of interest policy: it ensures that decisions serve professional and institutional goals and are not influenced by personal, commercial or other interests.

3.2. Preparing the path

Identify and establish relationships with stakeholders in advance

The first step towards establishing relationships with key stakeholders involved in communication activities around vaccination is to identify the various different interest groups and their representatives, as well as individuals working around immunisation, and to understand their respective viewpoints.

Stakeholders may include:

- national or international health organisations;
- national or international child-advocacy organisations;
- associations of health professionals, such as general practitioners, paediatricians, nurses, etc.;

- healthcare providers, such as hospitals and clinics, local medical associations etc.;
- health or child-focused non-governmental organisations;
- patient groups;
- research networks, institutes and academics focusing on immunisation; and
- decision-makers who influence immunisation policies or related issues.

Regular and structural contacts

Through regular meetings with stakeholders in advance of any communication programme on immunisation, all parties can take time to properly understand their respective opinions on different issues and the actions they might take in any given situation. This will allow them to have an informed discussion about the most effective way in which they might collaborate.

Some of these stakeholders may even become potential partners in the communication process. Examples of effective collaboration include sharing information and insights that can be used in communication programmes, or experts acting as spokespeople with the media. The existence of a select group of experts who are always on hand to answer questions from journalists as well as the availability of a dedicated spokesperson are both considered essential elements for any effective communication initiative.

Nevertheless, although these stakeholders may be 'on your side' in an immunisation campaign, it still remains important to approach them professionally and to manage them systematically [37]. Some tools that can help structuring contact with stakeholders are [38,39]:

- A detailed contact list, subdivided into categories (e.g. opinion leader, patient organisation, research institute, etc), potentially prioritised, specifying contact details (e.g. e-mail, phone number, address, etc.) and updated regularly.
- Clearly articulated and agreed work plans and strategies.
- Well defined and agreed timelines.
- Agreed way of keeping in touch. During meetings with the different stakeholders, discussion should take place as to how the stakeholder wants to be kept informed on the project. This could be via a weekly or monthly e-mail, newsletter, meeting minutes, report, etc.

Take the time to meet your stakeholders in advance of a communications initiative.

Identify and establish relationships with journalists

Traditional and new media both exert a strong influence on public perceptions of immunisation. Journalists and – taking into account also new media – influential bloggers are therefore key stakeholders with whom it is important to establish a relationship of trust before any public health crisis begins, particularly to ensure continued effective working relationships during a crisis.

Engagement with media requires and understanding of how media works, taking into consideration issues such as timeliness and 'newsworthiness' of the information provided. When regarded as of public interest, media can be keen to cover vaccine science stories, therefore health communicators need to be able to convey the public relevance in the information they provide. Another factor to take into account is that – as highlighted during a high-level expert meeting on advocacy and communication for immunisation – routine science and health stories are usually covered by specialist science and health correspondents, with good quality coverage. But when the story has high public profile, such as a vaccine scare, media coverage may be done by non-specialists and with a more generalist perspective. This could affect scientific accuracy and objectivity. Anti-vaccine lobbyists have often been very effective in accessing and using the mass media to promote their arguments, providing stories addressing generalist audiences at very short notice and with emotive content, as highlighted in a WHO document [32].

Being proactive in providing the media with regular information about vaccine programmes, or vaccine news, as well as responding quickly and with relevant information to media questions, will help to position the public health authority as a reliable and useful source of information for journalists. Proactive and responsive media relations will, over time, contribute to build a trusting relationship with health journalists, who will then more willingly contact the relevant official department when a health crisis emerges, rather than turning to other (potentially less reliable) sources of information [32].

With a good network of stakeholders in place, journalists' inquiries about immunisation can either be answered by public health institutions directly, or be referred onwards to a stakeholder expert with whom the authority has already established a close working relationship.

Groups sceptical about vaccination are able to react fast to changing situations during a crisis, whereas health authorities can tend to respond far more slowly when asked to provide information or analysis. This often means that by the time a health authority has carefully prepared its response, the situation on the ground has moved on considerably, with all the momentum and media coverage on the side of anti-vaccination groups.

Journalists are key stakeholders: establish a relationship of trust **before** any public health crisis begins, to ensure effective cooperation **during** a crisis.

3.3. The role of communication in immunisation programmes

Immunisation programmes aim to protect the population against vaccine-preventable diseases. Effective communication is an important element in achieving this objective. Communication can help to raise awareness, create and sustain demand and encourage acceptance of vaccination services.

Communication is not only about addressing external audiences with information about an immunisation campaign through different types of channels. In the context of a vaccination programme, communication can involve [38]:

- **Advocacy:** trying to make immunisation a policy priority supported by decision-makers;
- **Social mobilisation:** convincing different communities to participate in a vaccination programme;
- **Programme communication:** passing immunisation messages to caregivers as a part of a vaccination campaign.

The communication strategy

An effective communication programme starts with a detailed and realistic communication strategy, which should be included in the strategy of the overall immunisation programme. The communication strategy needs to be discussed and agreed on at an early stage, in order to implement the communication in a systematic way and so that it is clear exactly what is to be communicated, how it will be done and by whom [40].

The strategy should be formulated on the basis of research and lessons learned from previous communication campaigns, and should take into account obstacles and barriers to vaccination (such as existing knowledge, perceptions and attitudes of the priority audiences, or difficulties in reaching certain population groups).

The strategic plan should incorporate a separate crisis communication plan that anticipates questions, scenarios and controversy.

The key components of the communication strategy include:

- the overall vision;
- the key messages;
- realistic objectives;
- defined audiences/priority groups;
- means of communication;
- approach for monitoring progress of the campaign;
- indicators to monitor progress in reaching objectives;
- a realistic and detailed timeline;
- an illustrative budget; and
- a crisis communication plan.

An integrated communication strategy is a step-by-step approach that will maximise positive outcomes for the health communication programme. An example comprising the different elements to consider in an integrated communication plan for the MMR (measles-mumps-rubella) vaccine is presented in ECDC's technical document on 'Conducting health communication activities on MMR vaccination', from page 10 onwards [2].

Involve decision-makers in the strategy and planning process

Planning of communication initiatives for immunisation is usually led by agency communicators, or by in-house communication managers. Senior management however should be involved throughout the planning phase, as challenges need to be assessed, objectives need to be validated, resources need to be allocated and eventual involvement of other stakeholders needs to be agreed upon.

For the particular challenges during crisis situations, involvement of senior management in planning a communication response is crucial. As indicated in WHO's Outbreak Communication Guidelines, before a crisis is breaking there should be agreement at management level on issues such as steps to be taken, who needs to be informed, who is the spokesperson, which agency has the lead, who needs to act. It can otherwise be risky to wait for a public health crisis to arise and then having to acknowledge the uncertainty of the situation and to empathise with peoples' fears [21]. More on crisis communication will be explained later in this chapter

Acknowledge and anticipate possible barriers

Several kinds of barriers and challenges can prevent an immunisation initiative and its communication programme from being successful. It is therefore important to identify and consequently address these. The barriers and

challenges can differ in nature and be linked to stakeholders and different target groups. An overview of some potential barriers to communication is presented in a document on strengthening immunisation programmes by the United States Agency for International Development (USAID) [38]:

- Health professionals, community officials or policymakers with poor communication skills or practices.
- Overly general messages on the desirability of immunisation, lack of local context and relevance.
- Failure to address and position the communication aspect in the entire immunisation programme.
- Insufficient support from community partners, communication professionals or institutions.
- Insufficient community involvement and interaction in planning and communicating service delivery of an immunisation programme, which can result in compliance problems or perceived resistance to immunisation.
- Insufficient financial, human and material resources.
- Insufficient communications infrastructure.
- Competing health priorities and over-committed staff.

Define the priority audience

The basis of any communication plan is defining the intended audience. In order for communication to be successful, the group to whom the message is to be communicated should be defined as clearly as possible. This can be done using different characteristics, from demographic information (age, gender, income) to beliefs, current occupation, social and physical environment etc. The importance of learning as much as possible about the intended audience lies in the fact that the subsequent campaign messages and tools are defined based on this indexation [41].

Specific audiences for specific vaccines

As each vaccine generally has its own particular uses and benefits and is relevant for specific population groups, it is usually necessary to revert back to the planning phase of the broader public health communication strategy, this time building a programme that focuses on the specific vaccine and defines the specific audiences.

The table below illustrates how different priority audiences are relevant for different vaccines. The last column gives an example of the kind of campaign tools used to reach each audience. This table is not exhaustive; it is possible to have several priority audiences for one vaccine.

Table 1: Different vaccines – Different priority audiences

Vaccine / disease	Priority audience (examples)	Campaign tools (examples)
MMR vaccination	Parents of infants aged 1–4	Nursery schools programme
HPV vaccination (Italy)	Young girls aged 11–12	School information programme
H1N1 vaccination (Sweden)	Youngsters aged 18–24	Social media campaign

Identify the public's needs and attitudes

It is the role of professional communicators to understand the public's attitudes, perceptions and knowledge relating to immunisation and specific vaccines. This process is sometimes called 'communication surveillance'. Regular contact with stakeholders such as patient groups and monitoring relevant media coverage can be very helpful [21]. Analysing media stories related to children's health and immunisation, as well as readers' comments help to get a picture of what the media and the public think about immunisation. Depending on the scope of the immunisation programme, national, local and regional media can be considered for the purpose of this research [37].

Public health authorities can employ both qualitative and quantitative methods to understand the public:

- Focus group discussions with people from the public, healthcare workers and public health professionals
- Public surveys
- Opinion polls

The findings and conclusions of this communication surveillance can help public health professionals in responding to a situation with a tailored communications approach. This takes into account different social contexts and also the differences in people's information needs, knowledge and attitudes. After identifying the principle areas of concern which could have a negative effect on a communication initiative, specific actions aimed at tackling these can be developed and implemented. To start off with, it can be useful to look into existing research on health information-seeking behaviours, perceptions and information needs. This information is not only relevant for responding to a current situation, but also for the planning and development of future interventions.

Understanding the audience helps not only to define the communication strategy, but also to follow up on its effectiveness. By repeating surveys or focus groups throughout a campaign, the results can be used as indicators to monitor progress, in that they help to assess whether communication initiatives are meeting their objectives, as mentioned in a document on strengthening immunisation programmes [38]. In practice, the progress indicators can indicate a need for adjusting the strategy when the results show that certain actions are not reaching their objectives.

Key messages

For each action, specific key messages should be defined and agreed by health authorities, in collaboration with the appropriate decision-makers and experts. These messages need to be evidence-based, referring to relevant medical research and studies that lend strong support to the content. A key message should not contain technical details or focus on complexities, but should be straightforward, clearly worded and seek to engage people and get them interested.

Some criteria for a good key message, as described in a communications handbook [39]:

- accessible language, no jargon or scientific terms
- simple and easy to say aloud
- hold one idea
- easy to understand and to remember
- persuasive
- non-judgmental
- relevant to the intended audience.

In order to be as clear as possible, the number of key messages should usually be limited to three. One should aim to keep in mind the issues that need to be communicated as a priority. A number of questions can help to define the key messages:

- What do you want the audience to remember?
- What do you want the audience to do?
- Why is this campaign important or relevant?
- What are the priorities?

Using the right words is important. Messages are often defined by communication and health professionals, but are aimed at a wide audience which does not have a scientific background. Not using the appropriate language can lead to misinformation [42].

Table 2: Same word – Different meanings

Expression/Word	Technical meaning	Meaning to public
Bias	Systematic error	Not an open mind
Controversy	Differing interpretations of the same data	Difference of opinion
Naïve	Previously unexposed	Unsophisticated
Plausible	Theoretically possible	Worthy of belief, factual
Safe	Low risk	No risk
Significant	This may not be a chance difference	Important

From Myers MG and Pineda D. 2008. 'Do vaccines cause that?!' [43]

The power of narrative information

When developing the messages, public health institutions also need to take into account how they will present the information in order to catch attention and engage with the audience. As mentioned earlier, the internet is increasingly being used as an information source about immunisation and people are often confronted with confusing and conflicting messages from various sources.

Recent research presented during the ECDC Eurovaccine conference 2010 discussed how people tend to have a preference for parental, narrative information when looking for information in the internet, in particular parents who perceive vaccination risks to be high. Instead of looking for the likelihood of adverse events, parents are interested to know 'how it is'. In social media, the narratives are easily available. The research presented in Eurovaccine highlighted that the more narratives are encoded, the higher the perceived vaccination risk and the lower the vaccination intentions. It was also mentioned that more research is needed on how the natural preference for narratives can be used to aid vaccination decision making [44].

Supporting materials

In order to anticipate questions from the public, stakeholders or the press, several documents can be prepared for both internal and external use. These documents can serve as guidelines to answer difficult questions and can help to ensure that different spokespersons spread consistent messages, as highlighted in a communications handbook [39].

Internal supporting materials

- A holding statement. This is a short text that holds all the basic information about the topic, organisation, etc.
- The key messages – with special attention paid to wording – should be laid out in a document of maximum size one page A4.

- Questions and answers (Q&A): based on anticipated questions about the disease, the vaccine and the campaign and formulate an answer. Answers should be kept short and aim to incorporate the key messages. The questions can be very general, but it is also advisable to think of critical and potentially tricky questions that could be asked by the public or the media. This document serves as a guideline for spokespersons.

External supporting materials

- Frequently Asked Questions (FAQ): a document that anticipates questions concerning the vaccine and the campaign, as well as more general questions from the public about the disease. The questions should be kept short and the answers should be limited to one paragraph. Careful attention should be paid to language, also trying to avoid using scientific or technical terms not necessarily understood by the public.
- Factsheets: short – often in bullet points – written documents that go into detail on a certain topic, such as the disease or the vaccine.

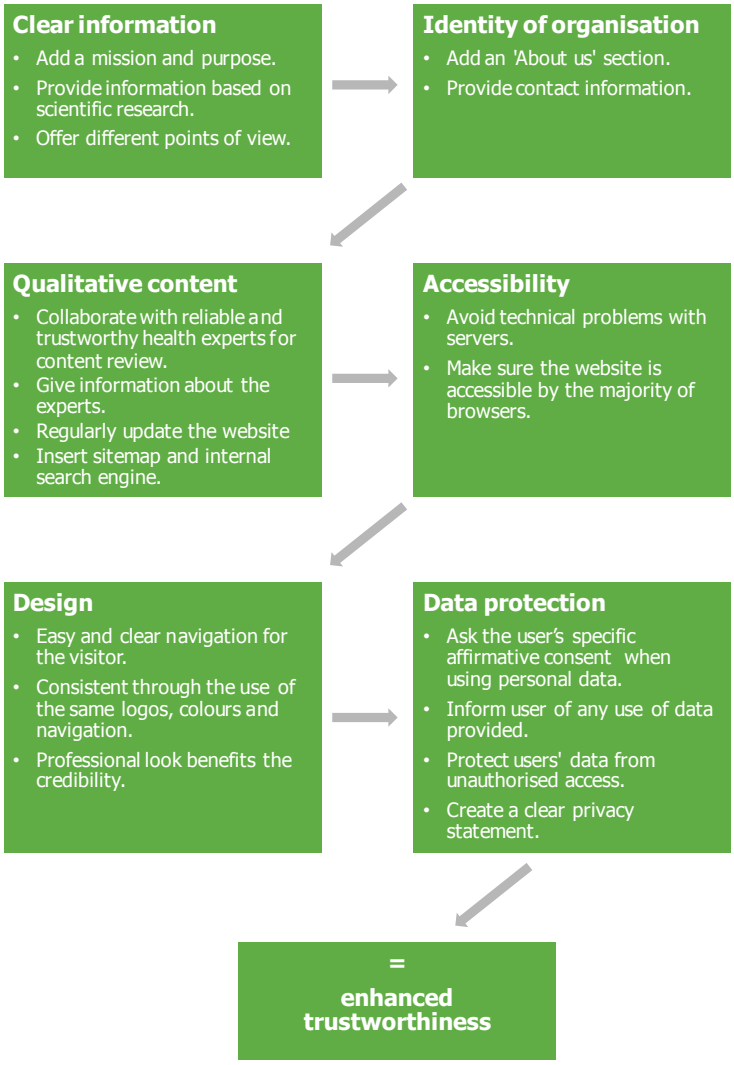
Means of communication

Communication materials

As explained earlier in this chapter (transparency on collaborations), it should be made very clear which organisations are involved in a campaign. When developing communication materials, which can range from leaflets and brochures to posters etc., it is important that these reflect everyone's involvement in the campaign, for example, by displaying the logo of the public health authority, but also that of potential stakeholders that may have acted as partners.

Online tools

As mentioned earlier, the internet is a popular source of information on health-related topics. Nowadays, websites are a common feature of vaccination campaigns. However, while there are many websites on health-related topics, some contain information that might be misleading. It is therefore important to ensure that the content is credible and to take measures that can enhance the trustworthiness of the website [45,46]. For this aim, organisations need to keep six key elements in mind (see flowchart, below).



It can also be considered to educate the public on how to navigate the web when looking for vaccine information. An example of this approach comes from the Canadian Coalition for Immunisation Awareness & Promotion. This organisation provides a factsheet to help the public decide, via questions and a checklist, whether vaccine information that they find on the internet is accurate [45].

WHO's GAVS Committee has developed a certification process for websites that provide information on vaccine safety which adhere to good information practices. This project, called 'Vaccine Safety Net' is based on the recognition of the need of web-based information which is objective and based on science. Websites that meet the criteria on content and credibility are listed on the following site: http://www.who.int/immunization_safety/safety_quality/vaccine_safety_websites/en/index.html

Crisis communication

In crisis situations, an organisation has to react quickly in an unpredictable situation. Specifically with regards to immunisation programmes, a crisis could for example include a vaccine recall or a higher than normal level of individuals who experience AEFI. Media requests and questions from the public intensify. Given the emotional link to personal health, what could be conceived as a minor incident can easily magnify itself into 'media frenzy'. In such situations, there is often a need for immediate and straightforward information and this is easier to handle when a crisis communication plan has been developed in advance and possible challenges have been anticipated.

The way a crisis is dealt with can influence an organisation's credibility, sometimes for the better, other times for the worse. A good crisis plan can also help to minimise a potential crisis situation and bring an immunisation programme back on track. The overriding goal of crisis communications is to act in ways that build, maintain or restore trust, which is vital for the success of an immunisation programme. A crisis plan outlines possible scenarios, the necessary steps to take, people to involve and messages to communicate.

Crisis support

Firstly, a potential crisis team should be identified. This team should consist of different persons and organisations that are relevant to the nature of the crisis and to the topic to which it is linked.

Crisis team members could be:

- communication professionals;
- designated spokespersons;
- senior management;
- stakeholders/partner organisations;
- experts; or
- research institutes.

As is the case in the overall communication plan, internal materials should be developed to support the crisis team, and more specifically, the spokesperson. These supporting materials should include a holding statement, key messages and a questions and answers document, in which the main message is offered as an answer to a variety of potential queries related to the crisis.

The way an organisation handles a crisis can significantly enhance or diminish its credibility.

Early statement

When trying to build trust with the public, the crucial role of the 'first statement' cannot be overemphasised. There are three key elements of a first statement that will greatly determine whether it is perceived as 'trustworthy' by the public at large: its timing, its openness and transparency, and how comprehensive it is.

In today's interconnected 'information society', it is difficult to hide information from the public. One way or another, information easily leaks into the public domain. Withheld information emerging in this way, possibly revealed by an outside – and potentially less reliable – source, usually gives rise to rumours and misinformation. It is therefore vital to communicate at a very early stage in any crisis – as well as to give as much information as possible.

A lack of available or reliable information is also not a sufficient reason for health authorities not to communicate. Instead, it is crucial for the authorities to acknowledge in their statement that the information they are providing is not yet fully complete, that it is still being verified and that, as a result, the picture may change at a later stage. The public also needs to be reassured that, as soon as any new information or data emerges, the health authority will keep them updated and informed.

It is also important to keep stakeholders aware and fully abreast of the developing situation. For instance, it is vital to keep the health professionals updated. They may often be the first point of contact of the concerned public, and could be confronted by questions or worries from patients who have seen media reports. Therefore they should be aware and have at least some information that allows them to address such concerns.

Once again, this depends on health authorities having already established good relations and effective means of communication with their key stakeholders, so allowing them to be involved in the decision-making process as well as in the communication of that process to the public [47].

Based on interviews with US government environmental officials, several arguments for early release of information were identified by experts in risk communication [48]:

- Releasing information early sets the pace for resolving the problem.
- When information is not released, the risk of a leak grows, undermining trust and credibility.
- Meaningful public involvement in decision-making is more likely when information is released early.
- People tend to overestimate potential risks when information is withheld.
- People have the right to get information on what could potentially influence their life.
- It requires less work to release information early than to respond to the possible large amount of questions when the information was leaked or released too late.

Early communication in any crisis is an essential factor in being perceived by the public as 'trustworthy'. At the same time, it is important to be clear about the context and validity of the information provided – as well as the continued research and verification that is being carried out.

How to judge usefulness of an early statement

An early announcement poses communication challenges, in particular when information is very preliminary, the magnitude of the problem is still unknown and the situation is still evolving. Authorities may face the dilemma of still needing some time to validate information or initial signals of a problem but at the same time needing to release information very early about a possible threat. The information can cause increased media attention on the issue, and even if later the situation resolves, fear and uncertainty in the public may remain. Therefore, this is a complex issue that needs careful consideration, and different factors may influence the decision – scientific, political and sociological. Anyhow, as highlighted by WHO, research and practice have shown that the benefits of communicating at an early stage outweigh the risks [21].

This dilemma is faced by different organisations and in a variety of contexts. For example, as highlighted by a representative of the US Food and Drug Administration, deciding when to communicate about an issue is a challenge shared with many organisations [49]. When determining whether to communicate about a signal of a possible product problem, such an agency 'must balance the public's need to know with the risks of overburdening the public with an unwieldy barrage of information'. The dilemma faced is that if a 'low threshold for public notification' is used, an organisation may 'cry wolf' too often, if it uses a high threshold for public notification it may risk the perception of lack of transparency and information hiding.

The development of risk communication strategies was highlighted during a meeting on human papillomavirus (HPV) vaccine coverage and impact monitoring [50]: 'Addressing HPV vaccine safety should include ensuring surveillance of adverse events following immunization and establishing a good risk communication strategy to cope with spurious media reports'. During the meeting, examples were shared of media reports following adverse events and the harm done to HPV immunisation programmes. In this context, the relevance of having a communication message and strategy in place before the introduction of a vaccine was emphasised.

Judging whether releasing information early is useful and necessary is not an easy task. To structure and think through this decision, two questions, as presented by experts in risk communication may be helpful [48]:

- 'Will an early warning be useful?
  The case for "inform now" is strongest when the early warning is useful. Usually that means it's actionable – there are precautions people can take once they're informed. But time to get used to a new danger is also useful.'
- 'Will delay do damage?
  (…) Government and corporate officials are always alert to the damage that communicating might do; they often pay too little attention to the damage that not communicating might do', the experts argue. This includes issues such as endangering the institution's ability to lead the public through the crisis and damage to reputation.

If, after careful consideration, the answer to both questions is no, then an early statement is not necessary and time can be taken to make a more considered response. If the answer is yes to either question, it is advisable to make an early release of information.

Not communicating will not remove the public's need or desire for information: always keep stakeholders aware of any developments.

Regaining trust

Once trust is lost, it is hard to regain. The ideas discussed throughout this chapter can be used when setting up a campaign for a new vaccine or to address a specific audience, but the principles are equally relevant for regaining the public's trust when confidence in an existing and seemingly already established and accepted vaccine is challenged.

To regain trust, a long-term strategy should be put in place which includes different actions and stakeholders to help build support for immunisation. Some key elements to consider for such a strategy, as indicated in a document on public health education in relation to polio immunisation [51]:

- grassroots involvement (this implies that the involvement and the group supporting it are natural and spontaneous);
- policy change; and
- public and media awareness. Such a strategy includes awareness and involvement at a high level as well as increased involvement of the media and the public.

The issues discussed in this chapter highlight how lack of trust can result in vaccination programmes suffering severe setbacks or even failure. An important aspect of gaining (and regaining) trust is, as mentioned earlier, to ensure transparency in public information as well as in the decision-making process. The public's concerns and reactions should also be addressed, in situations where there could be misinformation or rumours that need to be clarified. Even if the public's concerns arise from unscientific sources, these should not be dismissed. It is also essential to maintain perspective about other important health concerns of the public. These concerns will remain in the long term and could arise again, as experts point out [52].

4. Media coverage on vaccination

4.1. Introduction

Although vaccination for a number of diseases has been carried out for many decades and is generally accepted by the public, several factors can determine that immunisation issues – and in particular specific vaccines – are the subject of increased media attention.

Renewed media attention towards a particular vaccine can be the result of factors such as concerns about safety, reported cases of diseases despite a vaccine existing, reports of AEFI, or claims by anti-vaccination groups. The introduction of new vaccines can also create significant media attention. In order to attract readers and to sell advertising space, specific types of media often go for stories covering sensational issues with highly emotive content and are less likely to cover more sober, scientific issues [32]. These external factors require public health authorities to respond to ensure that their voice is heard and that accurate information is disseminated.

In addition to external factors triggering attention from the media, public health authorities can choose to engage proactively with the media in their communication around vaccination, for example by announcing new vaccines, drawing attention to an existing vaccine or participating in special events on promotion of immunisation.

The first two chapters have focused on tips and best practices for communicating on vaccination, with a particular focus on building and maintaining trust.

To sum up, when engaging with media, a successful outcome is more likely when:

1. the public health organisation has already developed good relationships with key journalists, establishing itself as a reliable source of timely and accurate information; and

2. relationships have been established with a variety of stakeholders and experts, allowing the organisation to present different angles to a story and consistent messages from different sources.

This chapter takes a look at examples of recent media coverage about vaccination in different Member States, describing the institutions involved as well as the issues and concerns raised in the media coverage. Each case includes also a discussion on how they reflect topics presented earlier on building trust and communicating on immunisation.

This review of media coverage is exploratory and does not aim to be comprehensive. Each case is based on a selection of media articles in order to include a geographical mix with very distinct examples on different types of vaccines, communication tools used (online channels, traditional media) and some of the outcomes and lessons learned that can be derived from the case descriptions.

4.2. Contamination of the Rotarix vaccine

Case description/history

The vaccine against rotavirus is quite new. Rotarix is one of the two available vaccines against the rotavirus – the most common cause of severe diarrhoea among infants and young children.

At the end of March 2010, traces of a pig virus called 'porcine circovirus 1' (PCV1) were found in the Rotarix vaccine. Although PCV1 is not believed to be dangerous to humans, on 22 March 2010 the United States' Food and Drug Administration warned doctors and parents against using the Rotarix rotavirus vaccine until further testing could confirm that it was safe [53].

Measures taken by government

After the contamination had been confirmed in the United States, the pharmaceutical company producing the vaccine informed that European batches of the Rotarix vaccine may also have been contaminated with traces of PCV1. Following this announcement, the French health administration AFSSaPS (*Agence française de sécurité sanitaire des produits de santé*) advised French doctors not to use the Rotarix vaccine as a precaution until more information on the nature of the contamination was known [54]. The AFFSaPS announced their decision within four days of the decision by the US Food and Drug Administration, on 26 March 2010.

In the following weeks, the investigations and research carried out by the European Medicines Agency and WHO confirmed that there were no safety concerns with the use of the vaccine and no special measures needed to be taken. On 26 May 2010, AFSSaPS issued a statement keeping to its advice not to use Rotarix as a precaution until the end of July, when the Medicines Agency's report was published [55,56].

Media implications

As Rotarix is a vaccine administered to infants and young children, the media covering the issue mostly comprised health journalists and media outlets that targeted parents, both online and offline.

On 26 March 2010 the AFFSaPS issued a press release giving 'Security information concerning Rotarix'. The message spread by the agency was that although there were no likely consequences for humans, the public health authority advised against using the vaccine until further research proved there was no risk, as a precautionary measure. The press release was picked up by several media outlets which reflected this message in their reporting [57–59].

The AFSSaPS issued a second press release exactly two months later, after the investigation by the Medicines Agency and WHO had taken place. This was stated to be an update of the earlier release containing 'security information' [56]. The key message in this release was that, despite positive advice from the Medicines Agency, the AFSSaPS maintained its precautionary measure of not using the Rotarix vaccine until the final report from the Medicines Agency would be published at the end of July. This information was picked up by several media outlets. Once again, the message communicated by the French public health authorities was reflected in their reporting.

Audiences and stakeholders involved

Health experts

The main health professionals that needed to be informed about the warnings issued were doctors and nurses. Specific channels were used to reach these target groups including professional associations for doctors and nurses, as well as specialised medical media.

Parents

In cases where there is a potential risk to children's health, it is necessary to communicate the issues in a way that is clear and reassuring, to avoid worrying or panicking parents.

Outcome and lessons learned

Based on the media articles gathered, AFSSaPS's message was disseminated widely and clearly explained. There seemed to be no panic – and media did not appear to question the efficiency or reliability of the vaccine as a whole.

Importance of an early communication

The timelines for releasing information noted in the examples indicate that AFSSaPS communicated quite quickly, acting in the space of only a couple of days by issuing press releases, the content of which was then presented in the media. This example showcases how an early statement from a public institution can serve to clarify a situation and thus prevent ill-informed rumours.

Acknowledgement of the limited information available

In its press releases, the AFSSaPS specified that the warning served as 'a precaution until further research was done'. By doing so, it acknowledged that information was not yet complete, but that the necessary action was being undertaken to obtain the information required. As discussed in the previous chapter, these are very important factors in establishing trust.

Timed communication

The AFSSaPS issued official communication at two essential junctures: firstly, when the contamination was discovered, and secondly when the Medicines Agency and WHO issued their advice.

Trust and sources of information

In this case, no external stakeholders were mentioned or quoted by journalists in the media coverage reviewed. This could suggest that the media judged the information from the French public health authority to be sufficient and clear. The overall impression when reviewing media coverage from this case is that due to the AFSSaPS's quick and clear position on the matter, it left less opportunity for other conflicting voices to create scares.

4.3. Human papillomavirus (HPV) vaccine

Case description/history

At the beginning of 2004, news that a 'vaccine against cervical cancer' was being developed made the headlines in Belgium. Media reported on the new vaccine, quoting a gynaecologist who called this 'a breakthrough in the fight against cancer' [60]. In 2007, the tests for the vaccine were successful and approval for it to be made available in Europe was much anticipated. As might be expected, the news of a vaccine that reduced the risk of developing a common form of cancer provoked significant media attention. The following example reflects the challenges that public health institutions may face when a new vaccine is introduced.

Two pharmaceutical companies were each developing a vaccine, both having had positive test results. The primary cause of cervical cancer is a persistent infection of the genital tract by a high-risk human papillomavirus type. HPV is a sexually transmitted virus, for which sexually active women are most at risk. Both vaccines protect against the high-risk HPV types 16 and 18, responsible for an estimated 73% of cervical cancer cases in Europe [61].

Measures taken by government bodies

In October 2007, while procedures for the reimbursement of the vaccine were being developed, the Belgian Health Care Knowledge Centre issued a report on the HPV vaccine's efficacy, cost effectiveness and its impact on the budget for health insurance, which included information about to whom the vaccination should be given and under which conditions [62]. The report concluded that the vaccine was useful when administered to young girls before their first sexual contact. While the new vaccine protects against the virus types that cause a high percentage of cervical cancer cases, the report highlighted the importance of screening – even after vaccination in the form of regular pap-smears. This would help to ensure that the remaining types of HPV viruses could still be identified. A fall in the participation in cervical cancer screening could even counter the positive effects of vaccination. The report therefore recommended an approach combining vaccination and screening [62].

The reimbursement of the vaccine for girls between the ages of 12 and 18 was announced in 2008. A year later, the vaccine was integrated in school vaccination programmes.

Media implication

As expected, this vaccine to prevent a common form of cancer received plenty of media attention. The issue was widely covered during the initial government investigation in Belgium at the time when the public health authorities issued their recommendations.

After the Belgian authorities decided in favour of reimbursing the cost of the vaccine against HPV, the media started raising doubts in relation to the vaccine for two main reasons: firstly, the question as to whether screening would remain a necessity and secondly, a disagreement between the Belgian government and the Walloon regional authorities. The Walloon region did not agree with the reimbursement guidelines issued by the national authorities and therefore put in place a different policy at the regional level. The Walloon government questioned the usefulness of the vaccine and the need to invest in a vaccination programme where screening remained important even after the vaccine had been administered. After reimbursement was approved, several issues triggered critical media attention towards the vaccination programme.

One magazine looked at information campaigns which had been launched about the HPV vaccine. One of the campaigns questioned by the media was a 'newspaper on cervical cancer' which was distributed along with different women's magazines. The article questioned the independent character of the newspaper, which appeared to be promoting the vaccine and at the same time included an advertisement for a pharmaceutical company producing an HPV vaccine at the end of the newspaper. The investigation also showed that educational websites on the vaccine are linked to pharmaceutical companies [63].

The article also touched on the issue of the pharmaceutical lobby's influence on the government's decision. It also reported on links that experts who had contributed to the official government's recommendation and that the cervical cancer prevention lobby had with the pharmaceutical industry.

Following this information, several newspapers, magazines and consumer radio shows began to discuss the HPV vaccine, openly questioning its suitability. People in favour said that it was the first vaccine ever against cancer. People against it protested by calling it a totally useless and aggressively marketed product. On top of this, the vaccine caused some politically heated discussions. Besides all this commotion, however, the media reported that by end of November 2008 more than 177 000 girls and women had been vaccinated [64].

Additionally, the media reported that a young girl in the United Kingdom had died after receiving a vaccine against HPV. Although investigations determined that the girl's death was caused by other conditions, some media headlines and articles had suggested the death was related to the vaccine [65], while other articles acknowledged the need for further investigation but did suggest a link between the girl's death and the HPV vaccine [66].

In addition to looking into lobbying practices, journalists also scrutinised the marketing dynamics. Belgian law does not allow medicine to be advertised to the general public. However, journalists picked up on evidence of some activities that could point to this law having been circumvented by pharmaceutical companies which aimed to advertise towards doctors, focussing on the disease rather than the vaccine. Journalists interpreted this as further proof that financial interests overrode public health.

Articles questioning the government's decision were published in 2007, with media attention reaching its peak at the beginning of 2008. Throughout 2009, however, negative articles questioning the vaccine continued to appear [67].

Audiences and stakeholders involved

A number of different organisations were present in the media coverage examined. These range from government institutions such as the Belgian Health Care Knowledge Centre; the Belgian Scientific Institute of Public Health – an epidemiologist and coordinator of Cancer Epidemiology regularly acted as a spokesperson on the HPV vaccine; as well as the Superior Health Council (*Hoge Gezondheidsraad*) – its scientific advisor acted as a spokesperson when reacting to the allegations of 'biased experts' in the workgroup that decided on the HPV vaccine.

Relevant for the context is also the fact that public health in Belgium is organised on both a national and regional level, prevention being a regional responsibility. This explained the difference in vaccination policy between Flanders and Wallonia, as regional ministers were required to fund a national decision. The national minister of public health and the regional ministers (Flanders and Wallonia) were addressed. A politician (at that time member of the opposition) who was also a doctor was often interviewed as a significant opponent to the vaccine.

A number of health associations were also quoted in the media, such as the Flemish Cancer League. The League was in favour of the reimbursement of the vaccine, but had two concerns: the first being that the government should have paid more attention to organising systematic HPV screening using pap-smears. Secondly, the League questioned the high price that the pharmaceutical producers had been able to secure through marketing and separate negotiations with European governments [68].

Journalists also quoted the doctor-president of the non-profit association 'Prevention Vaccination Damage', an organisation that aims to prevent, inform on and communicate about the possible negative consequences of vaccination.

Other stakeholders involved in the debate were the health professionals, as journalists also consulted health professionals already known to the wider Belgian public, including a virologist and a gynaecologist, and the pharmaceutical industry. When journalists started to scrutinise the pharmaceutical industry's marketing strategy, their questions were fielded by the Head of Communication of Pharma.be, the Belgian association of pharmaceutical companies.

Outcome and lessons learned

Vaccination against cervical cancer is ongoing and is becoming established in the Belgian government's vaccination programme. In 2009, more sceptical articles mentioning possible downsides of the vaccine appeared. In 2010, the media reported largely on the elaboration of the vaccination programme. However, these articles mostly referred to the differences in reimbursement policy [69,70].

The importance of screening experts

In the Belgian case, media raised concern on the independence of experts who participated in the official recommendation. This is a reminder of the importance of addressing any conflicts of interest. Health experts require sufficient funds to carry out research, but may gain these through pharmaceutical companies. The experts are then on many occasions consulted by public health authorities because they are, after all, the leading specialists in certain areas of research. However, the careful screening and selection of the experts consulted by public health authorities is of major relevance. The boundaries within which experts can operate and be linked to other (commercial) partners need to be well defined.

Transparency on collaborations

In the case described, the issue of commercial interests playing a role in the deployment of the vaccine was raised in media coverage. This reminds us that any partnership with pharmaceutical companies is to be handled delicately, as there is a general perception that commercial interest supersedes public health needs. Transparency is crucial, public health authorities need to pay attention to any possible conflicts of interests.

Stakeholder relations

In the media coverage on the HPV vaccine, a variety of stakeholders were consulted. This shows that in a particular debate the media can present a number of viewpoints, which in turn can lead to confusion and conflicting messages being spread. Therefore it is important that public health authorities establish a relationship with different stakeholders in advance. Knowing their opinions and having them contribute to the vaccination programme is relevant to clarify differences and to be able to present consistent messages in the media, thus reducing the possibility of conflicting messages which could undermine the vaccination programme.

4.4. Measles outbreak in 2006

Case history/description

A measles outbreak was reported in North Rhine-Westphalia (NRW) in Germany in 2006. Measles cases in Germany had previously fallen from a peak of 6 037 in 2001, to a historical low of 122 in 2004. There was a

resurgence in 2005, which in turn led to a measles outbreak in a densely populated area in 2006. That year, about 1 700 cases of measles were reported.

The city of Duisburg was one of the most affected, with 614 measles cases reported. In total, 95 people were hospitalised and two patients, a two-month-old baby and a two-year-old child, died following complications resulting from the measles infection [71].

During the outbreak, a now rare but previously more common social phenomenon reappeared: so called 'measles parties', where parents deliberately mingle unvaccinated children with other children who are infected with measles. The intention is to have their children infected with measles, as their uninformed perception is often that the disease is less harmful than the vaccine [72].

Measures taken by government bodies

At the beginning of the outbreak, a majority of reported measles cases in Duisburg were located in one large school. Local authorities initially responded by organising an awareness campaign aimed at children in that school and their parents.

When further cases of measles were reported, however, a large-scale awareness campaign was launched. The key message given to parents was to take their children to a doctor to get them vaccinated.

Nevertheless, it was reported that due to a lack of available resources and personnel, local health authorities did not set up any city-wide vaccination campaigns. They had also expected that the transmission of the disease would slow down and stop during the Easter holidays, when large numbers of children were not in close contact with each other. Three weeks after the holidays, however, the number of measles cases increased again. This second outbreak provoked more concerted action: district health authorities checked the vaccination cards of children at the affected schools and advised unvaccinated pupils to stay at home for 14 days.

To determine the cause of the outbreak, standard questionnaires were distributed to physicians and hospitals. Of the 614 measles cases in Duisburg, information on vaccination status was available for 464 patients. 80% were reported as unvaccinated (373 cases), 14% as having received one dose of the vaccine and 6% as having received two doses.

The parents of 272 children (73% of those not vaccinated) gave reasons for not having their children vaccinated, of which 36% had simply forgotten to do so, while 28% said they rejected the vaccination. The majority of these said they feared side effects, or expressed a general attitude against vaccination [71].

The outbreak also happened during the year that Germany was hosting the FIFA World Cup finals. As a result, warnings were issued to visiting football fans, asking them to ensure they had been vaccinated against measles to prevent a possible outbreak [73].

Media implications

The media reported the outbreak, stating that an investigation into the causes was being carried out. Reports emphasised that measles was not just a harmless children's disease, but could sometimes result in serious complications. One article said that 'myths around measles in Germany are as hard to destroy as the disease itself' [72]. The media coverage reviewed disputed many of the myths surrounding measles and vaccination, and journalists generally presented vaccination as the solution to prevent the disease.

Audiences and stakeholders involved

Public health authorities

The Robert Koch Institute (RKI), a federal institute for the Ministry of Public Health, focused on disease prevention and control, and the State Institute for Public Health (*Landesinstitut für den Öffentlichen Gesundheitsdienst*) delegated an epidemiologist as a spokesperson.

Health professionals

Several doctor associations took part in the debate: the association of paediatricians (*Berufsverbands der Kinder- und Jugendärzte*) and the local Medical Association for the district of Munich (*Ärztlichen Kreis- und Bezirksverbandes München*). Journalists also consulted a professor in infectious immunology. The health professionals quoted often directed their intervention at doctors, saying that doctors encouraging measles parties or those not promoting the vaccine against measles were making medical errors.

Outcome and lessons learned

The 2006 measles outbreak was only contained and eventually stopped with great difficulty, clearly demonstrating the importance of prevention. In 2009, WHO called for more national vaccination campaigns, following another outbreak of measles in European countries, including Germany. The fact that WHO felt the need to issue this call suggests that sporadic media coverage emphasising the importance of vaccination, as well as local information

campaigns linked to specific outbreaks, were not sufficient to combat the disease and to maintain high vaccination coverage. Instead, continuous communication and information is required.

Involving healthcare professionals

Seventeen percent of parents of unvaccinated children in Duisburg claimed that their physicians had advised against vaccination, without a clear contraindication. The data from the surveys should be interpreted cautiously, but may indicate the need for better and continuous education for health professionals [71].

Know your public

In Duisburg, 28% of people surveyed expressed opposition to vaccination; the majority of which said that fear of side effects had stopped them from vaccinating their children. In cases where these sorts of fears are known to be prevalent, it is important to address them before an outbreak occurs. Tailored information campaigns can be developed, directly addressing people's perceptions and understanding of vaccination. By carrying out regular public surveys, or opinion polls, public health professionals can keep track of common attitudes and beliefs – and respond to specific topics via communication campaigns.

Specific communication approach

When communicating on vaccination, the different vaccines need to be taken into account. There is no 'one-size-fits-all'. For each vaccination campaign, there may be different prejudices, different reasons that make vaccination important, different priority audiences and different stakeholders involved. As this case shows, there are clear misconceptions regarding the measles vaccine that need to be addressed among audiences such as the decision-makers – the parents – and those offering them advice on immunisation, such as doctors.

5. Examples of vaccination campaigns

Having explored theoretical aspects linked to trust and how public health institutions can make their voice heard, as well as some examples of how media reported on immunisation issues, this chapter will focus on the role of public health authorities and possible approaches for communicating on immunisation, by taking a look at a selection of recent communication campaigns for specific vaccines in some EU Member States.

This review aims to offer some insights into the main messages of these campaigns, priority audiences and communication channels used, as well as some of the key learning that can be derived from the description of these initiatives. It does not aim to be comprehensive or to systematically qualify the approaches used. It discusses some concrete approaches that may serve as examples for those developing communication initiatives on immunisation.

5.1. HPV vaccine

Two examples on communication campaigns for the HPV vaccine are discussed here, as these show two possible approaches in different contexts, with the use of different communication channels. One example comes from Italy and addresses a regional campaign, where traditional channels to communicate with parents, schools and healthcare professionals were used. The other example comes from the UK and shows how social media was used as a platform to reach and also gather feedback from the priority audience – young adolescent girls.

Italy

Situation

HPV infection is the most important cause of cervical cancer. There are currently two HPV vaccines available and, to be effective, the vaccine doses should be given before the person becomes sexually active. Most countries have opted for vaccinating girls in the early teenage years.

An article published in the journal *Eurosurveillance* presents an example from Italy. In March 2008, the regional public health authorities of the Italian province of La Spezia launched a campaign to promote the uptake of the HPV vaccine. The vaccine was free for young adolescent girls between the age of 12 and 14. For girls and young women between 14 and 26 of age, the vaccine was available at a reduced price [74].

The campaign

As explained in the above-mentioned article, in order to reach out to young adolescent girls, the campaign used direct means of communication: a letter was sent to parents through several intermediate channels.

Parents of young adolescent girls

Girls born in 1996 and 1997 (11 and 12 years old at the time) were identified through population registers. Their parents were addressed directly: they received a letter along with an informative brochure explaining the HPV vaccine and the campaign. The letter included a consent form with the date when parents and their daughter(s) had to present themselves at the clinic to get the vaccination. When parents did not respond, a second letter was sent to them, as was also the case when a girl had stopped the vaccination cycle before receiving all the recommended doses. Parents of girls born in 1996 also received a letter with information and a phone number to use to schedule an appointment.

Schools

The public health authorities prepared informative brochures that were distributed in schools in the province of La Spezia. The brochures, aimed at young girls, explained the benefits of the vaccination in a clear and simple way. Girls were referred to their paediatricians to obtain further information.

Health professionals

Health experts of different areas, such as general practitioners, paediatricians and gynaecologists, were actively involved in setting up and supporting the campaign. Before the campaign was launched, health experts were informed and educated on the HPV virus, the consequences of HPV infection and the protection that the new vaccine could offer.

During the vaccination campaign, health experts played a crucial role in informing and educating parents and their daughters. Information posters were sent to general practitioners (GPs), paediatricians and local nurseries to be displayed in the waiting rooms with the aim to ensure coordination and harmonisation of the campaign's key messages between the various places where young girls would go. These posters contained references to e-mail addresses and internet links where more information on the vaccine could be obtained. When in contact with parents and their daughters, health professionals explained the risks of the virus and the protection offered by the vaccine.

Dedicated vaccination teams were created, consisting of a physician, a nurse and an administrative technician. Additionally, compensation was provided for staff working outside normal office hours, to enable vaccination sessions in the afternoon.

The press

A press conference took place to enable gynaecologists and public health experts to present the vaccination campaign in detail. Local newspapers reported the campaign and encouraged people to contact vaccination clinics for more information.

Results

Most vaccines were administered during the first months of the campaign, March and April 2008. As explained in the *Eurosurveillance* article, the percentage of adherence to the vaccination amongst young girls born in 1997 was 80.6% for the first dose, 79% for second and 64.1% for the third. The percentage of adherence amongst young girls born in 1996 was: 74.5%, 73.5% and 58.1%, respectively.

Key learning

Collaboration with partners trusted by the public

Most of the communication to parents went through health professionals and the schools their children attended. The schools acted as endorsers: by gaining the support of these (most likely) already trusted sources it is easier to gain trust in the vaccination campaign.

Work closely with health professionals

As the Italian example shows, for the success of a campaign the support and availability of health professionals is a key component. When planning a campaign, it helps to put efforts into maintaining contact with stakeholders prior to the public launch. Thinking about how they can support the campaign, what role they can play and getting them on board before the start is crucial for the campaign to succeed. It is also important to foresee the development of educational tools for health professionals and to make sure these are distributed and explained before the campaign reaches the wider public.

Set up practical healthcare support

The vaccination message can be communicated as strongly and widely as possible, but without the logistics and manpower in place to administer the vaccine, the campaign would be useless. In the case described, dedicated vaccination teams were set up and they received incentives, in terms of compensation for working outside regular hours.

It is essential to ensure that everything is in place beforehand. The smooth operation of a vaccination programme is more likely to lead to positive perception and trust.

United Kingdom

The campaign

Since September 2008 there has been a national programme in the UK to vaccinate girls aged 12 to 13 against HPV. Girls in 'Year 8' in the UK school system can receive the vaccine, which consists of three doses that should ideally be given over a period of six months and is administered by a nurse. Prior to the vaccination, a letter about the vaccine and a consent form is sent to the girl's parents. In the UK, from September 2008 until July 2010, at least four million doses of Cervarix (the HPV vaccine used in the UK programme) were administered [75]. Additionally, GPs also had a role in delivering some vaccinations, for example to women who had left school before the age of 18 or who hadn't completed the schedule.

The National Health Service (NHS) used the internet as a platform where visitors of the website could actively take part. A comment box gave a voice to the general audience. On the website, visitors found a short introduction movie with a GP and a group of teenage girls explaining how the HPV vaccine can reduce the risk of getting cervical cancer. In addition, several tools on the NHS website gave people the chance to share the information with friends through social networks [75].

It needs to be noted that the internet was only one part of an extensive communication campaign that used a variety of media, including TV, radio, newspaper advertising, leaflets, billboards, social media, etc., with coordinated content and messages. The campaign has been evaluated and the lessons learned applied to the further development of communication activities on HPV vaccination.

Results

National figures released by the Department of Health in the UK showed that over 78.4% of all girls aged 12 to13 in England had the first of three injections of HPV vaccine.

The HPV vaccination campaign – which began with 12 to 13 year-olds – has continued with 17 to 18 year-olds and the figures show that over 31.1% of all girls aged 17 to 18 in England had the first of three HPV vaccine injections [76].

The school-based programme has been successful in delivering the three-dose schedule. Across the UK, uptake of all three doses of the vaccine for 12 to 13 year-olds has achieved 80%. Uptake has been lower in the catch-up groups. In Scotland there was an 85% uptake among 16 to 17 year-olds still at school and only 30% of those leaving school. This appeared to be lower in other parts of the UK [77].

Key learning

Use the appropriate communication channels to reach the priority audience

For the introduction of the HPV vaccine in the UK social media was used to connect with the priority audience. This is an example of selecting the appropriate channels of communication. The information was not only presented by a healthcare professional – who can be perceived in general as a trusted source of evidence-based information – but also by the young girls who presented their experiences in the videos on the NHS website. The latter may allow for a higher identification and connection of the audience with the persons delivering the messages.

The interactivity of these communication channels also allows an organisation to 'listen' to the audience. The comments posted can provide valuable feedback on common questions and concerns that people may have regarding a vaccine. This feedback in turn can inform the further development of messages to address them.

Furthermore, by incorporating in the campaign tools that allow people to share the content with friends through social networks, the public health institution is not only engaging in a platform widely used by younger generations, but also benefiting from the potential of social media to multiply the reach of the messages. People could tweet the link, become a fan of the campaign on Facebook and link it to Myspace. There was even a possibility to bookmark the website on a Google account and stay updated on news of the campaign. It had 53 likes on Facebook and 78 people tweeted it. These figures aren't groundbreaking but they do show that the NHS made a mark by using social media to get their message across.

As regards media attention, a study showed that the newspapers were generally positive towards the new HPV vaccine and that over the four-year period the newsworthiness of the HPV vaccination programme increased. In 2008 two events dominated coverage, firstly, the introduction of the HPV programme in September and secondly, in August, the diagnosis on camera of cervical cancer given to Jade Goody, a 27 year-old mother of two children, who gained fame and notoriety in the UK through her participation in several reality television shows. Two conclusions can be derived from this, the cited study states. Firstly, the positive media coverage surrounding the introduction of the HPV vaccination programme was welcomed and it is likely that it contributed towards influencing public perceptions about the acceptability and need for HPV vaccination. Secondly, the focus on prevalence rates of HPV infection among women and on women's sexual behaviours, in relation to HPV vaccination 'encouraging' promiscuity, was an unhelpful aspect of media coverage [78].

5.2. Seasonal influenza immunisation

Situation

Seasonal flu can spread easily and has a high impact on society and the economy. Most importantly, it can seriously affect people who are at a high risk of developing flu-related complications. In order to prevent an outbreak of seasonal flu, several countries organise a large-scale flu vaccination campaign every year. The following section focuses on the campaign held in the UK in 2008 and takes a brief look at a specific part of the 2010 campaign.

The campaign in 2008

The 2008 campaign targeted people under 65 years of age with long-term health conditions as well as those aged 65 and over.

Involvement of health professionals

Health professionals were contacted for two reasons: (1) for them to get the flu vaccination themselves, and (2) to help them inform and motivate the public for flu vaccination.

To help to inform and convince the public about flu vaccination, the NHS sent a letter about the campaign to health centres all over the country, along with an order form where they could request different campaign materials such as posters and leaflets. Specific tools for health professionals, such as key vaccine information, updates on the vaccine, official immunisation letters, etc., were available on the website of the Department of Health.

Information tools for the public

The campaign ran from 1 October 2008 until the end of the year. It included TV and radio advertising in order to reach as wide a range of the public as possible and to quickly get their attention on the flu vaccine. In addition, informative materials such as posters and leaflets were distributed to health experts and in health centres.

Several minorities reside in the United Kingdom, not all of whom speak English. These minorities often live together in close communities and the information may therefore not reach them as quickly and as often as it does other population groups. To tackle this problem, the NHS made the leaflet available in 10 more languages, besides

English, based on the minorities present in the UK: Arabic, Bengali, Chinese, Polish, Portuguese, Punjabi, Slovak, Spanish, Turkish and Urdu.

To provide for possible cases of illiteracy and for the ill-sighted and the blind, the leaflet was also made available as an MP3 file on the website (http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_087455), and distributed to health professionals on a CD.

The website http://www.nhs.uk/flu gave more detail on the flu and the flu vaccine and aimed at further educating the public and answering questions.

The campaign in 2010

As vaccination campaigns are repeated on an annual basis, the NHS reuses the website http://www.nhs.uk/flu every year, adapting the content to that year's campaign focus. By reusing the same web address, a consistent platform is created and the public knows where to find the information year after year.

A video is prominent on the website's home page. The video consists of a subtitled interview with a GP who explains the difference between a common cold and the flu while emphasising the severity of the flu.

Key learning

Target health professionals, not only to pass the message, but also 'to be' the message

The public will more easily accept and trust information and advice on vaccination when the person talking and trying to persuade them is not only a preacher but also a believer. In vaccination campaigns, health professionals need to have the necessary information to get and/or to advocate for the vaccine before they address the public.

Face-to-face counselling by health professionals is most trusted

The information given by health professionals often has high credibility. As mentioned earlier in this document, research shows that doctors and healthcare providers rank high as trusted sources of health information. Furthermore, research into results of influenza vaccination campaigns in the UK confirmed this: 60% of people in the UK declared their motivation for vaccinating against the seasonal flu was due to their doctor or nurse having advised it [79]. It is therefore important to think of a separate communication approach for health professionals, so that they are well informed and correctly spread the message to their patients.

Anticipate barriers to getting the message across

It is important to clearly define the priority audiences and identify the possible constraints that might prevent the message from getting across to each group. These constraints or barriers can vary, but could include:

- health illiteracy;
- a group that does not or rarely visits health centres;
- uninformed perceptions about vaccination or a specific vaccine;
- low accessibility to health services;
- cost of the vaccine; or
- language barriers.

Once the possible barriers to a vaccination campaign and their potential negative effects have been identified, means of addressing these barriers should be incorporated into the overall strategy. As the example presented shows, the UK's strategy included targeting ethnic minorities, who do not necessarily master a country's official language.

Use the power of moving images

Watching videos online is very popular and can often be more effective than long texts or brochures in getting a message across. As the UK campaign shows, videos on the institution's website can be effective channels for presenting information in a short and easily understandable way, in order to reinforce the key messages.

5.3. Activities linked to European Immunisation Week

Situation

Every year during the month of April, the WHO Regional Office for Europe leads and coordinates the European Immunisation Week (EIW), which encompasses a range of activities to inform and engage key audiences and to address challenges related to immunisation. Each Member State individually implements regional activities under the slogan 'Prevent. Protect. Immunize.'

The campaign

Regional focus of Immunisation week

In Flanders, one of the regions in Belgium, the focus of the immunisation week in 2010 was on pregnant women and those planning to become pregnant. The message stated that women who plan pregnancy or who are already

pregnant should consider several vaccines before or during their pregnancy in order to fully protect their child from infections. As a call-for-action, the women were advised to discuss the vaccination possibilities with their doctor.

Materials

As women were advised to consult their doctor, the medical corps needed to be included in the planning phase. In this particular case, specific materials for health professionals were made available and the campaign was launched with a symposium for GPs, gynaecologists and other professionals working in fields related to pregnancy.

The website of the annual immunisation week gave information for both pregnant women (and those planning pregnancy) as well as health professionals

Key learning

Participate in international events that promote immunisation

For public health authorities, it can be relevant to link a vaccination campaign at national level with the occasion of an international or European-wide activity around vaccination, such as the EIW. Internationally organised events offer the appropriate context to address and advocate for the importance of vaccination. In addition, these initiatives often provide supporting materials and information from which national public health authorities can benefit. EIW also provides a platform to share experiences and to collaborate at international level to achieve immunisation goals.

Have a consistent and clear message

A clear, understandable and regularly repeated message is most likely to settle in people's minds. It is therefore advisable to repeat the same message in all campaign elements and materials. The Belgian campaign had a very specific audience (pregnant women and those planning to become pregnant), which allows for a more focused approach and addressing their particular concerns and information needs.

Include the healthcare professionals in the planning phase

Health professionals can give useful and crucial information when planning a vaccination campaign, as they can share insights from their direct experience with patients. They can also play an important role because, as discussed previously, they are perceived in general as a trusted source of information. The medical corps should also be well informed on this topic at the start of a campaign. As the Belgian campaign shows, the campaign was launched in a meeting with health professionals and information for this specific group was made available on the campaign's website.

The right campaign visual and call for action

Needles and syringes can cause fear. An Australian study mentions that the extent to which fear of needles influences health decisions remains largely unknown, but the researchers found that, for example, people with fear of needles can tend to avoid the flu shot (64%) [80]. Although the sample size for this study was modest and results may not represent the views of a wider community, this is an example of the type of issues that need consideration when choosing the visuals for a vaccination campaign. The Belgian campaign targeted pregnant women and women planning to get pregnant, and used a cute visual of a baby, an image more likely to appeal to this group, with short and clear messages on the importance of consulting a doctor on time.

5.4. A(H1N1) pandemic flu vaccine

The A(H1N1) virus, commonly called 'swine flu' in the early stages of the outbreak, was a worldwide issue in 2009. The three following examples showcase the particular challenges linked to the introduction of a new vaccine in the context of a pandemic – the A(H1N1) flu in 2009, including how trust in public health authorities' advice and the population's perception on the necessity, safety and efficacy of a vaccine can influence compliance with vaccine recommendations. The examples also show different approaches used to encourage different population groups to get vaccinated.

Slovenia[i]

Situation

In Slovenia, the Institute of Public Health is responsible for monitoring the spread of disease and for the preparation of appropriate evidence-based recommendations to aid decision-taking. During the A(H1N1) pandemic flu, other institutions were also involved, initially those in the health sector, such as the Ministry of Health, regional institutes of public health, hospitals and healthcare centres, and later other organisations (such as public institutions, schools and childcare facilities, businesses, religious organisations, etc.). The 'Plan of pandemic influenza preparedness in the health field' is the basis for all operational documents of all organisations involved in the response to a pandemic. The plan also addresses communication issues.

[i] This example was shared by Ass. Prof. Alenka Kraigher, Head of Communicable Diseases and Environmental Health, National Institute of Public Health, Slovenia, and member of ECDC's EVAG group.

The campaign

Goal and specific communication objectives

The main (organisational) aim of the campaign was to reduce the spread of infection and thus minimise morbidity. Accordingly, the following communication objectives were defined:

- Increase peoples' knowledge about the new disease, transmission and its consequences.
- Convince people to get vaccinated.
- Inform people how to protect themselves and others from infection.
- Convince people to take adequate measures in the event of infection.

Priority audiences

The campaign targeted two main audiences:

- the Slovenian population (this included pregnant women, children, labour organisations, marginalised groups, the chronically ill);
- the professional (medical) audience.

Messages

The communication campaign's slogan was 'Stop the flu! Knowledge/behaviour[ii] is your strongest defense'.

All materials had a uniform corporate identity and were used in a first phase to disseminate five key messages and advice regarding the pandemic flu:

- wash your hands frequently
- when sneezing or coughing always use a paper handkerchief
- do not touch your eyes, nose and mouth with your hands
- avoid close contact with people who show signs of infection
- when showing symptoms of pandemic flu, stay at home and call your doctor.

The second phase focused on convincing people to get vaccinated. Key messages were designed to answer the main issues of public interest:

- Is the vaccine safe and effective?
- Is the vaccine safe for pregnant women and nursing mothers?
- What are the possible side effects of vaccination?
- How long does the vaccine work?
- Should I be vaccinated, even if I had recovered from pandemic influenza?
- How am I vaccinated?
- Who should not be vaccinated?
- Who should be vaccinated?
- Is this the same vaccine as for the seasonal flu?
- Why is it good to be vaccinated?

Communication techniques and tools

While communicating with the two priority audiences, different tools and communication channels were used to disseminate the key messages. Tools for communicating with the general public included press conferences and press releases, leaflets, posters, a dedicated website (www.ustavimo-gripo.si) and email (gripa@ivz-rs.si), TV ad and three radio ads, as well as a free phone number. The professional (medical) audience was addressed via the tools mentioned above and in addition via e-mail messages, professional workshops and lectures, meetings, teleconferencing, telephone numbers for consultations (the regional health institutes).

Results

The campaign was considered very successful in terms of information and knowledge-sharing. The population gained good knowledge about the disease, its consequences and the preventive measures. This was confirmed by a Eurobarometer survey conducted between 26 and 30 November 2009 in 27 EU countries and Norway, Switzerland and Iceland. It showed that Slovenians were satisfied with the information given by governmental and other professional bodies. When compared to the European average, Slovenians were the most likely to consider themselves well or very well informed [81].

However, the campaign did not succeeded in the goal of convincing people to get vaccinated against the pandemic flu, which was also revealed in the above mentioned Eurobarometer survey. A factor that may influence this is that Slovenian citizens are considered to have a negative attitude towards vaccines in general – and this applies also to vaccination against seasonal and pandemic flu. According to the Eurobarometer results, 35% of Slovenians considered that the vaccine against pandemic influenza would be safe and effective while 38% were convinced of the contrary. The survey showed that Slovenians were less confident about the vaccine than the average in Europe.

[ii] The Slovenian word "vedenje" has two meanings – it depends how you pronounce it: knowledge and behaviour.

Key learnings

The following elements have been identified as key lessons learned in the communication with the priority audiences in the Slovenian campaign.

Communication with the general public

Strengths:

- allowing the general public to communicate directly with relevant sources of information at national or regional level
- timely information to media about events related to the pandemic
- consistent messages among stakeholders
- spokespeople available at all times
- the national campaign 'Stop the flu' considered comparable with the best and most effective campaigns in Europe, as well as among the first developed and most complex
- the small size of the country and small number of stakeholders involved allowing for a rapid flow of information
- communication characterised by transparency, clarity and good definition of key messages.

Weaknesses:

- absence of a strategy for communication in social networks – consequently communication through this channel was considered unsuccessful
- responses and reactions to statements made by opponents of vaccination and to conspiracy theories were late and weak; this may be attributed to the lack of a communication strategy to address these issues
- some stakeholders that were poorly integrated into the communication activities occasionally opted for separate communications which were inconsistent with the unified and commonly agreed messages (e.g. a separate declaration of the end of the pandemic)
- insufficient number of communication experts
- insufficient number of spokespeople/experts so public can become quickly tired of the same speakers all the time; some speakers overloaded with communication responsibilities and could not devote sufficient time to their professional work
- absence of campaigns or communication activities addressing very specific audiences (e.g. young people, pregnant women)
- cooperation with associations of chronic patients deficient (experience from other countries shows that this can be a very effective way for 'patient to patient' communication).

Future challenges:

- more spokespeople who have adequate communication skills and expert knowledge
- preparing a strategy for communication via social networks
- preparing a strategy to respond to opposing views and conspiracy theories
- ensuring a continued campaign on adequate hygiene, and further target the communications in order to address specific audiences
- increase public confidence in professional authorities; this may entail a broader involvement of the medical profession/doctors
- involvement of the general/lay public (stakeholders) in crisis communication
- clear definition of roles, powers and responsibilities of stakeholders in communication
- maintaining good relations with the media (through education, meetings for journalists, seeking new opportunities for cooperation – fostering an understanding of the role of media in crisis communications and their actions in the public interest)
- strengthening transparency in communication and establishing clear, understandable messages tailored to different media and the priority audiences.

Communication with the healthcare professionals

Strengths:

- sending messages through several channels simultaneously (via regular and electronic mail)
- quick response to questions and dilemmas of the professional audience, with clear and transparent messages/communications
- organisation of meetings and workshops
- 24/7 accessibility of epidemiologists for questions and assistance.

Weaknesses:

- individual opposition of healthcare professionals to the official advice or disregard of doctrine
- lack of support from professional associations
- low potential to verify the effectiveness of messages and sanctioning non-compliance of doctrine
- mostly one-way communication, although two-way communication was enabled.

Future challenges:

- update contact details of doctors
- search for innovative approaches for communicating with the healthcare professionals
- organisation of professional education on public health threats
- establishing channels for assessing the effectiveness of communication
- establishing a system of communication and rules in the plan to deal with public health threats – continuous review and updating of the system during non-crisis periods, and permanent education of professionals, especially doctors, about the operating rules and crisis communication.

In addition, a number of opportunities for further improvement have been identified in the context of the Slovenian campaign. These include:

- developing a coordinated joint action plan in situations that entail risk to public health, which needs to be continuously updated
- improving the knowledge, skills and infrastructures for risk assessment and risk management
- evaluating the readiness and capacity for events that mean a risk to public health through simulation exercises
- improving the direct communication with stakeholders in the medical profession and provide support for the clinical pathways and professional doctrine, with professional supervision
- Including this content in the regular education and professional training for health professionals
- Improving the population's perception of the influenza vaccination, with a national communication campaign that seeks to change attitudes and behaviour.

Spain (Murcia region)[iii]

Situation

In Spain, as in most European countries, the vaccination strategy adopted in the face of the flu pandemic was to vaccinate specific population groups at higher risk of severe disease as a result from the influenza infection and also groups working in healthcare and other essential services [82].

Although public health competencies regarding immunisation are placed with the 19 Regional Governments in Spain, on this occasion the decisions about the purchase of vaccines, number of doses and the negotiations with the different pharmaceutical companies were conducted in a coordinated manner through the central authority (Ministry of Health) together with the regional administrations. The organisation, logistics and all activities aimed at the administration of the vaccines were carried out by the various regional governments, with each one organising these aspects of the campaign according to their own criteria.

During the summer of 2009, the demand for vaccines grew; however, from September onwards debates started to emerge in which the safety and necessity of the vaccine were questioned, with the consequence that the demand at the start of the vaccination period (16 November 2009) was lower than initially foreseen.

The campaign

The target population in the Murcia Region was estimated at a total of 254 785 individuals. The campaign was based on two main strategies: direct communication with the population to be vaccinated (groups at risk and individuals in essential services) and communication with healthcare professionals.

With respect to healthcare personnel, information was sent directly to all professionals from both the public and the private system (Medical Association, obstetricians, etc.). In addition, the public health physicians in charge of the campaign organised training workshops for primary healthcare professionals involved in the campaign. These workshops provided direct information on the flu (seasonal and pandemic), its epidemiology and the characteristics of the vaccine (including the safety data available at the time). Six training workshops lasting four hours each were held and were attended by all the professionals that later participated in the administration of the vaccine. In order to be able to include the most up-to-date information possible, these workshops were held in the week of 9–15 November, just before the start of the campaign. One of the training workshops was recorded on video and made available through the regional health web portal so that any professional wishing to view it could access the information directly or organise training sessions at each health centre as appropriate. In addition, during the initial week of the campaign informative sessions for raising awareness about the importance of vaccinating healthcare personnel were held in the main hospitals of the Murcia Region.

With respect to the population at risk, an active search was made through the health databases to identify those individuals presenting pathologies that were an indication for vaccination and a personalised letter was sent out to 207 000 patients with chronic diseases. In addition, information was disseminated via local media (radio and press)

[iii] This example was shared by Dr. José A. Navarro-Alonso, Head of the Prevention Service of the Regional Dept. of Health in Murcia, Spain, and member of ECDC's EVAG group.

during the first two weeks of the vaccination campaign, and the campaign was presented at a press conference. Contact with people working in essential services was channelled through their employers and with the means usually used for reaching out to healthcare personnel.

Specific materials were prepared for this campaign: Posters, leaflets, short and longer documents about the illness and the vaccine. All the materials produced were sent to the health centres involved and, in addition, a special website was created to host all the available information (www.murciasalud.es/vacunaciongripeA).

Results

Although overall the vaccination campaign in Spain cannot be considered successful (the coverage levels achieved were 23.4% among risk groups, 9% of pregnant women, 11.7% of healthcare personnel and 8% among the rest of the groups working in essential services), the Murcia health authorities estimate that the campaign organised specifically in that region contributed to an increase in the uptake as the vaccination coverage levels achieved in the region were 41.8% among the risk groups, 15.6% of pregnant women, 20.3% among healthcare personnel and 25.1% among other groups of essential workers.

The Region of Murcia achieved the second highest level of vaccine coverage among the 19 regions of Spain, improving on the national average by 20%. This finding is even more relevant if we bear in mind that the Murcia Region usually has vaccination coverage levels that are lower than the national average for seasonal flu (12% lower in the last season for which figures are available, 2009/2010).

The training workshops helped to convey to healthcare professionals relevant information about the vaccine's safety and to dissipate to a certain extent the uninformed perceptions that had circulated even among this group. As a tool to assess the results of the workshop, a survey was administered at the start and end of it, and two of its questions were: 'Are you going to get a vaccination jab this year against pandemic flu?' and 'Will you advise your patients with chronic conditions to be vaccinated against pandemic flu?' The possible answer was a 0 to 10 scale on which 0 indicated total disagreement and 10 meant total agreement. The workshop was seen to contribute to obtaining a favourable response to vaccination as the score for the first question rose from 4.89 to 5.81 after the workshop ($p < 0.05$) and that of the second question went from 7.5 to 8.3 ($p < 0.01$).

Key learning

The success of a vaccination campaign basically lies in two factors: the demand for vaccination from the target population and the agreement of healthcare professionals regarding the need for and suitability of the vaccine.

Activities aimed at reaching the priority groups are necessary, and this can include mass media or more personalised means such as a letter, as this has been shown to be effective in various studies [83].

These uptake activities, although necessary, are not sufficient. The health authorities should organise training and informative activities to make sure that the decisions taken are understood by all healthcare personnel involved in putting them in practice. This training and the information become all the more necessary when vaccination has been harmed by claims against it and, in particular, by doubts about its safety, as happened in Spain prior to the vaccination period against the pandemic flu.

As the example also shows, the use of the internet is nowadays essential to make both the documentation generated accessible and also to facilitate training activities.

Sweden

Situation

Facing the threat of a pandemic, Sweden, like other countries, started a vaccination campaign targeted at specific population groups who were at high risk of developing complications from the disease.

The campaign

In Sweden, one of the target groups for the vaccine was young people aged between 18 and 24 years. The Swedish public health authorities identified this specific age group as being the least interested in immunising themselves against the flu, whilst being one of the most at risk of developing complications.

The Swedish Social Affairs Committee therefore teamed up with the Department for Social Security, the Swedish Medical associations and several bodies offering health advice. Together they tried out a new channel, very popular amongst young people, in order to reach out to them as directly as possible: social media.

Central to the campaign was a virtual yellow badge. The tagline on the badge says 'No to swine flu' (as mentioned, this was the term commonly used at the start of the outbreak but later on WHO announced that it would refer to the virus as 'Influenza A(H1N1)' as an increasing number of US and European food industries and governments were calling for a name change in order to remove the link in people's minds between the disease and pigs).

The badge could be shared on Twitter and Facebook, posted on a blog or a website or sent by e-mail, to encourage other people to get the vaccine. The badge was made available on a website, where young people could choose between various reasons to get vaccinated against the 'swine flu'.

The example mentioned constituted one of the approaches taken by the authorities to reach a specific audience. A document that assesses the Swedish preparedness and response to the pandemic [84], and includes an analysis of the communication activities highlights the effective cooperation between authorities. Communication strategies included, among others: operating a central contact point for citizens looking for more information and to answer questions, by means of one phone number and a website (www.krisinformation.se); disseminating the information as broadly as possible using different communication channels at regional and local level (posters, ads in newspapers, information on local websites and radio programmes, mailings to citizens); as well as holding joint press conferences with participation of different authorities. In addition, authorities and disease experts where often quoted in media coverage.

Results

Sweden was among the EU countries that showed a positive uptake for the pandemic flu vaccine. As indicated in the report on the Swedish response to the pandemic, the messages from the authorities were in general consistent and the population showed a high level of trust in authorities. One sign for this trust is, as the report puts it, shown by 'the result of the vaccination campaign, with more than 60% of the population getting vaccinated'. The report states that a higher degree of perceived risk to be affected by the flu, a higher degree of concern about the disease and a higher degree of trust in authorities was related to a higher probability of getting vaccinated. 'The strongest link was detected between vaccination and high confidence in the authorities'.

As for the use social media to reach young people, the report states that this presents a great challenge for authorities in the future. During the pandemic this was a very relevant information source for young people but at the same time in social media rumours and conspiracy theories are spread. The report indicates that authorities lacked strategies to handle these.

The report also acknowledged that answering questions from the public implied a heavy workload for authorities, and answers were included in the centralised information sources and updated frequently. At the same time, these questions represented a valuable source of feedback for authorities in order to inform the communication activities.

Key learning

From the example discussed, several lessons learned can be extracted which are related to a number of issues discussed previously in this document. Issues that stand out include the importance of collaboration between authorities so that all stakeholders are involved and can deliver consistent messages (including for example holding joint press conferences), reaching out to citizens via different communication channels, and notably the relevance of the existing levels of trust in authorities for the people's willingness to follow the advice of getting vaccinated.

Integrate new and social media in the campaign

When relevant, integrating the popular new and social media into a campaign, as was done by Sweden in the example discussed, can help to increase public involvement. When targeting young people, for example, it is worth considering setting up a Facebook page or other popular social networks. The use of social media has several benefits: it is an accepted form of peer pressure, as it allows the sharing of information with friends to convince them or to let them know your point of view. By letting the campaign 'go social', people further down the line help to spread the message. The use of social media presents, on the other hand, a number of challenges for authorities, therefore the risks and benefits need to be taken into account, and how to handle the spread of misinformation needs to be assessed.

6. Concluding remarks

Communication on immunisation is a complex field. While vaccination programmes are succeeding widely in preventing a number of diseases, public health authorities face continuous challenges on how to communicate the benefits of immunisation and how to address concerns on issues such as vaccine safety and adverse events following immunisation.

Public health authorities need to build and maintain visibility as a reliable source of evidence-based information in order to address obstacles such as, for example, uninformed perception that have led certain population groups to question the benefits of vaccination, or the public becoming more worried about alleged adverse effects of vaccines than about the diseases these aim to prevent.

Transparency and trust are key parameters to work with before and while undertaking any communication activities, in order to ensure that information on immunisation reaches the population and public health advice is followed. As an important part of the communication on vaccines, the scientific evidence on their benefits and safety should be made easily available to enable both policymakers and the public to make well informed decisions.

Following the different steps for preparing and implementing a communication programme will increase effectiveness of immunisation campaigns. This includes managing stakeholders and ensuring that consistent messages are available from different sources, selecting the priority audiences and the most appropriate communication channels to reach them, formulating key messages, and developing materials that address the information needs and concerns of the audiences. Tailored approaches are needed because people have different information needs, knowledge and beliefs, and also in order to take into account different cultural settings.

In this context, the role of healthcare professionals is key, as research shows that often they are perceived by the general public as a trusted source of information. When developing communication activities on immunisation, involving them early is important so that they are able to support the initiatives when talking to patients, and have the appropriate information resources at hand in order to be able to address any questions and possible concerns of patients.

Health communication research is a valuable tool for an evidence-based approach when developing communication initiatives. It can offer insights into issues such as the public's information-seeking behaviours, which information sources are most trusted, and which are the attitudes, perceptions and behaviours of the specific audiences that can influence how they receive and process information on immunisation.

References

1. Casiday R. Risk and trust in vaccine decision making. Durham Anthropology Journal. 2005; 13 (1).

2. European Centre for Disease Prevention and Control. Conducting health communication activities on MMR vaccination. Stockholm: ECDC; 2010 Available from: http://www.ecdc.europa.eu/en/publications/Publications/1008_TED_conducting_health_communication_activities_on_MMR_vaccination.pdf.

3. Irving A, Salmon D, Curbow B. Vaccine risk communication interventions in the US 1996–2006: A review. Current Paediatric Reviews. 2007 August; 3: 238-247.

4. Shore DA. Communicating in Times of Uncertainty: the Need for Trust. Journal of Health Communication. 2003; 8 (Suppl 1):13-14.

5. Cooper LZ, Larson HJ, Katz SL. Protecting Public Trust in Immunization. Pediatrics. 2008 July; 122:149-153.

6. Mefalopulos P. Development communication sourcebook: broadening the boundaries of communication. The International Bank for Reconstruction and Development. The World Bank. 2008.

7. Abraham T. Communicating vaccines: lessons from the pandemic. Presentation at ECDC Eurovaccine scientific conference 2010; 10 December 2010. p.28.

8. Wingfield JH, Reese L. Trust for Health Information: Differences by Race, Age, Education and Gender. Department of Community Health/Preventive Medicine, Morehouse School of Medicines. Poster presented at the 3rd Health Information National Trends Survey (HINTS) Data Users Meeting, September 24-25, 2009, Washington, DC. Available from: http://hints.cancer.gov/hduc-posters-2009.aspx.

9. Hesse BW, et al. Trust and Sources of Health Information. The Impact of the Internet and Its Implications for Health Care Providers: Findings from the First Health Information National Trends Survey. Arch Intern Med. 2005; 165:2618-2624.

10. Downs, et al. Parents' vaccination comprehension and decisions. Vaccine 2008; 26: 1595-1607.

11. Bults, et al. Perceived risk, anxiety, and behavioural responses of the general public during the early phase of the Influenza A (H1N1) pandemic in the Netherlands: results of three consecutive online surveys. BMC Public Health. 2011 January 3; 11:2.

12. Paulussen TGW, Hoekstra F, Lanting CI, et al. Determinants of Dutch parents' decisions to vaccinate their child. Vaccine 2006 January 30; 24(5):644-51.

13. Hackett AJ. Risk, its perception and the media: the MMR controversy. Community Practitioner 2008; 7: 22-25.

14. Fedex/Ketchum, best practices in social media study released [Internet]. London Calling. November 2010. Available from: http://londoncalling.co/2010/11/fedex-and-ketchum-best-practices-in-social-media-study-released/. Accessed 20 March 2011.

15. Gershberg M, Berlowitz P. Consumers say: "In tweets we trust" [internet]. New York: Reuters; 23 June 2010. Available from: http://www.reuters.com/article/idUSTRE65L6C320100623

16. Insites Consulting. Patients wish to consult with their doctor [press release]. 20 October 2009. Available from http://www.insites.eu/press.aspx?item=1505.

17. Higgins O, Sixsmith J, Barry MM, Domegan C. A literature review on health information-seeking behaviour on the web: a health consumer and health professional perspective. Stockholm: ECDC; 2011.

18. Shetty P. Experts concerned about vaccination backlash (interview with Saad Omer, assistant professor of global health, Emory University, Atlanta, GA, USA). The Lancet. 2010 March 20; 375 (9719): 970-971.

19. Kata A. A postmodern Pandora's box: Anti-vaccination misinformation on the Internet. Vaccine 2010; 28: 1709–1716.

20. INRA (Europe) – ECOSA. Eurobarometer 52.1 – The Europeans and Biotechnology. 15 March 2000. Available from http://ec.europa.eu/research/pdf/eurobarometer-en.pdf.

21. World Health Organization. WHO Outbreak communication guidelines. Geneva:WHO; 2005. Available from: http://www.who.int/infectious-disease-news/IDdocs/whocds200528/whocds200528en.pdf.

22. Instituto Superiore di Sanita – ICONA Working Group. ICONA 2008: National vaccination coverage survey among children and adolescents. Rapporti ISTISAN. 2009 September; 29:118.

23. Paulussen TGW, Hoekstra F, Lanting CI, et al. Determinants of Dutch parents' decisions to vaccinate their child. Vaccine 2006 January 30; 24(5):644-51.

24. Julie Leask, et al. What maintains parental support for vaccination when challenged by anti-vaccination messages? A qualitative study. Vaccine 2006; 24: 7238–7245.

25. World Health Organization [Internet]. Safety of Mass Immunization Campaigns. World Health Organization. 2002. Available from: http://www.who.int/injection_safety/toolbox/en/AM_SafetyCampaigns.pdf.

26. Marc Sprenger; Director ECDC. Speech at conference: For a healthy future of our children – childhood immunisation, 3-4 March 2011, Budapest. Available from: http://www.ecdc.europa.eu/en/aboutus/organisation/Director%20Speeches/110308_Directors_speech_Childhood_Immunisation_Conference_Budapest_3%20March.pdf.

27. Centres for Disease Prevention and Control. Information for health care professionals: Talking with Parents about Vaccines for Infants. October 2010;CDC. Available from: http://www.cdc.gov/vaccines/spec-grps/hcp/downloads/talk-infants-bw-office.pdf.

28. World Health Organization [Internet]. Vaccines and immunization: Adverse events following immunization (AEFI). Available from: http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/vaccines-and-immunization/policy/vaccine-quality-and-safety/adverse-events-following-immunization-aefi. Accessed 6 March 2011.

29. World Health Organization [Internet]. Vaccines and immunization: Adverse events following immunization (AEFI). World Health Organization, 2011. Available from: http://www.who.int/immunization_safety/aefi/en/. Accessed 6 March 2011.

30. Adverse Events Following Immunization (AEFI). World health Organization, 2011. Available from; http://www.who.int/immunization_standards/vaccine_quality/gtn_aefi/en/index.html. Accessed 12 March 2011.

31. United Nations Children's Fund, Regional Office for South Asia. Building trust and responding to adverse events following immunization in South Asia: Using Strategic Communication [Working Paper]. UNICEF;2005. Available from: http://www.unicef.org/immunization/files/Immunisation_report_17May_05(final_editing_text).pdf.

32. WHO Regional Office for Europe/UK Department of Health. Setting the immunization agenda through advocacy and communication [Meeting report]. Copenhagen:WHO;2008. Available from: http://www.euro.who.int/__data/assets/pdf_file/0008/98981/setting_immunization_agenda.pdf.

33. MJ Alvarez-Pasquín, et al. VACSATC (Vaccine safety: attitudes, training and communication): Why such a project? Eurosurveillance 2009; 16: 18-21.

34. Sweet M. Swine flu, vaccination and other matters of trust [Internet]. Inside Story. 3 February 2010. Available from: http://inside.org.au/swine-flu-vaccination-and-other-matters-of-trust/

35. Institute of Medicine. Conflict of Interest in Medical Research, Education, and Practice [Report Brief]. United States: National Academy of Sciences; April 2009. Available from: http://www.iom.edu/~/media/Files/Report%20Files/2009/Conflict-of-Interest-in-Medical-Research-Education-and-Practice/COI%20report%20brief%20for%20web.pdf.

36. European Centre for Disease Prevention and Control. Guidance Document on Conflict of Interest. Management Board paper MB3/9. Stockholm:ECDC; 3 May 2005. Available from: http://www.ecdc.europa.eu/en/aboutus/organisation/mb/MB%20%20Decisions/1010_Draft_Guidance_on_Conflict_Interest.pdf.

37. Global Alliance for Vaccines and Immunization (GAVI)/Global Fund for Children's Vaccines. Advocacy on Immunization. How to generate and maintain support for vaccination programmes. Program for Appropriate Technology in Health; 2001. Available from; http://www.path.org/vaccineresources/files/GAVI-AdvocacyHandbook.pdf.

38. Lora Shimp. Strengthening Immunization Programs: The Communication Component. Published by the Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development. Arlington, Virginia, May 2004. Available from; http://www.path.org/vaccineresources/details.php?i=202.

39. Robinson E, Baron D, Heise L, Moffett J, Harlan S. Communications Handbook for Clinical Trials: Strategies, Tips, and Tools to Manage Controversy, Convey Your Message, and Disseminate Results.USA:Family Health International;2010.

40. World Health Organization. Risk communication [Internet]. Available from: http://www.who.int/foodsafety/micro/riskcommunication/en/index.html. Accessed 20 January 2011.

41. US Department of Health & Human Services. Making Health Communication Programs Work.National Cancer Institute; 2008. Available from: http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook/Pink_Book.pdf

42. Myers MG. Vaccine Safety, Dealing with Uncertainty. Missing Information About Vaccine Safety. The 2007 annual conference of the American Medical Writers Association (AMWA) Atlanta; 2007 October 11.

43. Meyers MG, Pineda D. Do Vaccines cause that?! A guide for evaluating vaccine safety concerns. i4ph, Gavelston: Texas; 2008.

44. Betsch C. Innovations in communication: The Internet and vaccination decisions [Presentation at ECDC Eurovaccine 2010]: Stockholm; 10 December 2012. Available from; http://ecdc.europa.eu/en/eurovaccine/2010/Documents/Eurovaccine2010_Betsch.pdf.

45. Canadian Coalition for Immunization Awareness & Promotion. Immunization Information on the Internet [Factsheet]. December 2009. Available from; http://resources.cpha.ca/CCIAP/data/0288e.pdf

46. World Health Organization. Global Advisory Committee on Vaccine Safety: Good information practices for vaccine safety web sites [Internet]. World Health Organisation. Available from: http://www.who.int/vaccine_safety/good_vs_sites/en. Accessed 23 January 2011.

47. World Health Organization. Protecting Health in Europe from climate change. Copenhagen:World Health Organization Regional office for Europe; 2008. Available from; http://www.epha.org/IMG/pdf/Protecting_Health.pdf.

48. Sandman PM, Lanard J. When to release risk information: Early – but expect Criticism Anyway [Internet].16 April 2005; The Peter M. Sandman Risk Communication Website. Available from; http://www.psandman.com/col/early.htm. Accessed March 6 2011. (Referencing a book by: Hance BJ, Chess C, Sandman PM. Improving Dialogue with Communities: A Risk Communication

Manual for Government. Trenton, NJ: New Jersey Department of Environmental Protection, Division of Science and Research; 1988.)

49. Ostrove NM. An agency perspective. In: Fischhoff B, et al (Ed). Communicating risks and benefits: An evidence-based user's guide. Food and Drug Administration (FDA), US Department of Health and Human Services: August 2011; 215-222. Available from: http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/UCM268069.pdf.

50. Zuber P. Presentation of HPV vaccine safety monitoring. In: WHO. Report of the meeting on HPV vaccine coverage and impact monitoring. WHO: May 2010 12-13. Available from: http://whqlibdoc.who.int/hq/2010/WHO_IVB_10.05_eng.pdf.

51. Importance of Public Health Education: Polio Immunization in West Africa [Presentation]. African Science Academy Development Initiative. In: 1st Annual International conference of the African Science Academy Development Initiative. Available from; http://www.nationalacademies.org/nairobi/speakers/shehu1.pdf. Accessed 6 February 2011.

52. Larson H & Heymann D. Public health response to influenza A(H1N1) as an opportunity to build public trust. JAMA 2010 January 20; 303(3): 271-272.

53. FDA News Release. Components of Extraneous Virus Detected in Rotarix Vaccine; No Known Safety Risk. FDA Recommends Clinicians Temporarily Suspend Use of Vaccine as Agency Learns More. U.S. Food and Drug Administration; 22 March 2010. Available from: http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm205625.htm. Accessed 12 March 2011.

54. Information de sécurité concernant Rotarix® - Communiqué. Agence française de sécurité sanitaire des produits de santé, 26 March 2010. Available from: http://www.afssaps.fr/Infos-de-securite/Communiques-Points-presse/Information-de-securite-concernant-Rotarix-R-Communique. Accessed 14 March 2011.

55. European Medicines Agency. Questions and answers on the review of Rotarix (rotavirus vaccine, live). London; 22 July 2010. Available from: http://www.ema.europa.eu/docs/en_GB/document_library/Medicine_QA/2010/07/WC500094832.pdf.

56. Actualisation de l'information de sécurité concernant les vaccins Rotarix® et Rotateq® - Communiqué. 26 May 2010. Available from: http://www.afssaps.fr/Infos-de-securite/Communiques-Points-presse/Actualisation-de-l-information-de-securite-concernant-les-vaccins-Rotarix-R-et-Rotateq-R-Communique

57. Le vaccin contre la gastro-entérite suspendu. Le Parisien [Internet]. 27 March 2010. Available from http://www.leparisien.fr/societe/le-vaccin-contre-la-gastro-enterite-suspendu-27-03-2010-864856.php

58. Rotarix®, la France invoque le principe de précaution. DestinationSante.com [Internet]. 29 March 2010. Available from: http://www.destinationsante.com/Rotarix-R-la-France-invoque-le-principe-de-precaution.html

59. L'Afssaps recommande de suspendre l'utilisation du vaccin Rotarix. Viva [Internet]. 30 March 2010. Available from: http://www.viva.presse.fr/L-Afssaps-recommande-de-suspendre_13629.html

60. Vaccinatie voorkomt baarmoederhalskanker. Gazet van Antwerpen [Internet]. 1 March 2004. Available from: http://www.gezondheid.be/index.cfm?fuseaction=art&art_id=2062

61. European Centre for Disease Prevention and Control. Guidance for the introduction of HPV vaccines in EU countries. ECDC: Stockholm; 2008. Available from: http://www.ecdc.europa.eu/en/publications/Publications/0801_GUI_Introduction_of_HPV_Vaccines_in_EU.pdf.

62. HPV Vaccination for the Prevention of Cervical Cancer in Belgium: Health Technology Assessment KCE reports vol.64C. Belgian Health Care Knowledge Center. 2007. Available from; http://www.kce.fgov.be/Download.aspx?ID=913. Accessed 19 February 2011.

63. Van Baelen J. Brutale marketing achter het vaccin. Knack [Internet]. 12 November 2008 . Available from: http://www.knack.be/nieuws/

64. De Bisschop I. Vaccin tegen baarmoederhalskanker: Revolutionair of nutteloos. De Standaard [Internet]. 23 December 2008. Available from: http://www.standaard.be/artikel/detail.aspx?artikelid=6Q24B62M

65. Meisje sterft aan vaccine baarmoederhalskanker. Gazet van Antwerpen [Internet]. 29 September 2009. Available from: http://www.gva.be/nieuws/buitenland/aid866794/meisje-sterft-aan-vaccin-baarmoederhalskanker.aspx

66. Meisje (14) sterft na vaccinatie tegen baarmoederhalskanker. Het Laatste Nieuws [Internet]. 29 September 2009. Available from: http://www.hln.be/hln/nl/33/Fit-Gezond/article/detail/1005831/2009/09/29/Meisje-14-sterft-na-vaccinatie-tegen-baarmoederhalskanker.dhtml

67. De nadelen van het vaccin tegen baarmoederhalskanker. Het Laatste Nieuws [Internet]. 29 September 2009. Available from: http://www.hln.be/hln/nl/33/Fit-Gezond/article/detail/1005881/2009/09/29/De-nadelen-van-het-vaccin-tegen-baarmoederhalskanker.dhtml

68. 13 november 2008 - Vaccins baarmoederhalskanker. Vlaamse Kankerliga, 13 November 2008. Available from: http://www.tegenkanker.be/13_november_2008_-_vaccins_baarmoederhalskanker.

69. Cancer du col de l'utérus: vaccination gratuite seulement en Flandre. RTLInfo.be [Internet]. 2 August 2010.

70. Le vaccin contre le cancer du col de l'utérus cinq fois plus cher au sud du pays. Belga. 9 September 2010.

71. Wichmann O, Siedler A, Sagebiel D, Hellenbrand W, Santibanez S, Mankertz A, et al. Further efforts needed to achieve measles elimination in Germany: results of an outbreak investigation. Bull World Health Organ 2009; 87:108–115.

72. Bartens W. Gesundheitsvorsorge Unverantwortliche Impf-Mythen. Süddeutsche Zeitung [Internet]. 15 May 2006. Available from http://www.sueddeutsche.de/wissen/gesundheitsvorsorge-unverantwortliche-impf-mythen-1.912596

73. Laumann V. Wie sie sich schützen können. Bild [Internet]. 14 June 2006. Available from http://www.bild.de/BTO/sport/wir-sind-fussball/reise/krankheitsfalle-wm/krankheitsfalle-wm.html

74. Lugarini J, Maddalo F. Results of a vaccination campaign against human papillomavirus in the province of La Spezia, Liguria, Italy, March-December 2008. Eurosurveillance. 2009 October 1;14 (39): 5.

75. HPV Vaccination – Introduction. NHS. 2010. Available from: http://www.nhs.uk/Conditions/HPV-vaccination/Pages/Introduction.aspx. Accessed 17 March 2011.

76. National Health Service [UK]. Successful HPV campaign protects women against cervical cancer [Press release]. NHS; 5 March 2010. Available from: http://www.northoftyne.nhs.uk/about-us/press-releases/successful-hpv-campaign-protects-women-against-cervical-cancer. Accessed 17 March 2011.

77. HPV Vaccination. The British Society for Colposcopy and Cervical Pathology. Available from: http://www.bsccp.org.uk/index.asp?PageID=217. Accessed 8 March 2011.

78. Hilton S, Hunt K, Langan M, Bedford H, Petticrew M. Newsprint media representations of the introduction of the HPV vaccination programme for cervical cancer prevention in the UK (2005–2008). Social Science & Medicine 2010 March; 70 (6): 942-950.

79. Blank P, Schwenkglenks M, Szucs T. Influenza vaccination coverage rates in five European countries during season 2006/07 and trends over six consecutive seasons. BMC Public Health. 1 August 2008; 8:272.

80. Wright S. Fear of needles. Nature and prevalence in general practice. Australian Family Physician 2009 March; 38(3): 172-176.

81. European Commission. Flash Eurobarometer Influenza H1N1 - Analytical Report, Flash EB Series #287. March 2010, Available from: http://ec.europa.eu/public_opinion/flash/fl_287_en.pdf.

82. ECDC. Interim guidance. Use of specific pandemic influenza vaccines during the H1N1 2009 pandemic. 2009. Available from: http://ecdc.europa.eu/en/publications/Publications/0908_GUI_Pandemic_Influenza_Vaccines_during_the_H1N1_2009_Pandemic.pdf

83. American Academy of Pediatrics. Policy Statement: Increasing Immunization Coverage. Committee on practice and ambulatory medicine and council on community pediatrics. Pediatrics 2010; 125:1295-1304.

84. Influensa A(H1N1) 2009 - Delrapporterna från utvärderingen av förberedelser och hantering av pandemin. Socialstyrelsen & Myndigheten för samhällsskydd och beredskap. March 2011. Available from: http://www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/18265/2011-3-17.pdf.