D3.2

TELL ME Communication Kit

2nd Reporting period
WP3 Developing new communication strategies

Responsible Partner: ZADIG
Contributing partners: BMJPG, CEDAR3, ISS

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TELL ME - Transparent communication in Epidemics: Learning Lessons from experience, delivering effective Messages, providing Evidence.
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Document Management

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D3.2 "TELL ME Communication Kit"

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Leader: **ZADIG** – Other contributors: **BMJPG, CEDAR3, ISS**

Table of Contents

EXECUTIVE SUMMARY

The TELL ME Communication Kit has been developed in response to a Call made by the European Commission in the context of the 7th Framework Programme (HEALTH 2011.2.3.3-3), in the aftermath of the 2009 influenza (H1N1) pandemic. During that period, a lot of concern was raised as public health agencies seemed to have failed in the communication of risk and scientific uncertainties, which in turn generated a sense of mistrust with harmful consequences for the uptake of recommended protective measures, including vaccination against the pandemic flu.

The TELL ME Communication Kit is the outcome of a collaborative effort made by TELL ME partners and experts who operate in the field of public health, and effectively constitutes a collection of documents for public health authorities, health care professionals (HCP) and agencies in EU/EEA countries, to further improve risk communication and the management of public health threats at different phases of an influenza pandemic.[1] In essence, the TELL ME Communication Kit has been designed in such a way that offers an array of practical recommendations and tools to support the development of evidence-based messages, tailored for different sub-populations and target groups across various cultural contexts with the aim of minimising deviations between perceived and intended messages in the communication process.

The guidance documents have been developed in the frame of a participatory approach regarding risk and outbreak communication, in recognition of the fact that a wide range of actors can actively be involved in the communication process, and accordingly be in a position to shape opinions, perceptions and behavioural responses toward an infectious disease outbreak and/or recommended protective measures associated with the outbreak. More specifically, the TELL ME framework model for outbreak communication[2] emphasises the interactive nature of outbreak communication between networks of experts including representatives from public health agencies, community-based public institutions, the pharmaceutical industry, civil society organisations and the media, with the general public placed at the centre of the communication process, as one would expect following the rise of new social media as principal channels of communication.

It should be noted that although the communication strategies (in the form of guidance documents) were conceived and developed by the authors in the context of an influenza epidemic or pandemic, the guidance documents offer practical recommendations and tools which extend beyond influenza and may find horizontal application also to other types of communicable diseases and major outbreaks where risk, uncertainty and preventive or protective measures need to be communicated in an effective manner to influence positive behavioural responses toward these measures.

[1] WHO (2013). Pandemic influenza risk management: WHO interim guidance.
[2] TELL ME Deliverable D3.1 – New framework model for outbreak communication. Available from <http://tellmeproject.eu/content/d31-new-framework-model-outbreak-communication>

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PART 1: BRIEF INTRODUCTION TO THE TELL ME COMMUNICATION KIT

- Purpose
- Scope and objectives
- Target audience

Purpose

For public health authorities and international health organisations, risk communication during major infectious disease outbreaks is similar to walking on a thin layer of ice, since one of the major challenges in such type of an emergency is to raise awareness and promote behavioural responses, avoiding at the same time to generate fear, panic and distress for the general public. Any failure to communicate clearly and convincingly the risks associated with an infectious disease outbreak can break the trust and seriously affect the level of confidence toward authorities' capacity to effectively respond to the outbreak, with immediate consequences in the uptake of protective measures. During the more recent H1N1 (2009) influenza pandemic, communication strategies were largely unsatisfactory and messages intended for the general public were often either misunderstood or failed to reach the target audience.

Until recently, public health authorities relied mostly on theoretical behavioural models for the development of communication strategies in the event of major infectious disease outbreaks, in addition to other direct interventions such as the enforcement of restrictive measures (e.g. quarantine, isolation, compulsory hospitalisation) and sanctions for non-compliant individuals. Such communication strategies and large-scale interventions required to follow a top-down communication approach where public health experts and other governmental actors would determine the context and content of messages, and assumed responsibility for disclosure of information as legitimate stakeholders in the process.

However, in a highly inter-connected world characterised by the continuous flow of information, people and goods, the response to a public health emergency of global concern is more complex and demanding than ever. The diffusion and widespread use of new internet-based technologies for instant exchange of information and messages, allowed to move toward a more open society where citizens and different stakeholders can assume the role of *partners* in the communication process. This evolution in the field of communications has led to a paradigm shift, defined by the principles of participatory governance where different stakeholders and citizens have the possibility to actively engage and influence the decision-making process at national or international level, in response to a large-scale epidemic or pandemic.

The TELL ME Communication Kit has been developed as a response to the need to propose new approaches, practical recommendations and support material for communications, in order to effectively address and overcome risk communication challenges, which can determine the level of success and efficiency to control an infectious disease outbreak. The communication strategies presented build upon research findings and work carried out within the scope of the TELL ME project, namely Work Package 1 (Population behaviour during epidemics) and Work Package 2 (New challenges and new methods for outbreak communication), and elaborates further on concepts presented in the TELL ME Framework Model for Outbreak Communication.

Scope and objectives

The TELL ME Communication Kit offers a wide spectrum of practical recommendations and tools to support the development of evidence-based messages, tailored for different sub-populations and target groups across various cultural contexts with the aim of minimising deviations between perceived and intended messages in the communication process. In accordance with the TELL ME Framework Model for Outbreak Communication, the guidelines have been developed by considering the dynamic nature of infectious disease outbreaks where priorities shift and information needs vary according to situational or contextual factors which characterise each phase of the outbreak.

It is envisaged for the communication strategies, practical tools and templates found in the guidance documents to be considered in the development of future preparedness and response plans elaborated by public health authorities, as part of a wider strategy to counteract an infectious disease outbreak – namely an influenza pandemic – both on local and international level.

The TELL ME Communication Kit comprises four different guidance documents, whose aims are summarised below:

- **ST3.2.1 New communication strategies for healthcare professionals and agencies**. This guidance document aims to help healthcare communicators and healthcare professionals (HCPs) responsible for drafting and delivering communication strategies in outbreak situations, to develop appropriate messages for their local populations to increase the uptake of preventative behaviours and vaccination. The document has a specific focus on vaccine resistant groups on both the patient and HCP sides. Moreover, the document sets out the key areas to understand and consider when developing the messages and provides a summary of the best practice available. Finally, the document sets the foundation from which healthcare communicators and HCPs can set to work on developing effective messages for each phase of an outbreak.
- **ST3.2.2 New communication strategies for working with different subpopulations/at-risk groups.** This guidance document aims to assist health communicators, operating at decision-making level, who are responsible for drafting and delivering communication strategies in outbreak situations, with the practical tools that will help them to develop appropriate messages. The document seeks to provide very much a visual aide-memoire of the issues to be considered and addressed when drafting communications to the key 'at-risk groups' at each stage of an outbreak.
- **ST3.2.3 New communication strategies for institutional actors**. This guidance document aims to assist institutional actors to help them contribute in the trust-building process and the overall communication strategy. The document offers a description of the perspective, role and responsibilities of institutional actors in the communication process, and includes a "toolbox" with supporting material and operational tools for institutional actors to use in communications with their widely diversified audience during epidemics and – even – pandemics
- **ST3.2.4 New communication strategies for preventing misinformation**. This guidance document aims to support public health officials, risk communicators and decision makers, to prevent the emergence and/or handle the widespread diffusion of misinformation in the course of a major infectious disease outbreak. The document presents a methodological framework to describe the conditions under which misinformation is generated and spread, and offers key recommendations to deal with complexity and uncertainties in various contexts, and across different phases of the outbreak, to ultimately produce messages that have the desired outcome.

Target audience

The TELL ME Communication Kit has been developed as a support tool to assist public health officials in the development of a communication strategy within the wider framework of a national or international preparedness and response plans for major infectious disease outbreaks. Moreover, this document is geared toward health communicators and healthcare professionals who are required to communicate risk and uncertainties to the general public with special attention to individuals who resist to the uptake of protective measures, such as vaccination.

PART 2: VALIDATION PROCESS

- Procedure
- Outcomes

Procedure

The validation process comprised two stages for each of the four guidance documents before these were integrated into a comprehensive document, i.e. the TELL ME Communication Kit. At the first stage, the guidance documents were reviewed internally by consortium partners and at the second stage those documents were reviewed and validated by a panel of external stakeholders, including healthcare professionals, public health officials and crisis communication experts.

Initially, draft versions of the guidance documents were reviewed by the task leader (ZADIG) and following recommendations for amendments, the guidance documents were submitted to the scientific project coordinator (HU) for further comments and approval. Once the internal reviewing process had been completed, the task leader proceeded to make individual contacts and recruit relevant stakeholders for the validation of the guidance documents. The task leader developed the validation questionnaire for each of the four guidance documents, with the support of responsible partners (BMJ, CEDAR3, ISS). The four validation questionnaires were made available online from the TELL ME website.[3]

A total of 21 stakeholders from 13 countries participated as reviewers in the validation process. The selection of stakeholders who were invited to review and validate a particular guidance document, was made on the basis of their professional expertise and role in the area of public health. The reviewers received the draft version of the guidance document they were assigned to validate and asked to fill out the online questionnaire with their responses. The guidance documents were validated across a set of different criteria relevant to the content: (a) Scientific quality, (b) Comprehensiveness, (c) Impact, (d) Independence. Moreover, the reviewers were asked to provide some feedback on other key aspects of the guidance documents such as the structure, clarity and usefulness of the document.

Further improvements were made on the guidance documents in the period that followed the validation process, and the final version of each document was submitted to the task leader in order to proceed with the graphic design of the documents.

Outcomes

All the four guidance documents were received positively by the reviewers. The majority of reviewers expressed their overall satisfaction with the scientific robustness and comprehensiveness of the guidance documents and offered specific suggestions for improvements and recommendations for considering further aspects or clarifying some parts in relation to the aims of each document. Furthermore, reviewers agreed that the guidance documents do have practical value and can indeed be of support in the development of a communication strategy as part of a preparedness and response plan at national and EU level. Finally, the reviewers did not find the proposed communication strategies to be in any way biased by positive or negative preconceptions about the role of different actors in the communication process.

The extensive feedback and constructive comments received by the reviewers about the scientific content, structure and coherence of the documents, significantly contributed to generate the final version of the TELL ME Communication Kit, which comprises a package of four guidance documents.

[3] ST3.2.1: http://www.tellmeproject.eu/content/st321-questionnaire-healthcare-professionals-and-agencies ; ST3.2.2: http://www.tellmeproject.eu/content/st322-questionnaire-people-working-different-sub-populations-risk-groups ; ST3.2.3: http://www.tellmeproject.eu/content/st323-questionnaire-institutional-actors ; ST3.2.4: http://www.tellmeproject.eu/content/st324

PART 3: NEW COMMUNICATION STRATEGIES FOR HEALTH PROFESSIONALS AND AGENCIES

- **ST3.2.1 New communication strategies of health professionals and agencies**

tellme

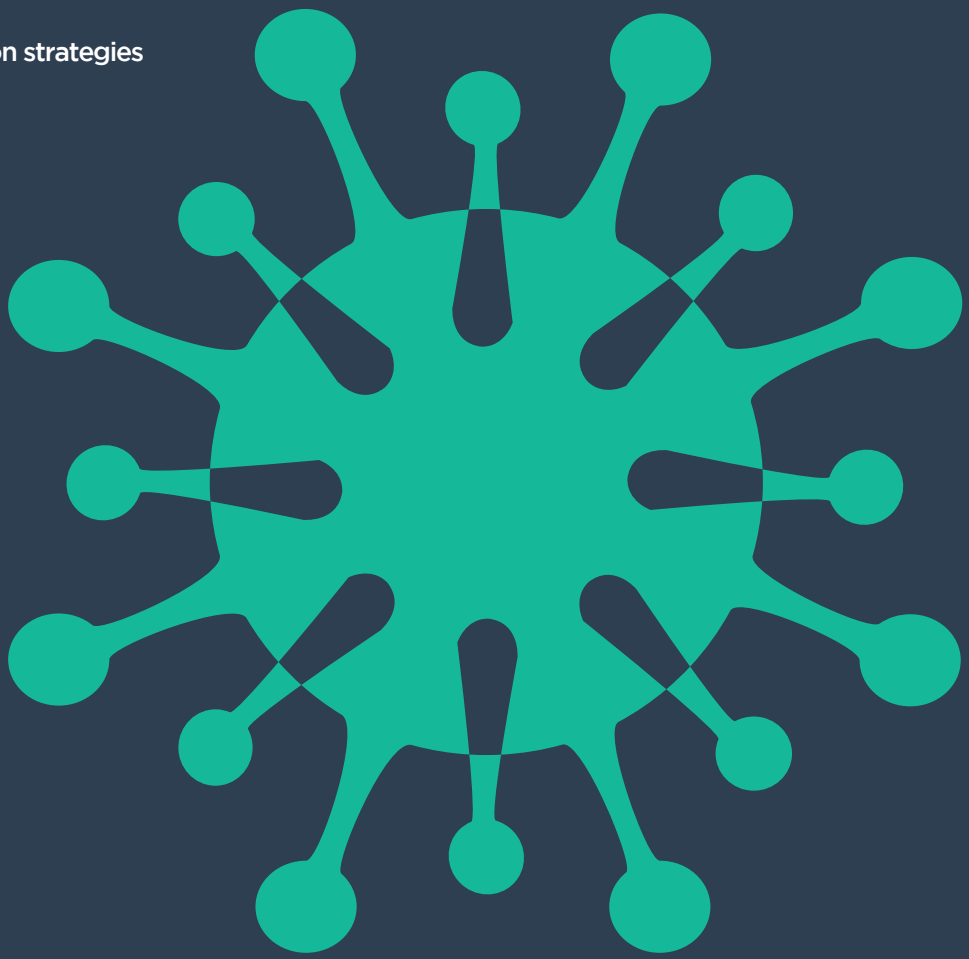
ST3.2.1

New communication strategies for health agencies and healthcare professionals

2nd Reporting Period
WP3 Developing new communication strategies

Responsible Partner: BMJPG
Contributing Partners:

Dissemination Level: PU



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Contents

Glossary

Health agencies - National and local organisations in each country with the responsibility of protecting the public's health and coordinating a response to an infectious disease outbreak such as a flu pandemic.

Healthcare professional - Abbreviated to HCP and also known as a healthcare worker (HCW), this term is used to refer to all healthcare professions across primary, secondary and tertiary care. That is from the healthcare assistant all the way to the medical director.

Logos - Emphasis on logical/valid arguments and justification by use of facts.

Pathos - Emphasis on the credibility of the source – character perceived as knowledgeable and moral.

Ethos - Emphasis on expression and emotion – arousing stimuli – use of colourful and vivid language to evoke emotions.

Elaboration Likelihood Model - The Elaboration Likelihood Model (ELM) of persuasion is a dual process theory describing how attitudes are formed and changed, developed by Richard E. Petty and John Cacioppo during the early 1980s. The model examines how an argument's position on the "elaboration continuum", from processing and evaluating (high elaboration) to peripheral issues such as source expertise or attractiveness (low elaboration), shapes its persuasiveness.

Source: http://en.wikipedia.org/wiki/Elaboration_likelihood_model

Wicked problem - A problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. The term "wicked" is used to denote resistance to resolution, rather than evil. Moreover, because of complex interdependencies, the effort to solve one aspect of a wicked problem may reveal or create other problems.

Source: http://en.wikipedia.org/wiki/Wicked_problem

ST3.2.1

Introduction

As a part of the TELL ME communications toolkit this guidance document focuses on communication strategies tailored for health agencies to help increase the number of healthcare professionals (HCPs) who get vaccinated against flu.

A summary of research into the communication of flu, the flu vaccine, and outbreaks is provided and gives the foundation upon which the subsequent guidance is based.

Use of a participative strategy to help health agencies turn healthcare professionals from critical recipients of outbreak communications to active advocates of outbreak communications is described. Using a theoretical case study a practical picture is built of what the application of a participative strategy rich in pathos and ethos looks like.

In turn, communication strategies for HCPs talking to non-vaccinated and vaccine resistant patients about flu vaccination are discussed, highlighting how different information and modes of persuasion fit sub-groups of patients.

The appendices explore real-life case studies of developing communication networks for use in seasonal flu campaigns and outbreak communications. They describe local and national networks which provide information and support to HCPs and the public. These case studies exhibit how ethos, pathos and participation in the development, use and refinement of messages leads to positive communication outcomes.

While the document has a focus on pandemic flu, elements such as the use of a participatory approach to outbreak communications planning and the use of social media to reach target audiences are relevant strategies for the majority of outbreak communication strategies.

Section 1

The research background

Introduction

This section is a summary of the research presented in TELL ME Work Package 1: Population behaviour during epidemics, and Work Package 2: New challenges and new methods for outbreak communication. The summary aims to provide the reader with a core understanding of what is known to affect HCP's vaccination compliance and how HCPs impact their patients' vaccination decisions. Additionally the summary highlights important areas such as perceived risk versus actual risk, health agency communication practices and segmenting the non-vaccinated patient population.

Healthcare professionals and the flu vaccine

Healthcare professional compliance with flu vaccination

Despite the World Health Organisation strongly recommending HCP flu vaccination for both seasonal and pandemic flu, no discernable pattern of flu vaccination compliance exists. Healthcare professionals' flu vaccination compliance is often low and varies the world over. In some countries, younger HCPs show higher vaccination rates than their older colleagues; in other countries older HCPs have the highest compliance rates. Similarly there is no standout medical profession when it comes to flu vaccination compliance; nurses are no better or worse than General Practitioners (GPs) for example (TELL ME deliverable D1.3[1]).

This pattern of 'there is no pattern' highlights the importance for all nations, their regions and local healthcare organisations to measure their HCPs' compliance. After all, communications can't be efficiently targeted without knowing which HCP groups are or aren't getting vaccinated.

Seasonal flu vaccination predicts pandemic flu vaccination

In general, vaccination against seasonal flu predicts whether a HCP will be vaccinated against pandemic flu (Chor, et al., 2001) (Hollmeyer, Hayden, Poland, & Buchholz, 2009) (Kelly, et al., 2008) (Prematunge, et al., 2012) (Virseda, et al., 2010). Therefore efforts to increase seasonal flu vaccination among HCPs can be predicted to help increase pandemic flu vaccine compliance among HCPs.

[1] TELL ME Deliverable D1.3 Segmentation and Specific Communication Needs of Target Groups. Available from http://www.tellmeproject.eu/content/d13-segmentation-communication-needs-target-groups

Factors affecting healthcare professionals' compliance with flu vaccination

As discussed in detail in TELL ME deliverable D1.3[2], the following list of factors are known to affect HCPs compliance:

1. Desire for self-protection.
2. Desire to avoid infecting patients.
3. Desire to avoid infecting family members.
4. Perceived safety of the vaccine.
5. Perceived efficacy of the vaccine.
6. Perceived seriousness of the disease.
7. Perceived risk of the disease.
8. Perceived seriousness of complications from the disease
9. Access to the vaccine (convenience - for example the existents of mobile carts).
10. Cost of the vaccine (e.g. do the HCPs need to pay to get the vaccine?).
11. Fear that the vaccine could cause disease (a negative effect).

Healthcare professional vaccination compliance: The necessity of local research

Multiple complex and inter-related reasons stand behind the reasons HCPs decide to get or not get vaccinated. The majority of the research used to create this list focused on a single country and therefore we believe shouldn't be readily extrapolated to other countries with different healthcare cultures and contexts.

Instead, the list should be viewed as a list of potential factors that may affect HCPs in a locality. Local research will always be required to better understand why local HCPs do or don't get vaccinated. For example, TELL ME deliverable D2.3[3], looked at GPs experiences of the H1N1 outbreak and found a range of views on the H1N1 vaccine and it's uptake.

That being said, Hollmeyer et al's 2009 review of 25 studies does provide a useful big picture summary of the body of research, which we believe can be cautiously applied across countries and localities.

"These studies identified two major reasons for lack of vaccine uptake by HCW [healthcare workers]: firstly, a wide range of misconceptions or lack of knowledge about influenza infection; and secondly, a lack of convenient access to vaccine." (Hollmeyer, Hayden, Poland, & Buchholz, 2009).

Local research will always be required to find the solutions to these barriers to vaccination.

[2] TELL ME Deliverable D1.3 Segmentation and Specific Communication Needs of Target Groups, pages 12-13. Available from http://www.tellmeproject.eu/content/d13-segmentation-communication-needs-target-groups

[3] TELL ME Deliverable D2.3 Report on Health Care Professional Communication Requirements, sections 3 & 4. Available from http://www.tellmeproject.eu/content/d23-report-health-care-professional-communication-requirements

Perceived risk vs actual risk

Healthcare professionals' perceptions of the disease and vaccine risks are often not aligned with the actual risks. This mismatch between perceived and actual risk can lead to lower or higher vaccination rates, as the below formula describes.

$E [C_d]$ = Expected cost of the disease
$E [C_v]$ = Expected cost of the vaccine

$E [C_d] - E [C_v] = < 0$ leads to a decrease in vaccination
$E [C_d] - E [C_v] = > 0$ leads to an increase in vaccination

Source: (Betsch, Böhm, & Korn, 2013)

Expected cost is the perceived risk and can be based on a mixture of subjective and objective reasoning. For example, a HCP may base their expected cost of disease on their personal experience of having had the flu, $E [C_{d10}]$, and their expected cost of vaccination on a mixture of urban myths and actual risk calculations from a vaccination leaflet, $E [C_{v5}]$.

$E [C_{d10}] - E [C_{v5}] = 5$

In this case the HCP gets vaccinated.

Patients and the flu vaccine

The impact of a healthcare professional's recommendation on a patient's vaccination decision

A positive recommendation to be vaccinated from a HCP greatly influences many patients to get vaccinated. As Evans & Watson (2003) found a "lack of advice from a doctor or nurse" to get a flu vaccination decreases uptake of the vaccination. TELL ME deliverable D1.4[4] states, "the literature clearly indicates that recommendation from a healthcare professional is one of the strongest influences on vaccine acceptance".

TELL ME deliverable D1.3[5] describes how "the main factor affecting compliance rates with influenza vaccines among the elderly [chronically ill patients and pregnant patients] in both Europe and the U.S. is the number of visits the person pays to a physician during the year", highlighting patient-HCP contact as an important part of a patient's vaccination decision.

Patient segments healthcare professionals talk to about flu vaccination

Not all patients are equally influenced by their HCP's recommendation. In their 2008 paper, John & Cheney identified three patient segments within groups of patients who had yet to be vaccinated against seasonal flu:

1. Plans to get – a group of people who planned to get vaccinated but due to barriers mainly of time and access had not done so.
2. Needs more information – have a variety of concerns about the safety and efficacy of the vaccine.
3. Ideologically opposed to vaccination – due to lifestyle choice (e.g. naturalists), those who oppose vaccination on medical/scientific grounds and those who distrust the authorities.

John & Cheney concluded no specific intervention should be developed for the 'ideologically opposed' group due to the strength of their negative views about flu vaccination (John & Cheney, 2008). We agree with this to a point. The flu vaccination communication process is based on the use of finite resources and cannot be expected to use these resources on groups who are steadfast in their anti-vaccination stance.

[4] TELL ME Deliverable D1.4 Report on Vaccine Acceptance/Refusal and Resistance to Vaccination, pages 65-66. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

[5] TELL ME Deliverable D1.3 Segmentation and Specific Communication Needs of Target Groups, pages 15-16. Available from http://www.tellmeproject.eu/content/d13-segmentation-communication-needs-target-groups

This approach builds on the recommended application of Pareto's principle (also known as the 80-20 rule) as discussed in TELL ME deliverable D1.4[6].

"Applying Pareto's principle, the population groups for which resources and interventions would be the most effectively and efficiently applied must be specified for each vaccination effort. Influences on vaccination acceptance vary among population groups. Identifying a specific subset of the population on which to concentrate efforts enables consideration of influences, information resources, and other important characteristics unique to that group. This will result in targeted messaging and interventions that are highly effective for the key strategic groups most likely to impact overall vaccination success."

However, the ideologically opposed group should not be alienated. As described in TELL ME deliverable D1.4[7], "Do not abandon vaccine resistant patients; continue to provide care, and take advantage of every opportunity to further educate about the benefits of vaccination."

It is however, interesting to note that the ideologically opposed group can be segmented further to reveal groups of patients who are ideologically opposed based on:

1. A naturalist lifestyle.
2. A wider distrust in power, government and pharmaceutical companies.
3. A deep-seated medical opposition perhaps based on personal experience.

In turn these groups are likely to spread different themes of rumours, urban myths and misinformation to others, making it important to understand how and why they may spread such information. Being aware of these groups' beliefs and behaviours may help health agencies combat misinformation during an outbreak. Lason et al's 2013 paper, 'Measuring vaccine confidence: analysis of data obtained by a media surveillance system used to analyse public concerns about vaccines' represents a good introduction to how such anti-vaccine groups could be monitored and understood.

[6] TELL ME Deliverable D1.4 Report on Vaccine Acceptance/Refusal and Resistance to Vaccination, page 65. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

[7] TELL ME Deliverable D1.4 Report on Vaccine Acceptance/Refusal and Resistance to Vaccination, page 67. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

Health agencies current communication practices

A country's health agencies should be the main source of official outbreak and pandemic information for HCPs. In the case of a flu pandemic, nationally developed messages are fed down to HCPs via health agencies (see definition on page 22). However, TELL ME deliverable D2.3[8] has shown, during the H1N1 outbreak of 2009 this wasn't always the case with messages first reaching many HCPs via the media instead of directly from health agencies.

The roll of command and control in how health agencies communicate with healthcare professionals

The structures and processes in place for health agencies to communicate with HCPs vary from country to country. However, research has shown that consistent approaches exist in how health agencies communicate with HCPs.

Command and control, or top-down messaging, is used across the world in the event of a pandemic. This method of communication relays messages down a chain of command. Benefits include the possibility of maintaining a consistent message. However, just like in the game Chinese whispers, the ability for the message to change the further it gets from its source can make this approach susceptible to the generation of misinformation.

This approach also does not easily exist alongside two-way communication processes, which enable HCPs, patients and the public to feedback about the messages being delivered.

Alongside the use of top-down messages, HCPs are often treated in communication plans as a single group and receive a single message. This approach does not take into account the different HCPs sub-groups and their distinct vaccination cultures and beliefs. For example, it may be that the large majority of GPs in a region support vaccination while midwives do not. A single message, 'Get vaccinated to protect yourself and your patients', given to these two different groups is unlikely to change the midwives' stance as it does not recognise the underlying reason(s) behind their vaccine resistance.

A consistent theme across the literature is the lack of participation of HCPs in helping to develop local pandemic response plans. Not including HCPs in the planning stage of a pandemic response can lead to HCPs having false expectations once an outbreak or pandemic begins due to them not being familiar with the plans.

[8] TELL ME Deliverable D2.3 Report on Health Care Professional Communication Requirements, page 13. Available from http://www.tellmeproject.eu/content/d23-report-health-care-professional-communication-requirements

The roll of the deficit model in how health agencies communicate with patients and the public

In the past the prevailing approach to vaccination communications has been to provide the public with facts on the risks of the disease and the vaccine and provide recommended actions to take. This approach, known as the deficit model of science communication (Frewer, et al., 2003), aims to bridge the gap between expert knowledge and lay person knowledge of vaccination. Crucially it does not discuss the uncertainty surrounding the topic of vaccination, choosing instead to present the facts as they stand. When the facts inevitably change during a pandemic this approach can fuel distrust in the source of the information; for example health agencies.

This approach has three main drawbacks:

1. It relies too heavily on the use of logic (logos) and does not use enough emotion (pathos). Facts and figures don't paint a personal and emotive story for the audience, and can therefore be unpersuasive.
2. It does not transparently recognise the uncertainty surrounding an outbreak and vaccination.
3. It is often used to communicate a one size fits all message (additional facts and figures may be provided for at-risk groups) to multiple different patient segments.

As communication culture has changed in the last decade, the deficit model has begun to fall out of favour, replaced by a communications approach which places the emphasis on openness and transparency. However, during the H1N1 flu pandemic of 2009, an open and transparent approach to the uncertainties of the pandemic was not always followed (see box 1, page 25).

A summary of the research background

A lot is known about what impacts HCP vaccination compliance and how HCPs can influence patients' vaccination decisions.

From this body of research the following practical summary is provided to act as reminders when developing a flu vaccination communications plan.

- The reasons HCPs get the flu vaccine can differ between and within countries and between professions – local research into vaccination behaviours and intentions is essential.
- Ease of access to the vaccine has a major influence on HCP vaccination rates.
- A HCPs recommendation is the major influencer of a patient's vaccination decision.
- Patients who are ideologically opposed to vaccination are very unlikely to change their views; working with other non-vaccinated patients is a better use of finite communication resources.
- Seasonal flu vaccination predicts pandemic flu vaccination in both HCPs and the public, increase seasonal flu vaccination and pandemic flu vaccination is likely to increase.
- An open and transparent approach which recognises the uncertainty of pandemics, uses emotionally engaging content (pathos) in its messages and two-way communications is consistently highlighted in the literature as best practice when communicating with the public.

Gaps in our knowledge

Despite a large amount of research on: HCP vaccination, the communication approaches of health agencies and vaccination compliance across multiple patient groups and the public, gaps still remain in the literature and in practice. The silver lining is practice lags behind the evidence base, as was seen during the 2009 H1N1 pandemic (see box 1, page 25). This presents an opportunity for national and local planners to not only bring their plans in line with the research, but to provide original real-world research to fill the following gaps in our knowledge.

- Consistent measurement of compliance rates across different stakeholder groups throughout Europe (e.g. HCPs, at-risk groups).
- Measurement of compliance rates within HCP sub-groups (e.g. A&E consultants versus GPs) within countries across Europe.
- Developing an understanding of what impacts the vaccination recommendation HCPs give to different groups of patients, e.g. at-risk groups compared to non-at-risk groups. Does a HCP's level of knowledge about flu impact on their recommendation? Does a HCP's personal vaccination history or flu infection history impact on their recommendation?
- Finally, the literature has not looked at how an increase in HCP vaccination impacts, or does not impact on the patient and the public's vaccination compliance for either the seasonal or pandemic flu. We are unaware of any examples in the literature of health agencies setting out to increase HCPs' vaccination compliance with the expressed aim of consequentially increasing patients' compliance.

Section 2

Segmenting healthcare professions, their role in outbreak communication and their information requirements

Introduction

In section two we discuss which HCP sub-groups have the greatest amount of patient contact, HCPs 'trusted translator' role between health agencies and patients and HCPs information requirements during each pandemic phase. Additionally, we provide a list of HCPs and health agency lessons learnt during the 2009 H1N1 outbreak.

Audiences within the healthcare profession

Within healthcare many different professions exist. Dermatologists, orthopaedics, dentists and neurosurgeons, to name a few, all should receive the vaccine, and all could influence a patient's vaccination decision. They act as opinion leaders, as highlighted in the framework model presented in TELL ME deliverable 3.1[9].

For the purpose of this document, it is necessary to focus on specific healthcare professional groups and not the entire healthcare professional population. This targeted approach allows us to discuss in more detail the specific communications strategies relevant to the HCP groups who have the majority of contact with patients[10]:

- General Practitioners (GPs)/family physicians
- Nurses (both hospital and community based)
- Midwives (both hospital and community based)

We include midwives in this section due to their influential role in mothers' and parents' vaccination decisions, both before and after birth. Additionally, midwives were highlighted as an important group to engage with on pandemic communications and planning by the GPs who took part in the research for TELL ME deliverable D2.3[11].

The amount of contact a HCP has with patients is important for two reasons, firstly the more patients HCPs see the further an infected HCP can spread the virus. Secondly the more patients HCPs see the greater the opportunity they have to influence a larger number of patients' vaccination decisions. We will concentrate primarily on HCPs working in primary care as these clinicians have the greatest amount of patient contact and care for outbreak at-risk groups.

While concentrating on these three HCP sub-groups, it should be recognised that many of the communications strategies relevant to these three professions contain practices that are applicable to other groups of HCPs as well. For example, increasing the ease of access to the vaccine for HCPs can increase vaccination compliance (Hollmeyer, Hayden, Poland, & Buchholz, 2009). Furthermore, this segmentation does not take into consideration more detailed segmentation by gender, professional experience and ethnicity for example. Localised, detailed segmentation such as this may be useful in understanding local HCP vaccination behaviours and cultures.

[9] TELL ME Deliverable D3.1 - New Framework Model for Outbreak Communication, page 12. Available from http://www.tellmeproject.eu/content/d31-new-framework-model-outbreak-communication

[10] The UK's Royal College of General Practitioners reports GPs "[deal] with 90 per cent of all patient contacts" in the UK: http://www.rcgp.org.uk/campaign-home/about.aspx (last accessed 15/08/14). Original statistic from The King's Fund: https://www.kingsfund.org.uk/sites/files/kf/General-practice-in-England-an-overview-Sarah-Gregory-The-Kings-Fund-September-2009.pdf (last accessed 15/08/14).pdf (last accessed 15/08/14).

[11] TELL ME Deliverable D2.3 Report on Health Care Professional Communication Requirements, pages 4, 23, 36, 39 & 47. Available from http://www.tellmeproject.eu/content/d23-report-health-care-professional-communication-requirements

Who is communicating with healthcare professionals?

During any of the pandemic phases listed in the introduction to TELL ME deliverable D3.2. HCPs will be receiving information from a variety of sources: the media, professional journals, patients, peers, and health agencies. To give this document a structure, it is necessary to place a framework around pandemic communications with HCPs. This structure is illustrated in figure 1. It enables us to discuss the communication strategies from the perspective of the message sender (health agencies), message intermediaries (HCPs) and message receivers (patients).

In this document we focus on health agencies as the source of official messages directed towards HCPs in all of the pandemic phases. We look at communication strategies capable of providing HCPs with information suitable for their dual role as a WHO recommended vaccination group and trusted translator of vaccine information.

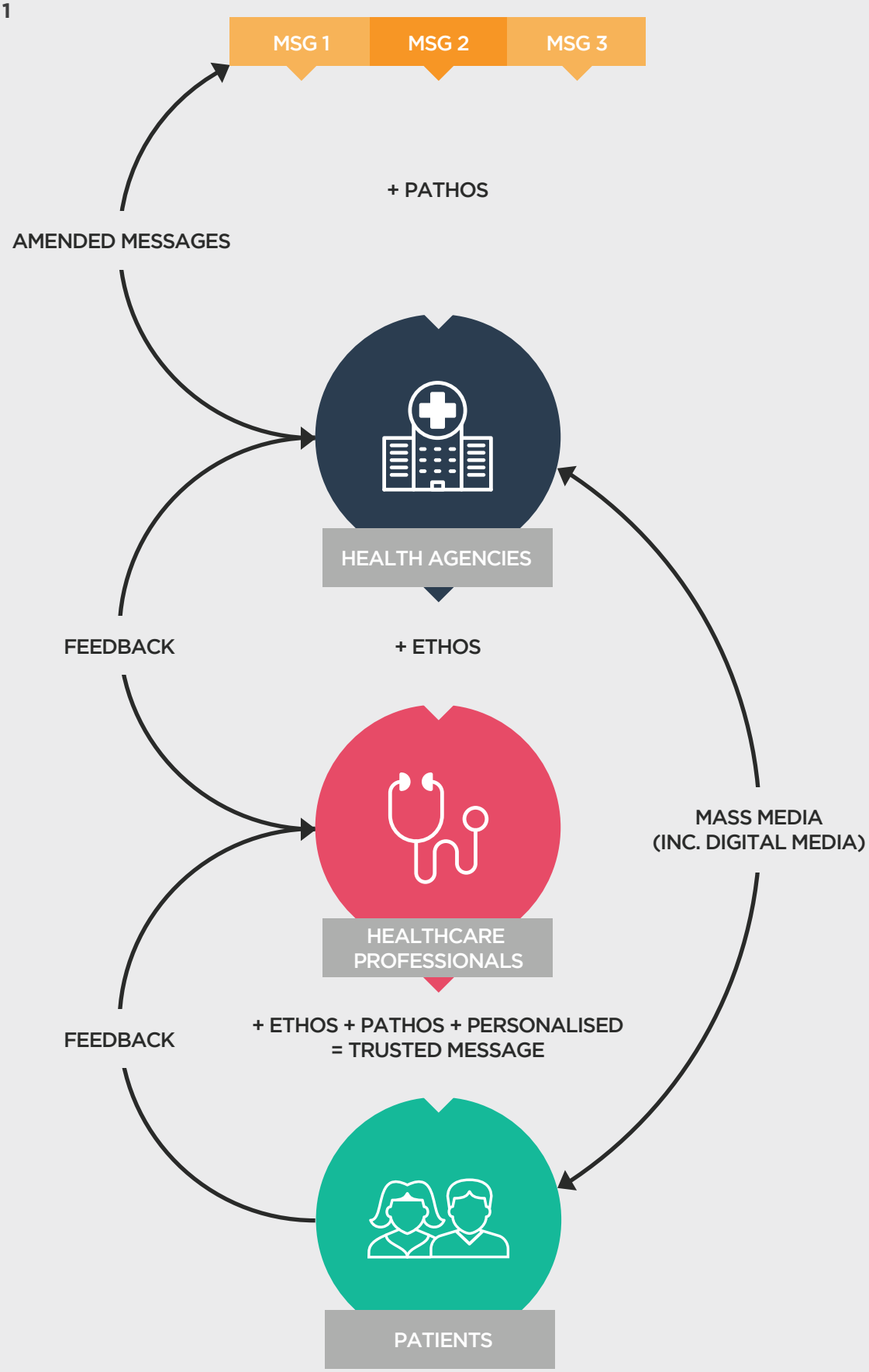
Health agencies: a working definition for this document

Health agencies: "organisations in each country with the responsibility of protecting the public's health and coordinating a response to an infectious disease outbreak such as a flu pandemic."

Known collectively as 'health agencies' the label includes employers of HCPs, HCP membership organisations such as trade unions and colleges, the government's Ministry of Health, national and regional public health organisations and local hospitals; all of which communicate with HCPs and the public.

Figure 1 oposite, shows the various lines of communication between health agencies, healthcare professionals and the public, including how HCPs can add ethos, pathos and personalisation to messages to increase patients' trust in the message.

Figure 1


MSG 1
MSG 2
MSG 3
+ PATHOS
AMENDED MESSAGES
HEALTH AGENCIES
FEEDBACK
+ ETHOS
MASS MEDIA
(INC. DIGITAL MEDIA)
HEALTHCARE
PROFESSIONALS
FEEDBACK
+ ETHOS + PATHOS + PERSONALISED
= TRUSTED MESSAGE
PATIENTS

Healthcare professionals as information translators and carriers

Figure 1 highlights healthcare professionals' 'trusted translator' role between health agencies and patients. Healthcare professionals in general and doctors specifically, are often one of the most trusted professions in the EU. For example, doctors are the most trusted profession in the UK (Ipsos Mori, 2013).

Healthcare professionals help to carry health agencies' messages to the public via their interactions with patients and any public facing communication they take part in (media work, blogs and social media profiles). Their central position in the communication network gives HCPs an important communications role throughout a pandemic. The role has influence over the messages which reach patients, the method of delivery of those messages, and how much trust a patient puts in the messages.

When a pandemic breaks, patients are faced with a storm of new information to digest. Many look for an expert summary of the situation from a trusted source. The media, health agencies and HCPs can all help to provide this.

Importantly however, HCPs have the opportunity to provide this information in a personalised format based on their knowledge of a patient's medical and vaccination history. This allows HCPs to translate the information into a contextualised and easy to understand message for each patient.

For example, a HCP could provide detailed information about the risks of the disease and vaccination to patients in the 'need more information' segment discussed in section 1, while discussing the best non-pharmaceutical interventions available to patients ideologically opposed to vaccination.

The ability to deliver a tailored message in a one-to-one consultation with an expert, who is likely to be trusted by the patient, gives HCPs a crucial position in vaccination communications. The consultation environment also gives HCPs the ability to ask patients about their vaccination stance, prompting reflection by the patient and the possibility of the HCP being able to increase the alignment between the patient's perceived risk of the disease and vaccination and the actual risks.

Box 1: Key learnings for health agencies and HCPs from the 2009 H1N1 pandemic

- The uncertainty surrounding the details of an outbreak (speed of transmission, at-risk groups, expected impacts etc) should be recognised and publically acknowledged as soon as the alert phase begins to ensure subsequent changes to projections are not seen as untrustworthy or worse, as signs of a conspiracy.
- HCPs need single, or very few points of access to the latest information.
- HCPs should be engaged with as soon as possible and before the media begins to run stories about a potential flu pandemic. This will enable GPs, nurses and midwives to answer patients' questions from the very beginning of a potential outbreak, helping doctors to build trust.
- The need to respond flexibly to hotspots of outbreaks (often very localised). For example, a localised area going into the pandemic stage earlier than the rest of the country
- A single respected source of information was highly regarded by GPs in the UK. Dr Maureen Baker's weekly update was the go-to source of the latest H1N1 information for many GPs.
- The switch from alert phase to pandemic phase will likely be rapid, giving little time to warm up response efforts. Global travel and business mean the pandemic strain will quickly be transmitted far beyond the original source. This is likely to occur before global surveillance systems have recognised the spread of a new strain due to flu's incubatory period before symptoms occur.
- National pandemic response planning must plan for both the worst case scenario and a mild version of a pandemic to try to ensure a potential over-reaction during the alert and pandemic phases does not negatively impact non-pharmaceutical intervention and vaccination uptake.

Sources: All TELL ME documents especially, D2.3 Report on Health Care Professional Communication Requirements. The United Kingdom's Department of Health UK Influenza Pandemic Preparedness Strategy 2011 and UK Pandemic Influenza Communications Strategy 2012

Healthcare professionals' information requirements during the four phases of a pandemic

We now consider what HCPs need to know and when, throughout the phases of a pandemic to be able to confidently discuss outbreaks and vaccination with their patients.

The information requirements listed here should be used by health agencies as a checklist when producing outbreak information for HCPs, e.g. education courses on vaccination and outbreak contact and role responsibility maps.

1. Inter-pandemic phase: Education and familiarisation

- Which organisation plans the response to a pandemic and where can the pandemic response plans and guidance be found
- Which communication channels will be used to contact HCPs when the alert phase begins (email updates, website(s), telephone lines, face-to-face meetings)
- Important local contacts during a pandemic (healthcare commissioners, emergency planning and resilience teams)
- Healthcare professionals' roles during a pandemic (surveillance, healthcare delivery, media work, weekend surgeries, home visits etc)
- Likely surveillance requirements
- Planning assumptions on staff absences and mitigation of absences
- Planning assumptions covering the delivery and prescription of anti-virals
- Likely vaccine development and delivery timetables
- Educative information on how vaccines are developed, e.g. TELL ME Online Course for Primary Care Staff
- Areas of uncertainty in pandemic planning and why these areas are uncertain
- The benefits, as well as the risks, of vaccination
- The top public health messages to be used at the start of a pandemic
- The top preventative measures for use during the first wave of a pandemic, e.g. non-pharmaceutical intervention
- How to feedback on health agencies' pandemic plans
- Encouragement to participate in seasonal flu campaigns to help familiarise HCPs and health agencies with vaccination communication

2. Alert phase: Knowledge management

- The latest risk assessment partnered with a clear technical and lay person description of the strengths, weaknesses and implications of the assessment
- Known characteristics of the pandemic strain
- Expected at-risk groups
- Surveillance requirements, swabbing every influenza-like illness (ILI) case? Reporting every ILI case across all GPs?
- Repetition of important local contacts during the pandemic (healthcare commissioners, emergency planning and resilience teams)
- Repetition of top public health messages for patients
- Repetition of top preventative measures for use during the pandemic, i.e. non-pharmaceutical interventions
- Next steps in managing the outbreak (isolation, ILI specific clinics etc)
- Planned communications activities at a national, regional and local level, including the messages being used
- A set of FAQs to help HCPs answer patient questions
- A set of FAQs for HCPs from health agencies covering the expected roll out of support as and when a pandemic is locally confirmed
- Where to find verified information – a central information resource – and planned communication channels to be used throughout the alert and pandemic phases
- When communications collateral such as posters and patient leaflets will be available and how to order them
- Preliminary plans for extending patient access to HCPs, e.g. weekend opening hours and how the costs (monetary and staffing wise) of this will be met
- Planned anti-viral logistics – delivery, timing and storage

3. Pandemic phase: Logistics and transparency

- Updated risk assessment partnered with a clear technical and lay person description of the strengths, weaknesses and implications of the assessment
- Updated known characteristics of the pandemic strain
- Updated known at-risk groups
- Updated top public health messages for patients
- Updated top preventative measures for use during the first wave of a pandemic, i.e. non-pharmaceutical interventions
- Any planned roll-out of anti-virals
- Likely vaccine development, delivery and roll-out timetables and logistics
- Concise educative information on how vaccines are developed
- The uncertainties that exist around the pandemic
- Surveillance requirements
- Repetition of important local contacts during the pandemic (healthcare commissioners, emergency planning and resilience teams)
- Strategies to deal with staff absences based on latest data (these will differ from one locality to the next)
- Where to get the latest information from

4. Transition phase: Recognition and resilience

- Wash-up sessions to learn what went well and what didn't
- Public recognition of HCPs efforts made during the first waves of the pandemic
- The planning assumptions and risk assessments for any predicted next waves of the pandemic and the next seasonal flu
- A set of patient facing FAQs about how the latest pandemic vaccine will be used in the seasonal vaccine
- Where to get support to update crisis plans based on the lessons learnt

Section 3

Communication strategies for health agencies

Introduction

Having discussed the evidence surrounding HCPs flu vaccination compliance; HCPs crucial position in outbreak communications; and the known information requirements of HCPs at each pandemic phase; we now outline communication strategies based on this knowledge for health agencies to engage HCPs with major disease outbreak communications.

Mode of persuasion	Persuasive appeal	Main characteristics
Logos 'Logic'	Appeal to reason	Emphasis on logical / valid aruguments and justification by use of facts
Ethos 'Credibility'	Appeal to one's character	Emphasis on the credibility of the source - character perceived as knowledgeable and moral
Pathos 'Emotionally engaging'	Appeal to emotion	Emphasis on expression and emotion - arousing stimuli - use of colourful and vivid language to evoke emotions

Table 1: The three modes of persuasion and a description of their principle characteristics. Source: TELL ME Document 1.5 – Report on Narrative and Urban Myths.

Specific strategies for communicating with healthcare professionals and patients

Reliance on the deficit model to communicate flu and flu vaccination facts has often led to a fact and figures (logos) heavy approach to flu communications. This approach fails to address the subjective decision making process used by many people and can lead to a perceived vs actual risk mismatch.

Here we discuss the use of credibility (ethos) with HCPs and emotionally engaging content (pathos) with patients; which can help persuade each audience in the vaccination discourse.

The use of credibility (ethos) with healthcare professionals

While HCPs are part of the public and behave as such in many ways, they are also part of a highly hierarchical profession which places great value on the job held by a HCP. Healthcare profession leaders are therefore often well respected and trusted within and outside of their profession, making them a source of credibility-derived influence over HCPs.

This influence is gained via the characteristics attached to the leadership position. For example, the national leader of midwives has worked their way up to the top of the profession. To do this they must have shown high levels of endeavour, knowledge and professionalism. Therefore these characteristics are imprinted on the leadership role giving it and its holder credibility.

The credibility of HCP leaders should be used as a source of influence during vaccination campaigns and disease outbreak communication. The use of credibility as an influencer is exhibited in the flu fighter campaign described in appendix 1.1, and the evidence of GPs in the UK citing the flu tsar's weekly bulletin as being invaluable during the H1N1 outbreak of 2009 (TELL ME deliverable D2.3[12]). Working with HCP leaders in a proactive way will also help health agencies have the necessary contacts and influence to be able to quickly bring together HCP leadership groups in the event of an outbreak.

This does not mean discounting the use of emotionally engaging content with HCPs. Pathos is still an important influencer of HCPs as it is with any population group. We highlight the ethos of HCP leader in particular as it offers a great way of making outbreak communications more relevant and trustworthy for the HCP population.

[12] TELL ME Deliverable D2.3 Report on Health Care Professional Communication Requirements, pages 13. Available from http://www.tellmeproject.eu/content/d23-report-health-care-professional-communication-requirements

The use of emotionally engaging content (pathos) with patients

As patients make their vaccination decision based on objective and subjective criteria flu vaccination messages should reflect this dichotomy. Using only facts and figures in flu vaccination communication does not adequately answer a patient's questions and concerns which can be rooted in their subjective experience. For example, a patient who has never had the flu is unlikely to respond to facts highlighting how many people get the flu every year. However, a pathos driven approach which highlights the personal benefits of avoiding disruption to day-to-day life by getting vaccinated – less time off work, not having to re-arrange child care arrangements – is likely to have a greater influence.

TELL ME deliverable D1.5[13] describes, "Analogies and figurative speech allow health experts and professionals to communicate the messages more effectively". In addition emotionally engaging content is able to reach a wide array of audiences as the engaged emotions are universal with few cultural variations. Discussing vaccination decisions in more figurative language enables HCPs to park complex medical language and jargon and simplify their vocabulary when discussing vaccination. Pathos is also believed to be the most powerful of the modes of persuasion due to the speed at which the speaker is able to build engagement via emotive discourse.

The use of emotive content on social media platforms has been found to engage patients with health agencies' and build a trusting relationship between a health board and the local public. This is described in appendix 1.2 which details the response to the measles outbreak in South Wales during 2012 and 2013.

[13] TELL ME Deliverable D1.5 Report on Narratives and Urban Myths, pages 26.
Available from http://www.tellmeproject.eu/content/d15-report-narratives-and-urban-myths

Localising message content

It is important to remember the use of ethos and pathos only works if relevant to the audience. For example the ethos a national HCP leader holds is relevant to all HCPs but may hold less influence than the ethos of a local HCP leader with whom local HCPs have regular contact. Furthermore empathetic stories can work well over large segments of the patient population but should always be localised with the use of appropriate names, locations and scenarios to ensure the message fits the intended patient segment as well as possible. For example, first names in a story would likely differ in a predominantly ethnic local population to a predominantly white local population. With this in mind local communication teams and HCPs must be given clear guidance on what they can change in the central messages. Alongside this, channels to feedback significant issues and themes should be available to inform the iterative development of the central messages (see figure 2).

Helping healthcare professionals to become active partners in pandemic communication strategies

Throughout the literature a lack of HCP participation in planning for a pandemic is apparent, as is a lack of HCP participation in developing seasonal flu vaccination campaigns. This may come from a false assumption from health agencies that HCPs support their stance(s) on vaccination.

While outbreaks are individual in their characteristics and uncertain in their severity and scale, ensuring HCPs are aware of pandemic response plans and communication strategies enables them to be as up-to-date as possible on the latest local thinking and best practice as and when an outbreak occurs.

Not involving HCPs in the development and refinement of pandemic response plans and communication strategies risks creating a knowledge gap that is simply too large to bridge during the fast-moving environment of a major disease outbreak. Consequentially rushed decision making, known as the peripheral route in Petty and Cacciopo's Elaboration Likelihood Model, is likely to lead to many HCPs maintaining their original view of vaccination. As the research shows this will include many neutral and unsupportive HCPs. Work on HCPs participation in pandemic planning and response must start during the inter-pandemic phase.

An imperfect solution for all

It is important to note at this stage the participative approach to such a wicked problem as vaccination will produce imperfect results for everyone. However as wicked problems cannot be solved in a right/wrong manner, this participative approach enables health agencies and HCPs to find common ground that maximises the outcomes for both groups.

Using a participative approach also leads to engaged individuals and groups gaining ownership of the developed strategies and messages. Groups and individuals who have helped to develop the strategies and messages are far more likely to support and defend them when they are implemented; in part due to them having had the time to learn about the subject matter and go through attitudinal and behavioural change curves towards a consensus view. Turning neutral and critical HCPs into advocates in this way takes a lot of effort, but promises to help increase the number of HCPs who actively support and fully understand outbreak communication efforts.

As stated in TELL ME deliverable D1.4[14], "The collaborative approach, recognizing that the results will be imperfect to some degree for everyone involved, provides the best means of reaching a strategy that maximises the overall benefits for all stakeholders. In order to achieve the necessary support of the adverse groups involved in and affected by vaccine programs, all of these groups must participate in developing the messaging, communication and implementation of strategies entailed."

The participative approach fosters an environment in which those involved are given an extended opportunity to align their perceived risks with the actual risks. As perceived risks are never consistent or stable the participative strategy, and feedback loop described in figure 2, helps to ensure health agencies are as up-to-date as possible with local perceived risks and can factor these into their communications approach.

Even though the characteristics of pandemics are unpredictable, development of draft messages and content should not be overlooked during the inter-pandemic phase. Having messages developed and tested before a pandemic begins will help ensure health agencies can respond quickly to an outbreak and utilise the social capital and advocacy built up through a participative strategy.

[14] TELL ME Deliverable D1.4 Report on Vaccine Acceptance/Refusal and Resistance to Vaccination, pages 72. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

Avoiding close-mindedness within a participatory strategy

The culture of command and control traditionally used during the alert and pandemic phases often permeates into the inter-pandemic phase and decreases the uptake of a participatory approach to the development of outbreak communication strategies.

For a participative approach to work well, it is important health agencies (the managers of the participative process) do not engage HCPs on a pre-determined outbreak plan. For HCPs (and patients) to be able to fully participate, all options must still be available to them. This ensures HCPs have a real say in the outcome of the engagement, and the health agencies do not miss HCPs' insights due to the close-mindedness of a pre-determined outbreak plan. Health agencies and HCPs should aim to learn from each other during the process.

As shown in figure 1, throughout the pandemic phases HCPs must be given an open communication channel to feedback on the messages and their effect on the target population – be that the HCPs themselves or patients and the general public. This channel may be project group meetings during the inter-pandemic phase. However, as an outbreak occurs and the phase moves from inter-pandemic to the alert and pandemic phases the channel will have to match the pace of the outbreak in order to gain as much feedback as possible. Social media and frequent formal situation reporting (sitreps) offer faster feedback channels. This approach enables health agencies to assimilate knowledge from their networks as fast as possible in order to stop messages which have a detrimental effect and ramp up messages which are having the desired effect. It can also be coupled with findings from social media monitoring (see section 6) to give health agencies a deeper understanding of the impact of their outbreak communications across target audiences.

Figure 3 oposite, shows the feedback loop gives local health agencies and HCPs an opportunity to include their frontline experience of the use and effect of the national health agency's messages in subsequent message development.

Figure 2


National health agency develops and sends out messages
Local health agency localises the messages based on national guidance
Local health agency and HCPs use the messages
Local HCPs feedback to the local health agency on the affects of the messages
Significant issues and themes from the frontline experience of the use and effects of the messages fed back to the centre

Section 4

Local implementation of a participative strategy: a theoretical example

Introduction

In order to bring the theoretical use of ethos, pathos and a participative approach to life we present here a theoretical example of the use of all three. This example is not based on a real world case study.

Midwives have been found to be a key vaccination audience. Research has shown midwives are resistant to being vaccinated and resistant to recommending vaccination to their patients. Consequently the seasonal vaccination rate of local pregnant women is low compared to the national and European averages.

Planning the work

Aim

Find out why local midwives hold vaccine resistant views, what they see their role as being in a vaccination campaign and understand their level of knowledge about pandemic vaccination.

Objectives (SMART – specific, measurable, achievable, realistic and time-bound):

- Complete all work for the start of the next flu season.
- By week one develop a set of flu vaccination questions to ask midwives.
- Within two months speak to all local midwives face-to-face about their views on flu vaccination.
- By week four refine the questions based on the first meetings with midwives.
- After two months identify the midwifery leaders who set and maintain the vaccination culture and behaviours.

Strategy

Using a cross-disciplinary group of peers, actively engage midwives at their places of work, and create a supportive environment, meeting them face-to-face at times which suit them to find out which midwives lead the local vaccination culture and behaviour.

Tactics

- Meet with midwives at their team meetings.
- Provide an online questionnaire to all midwives.
- Actively seek the support of HCP leaders such as the Director of Nursing, Chief Executive, lead immunisation nurse and national midwifery representative.

Insights

After two months the following insights become clear.

Why local midwives hold vaccine resistant views:

- Of the two local midwifery teams, one team, team A, is significantly more resistant to vaccination than the other.
- The resistant team is led by a highly respected and experienced midwife, 'Leader A', who holds long-held doubts about the use of flu vaccines having got a bad cold after receiving the vaccine in the past.
- The leader of team B is supportive of vaccination but is faced with team members taught by leader A before team B existed.
- There is a commonly held belief amongst vaccine resistant midwives that the vaccine is higher risk to mother and foetus compared to the flu virus itself – a perception of flu as a mild illness persists.
- An educational divide exists in both teams, with recently qualified midwives more likely to support flu vaccination than more experienced midwives.
- Leader A holds the national lead for midwifery in high regard.
- Leader A went to college with the local Director of Nursing.
- The national lead for midwifery supports flu vaccination and was heavily involved in the response to the H1N1 pandemic due to pregnant women being an at-risk group.

What the midwives see their role as being in a vaccination campaign:

- There is a lack of confidence from many of the midwives that they have the knowledge to be able to advise pregnant women on flu vaccination, they remain vaccine resistant as they see this as the safest option for their patients and their professional conduct.
- All of the midwives held the view that administering a vaccination was the role of GP surgeries and not midwives.

The midwives level of knowledge about pandemic vaccination plans:

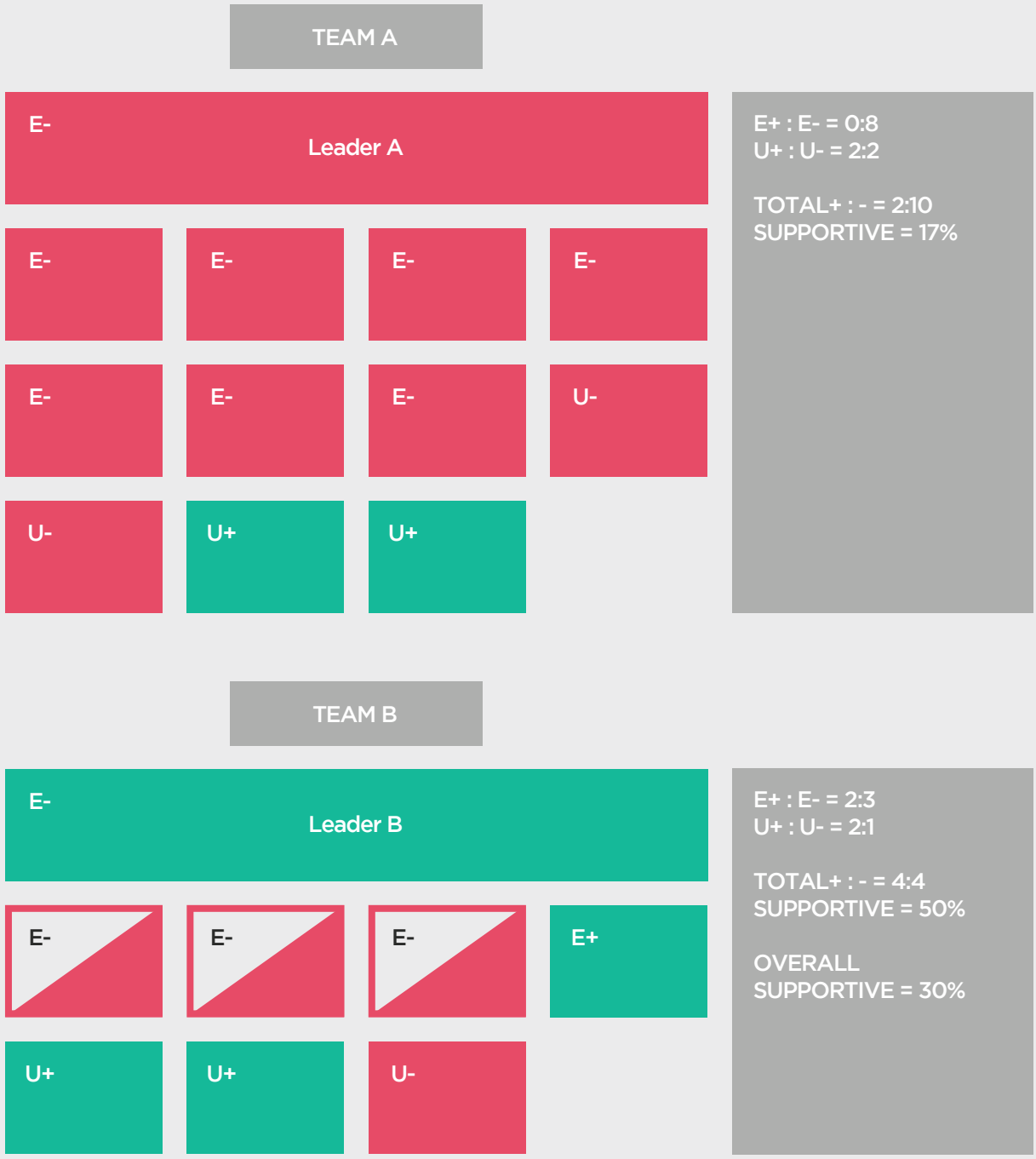
- Neither team is aware of their employers' or the national pandemic flu plans, they don't know what would be asked of them during a pandemic.

Figure 3.1 illustrates the flu vaccination stances of both teams of midwives, highlighting that only 30% of the midwives are supportive of flu vaccination for themselves and their patients.

In the second part of the work with the midwives the aims develop to:

- Increase the vaccination rate within the two midwifery teams and begin to engage the midwives, stressing the importance of their role in vaccination campaigns, including during a pandemic.

Figure 3.1



E- = experienced, vaccine resistant
E+ = experienced, vaccine supporter
U- = unexperienced, vaccine resistant
U+ = unexperienced, vaccine supporter
= vaccine supporter
= vaccine resistant
= vaccine resistant, originally led by Leader A

Actions

Increasing the vaccination rate within the two midwifery teams

- Have a face-to-face meeting with Leader A, Leader B and the Director of Nursing to talk about the insights, concentrating on how increasing the vaccination rate will help improve the midwifery service's national standing.
- Provide and promote an online module on flu vaccination, which includes a video of the national midwifery leader setting out why she supports flu vaccination in which she details her personal experience of a death of a pregnant woman from H1N1 (emotionally engaging content).
- Follow-up the online training module with team meetings dedicated to answering the midwives questions about flu vaccination led by the local occupational health team and attended by the Director of Nursing (logic and credibility).
- In the team meetings, provide the midwives with a letter from the national midwifery lead outlining why flu vaccination is so important (credibility).
- Arrange a patient who has had flu while pregnant to visit the next team meetings in order to show the teams the different between a cold and the flu (emotionally engaging content).
- At the following team meetings arrange for the vaccination to be available, ensuring any absentees are offered the vaccination at a later date at a convenient location and time.
- Re-circulate the vaccination questionnaire in order to measure whether beliefs and behaviours have been changed.

Engaging the midwives in discussion on their role in vaccination campaigns, including during a pandemic

- Involve two representatives of the midwives in the next pandemic response practice session.
- Organise a set of meetings between local GPs and the midwives in order for the two groups to be able to find a consensus view on their respective roles during a pandemic vaccination campaign.
- Include the midwives' and GPs' consensus view in the latest pandemic response plans.
- Provide and promote national communication materials about flu vaccination for pregnant women to the midwives for use during clinics and consultations.

How this approach differs from current approaches

- A measurement directed approach - targeting vaccination and communication efforts to groups who have the lowest vaccination rates, making effective use of finite resources to improve vaccination as much as possible.
- Tailored approach to local groups of HCPs, not a single message covering all HCPs.
- It recognises HCPs views on seasonal and pandemic flu vaccination are linked; engaging on one should lead to engagement on the other.
- The use of both ethos (the national midwifery lead and Director of Nursing) and pathos (emotive patient stories) brings to life flu and vaccination facts and figures (logos).
- Multi-disciplinary approach (executive, occupational health and health agency project team working together).
- It recognises the granular approach required to segment and work with different audiences, in this case segmenting the audience to the individual level.

Results

By the end of the next flu season, the collective vaccination rate for the midwives had risen from 30% to 70% (see figure 3.2). Vaccination rates of local pregnant women showed an increase of 19% on the previous year, a change attributed to the work of the midwives as the national seasonal flu campaign remained unchanged.

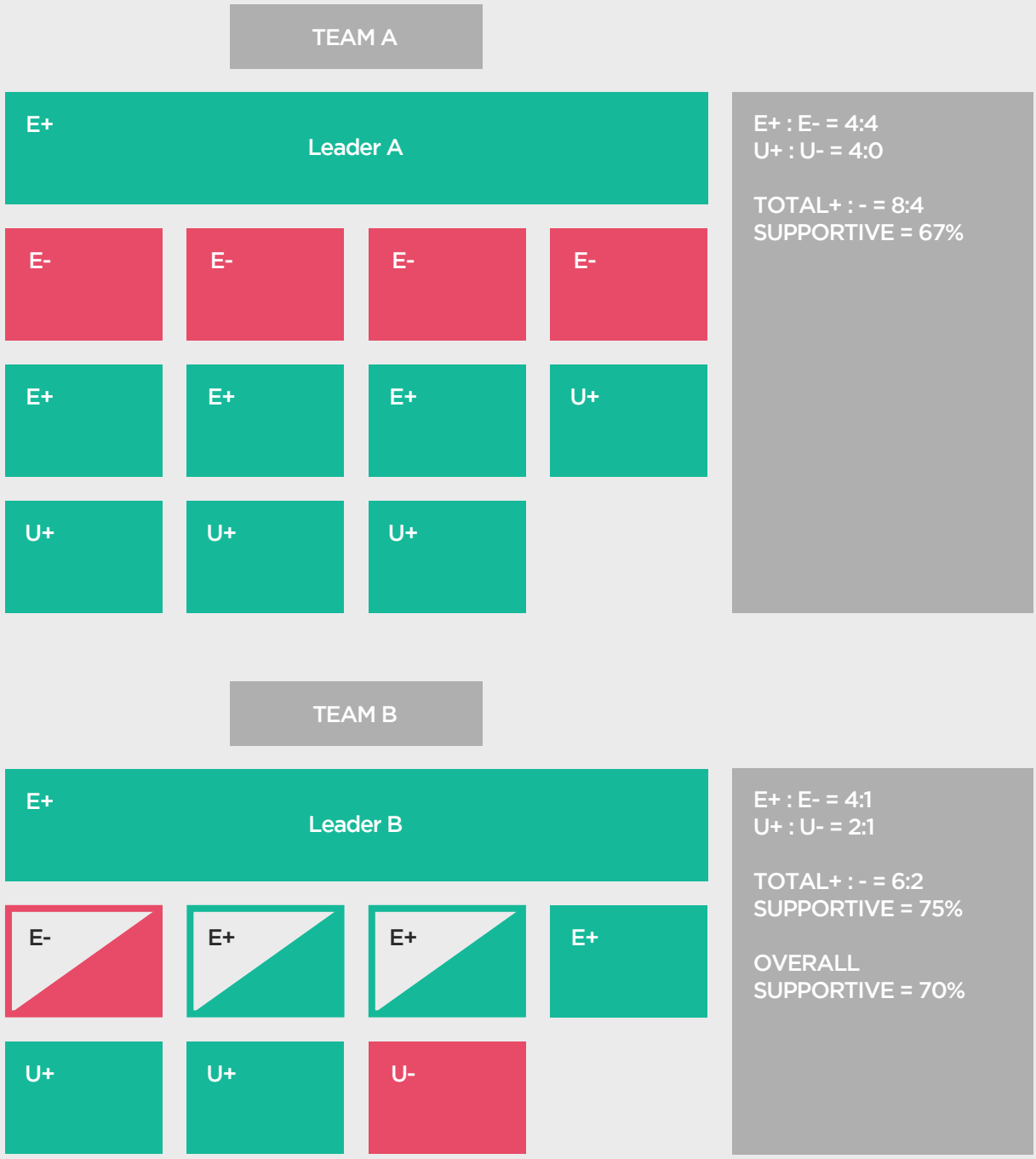
The tracking questionnaire showed the majority of midwives to be more confident in answering common flu vaccine FAQs and confident in recommending the vaccine to their patients. Many of the midwives cited the patient stories as having the greatest impact on their own vaccination uptake.

Leader A has turned her vaccination resistance into vaccine advocacy and along with a member from team B represents the midwives on the local crisis planning committee. An example of a HCP being turned from a critical vaccination communication recipient to an active advocate of vaccination and outbreak communications. The local pandemic plans have been amended to provide greater recognition and detail of the role of midwives during a pandemic, especially in coordinating their response with their GP colleagues. This has led to calls for local community nurses to also be included in the committee and coordination plans.

Feedback from local GPs has been extremely positive. It is felt the midwives are now more committed to coordinating flu vaccination efforts with GPs than ever before. Most importantly, feedback from pregnant women highlights that being able to get their flu vaccination questions answered by the midwife has greatly helped them make their vaccination decision. The majority of midwives are no longer non-committal in recommending pregnant women to get the flu vaccine.

Plans for the next flu season are now being drawn up to enable midwives to administer seasonal and (if needed) pandemic flu vaccinations to their patients across the community. The health agency project team has submitted the midwives flu vaccination work to the national midwifery awards and it has been shortlisted. The midwives have taken particular pride from this added credibility. This has raised community nurse colleagues' interest in the subject of flu vaccination and there are plans for midwives to join their team meetings to discuss flu vaccination with them using a peer-to-peer format.

Figure 3.2



E- = experienced, vaccine resistant
E+ = experienced, vaccine supporter
U- = unexperienced, vaccine resistant
U+ = unexperienced, vaccine supporter
= vaccine supporter
= vaccine resistant
= vaccine resistant, originally led by Leader A

Section 5

The practical application of a participative strategy

The four elements

The theoretical midwifery example contains four elements that are applicable to any HCP population. These are illustrated in figure 4 and show how a participative strategy is made up from coordinated sub-strategies of measurement, education about vaccination, network development and message development; all of which undergo iterative cycles of development, testing and refinement (figure 5).

Figure 4: The elements of a participative strategy which lead to developed vaccination messages which are supported across multiple professional groups.

Importantly, the participative approach should be carried through all of the sub-strategies. For example, the measurement and segmentation strategy could use a network of local HCPs to collect the data – such as the flu leads described in appendix 1.1. The education strategy should not prescribe what is required for HCP education but involve HCPs in defining the curriculum, for example via crowd sourcing flu vaccination FAQs from a group of HCPs. Similarly, network development should not be controlled by the health agency but be informed and directed by HCP insights, as is shown in the midwifery theoretical example by colleagues planning for the inclusion of community nurses in the pandemic planning committee.

Figure 4


PARTICIPATIVE STRATEGY
Develop, test and refine together
Measurement and segmentation of audiences and their behaviours and beliefs
Education strategy - based on the measurement findings, using ethos, pathos and logos
Network development creation of working groups and network consensus on vaccination
MESSAGE DEVELOPMENT
ETHOS + PAHOS + PERSONALISED = **TRUSTED MESSAGE**

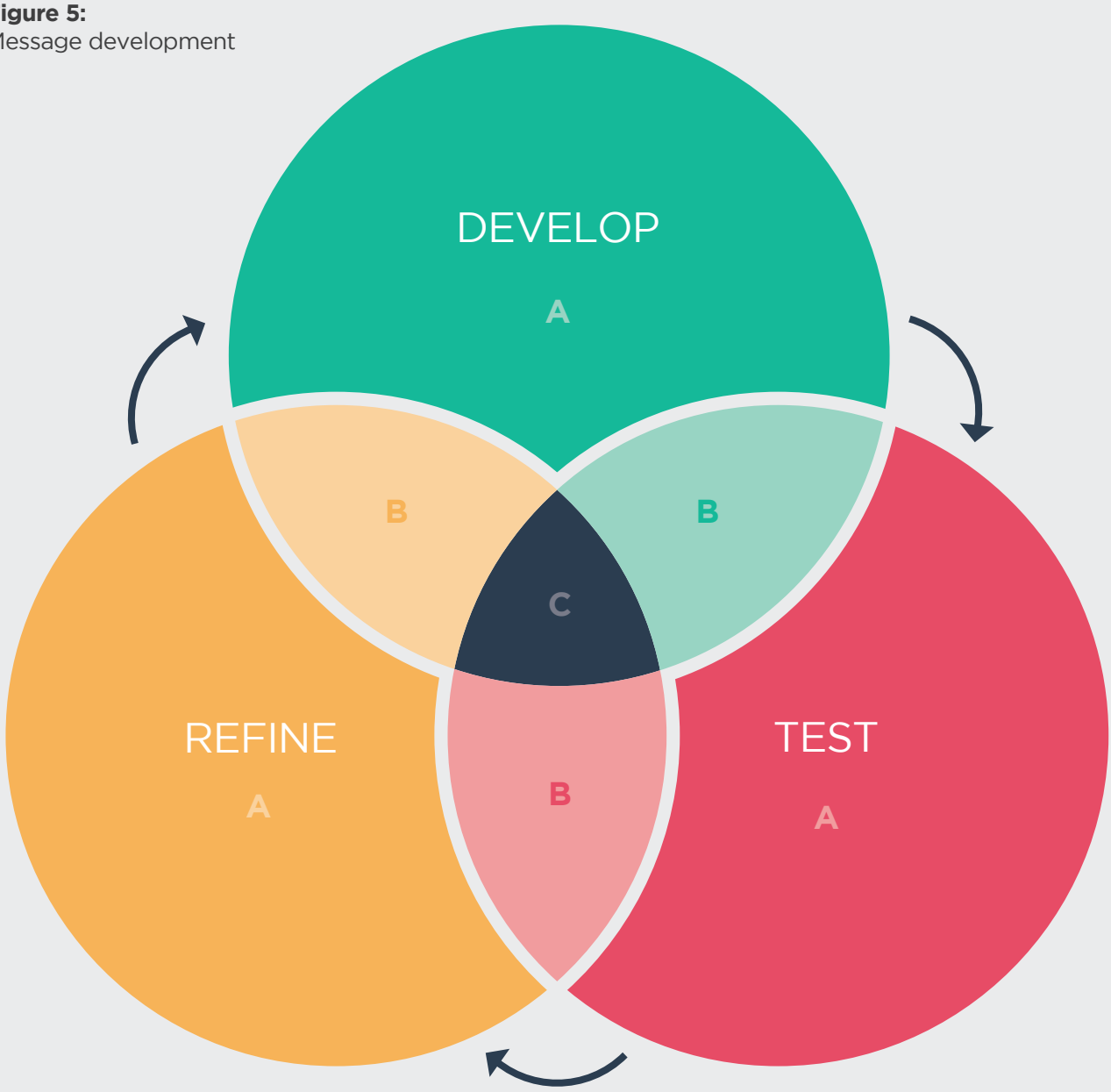
The develop, test, refine cycle of message development

Figure 5: The development, testing, refinement cycle required to produce flu vaccination messages based on group consensus gained from a participative strategy. Example stakeholders are detailed below the figure and are taken from the earlier midwifery flu vaccination theoretical example.

By segmenting which HCP groups have the lowest vaccination rates and highest patient contact levels (e.g. this could be GPs), resources can be directed in the most effective way. This approach enables health agencies to make an evidence based decision to target a segment of HCPs with concise, clear and customised information, stopping the resource consuming task of targeting all HCPs groups.

Following the participative strategy the targeted HCP segment should be involved in developing, testing and refining their information. The ownership of the messages garnered from this strategy will help ensure the target group stand behind the messages, help promote them to their peers and take ownership of future iterations of the 'develop, test, refine' cycle in partnership with health agencies.

Figure 5:
Message development



A INTERESTED PARTIES

- Professional Journals
- National representative groups
- Awards
- National midwifery leaders

B KEY STAKEHOLDERS

- HCPs midwives collaborate with, e.g. GPs
- Pregnant women
- Organisation's executives

C CORE STAKEHOLDERS

- Midwife representative group
- Health agency pandemic planners
- Health agency communications professionals

Section 6

Peer-to-peer channels and social media

Peer-to-peer communication channels are trusted by healthcare professionals

Just as a HCP recommendation influences a patient's vaccination decision; recommendations from fellow HCPs can influence HCPs vaccination decisions. In general peer-to-peer channels are trusted by HCPs as they offer information from a respected, knowledgeable and trusted source. Examples of peer-to-peer communication channels include:

- Peer vaccination clinics (work colleagues vaccinate each other).
- Public vaccination pledges.
- Scores highlighting how many HCPs have been vaccinated.
- Healthcare professionals' social media profiles and blogs.
- Leadership letters supporting flu vaccination or other protective behaviours (see appendix 1.1 - Building a country-wide flu network: flu fighter).
- Professional journals.
- Trade unions magazines and websites.
- Conferences.
- Newsletters from HCP leaders.
- Awards.

Social media and health agencies

Increasingly peer-to-peer channels of communication involve channels outside of employer organisations. This includes social media, with many prominent and influential HCPs discussing every aspect of their profession openly online. Outbreak communication and flu vaccination campaign planners must recognise these conversations and join them, creating content specifically for them but not trying to control them.

The speed at which information (both true and false) can spread over the networks makes social media an important part of any outbreak communications strategy. Developing a valued and valuable social media profile takes a long time and a lot more thought than just posting a few things now and again. When, how, to who and from where you post have great impacts on the value of your profile to its followers, and the likelihood of genuine engagement with them. With this in mind it is important to have mature, trusted and engaging social media profiles in place before any crisis or outbreak occurs. Here are four key areas for health agencies to work on.

1. Proactively build your social media presences

The pace and scale of social media means that late arrivals to a platform are often unlikely to gain traction in ongoing conversations; unless they are of sufficient public standing to generate large numbers of followers very quickly. Health agencies and HCPs risk not being part of the conversation if they aren't already using social when an outbreak occurs. To avoid this risk it is imperative that health agencies and willing HCPs build their social. media presences before any crisis or outbreak occurs.

2. Use the inter-pandemic phase to build social capital and monitor vaccination conversations

In order to have an active network through which to promote outbreak information, build online social capital with community leaders such as HCPs, religious leaders, media outlets, community bloggers, politicians and other public institutions.

Health agencies must not try and re-invent social media communities within their organisational boundaries but seek acceptance from existing communities.

Monitor conversations about vaccination on social media using key words such as 'flu AND jab' 'flu AND vaccination AND [location]' to learn some of the questions, opinions and myths the public have about vaccination. Feed these into your organisation's rounds of message development and testing.

3. Setup a sound process to ensure clinically correct information is shared on social media platforms

Put in place a system which enables social media channel managers to have access to clinically correct information. This should include a central information point to help multiple organisations and individuals refer to the same content, and include a process for social media channel managers to be able to get quick answers to the public's questions from clinicians.

Social media channel managers should be given training in 'outbreak facts' as they will represent the organisation's point of view on flu and other outbreaks. Similarly, it is a good idea for clinicians to be given social media awareness training to show them how social media works and why quick responses to questions are required.

4. Be open and transparent about why you're using and monitoring social media

Don't use the accounts to 'spy' on the public. Engage in two-way conversations about vaccination by monitoring and answering vaccination questions in pre-existing online communities. Answering questions and being comfortable with the public challenging your answers helps to build social capital on platforms.

Share your learning from monitoring social media with staff outside of the pandemic planning and communications team. This will help build knowledge and acceptance of the use of social media in communicating complex health messages.

Social media and healthcare professionals

Healthcare professionals can benefit from the above four points but they should also consider, and be given the opportunity to learn about, the following HCP specific areas of using social media.

Professional guidance

Many of the HCP regulators, colleges and unions have published professional guidance or codes of conduct for social media. These often set out what is deemed to be unprofessional behaviour for HCPs on social media platforms.

Patient confidentiality

Healthcare professionals should be aware of possible breaches of patient confidentiality online. Patient's contacting their HCP on social media platforms can be signposted to offline channels in order to speak to their HCP confidentially.

Using Dr, Nurse, Consultant etc. online

Just as in everyday life, HCPs titles have an impact on how likely the owner of the title will be trusted. By going onto social media platforms and being open about being a HCP, healthcare professionals have a responsibility to their profession to uphold its norms of respect to others and providing honest information. Healthcare professionals should be aware their online opinion may be used by the public and media to discuss professionals' opinions during an outbreak.

Section 7

Supporting healthcare professionals to engage with vaccine resistant patients

Introduction

Just as HCPs must not be presented with a pre-defined pandemic plan when participating in planning, patients should not be presented with a vaccination or nothing decision. Treating patients as individuals, empathising with their views and beliefs, and sharing power and responsibility between HCP and patient all help to increase patient vaccination rates (TELL ME deliverable D1.3[15]).

These approaches manifest themselves in the way HCPs talk about vaccination with a patient. A HCP may state, "You need to get the flu vaccination", or may ask "Would you like to get the flu vaccination?" The two different approaches produce a closed and an open conversation respectively. Only in the open conversation can a HCP truly begin to understand the reason for any vaccination resistance and begin to influence a patient's stance.

[15] TELL ME Deliverable D1.3 Segmentation and Specific Communication Needs of Target Groups. Available from http://www.tellmeproject.eu/content/d13-segmentation-communication-needs-target-groups

Non-pharmaceutical interventions

"Do not abandon vaccine resistant patients; continue to provide care, and take advantage of every opportunity to further educate about the benefits of vaccination."

(TELL ME deliverable D1.4[16])

Non-pharmaceutical interventions (NPIs) are an extremely important part of a pandemic response, offering a practical way to try and minimise the transmission of flu and giving the public a way to respond to a stressful situation. Vaccine resistant patients should be given clear information about how NPIs can help protect themselves and their loved ones from seasonal and pandemic flu. Use of NPIs as an introduction to flu prevention can help start to discuss with vaccine-resistant patients the risks of flu and the benefits of preventing it. This is particularly important for patients who are not used to preventative interventions such as some ethnic minority patients (TELL ME deliverable D2.3[17]) and during the initial stages of an outbreak when a vaccine may not be available.

[16] TELL ME Deliverable D1.4 Report on Vaccine Acceptance/Refusal and Resistance to Vaccination, page 67. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

[17] TELL ME Deliverable D2.3 Report on Health Care Professional Communication Requirements, page 36. Available from http://www.tellmeproject.eu/content/d23-report-health-care-professional-communication-requirements

Communicating with different patient segments: A decision tree

Table 2 sets out the different messages HCPs should deliver to different unvaccinated patient segments. The overall aim of the communication is to help the patient align their perceived risk from the disease and vaccination with their actual risks.

It should be noted that the decision tree is based on a primary care consultation setting, and a best case scenario. That being one in which health agencies have developed, tested and published flu vaccination (seasonal and/or pandemic) information in accessible formats online and offline which target the variety of segments that exist in the target population. This also includes work outside of communications such as improving access by partnering with employers to offer the flu jab at work, and running weekend flu jab surgeries. Finally, much of the success of using the suggested information relies on HCPs being given the knowledge to be able to segment their patients 'on the fly' and deliver the same message in different ways to match individual patients.

TELL ME's free online course[18] for primary care staff allows healthcare professionals to test their epidemic and pandemic knowledge and communication skills against a selection of case studies.

[18] Free e-learning course to help healthcare professionals get used to issues surrounding a major disease outbreak before it occurs. It provides reliable information based on TELL ME research, scientific publications and health authority (WHO, ECDC, CDC) sources. The contents of the course focus on preventative measures, from hygiene to vaccination. It trains HCPs to convey this information to the public using counselling principles and improved communication skills.
Available at: http://elearn.tellmeproject.eu/

What patient group does the patient belong to?*

Patient group	Likely elements of patients' histories	Suggested information to provide	
Plan to get Help them access the vaccine	• Has been vaccinated against flu in the past • Was not vaccinated during the last flu season • Finds getting the vaccine difficult to fit into their schedule • May not perceive flu as a threat.	• Personalised information on how to best access the vaccine, e.g. after work and weekend clinics or workplace programmes • Let the patient know as a HCP you support their decision to get the vaccine • Where clinically appropriate, advise them to suggest other members of their family follow their lead.	Pathos, logos and ethos equally important
Need more information Discuss their perceived threat of flu	• May have been vaccinated in the past • Not vaccinated during the last flu season • Has concerns about the efficacy and/or safety of the vaccine • Less likely to perceive flu as a threat than the 'plan to get' group • More likely to believe some urban myths, e.g. the flu jab gives you flu • Likely to trust HCP advice on vaccination	• Discuss the patient's concerns and suggest sources of further information (health agency websites, leaflets) • Provide fact sheet debunking urban myths to take away with them, including relevant patient specific information, e.g. long term condition patients • Discuss a relevant empathetic patient story outlining the potential seriousness and impact of getting the flu, e.g. the social impact of having the flu • Information on how to best access the vaccine.	Logos most important
Ideologically opposed Start a long- term conversation	• Has never had the vaccine in the past • Has ideologically anchored views against flu vaccination, and likely all vaccination • More likely to follow non-medical, 'naturalist' prevention and cures • More likely to distrust authorities, including HCPs, health authorities and vaccine manufacturers about vaccination • Believes and propagates urban myths about the vaccine • May be willing to change their behaviour to protect others.	• Openly discuss and take on board their concerns • Appeal to altruistic motives to be vaccinated, e.g. to protect elderly parents or a relative in an at-risk group • Provide clear advice on NPIs, reinforcing the vaccine is the best line of defence we have against flu • With more receptive patients, provide a relevant empathetic patient story outlining the potential seriousness and impact of getting the flu, e.g. a younger patient having severe complications • View this as part of a long-term conversation over the coming flu seasons.	Pathos most important

*For the purposes of this table patients with three years of uninterrupted flu vaccine coverage are considered outside of all of the listed groups.

Section 8

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Appendix 1: The importance of networks

This section discusses real-life examples of how networks can be built and maintained, and how existing networks can be re-purposed for pandemic communications. It also looks at what makes a network succeed.

Appendix 1.1: Building a country-wide flu network: flu fighter

Flu fighter is a seasonal flu vaccination campaign for healthcare professionals (HCPs) run in England and Wales. Managed from a central healthcare organisation, NHS Employers, flu fighter provides healthcare organisations across England and Wales with the communication materials required to organise and run a staff facing flu vaccination campaign. The campaign follows a model of centralised development of communications material and local implementation of the campaign. This approach enables a national campaign to be tailored to local audiences and cultures.

Levels of support

The flu fighter team have built and maintain a network made up of over 1,100 contacts or 'flu leads', working hard to ensure they have two contacts at each NHS Trust[19]. The team provide support on three levels to the flu leads:

Level one (materials):

Posters, leaflets, stickers, social media content and other marketing collateral (developed and designed based on feedback from the flu leads and HCPs) are printed and delivered for free to any flu lead who requests them.

Level two (guidance):

Guidance to help flu leads set up and run their local flu fighter campaign is published online for local download. This includes guidance covering the clinical evidence for vaccination written by a leader in the field of flu vaccination and letters to segments of the HCP population[i] supporting vaccination from their respective leaders, for example, the Chief Medical Officer and the Chief Nursing Officer of England.

Level three (support, praise and feedback):

The HCP specific flu fighter hotline provides telephone support to flu leads who want to speak to the team to discuss their campaign and ask any questions. Site visits are also used to provide support and enable the national team to learn about implementation of the campaign at the local level.

Annual flu fighter awards are run to champion best practice and innovation from the flu leads. These act to praise the work of the network and provide a valuable focal point for face-to-face engagement and maintenance of the wider network.

Finally, support level three includes regional round-up meetings at the end of each flu season. These meetings are held across England and Wales and are a forum for all flu leads to provide feedback on what did and didn't work, helping to evolve the campaign from year to year.

[i] NHS Employers, flu fighter resources pack, http://www.nhsemployers.org/campaigns/flu-fighter/running-your-campaign (last accessed 15/08/14)
[19] A NHS Trust can cover one or more hospital and/or community and/or mental health care setting.

Impact of this network

The development of the flu fighter network and campaign has helped lead to a rise in the percentage of HCPs being vaccinated with the seasonal flu vaccination in England[20].

The materials and support offered to members of the network act as an incentive to become a member and have led to the development of flu leads across hundreds of organisations that did not have them before. This has helped raise the issue of the seasonal flu vaccination throughout the National Health Service.

As a member of the National Flu Project Board (run by England's Department of Health) the flu fighter team acts as a link between the flu leads and national policy, ensuring two-way communication and hierarchical support for the campaign.

Important characteristics of this network

Based on the experience of the flu fighter team and the best practice identified during TELL ME's research phase (particularly deliverables D1.3 and D2.3) the following characteristics are of greatest importance to the success of the campaign:

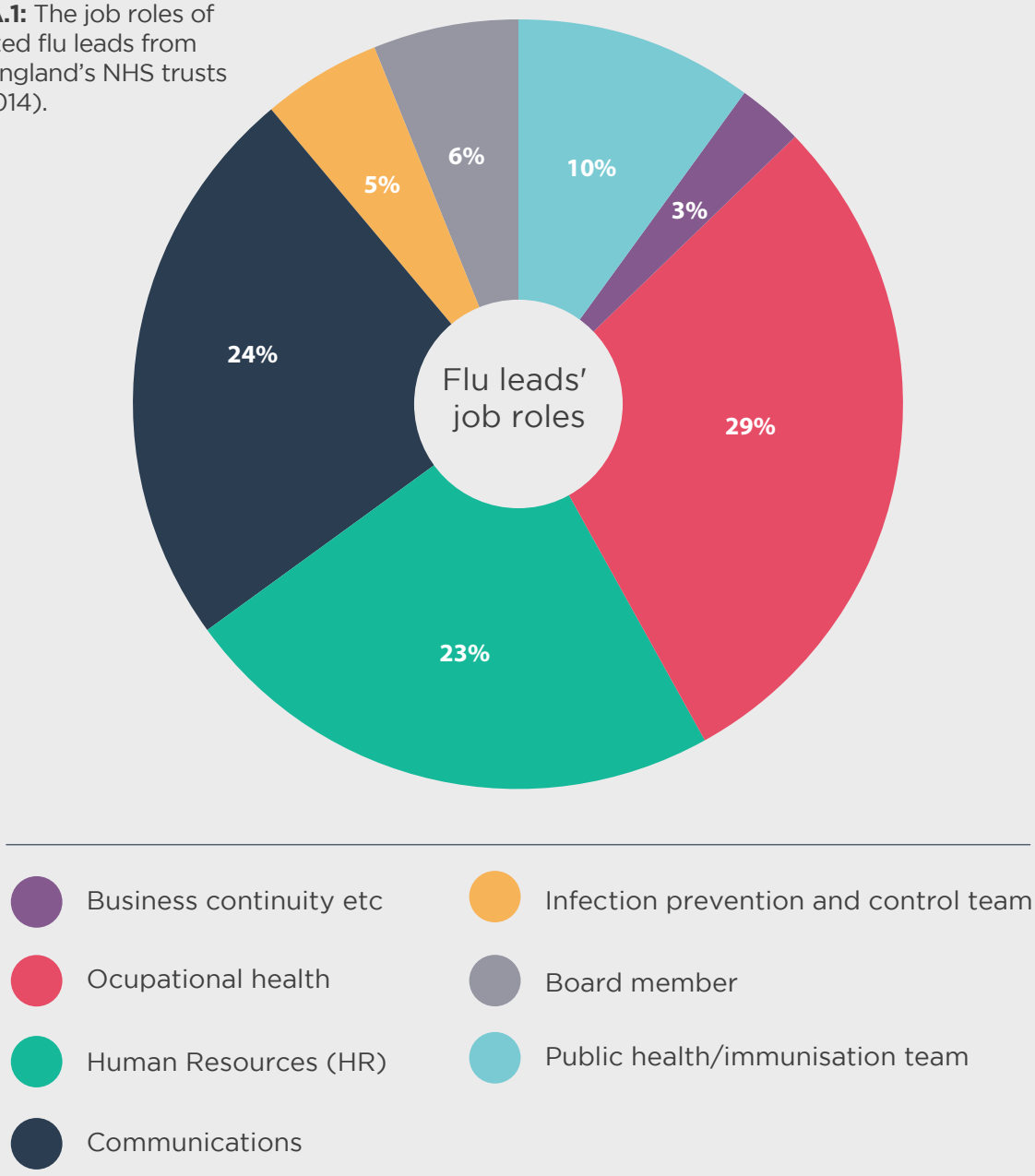
- The flexibility for local flu leads to mould the campaign for their local audiences and cultures, one size does not fit all – audience segmentation based on local knowledge.
- Use of ethos via the letters from the healthcare professions' leaders.
- The recognition that the HCP audience often wants clinical evidence for an intervention and so the team provide that as part of their materials.
- A clear offer to members of the network – "join and be supported by campaign experts".
- The campaign is plugged into the overall national approach to flu (seasonal and pandemic) improving two-way communication and synchrony between local and national plans.
- The diverse range of flu leads allows the network to mould to local organisation structures (see figure A.1).

For those wanting to replicate the flu fighter network it should be noted it only requires 2.5 Whole Time Equivalent (WTE) staff.

[20] Flu fighter was rolled out in Wales in 2013/14 therefore Welsh data doesn't yet exist.

In 2010/11 34.7% of National Health Service (NHS) HCPs were vaccinated against seasonal flu, by 2012/13 this had risen to 45.6%. This has been attributed to both the flu fighter campaign and the rise in importance of the vaccination in national policy post H1N1 2009.

Figure A.1: The job roles of designated flu leads from across England's NHS trusts (2013/2014).



Appendix 1.2: Re-purposing a network: Using social media to combat measles[21]

Between November 2012 and July 2013 South Wales suffered from a measles outbreak totalling over 1,200 cases[ii]. The outbreak was able to take hold in Wales due to a large proportion of school children never having been given the MMR vaccine after the autism scare in the 1990's.

In reaction to the outbreak Abertawe Bro Morgannwg University Health Board (ABMU) ran vaccination clinics across local schools and at four hospitals on weekends. In addition. GPs in the area also vaccinated in their surgeries and many held additional clinics and sessions. The requirement to promote the dates, times and locations of the clinics along with the acute need of local parents for wider information about measles and the vaccination lead to the Abertawe Bro Morgannwg University Health Board's communications team re-purposing their social media networks for use during the outbreak.

But as well as broadcasting information about the vaccination clinics, social media played a much wider role in helping to engage parents in discussion about the MMR vaccine, answer questions, and clarify misinformation. It also allowed parent-to-parent discussion to develop. All of this was important in overcoming lingering prejudice against the MMR vaccine, a legacy of the unfounded link with autism made by Andrew Wakefield in the 1990s. His research has been thoroughly discredited by the scientific and medical community worldwide.

Locally known

Information about the outbreak was managed at a national level by Public Health Wales. However, at a local level the public looked to the ABMU for information as many already had a relationship with the organisation.

Social media, namely Twitter and Facebook, had helped build up a relationship between the health board and the public prior to the outbreak. This included a Facebook group specifically for young families offering health advice and information to that audience.

When the measles outbreak hit many people went directly to these social media contact points to ask the health board questions about measles, the vaccination and the vaccination clinics. Taking advantage of this proactive contact the health board communications team worked with clinical colleagues to quickly answer the questions, embodying the United States' Centre for Disease Control values of, "be first, be right and be credible" during a public health crisis.[iii]

[21] Appendix 1.2 is based on a telephone interview with Susan Bailey, Head of Communications at Abertawe Bro Morgannwg University Health Board and her blog post: http://comms4health.com/2013/08/21/knocking-the-spots-of-measles/

[ii] Public Health Wales, Measles Outbreak: Data, http://www.wales.nhs.uk/sitesplus/888/page/66389#a (last accessed 15/08/14)

[iii] Centers for Disease Control and Prevention (2010d). 2009 H1N1: Overview of a Pandemic, http://www.cdc.gov/h1n1flu/yearinreview/yir8.htm (last accessed 15/08/14)

Trusted content

The pace of the outbreak meant there was not a lot of time to build trust with the public over such a contentious issue as MMR, and the health board used the trust already in their social media networks to help spread their messages. The use of clinical sign off further ensured the content posted to the social media networks was credible and trustworthy.

Staffing the network outside office hours

In order to use social media networks to their full potential during the outbreak the communications team staffed their profiles outside of office hours. This flexibility enabled the health board to talk with parents coming back from work and maintain fast response times to questions. How networks can be managed outside of conventional working hours during a public health crisis is a crucial question for health organisations across Europe as 24/7 media coverage and internet access makes a 9-5 day impractical and ineffective at effectively communicating healthcare messages.

Appealing to emotion

In line with evidence discussed throughout the TELL ME documentation, particularly D1.3 and D1.5, the health board communications team used the rhetorical device of pathos (appeal to emotion, see table A.1) throughout their communications with the public via Twitter and Facebook. Contrast this to Flu fighter which used ethos more readily when communicating with healthcare professionals.

To quote Susan Bailey, Head of Communications at Abertawe Bro Morgannwg University Health Board, "We didn't want to be seen as out-of-touch or stuffy so we used everyday language to remove the potential divide between us as representatives of a health board and members of the public.

"We made an effort to acknowledge and empathise with the worry many parents were feeling and didn't shy away from writing emotive responses to anti-vaccine posts."

"This approach helped us to be trusted by the parents and we received many messages thanking us for our help and support."

Mode of persuasion	Persuasive appeal	Main characteristics
Logos 'Logic'	Appeal to reason	Emphasis on logical / valid aruguments and justification by use of facts
Ethos 'Credibility'	Appeal to one's character	Emphasis on the credibility of the source - character perceived as knowledgeable and moral
Pathos 'Emotionally engaging'	Appeal to emotion	Emphasis on expression and emotion - arousing stimuli - use of colourful and vivid language to evoke emotions

Table A.1: The three modes of persuasion and description of their principle characteristics.
Source: TELL ME Document 1.5 – Report on Narrative and Urban Myths.

Ceding control

Best practice on social media states organisations should not try and control their communications as stringently as they may do with traditional media. However, this proves difficult for some. In this case the health board let anyone post on their Facebook pages, whether they were neutral, pro or anti the measles, mumps and rubella (MMR) vaccine, deleting no posts.

Ceding control of the content on their Facebook page like this helped the page become a safe place where there were no stupid questions. For those worrying about how this approach gives anti-vaccine people a voice at a crucial time this was the experience of the communications team,

"We found that once the anti-vaccine profiles had posted their arguments twice or more the other parents in the community robustly told them that they had had their say and to allow other people to ask their questions, or state their opinions."

Appendix 1.3: Successful networks have...

From these case studies and the body of evidence discussed in previous TELL ME documents we can see that successful networks for spreading information during a pandemic have the following traits:

1. Exists before a pandemic starts.
2. Members trust each other, the network has credibility (ethos).
3. Feedback loops and processes (two-way communication) exist to improve the network and it's materials.
4. A targeted membership, e.g. parents or flu leads.
5. A clear offer to its members, e.g. come here for the latest information and best resources.
6. The flexibility to be re-purposed at the time of a pandemic.
7. A hub – a central point of information generation and validation.
8. Redundancy, e.g. Flu fighter's two contacts per Trust.

For more information on the TELL ME project or to access the guidance documents and tools, please go to **www.tellmeproject.eu**

Alternatively, you can contact us on the details below.

facebook.com/pages/TELL-ME/313012712090705

twitter.com/TellMEProjectEu

villa@zadig.it

School of Public Health at the University of Haifa (Israel)
Website: http://hw.haifa.ac.il/index.php/facultydeps/publichealth
Contact: Manfred Green, Anat Gesser-Edelsberg,

Centre for Research in Social Simulation, CRESS (UK)
Website: http://cress.soc.surrey.ac.uk
Contact: Nigel Gilbert, Jennifer Badham

National Centre for Epidemiology, Surveillance and Health Promotion, CNESPS (Italy)
Website: www.iss.it
Contact: Barbara De Mei, Valentina Possenti, Chiara Cattaneo

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Contact: Simon Langdon

European Union of General Practitioners, UEMO (EU)
Website: www.uemo.org
Contact: Ferenc Hajnal, Renata Papp

Vrije Universiteit Brussels, VUB (Belgium)
Website: www.vub.ac.be/infovoor/onderzoekers/research/team.php?team_code=LSTS
Contact: Paul De Hert, Paul Quinn

National Disaster Life Support Foundation, NDLSF (US)
Website: www.ndlsf.org
Contact: James J. James, Italo Subbarao, Jack Horner

Vitamib (France)
Website: www.vitamib.com
Contact: Olivier de Bardonneche, Gérard Brugal, Youssoufa Tahirou

Zadig Ltd (Italy)
Website: www.zadig.it
Contact: Roberto Satolli, Luca Carra, Roberta Villa, Dimitris Dimitriou

Centre for Science, Society and Citizenship, CSSC (Italy)
Website: www.cssc.eu

Designed by Gary Green & Ross Harrington
info@gandhdesign.com

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PART 4: NEW COMMUNICATION STRATEGIES FOR WORKING WITH DIFFERENT TARGET GROUPS

- **ST3.2.2 New communication strategies for working with different sub-populations and at-risk groups**

tellme

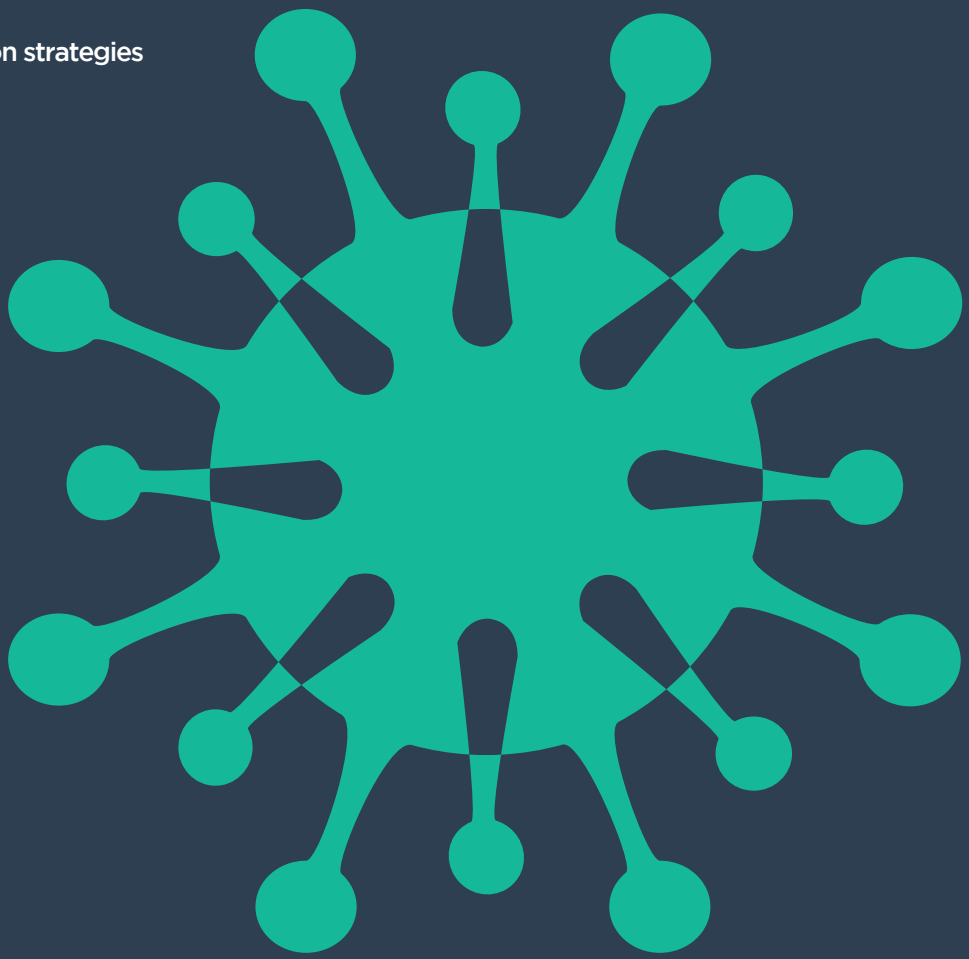
ST3.2.2

New communication strategies for working with different sub-populations / target groups

2nd Reporting Period
WP3 Developing new communication strategies

Responsible Partner: CEDAR3
Contributing Partners:

Dissemination Level: PU



TELL ME - Transparent communication in Epidemics: Learning Lessons from experience, delivering effective Messages, providing Evidence.
Project co-funded by the European Commission within the 7th Framework Programme – HEALTH theme

Contents

ST3.2.2

Introduction

Aim and context

The aim of this document is to provide guidance on communicating with at-risk groups recommended for immunization in the EU / EEA countries. The guidance is based on the findings identified during the first and second stages of the Tell Me project, WP1 and WP2.

Language, culture and other ethnic and religious variables all influence the way in which health communications are received and acted upon. Research to date shows that individual variables need to be considered in order to develop effective communications for different risk groups. However, underpinning this there are a number of guiding principles relevant to all groups, such as; avoiding the use of non-medical language, avoiding speculation and acknowledging uncertainty. It is also evident that a number of information needs during infectious disease outbreaks, many of which inter relate, are common to all stakeholder groups such as accuracy, timeliness, honesty and transparency.

Objective

This guidance document is intended for Health communicators, operating at Decision Making Level, responsible for drafting and delivering communication strategies in outbreak situations.The document presents a number of diagrams, tools and templates that aim to assist health communicators draft effective communications for risk groups during every stage of a pandemic so that they, the risk groups, accept and trust what they are being told. The supporting tools and templates also seek to increase two way communications with the involvement and participation of the risk groups at the centre of the communication process in order to achieve greater consensus, transparency and effectiveness.

Approach

Consistency, transparency and trust are key themes which recur in crisis communications. The TELL ME research has identified that the numerous factors and variables at each phase of a pandemic make the task of drafting communication templates for each eventuality a nugatory exercise and indeed emphasise that this would be counterproductive. Instead we have concentrated on good practice which is based on our experience of developing crisis communications for other similarly complex international organisations and with our TELL ME research. The template communications that we are developing is a way of not only achieving a consistency of message, so important at the time of a pandemic, but also of allowing practitioners the flexibility to insert the most appropriate medical advice for their target risk group.

Section 1

Target / risk groups

Introduction

The following groups have been identified by Tell Me as key target / risk groups. The guidance and templates in this document will focus on developing communications for risk groups numbered 1-6;

Target / risk groups recommended for vaccination

	Target / risk groups recommended for vaccination
1	General population
2	Health care workers (HCW)
3	Elderly
4	Chronically ill
5	Pregnant women
6	Pediatric population
7	Essential services (police, fire, ambulance)
8	Military
9	Veterinary services
10	Poultry industry
11	Public transport workers

Table 1: Target / risk groups recommend for vaccination.

Section 2

Issues and principles when working with target / risk groups

Introduction

Aenean ut ultrices justo. Proin eu viverra ante, at scelerisque mi. Curabitur nulla diam, molestie ut magna et, tempor laoreet ante. Nullam tincidunt efficitur mauris, eu sollicitudin elit sagittis vel. In lacinia enim diam, ac iaculis nisi sodales quis. Cras malesuada sit amet est non tempus. Vivamus congue odio sem, ut consectetur leo congue sit amet. Donec at pulvinar arcu. Donec tempor libero elit, nec cursus nibh euismod vel. In maximus, justo ac tristique vehicula, turpis metus finibus sem, id tempus turpis mauris a purus. Cras suscipit at nulla eget varius. Cras gravida massa a pellentesque bibendum. Morbi ac neque eget justo sollicitudin tincidunt. Aenean convallis consectetur nisi id aliquet. Donec ultricies leo ut tellus molestie, elementum vulputate diam volutpat. Ut et tristique purus.

Summary of key issues

Our research has identified the following key issues, which are central to outbreak communications. It is useful to keep these in mind when drafting and delivering communication strategies in outbreak situations;

- Compliance with influenza vaccination is highly variable between target groups, within target groups and between countries
- During infection outbreaks one of the major challenges is always how to communicate effectively with the population in order to influence behaviour, reduce the spread of disease and even avoid panic
- Healthcare providers, particularly regional and local providers remain one of the most trusted sources of information.
- Health Care Provider recommendation is key to vaccination uptake, however Health Care Worker (HCW) uptake of vaccines remains low
- Getting HCWs on board with vaccination is vital to the success of a campaign.
- New technologies including social media and websites have become increasingly important points of reference for members of the public and therefore need to form a central part of the communications strategy
- The health communicator's strategy will benefit from using all the communication channels and media available in order to meet the varying needs of the public.
- Women are less likely to get vaccinated than men
- There is a lack of clear evidence supporting hand washing and the efficacy of face masks remains controversial

Source: As specified in TELL ME deliverables D1.2 Review of Components of Outbreak Communication and D2.3 Report on Health Care Professional Communication Requirements

Guiding principles when working with target / risk groups

Whilst there are many different variables that have the potential to affect the nature of outbreak communications, extensive research carried out by Tell Me and other leading practitioners have identified a series of key principles that can be applied to any outbreak situation. These are summarized in the table below;

Themes	Key principles
Trust, openness and honesty	Outbreak communication needs to contain elements of trust, credibility, accountability, transparency and honesty. Be truthful about the known and unknowns.
Consistency of message	Consistency of message is vital. Core messages need repeating and updating to ensure they are assimilated.
Timely and accurate communications	Timing is important. Early communications will help to avoid speculation and false reporting. Whilst it is natural to want completely accurate information, there is a need to communicate quickly. Communicators should provide preliminary information with regular updates and should aim to share information as soon as they have it.
Engaging with health care workers	Appealing to HCWs is absolutely key to the strategy. They need to be targeted not only to pass the message but also to be the message by acting as 'vaccination leaders'. This is of particularly significance in the quest to reach certain risk groups such as pregnant women where HCWs recommendation is so important.
Flexible planning	Plans must be flexible to deal with the unpredictable and changing nature of a pandemic scenario.
Monitoring media	Monitor the media, in particular social media, to provide intelligence and to address public concern/sentiment, misinterpretation and rumour.

Themes	Key principles
Use of social media	Social Media is absolutely central to improving existing communication strategies. Organisations must take a proactive stance in establishing an authoritative presence on social media sites in order to build a community presence before a crisis happens. Social media encourages a culture of sharing and collaboration and helps spread public health messages and builds trust.
Proactive communications	Organisations cannot afford to simply be reactive.
Recruitment of opinion leaders	Recruit Health Professionals and other influential figures within the community as opinion leaders to communicate the messages of Government organisations.
Two-way communication	Risk Communication is NOT a one way message system i.e. from experts to non-experts. The aim is for an interactive two-way process for the exchange of information and opinions between individuals, groups and institutions.
Understanding the information needs	The effectiveness of outbreak communications relies greatly on meeting the information needs or demands of various key stakeholders including at risk groups such as pregnant women and the elderly. Engaging with these stakeholders and identifying and responding to their needs is therefore vital to achieving successful communications. Social Media provides an excellent platform for achieving this.

Table 2: The key themes and guiding principles that underpin outbreak communications. Reference: As specified in TELL ME deliverables D1.2 Review of Components of Outbreak Communication and D2.3 Report on Health Care Professional Communication Requirements.

Section 3

Developing communications for target / risk groups

Introduction

The following section provides an overview of the process, or key stages, involved in developing targeted communications for risk groups. Key considerations are set out to help inform the message development process.

Process for developing communications for target / risk groups

1. Understanding the target group

- Who needs this information?
- What information do they need?
- How do they view / perceive the situation?
- How susceptible or at risk do they perceive they are?
- What are their needs and concerns?
- What are their social and cultural values and beliefs?

2. Developing the message

- What is the purpose or objective of your message e.g. educational, informative, reassuring, coercive etc?
- Explain the benefits
- Explain the trade offs
- Ensure messages are open and honest in order to help build trust. Be upfront about uncertainty and limitations
- Interact with and exchange information between individuals, groups and institutions.

3. Considering language and style

- What are the language needs of your target group?
- Avoid technical language e.g. statistics. Focus on issues important to the audience. Focus on language of personal / social concern. Ensure it is straightforward, clear and repeated.
- Make use of words with positive connotations e.g. expert, qualified, independent, unbiased, third party.
- Beware of using language that may have negative connotations e.g. 'new' vaccine could be interpreted by supporters as 'improved' or by those anti-vaccine as untested.

4. Considering the medium

- Consider which medium(s) are most appropriate to your target group e.g. social media (blogs, forums, Facebook, twitter, Youtube), posters, leaflets, briefings, podcast, video, text message etc...
- Consider what communication medium(s) they have available to them and what medium they are most comfortable with (in particular technology capabilities)?
- Use of multiple media channels for delivery of messages will increase the potential reach and success of communications.
- Where possible utilise face to face communications, in particular trusted health practitioners.
- Support message delivery with written communications.
- Make information available via social networks.

5. Message delivery

- The ability to deliver a tailored message in a one-to-one format by an expert, who is likely to be trusted more than a health agency, gives HCPs their crucial position in vaccination communications.
- Use 'opinion leaders' for delivery of your messages including HCWs and local physicians.
- Repeat delivery of core message.
- Provide opportunity for two way information flow e.g. forums where questions can be asked etc...
- Ensure communications are accurate, timely, honest and transparent.

6. Ongoing evaluation and review

- Address inaccuracy and rumour quickly and effectively (however misguided, fears and concerns need to be acknowledged).
- Evaluate communications regularly - how are they being received?
- Use social media to help assess the mood of your audiences.
- Amend and develop communications as required.
- Pull /refresh out of date communications.
- Provide regular updates

7. How to use the tools in this guidance document

FIGURE 2
Outbreak Communications
The Cycle

FIGURE 2
illustrates the Cycle of Outbreak Communications. This diagram provides a summary of the key communication considerations, and actions to be taken, at each stage of the pandemic response. Social media underpins, informs and acts as a vehicle for communications throughout.

FIGURE 3

illustrates the process for harnessing spokespeople and opinion leaders early in the communications process.

FIGURE 3
Harnessing Spokespeople
A Process

TABLE 2

The Pandemic Status Report can be used to assimilate the facts about an outbreak situation on which communications can be based.

TABLE 2
Pandemic Status Report

FIGURE 4
Pandemic Quick
Reference Tool

TABLE 3
Guidelines for
Communicating with
Risk Groups

FIGURE 4

provides communicators with a quick reference tool.

TABLE 3

provides message guidance including cultural and language considerations, specific to each risk group.

SECTION 5.4
Draft Message
Template

SECTION 5.4

provides a series of basic message templates that can be used to help communicators develop communications at each stage of a pandemic.

Section 4

Communication planning steps for target / risk groups

Introduction

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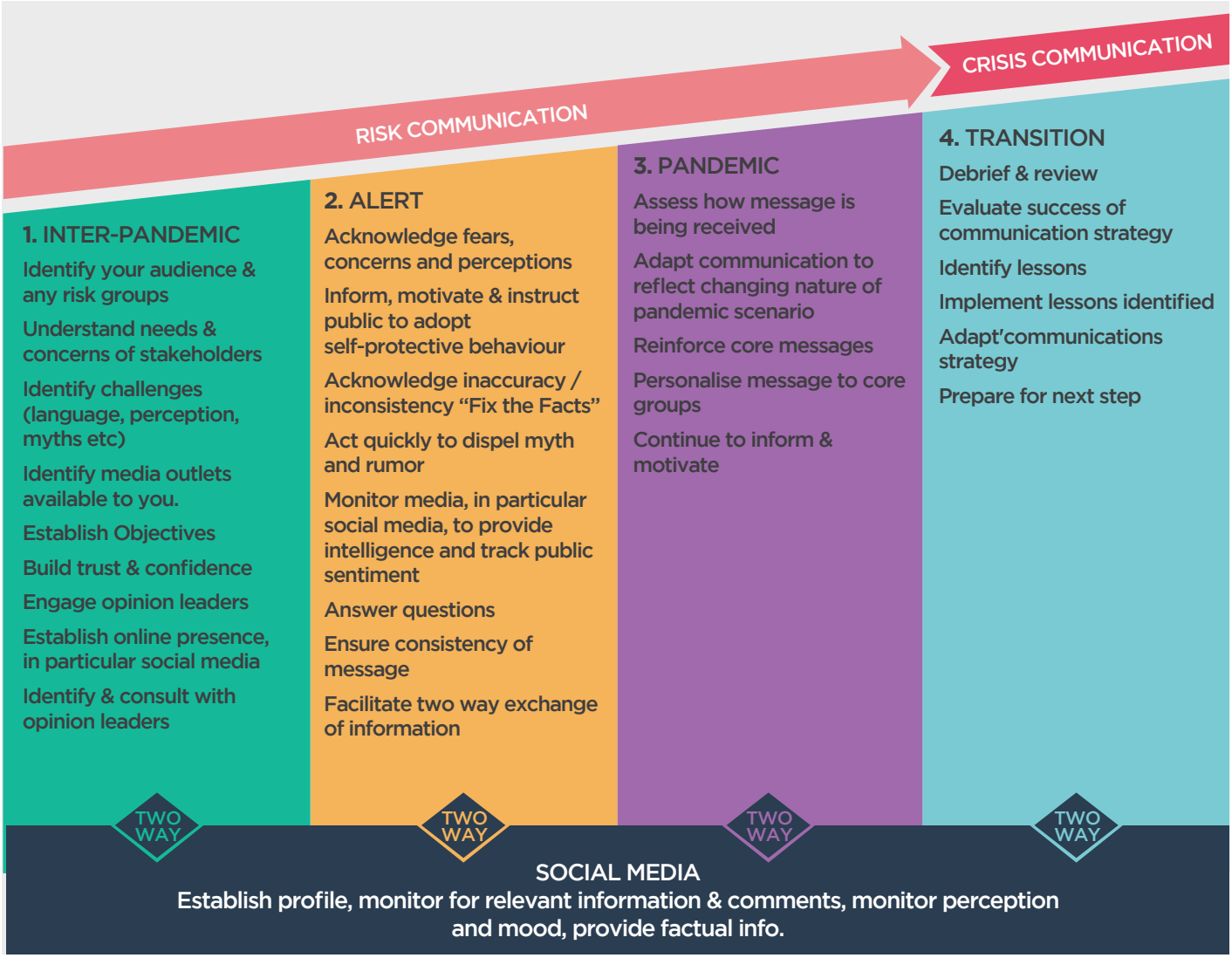
Outbreak communication model – the cycle

The model below has been developed to assist with the drafting of communications at each stage of a pandemic. It details the key actions and considerations that should be undertaken at each stage and highlights the importance of two-way communication with the public via social media platforms. Identifying and engaging with opinion leaders to help disseminate the message is also of central importance. It should be noted that the diagram is cyclical in nature and that some of the tasks listed will need to be repeated throughout a number of phases of an outbreak situation.



The important role of social media

The European Commission's report on the Importance of Social Media during a Crisis (EC, 2011) emphatically outlines the many potential benefits of its' use during a crisis. In addition to providing communicators with information that will help shape their messaging, Social Media also enables decision makers and communicators to identify trends, spot early-warnings and communicate with far reaching audiences in addition to target groups. The immediacy of Social Media is also well suited to the dynamics of a crisis situation. It could help to combat perceived or real delays in sharing information about a crisis and allows for early alerting. Anecdotal evidence and other important information can also be contributed by different sources.

In their report, the EC clearly set out the need for Member States to embrace Social Media as part of their crisis response stating that "It is no longer possible to simply communicate offline via information sheets, press conferences and press releases. Instead Member States (and the Commission) need to establish a voice now to ensure that if a similar crisis occurs they are ready to release their information through the already established online communication channels" (EC, 2011, p.9). Consequently, the model outlined above highlights the importance of embedding Social Media at each stage of an outbreak.

Harnessing spokespeople

Spokespeople, including bloggers, journalists, community leaders, local physicians and HCPs all play an important role acting as 'trusted translators' between health agencies and patients. As discussed in detail in TELL ME ST3.2.1, 'Healthcare professionals help to carry health agencies' messages to the public via their interactions with patients and any public facing communication they take part in (media work, blogs and social media profiles). Their central position in the communication network gives HCPs an important communications role throughout a pandemic. The role has influence over the messages which reach patients, the method of delivery of those messages, and the patients trust in them'.

Healthcare professionals in general and doctors specifically, are often one of the most trusted professions in the EU. For example, doctors are the most trusted profession in the UK (Ipsos Mori, 2013).

The diagram below sets out the process of harnessing spokespeople to inform and deliver communications development, which has been identified by the Tell Me research project as key to success.

Figure 3: A summary of the key stages involved in harnessing spokespeople in order to utilise trusted individuals to help inform and deliver successful communications.

Section 5

Message development tools for target / risk group

Pandemic communications status report

Pandemic Communications Status Report

(Use the following template to develop outbreak communications for Stakeholders. This template should not be passed to Stakeholders but used to establish facts and content that will inform message development.)

Pandemic Communications No: **Date and Time:**

	Issues / tasks		Notes
1	Stakeholder Considerations (who is message intended for? Who is the target audience?)	*Identify and list key stakeholders / target group that you are intending to communicate with.*	
2	What are their major concerns / perceptions of the situation?	*Summarise the main issues, concerns and perceptions this group have of the situation.*	
3	Target group - cultural considerations.	*Are there any particular cultural considerations, such as language, attitudes to vaccine, access to technology etc that are worthy of note?*	
4	What is the purpose of this communication?	*Clearly establish and state the objective of this communication including any desired outcomes.*	
5	What is the current situation and who is the outbreak affecting?	*Summarise the current situation and who the outbreak is affecting, or has the potential to affect.*	

6	What action should the target audience take as a result of this communication?	*Clearly state what action you are recommending that should be taken. If none then this should be stated.*	
7	What is the risk of inaction?	*Clearly state what the risk is of not taking any action and why this is not recommended.*	
8	What are the current unknowns?	*Address any real or perceived uncertainty surrounding the situation to demonstrate openness and honesty.*	
9	Fix the facts?	*Acknowledge and address any fears, concerns, rumours, myths and where possible questions, known to be circulating about the situation.*	
10	Is the situation and advice likely to change?	*If it is anticipated the situation and advice may change as the situation develops then this should be stated.*	
11	Further information, advice and updates	*Provide signposts for further information and advice such as recommended websites, social media forums and health care providers etc.*	

Table 3: A template for the development of outbreak communications for various target/ risk groups.

Pandemic communications – quick reference tool

Figure 4: A quick reference tool for pandemic communication development.

Guidelines for communicating with target / risk groups

Target /risk group	Key Message(s): taking into consideration ethnic, religious and cultural considerations	Recommended style / language	Method / delivered by
HCW	• Emphasize importance in relation to; self-protection, patient protection and family member protection. • Highlight safety and efficacy of vaccine. • Highlight the seriousness & risk associated with flu. • Instruct where to get vaccine. • Address fears & concerns that vaccine could cause disease / side effects.	• Collaborative. • Positive messages. • Communicate impact of diseaseon individuals and society. • Provide evidence where possible • Truthful, open and honest style. • Clear, concise, timely.	• National and Regional Health Authorities. • Other Health Care Providers. • Where possible coordinated updates provided by a well respected individual of highstanding.
Elderly & Chronically illav	• Address concerns regarding side effects. • Communicate benefits of vaccination. • Provide reassurance and where possible evidence of efficacy and safety of vaccine. • Identify and address culturally held beliefs and attitudes towards vaccination.	• Non-technical • Positive messages • Avoid scare tactics • Emphasize target groups susceptibility to disease. • Communicate impact of disease on individuals and society. • Avoid statistics and scenarios that may be misinterpreted. • Reiterate core messages. • Provide evidence where possible • Truthful, open and honest style. • Address rumor fears and concerns.	• Advice and positive recommendation should be given by Health Care Workers and Physicians ideally in a personalized form taking into account medical history, attitudes and personally held beliefs.

Target /risk group	Key Message(s): taking into consideration ethnic, religious and cultural considerations	Recommended style / language	Method / delivered by
Pregnant women	• Communicate Health Benefits with Evidence to support efficacy of recommendation. • Provide reassurance about the potential impact on maternal and fetal health. • Communicate importance of vaccine and where to access it. • Acknowledge fears and concerns. • Identify and address culturally held beliefs and attitudes towards vaccination	• Non-technical • Positive messages • Avoid scare tactics • Emphasize target groups susceptibility to disease. • Communicate impact of disease on individuals and society. • Avoid statistics and scenarios that may be misinterpreted. • Reiterate core messages. • Provide evidence where possible • Truthful, open and honest style. • Address rumor fears and concerns.	• Advice and positive recommendation should be given by Heath Care Worker, in particular midwife's ideally in a personalized form taking into account medical history, attitudes and personally held beliefs.
Pediatric population	• Communicate importance and necessity of vaccine (including for health children). • Where possible provide evidence to support recommendation. • Provide clear instructions / advice as to where and how to gain access to vaccine.		• Advice and personal recommendation should be given by (where possible) by Pediatrician, taking into account medical history, attitudes and personally held beliefs of parents.

Table 4: A guide to help tailor messages to the needs of individual Risk Groups taking into consideration cultural considerations, recommended style and language and the preferred mode of delivery.

Draft message templates

The following message templates have been provided as preliminary examples, to help communicators develop pandemic communications. In order to ensure that messages are tailored and appropriate to the group that they are intended for figures 2 and figure 3 should also be referred to;

Phase 1: Inter pandemic
Encourage debate about pandemics nationally, regionally and locally. Debate the issues concerning at risk groups and timely response. Engage with opinion leaders to understand the issues and concerns facing the community and exchange ideas. Develop an 'on-line' presence. Follow the advice given in Figure 2, Figure 3 and Table 3.

Phase 2: Pandemic Alert Phase
"*There has been an outbreak of* (describe outbreak) *in* (insert location) *reported by* (insert by whom e.g. WHO). *Initial reports suggest* (state what is known and acknowledge any uncertainties / fears and rumor). *The potential impact on human health is* (describe the potential impact on the population). *The World Health Organisation (WHO) has recommended* (state any advice from the WHO providing evidence if possible). *The National Health Service (NHS)* (state the recommendations by the NHS, including where to get access to vaccine, and include any specific advice for 'at risks groups' e.g. Health Care Workers (HCW), elderly, chronically ill, pregnant women, pediatric population). Tailor message according to guidance given in Tables.

Phase 3: Pandemic Phase
The WHO has officially declared a pandemic (repeat the key aspects of the WHO declaration). *The NHS has raised the pandemic alert/risk state to* (state the NHS/government pandemic alert/risk state). *This means that* (summarise what this means in non-technical language giving examples as to how this affects, or has the potential to affect the population). *The NHS advises* (state the NHS advice repeating core messages such as where to get access to vaccine. Include the action being taken by Local Authorities, local hospitals, GPs and HCWs. Personalise message to risk groups referencing Table 3.

Phase 4: Transition Phase
The WHO has officially confirmed that the assessed global-risk of a pandemic has reduced. This means that (summarise in straight forward non-scientific terms what this means in relation the potential impact on human health, actions being taken, and actions that need to be taken).

Activities should now focus on assessing the success of the communications strategy, implementing lessons identified and adapting and preparing communications for future use.

For more information on the TELL ME project or to access the guidance documents and tools, please go to **www.tellmeproject.eu**

Alternatively, you can contact us on the details below.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twitter.com/TellMEProjectEu


villa@zadig.it

School of Public Health at the University of Haifa (Israel)
Website: http://hw.haifa.ac.il/index.php/facultydeps/publichealth
Contact: Manfred Green, Anat Gesser-Edelsberg,

Centre for Research in Social Simulation, CRESS (UK)
Website: http://cress.soc.surrey.ac.uk
Contact: Nigel Gilbert, Jennifer Badham

National Centre for Epidemiology, Surveillance and Health Promotion, CNESPS (Italy)
Website: www.iss.it
Contact: Barbara De Mei, Valentina Possenti, Chiara Cattaneo

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Website: www.uemo.org
Contact: Ferenc Hajnal, Renata Papp

Vrije Universiteit Brussels, VUB (Belgium)
Website: www.vub.ac.be/infovoor/onderzoekers/research/team.php?team_code=LSTS
Contact: Paul De Hert, Paul Quinn

National Disaster Life Support Foundation, NDLSF (US)
Website: www.ndlsf.org
Contact: James J. James, Italo Subbarao, Jack Horner

Vitamib (France)
Website: www.vitamib.com
Contact: Olivier de Bardonneche, Gérard Brugal, Youssoufa Tahirou

Zadig Ltd (Italy)
Website: www.zadig.it
Contact: Roberto Satolli, Luca Carra, Roberta Villa, Dimitris Dimitriou

Centre for Science, Society and Citizenship, CSSC (Italy)
Website: www.cssc.eu

Designed by Gary Green & Ross Harrington
info@gandhdesign.com

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PART 5: NEW COMMUNICATION STRATEGIES FOR INSTITUTIONAL ACTORS

- **ST3.2.3 New communication strategies for institutional actors**

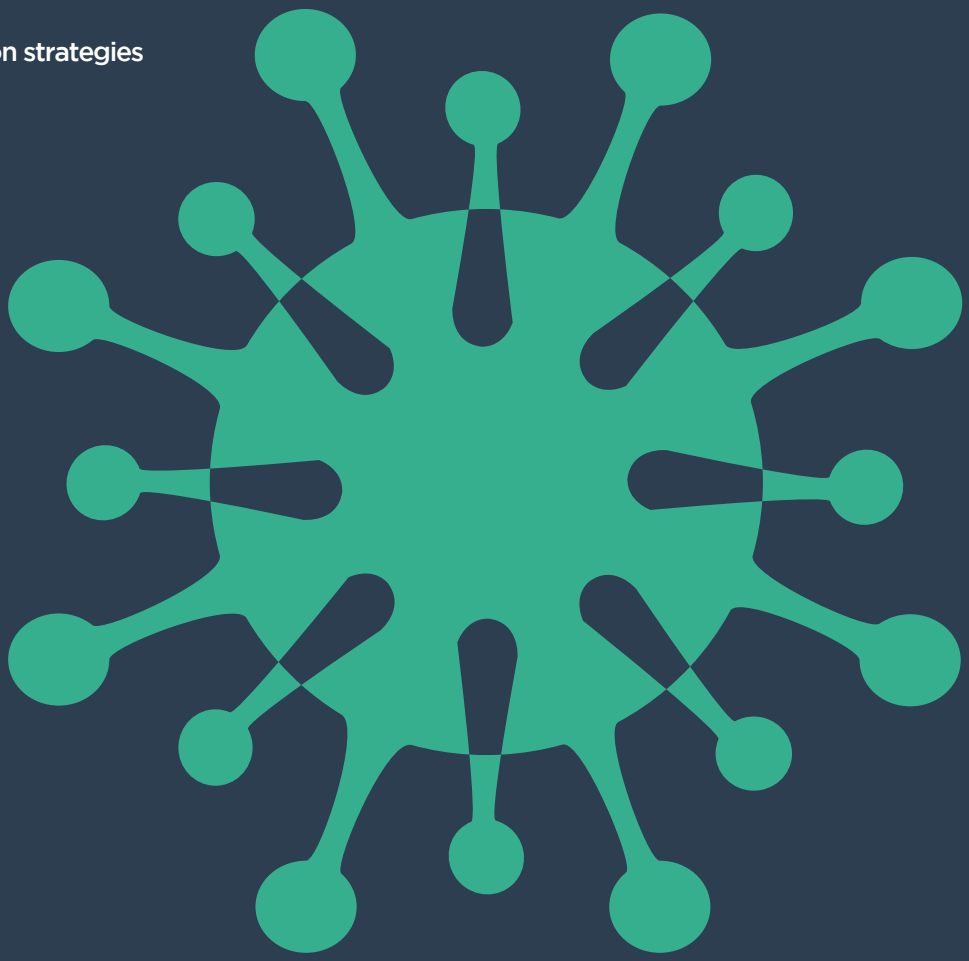
ST3.2.3

New communication strategies for institutional actors

2nd Reporting Period
WP3 Developing new communication strategies

Responsible Partner: ISS
Contributing Partners:

Dissemination Level: PU



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Contents

ST3.2.3

Introduction

The behaviours adopted by public health institutions in the past have been shown to be inadequate; authorities were unprepared for confronting new Emerging Infectious Diseases (EIDs).

In the past incomplete and biased communication interventions have led to the generation of incomplete, false and contradictory messages, which have jeopardised institutional credibility. The effect of which has been reduced levels of trust in institutions and lower levels of behavioural compliance across the population.

In a pandemic, appropriate communication and education ensure that people know how to best protect their own health and the health of others. Timely and accurate communication is essential to inform, educate and address concerns and reactions to a spreading pandemic. Effective communication is fundamental not only to provide advice, information and reassurance, but also to encourage individuals to take personal preventative actions, to request support for necessary national responses and to build and maintain confidence in the government response during a pandemic.

Whether or not guidelines and objectives appear clear, it is more difficult to manage a complex situation that requires a wide understanding of the broader political, social and cultural environment in which communication occurs (Abraham, 2009). The management of the H1N1 pandemic management created a number of controversies around the world in 2009 and, although world media coverage faded in 2010, the debate continues. From the perspective of institutions such as public health authorities and other key stakeholders, effective coordination of messaging will help to ensure timely and relevant information is available to support an appropriate and effective response to a pandemic.

"Communications can't fix a problem you don't understand."

Heidi Larson; Bull World Health Organ 2014;92:84–85 | doi: http://dx.doi.org/10.2471 BLT.14.030214

In order to deal with new communication strategies to improve institutional actors' (IAs') reaction to an outbreak/EID we first introduce a description of IAs with regard to their own perspectives, types, roles and responsibilities, while communication targets are analysed. Secondly, we present a "toolkit" containing samples of asupport material and operational tools which IAs may use to communicate with their widely diversified audiences during epidemics and pandemics.

Section 1

Institutional actors

National and international institutional actors

The first part of the chapter aims to bring into the equation the groups described in the Outbreak Communication Framework Model developed in TELL ME deliverable D3.1[1]. It has been necessary to look at a definition of 'institutional actors' in the context of public health communication. It has been far from simple to find a clear-cut definition that is both comprehensive and straightforward. The usage of the term, 'institutional actors', has a long history and has become widespread in the social sciences as well as in several other disciplines in recent years, reflecting the growth in institutional economics. Institutional actors have been widely described and defined in the stakeholder categories inventory within TELL ME deliverable D2.1[2]. According to this, Governmental/Policy and IAs are represented by political structures and organisations, competent public authorities, regulatory and standards bodies, funding agencies and advisers responsible for design (preparedness) and implementation (response) of communication strategies in the event of a major infectious disease outbreak. Institutional actors could be grouped depending on the different level they operate upon: internationally (transnational, European) or inside a country (national, local). Common examples of IAs are shown in Figure 1. Within this general frame, we have differentiated between those IAs who are expected to lead the outbreak communication process as legitimate stakeholders, e.g. public health authorities and/or agencies (indicated in Figure 1 hereinafter we essentially refer to these IAs) and others who become involved because of their capacity, role in the community, or as a matter of urgency. Given its own function of advocacy that the health sector has in the field of communicable diseases (CDs; D'Eath M et al., 2014), this idea is based on the adaptation of the salience model for outbreak communication stakeholder mapping [TELL ME deliverable D2.1[3]].

[1] TELL ME Deliverable D3.1 New framework model for communication. Available from http://www.tellmeproject.eu/sites/default/files/D3.1%20-%20New%20Framework%20Model%20for%20Outbreak%20communication.pdf

[2] TELL ME Deliverable D2.1 Stakeholder Directory and Map, page 51.

Available from http://www.tellmeproject.eu/sites/default/files/137728362-D2-1-Stakeholder-Directory-and-Map-Website-Version-No-Directory.pdf

[3] TELL ME Deliverable D2.1 Stakeholder Directory and Map. Available from http://www.tellmeproject.eu/sites/default/files/137728362-D2-1-Stakeholder-Directory-and-Map-Website-Version-No-Directory.pdf

Figure 1. Institutional Actors involved at different levels in pandemics

IAS ACTING INTERNATIONALLY	IAS ACTING INSIDE A COUNTRY
Transnational	**National**
WHO (World Health Organization) IOM (International Organization for Migration) OIE (World Organisation for Animal Health) UNICEF (United Nations Children's Fund) UNWTO (United Nations World Tourism Organization) WTO (World Trade Organization) World Bank	Ministry of Health National (Surveillance) Institute of Health Medicines Regulatory Agency Ministry of Foreign Affairs and Trade Ministry of Work Ministry of Agriculture Ministry of Culture and Education Ministry of Economic Development National Institute for Insurance against Work Accidents
European	**Local**
ECDC (European Centre for Disease Prevention and Control) EDQM (European Directorate for the Quality of Medicines) EMA (European Medicines Agency)/ex EMEA (European Agency for the Evaluation of Medicinal Products) European Commission (DG SANCO, DG ENTR, DG RTD, etc.)	Local Public Health: • Agencies • Authorities (e.g. Regional/Federal) • Operative units Prefectures (Public Health Division) Local political parties

Institutional communication flows

Institutions should communicate with each other throughout the decision-making process, using strategically established methods and avoiding rushed communication in an emergency situation which leads to implementing wrong interventions and losing credibility. One of the fundamental components of good communication from institutions is effective internal communication with the scientific community and institutions responsible for health risk surveillance and management. This need is due to the complexity of outbreak communication and the difficulty people can have in recognising the meaning and reliability of the most relevant issues. An infectious disease outbreak therefore demands a communication strategy focusing on both internal and external processes as well as the multiple actors who hold their own interests and perceptions playing different roles.

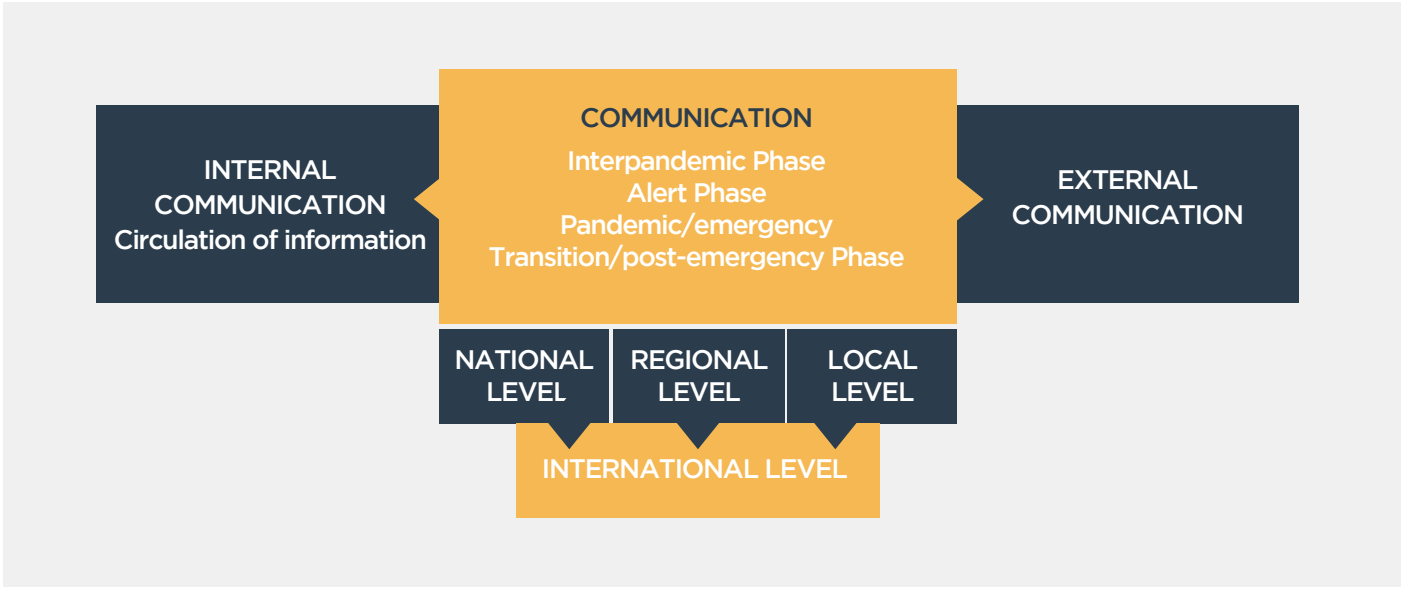


Figure 2. Communicative interaction among different institutional levels through pandemic phases

Effective communication with the scientific community and institutions directly engaged in risk management represents a crucial condition for more efficient external communications, even in a non-emergency condition. Furthermore, when an emergency occurs the communication process becomes more difficult as a series of very complex factors occur in a short period of time, making risk management more complicated. Often, contrasting criteria and approaches are suggested for emergency situation assessment and management so that several authorities must take action with diversified skills at different levels.

In order to significantly improve internal communication, IAs can adopt guidelines which not only offer tools for an adequate structure of prevention and emergency preparation measures, but also contribute to explain and match roles and activities of authorities, organizations and interest groups involved in usual surveillance systems, emergency management, and specific epidemiological surveillance following a health alert.

For this purpose, when an outbreak occurs and it is necessary to establish an epidemiological surveillance system for the exposed populations. Implementing communication processes and synergies among involved institutions, structures and authorities then acquires crucial importance. An effective internal communication strategy can enhance integration of available epidemiological data, strengthening the interaction among all the involved officials. This includes: institutions responsible for health protection, the organisations and teams in charge of epidemiological surveillance (Epidemiological Monitoring Units within Local Health Service Agencies), Local Health Authority and Government (Mayor supported by the Hygiene and Public Health Service) that have to establish limiting and restrictive measures to protect the public's health.

Sharing activities may also create favourable conditions for appropriate communication with the population who must be informed about initiatives carried out concerning the surveillance and its purpose. Effectiveness of internal communication is strengthened still further when exchange and debate are considered crucial to building collaboration in framing and maintaining a regional network. This often involves key figures and institutions non-directly engaged in risk management, but strategically important for empowering communication with citizens, such as general medicine physicians, family paediatricians and schools.

Therefore, cooperation and information flow among all professionals of institutions and healthcare services within risk management can favour coordinated planning of activities and priorities. In turn this can simplify the communication process with the public, media and social actors and allow a responsible and informed participation of the community in discussions about planning responses to emergencies.

Internal communication in institutions

Internal communication is fundamental during a crisis situation; coordinating communication both at vertical and horizontal levels is complicated. During a crisis situation, international organizations, such as the WHO and the CDC/ECDC play a critical role in regularly updating health professionals to address actions and concerns on specific questions (EU Conference Report, 2011). The need to improve internal communication has emerged from many countries and agencies (Sweet, 2009; Deirdre Hine 2010; Tay et al 2010; WHO Europe, 2010; WHO, 2011; Greco et al 2011).

In particular, the WHO (2010) suggested that to improve communication effectiveness within the health care system the following elements are needed:

- Development of vertical networks between the ministries of health and health care workers;
- New communication tools (e.g. established through the internet) should be considered, as they have proved to be helpful;
- Coordination within a hospital is improved by choosing one person to disseminate information, primarily necessary for early identification of cases, but also during other stages of the response

Other critical elements are information and communication about vaccines, and the related issues, such as safety of adjuvants, vaccination of pregnant women and serious adverse effects following pandemic vaccination. A lesson learnt from most countries is more communication on vaccine safety data is needed at the time the vaccination is implemented (EU Conference Report, 2011; DH/NHS Flu Resilience, 2010). Internal communication is a fundamental issue during crisis situation when an organization is struggling to deal with a rapidly developing and complex situation. A wide variety of literature discusses the internal communication issue from different points of view, particularly about information sharing among the various health agencies, and the information needs of healthcare workers (HCWs).

In the UK it is seen to be important to involve professional health bodies in discussions, to ensure sources of direct clinical advice for health professionals during a pandemic (Deirdre Hine 2010). The development of CDC guidance is an example of this collaborative communication and sharing of information that took place between the U.S. Centers for Disease Control and Prevention, the U.S. Department of Health and Human Services (HHS), other federal agencies, and external partners (CDC, 2010). This is particularly important as there have been several instances in which recommendations have been controversial, particularly those regarding hospital infection control, which have sometimes been based on hypothetical concerns rather than epidemiological data. Some of these recommendations generated controversy and even outright opposition from healthcare workers.

For example, CDC's recommendation for use of N95 respirators by those caring for hospitalized 2009-H1N1 patients is discordant with the views of several other expert bodies. Such conflicts can generate confusion and anxiety at many levels in the hospital workplace, impairing effective compliance with proper infection control, and undermining physician confidence in health agencies and public confidence in local infection control measures at a time when confidence levels need to be maximized (US President 2009; Socialstyrelsen and Swedish Civil Contingency Agency, 2011).

Box 1. Examples and case histories of Internal Communication during 2009 H1N1

In 2009 during H1N1 there were cases where contradictory or slightly different messages were communicated based on national, regional and local levels, but also among countries and International agencies. These differences led to confusion among citizens about whose advice to follow.

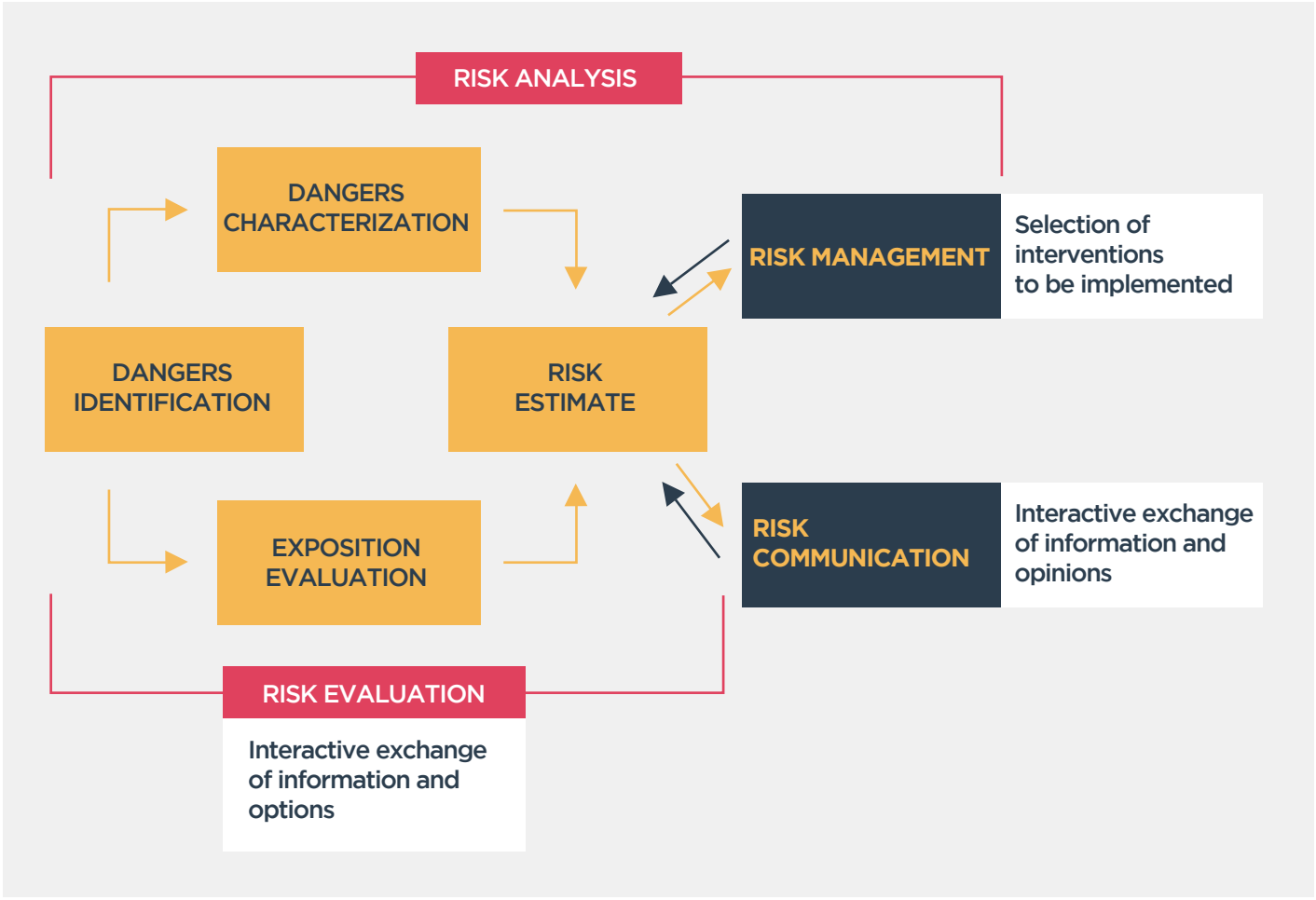
While the Public Health Agency of Canada's advice was based on the best scientific evidence available at the time, the application of this advice varied across the country due to differences in provincial legislation and policies. On the one hand, within the Canadian territory, advanced work with national and international partners formed important links that were useful during the H1N1 response, while on the other hand the messages provided across federal, provincial and territorial jurisdictions were not always consistent. It was only during the second wave of H1N1 that the federal and provincial/territorial governments collaborated on positions on masks and gloves and tried to take a collective decision so that all were approaching the issue in the same way. Evaluation indicates that it is necessary to improve coordination of the different approaches, communication and marketing tools, tactics and messaging (Public health agency of Canada and Health Canada, 2010).
A study carried out in Kentucky (Howard et al 2012) examined the role of the Local Health Department (LHD) in disseminating information among local healthcare professionals, in particular among primary care practitioners and pharmacists. The survey showed an overall percentage of 72% did not receive information from the LHD regarding H1N1. Seventy-one percent of healthcare professionals who reported any communication worked in areas where H1N1 cases were confirmed. In addition, LHDs were more likely to communicate with physicians than pharmacists, despite both groups playing critical roles in the protection of communities.

A survey conducted in Quebec among primary care practitioners found that about 85% of them encountered difficulties or experienced frustrations in their practice during H1N1 pandemic. In addition, more than 50% reported issues with the top-down management process, communication processes (dissemination of clinical practice guidelines and communication routes), and patient management at the public health level. In particular, a slow communication process, an overwhelming number of communication sources, and an overwhelming number of divergent messages, sometimes lacking clarity, were identified as the main problems (Nhan et al 2012).

Institutional actors' perspective and inspiring models

Communication represents a crucial aspect within the wider risk management process and it is involved in each stage of the complex conceptual scheme shown in figure 3: from identifying hazardous situations, risk assessment and exposure evaluation to establishing surveillance and prevention intervention priorities, and implementing risk mitigation and emergency response measures (WHO).

Figure 3. Steps for the analysis of risk: evaluating, managing and communicating risk



Risk communication is considered an interactive process of information and opinion sharing among individuals, groups and institutions, regarding (in this case) health risk evaluation and management. As discussed in the TELL ME Outbreak Communication Framework Model, stakeholders have their own "individual luggage" (made of: interests, roles, competences, perceptions). Therefore a desirable objective of risk communication is providing information to allow individuals or communities to make the best possible decisions about their health within the time constraints, and to help people ultimately accept the imperfect nature of choices during a crisis.

In health risk management associated with outbreaks, it is necessary for IAs to adopt a participatory communication approach – as described in the Framework Model – based on information, perceptions and choice sharing among the different partners and on "autonomy strengthening", dialogue and active and integrated participation. Only through a communication exchange is it possible to foster this complex interactive process among central scientific institutions, the local community, mass media and citizens. This process helps to aid the flow of risks assessments, opinions, concerns, individual and collective perceptions, and reactions to an emergency.

Dialogue and participation are crucial to increase citizens' awareness of relevant health issues during an outbreak and to overcome scaremongering and fatalism. The risk is not only represented by the content in a message from experts to non-experts, but is also a topic that all the involved parties (stakeholders) deal with, establishing jointly agreed strategies to face and manage the risk (Beck U, 2000; Biocca M, 2002). Therefore, it is better to refer to communication "about" risk more than simple "risk" communication. The implementation of risk protection and mitigation measures by public health organisations shouldn't be considered only a preventive intervention. When citizens' participate, it also becomes an initiative aimed at developing an active and informed participation in the risk management process.

Health risk communication has to be established as an interactive exchange of information and opinions among individuals, groups and institutions, as well as among all subjects involved in health risk assessment and management. Stakeholders who can take part in the decision-making process and have their own objectives play different roles with non-homogeneous skills and perceptions (Leiss W, 1996; NRC, 1989). This communication approach is important for managing all events that risk human health and involve the relevant institutions, public and private organizations, individuals and the whole community. It takes into consideration not only the technical-scientific information available about risk, but also emotional factors related to different stakeholders' reactions.

The roles and responsibilities of institutional actors in outbreak communication processes within different phases

From a more "dynamic" point of view, the most important communication function of IAs (public health; Figure 1) is to be at the helm of the processes, from planning to performance and evaluation through the four pandemic phases. General concepts like "communication is a risk itself, when it is improvised" or "lack of communicative competence paralyses" are at their most true when institutions have to develop a communications response to a crisis. A participatory approach to communication includes: listening and transparency, credibility and trust; institutional actors get different roles, aims and responsibilities. The position of institutions is crucial in accomplishing their role of leading the whole communicative process.

Figure 4. Components and ways in which communication is judged as successful in a crisis

Within an institutional and social context, credibility and trust both in the message(s) and in the issuer(s) form a square whose four corners are: competence; commitment; empathy; openness.

Listening with empathy, skill and experience, honesty and frankness, dedication and engagement represents one of the key factors on which people judge the reliability and trustworthiness of a communicator (Covello VT, 1992). More than 50% of communication reliability depends on the way people perceive the person who is in charge of communication. If people perceive empathy, listening and attention to their worries and perspectives, they will be more willing to listen to and trust the communicator. When the communicator is not reliable because of "distancing" from people and focusing only on their own communicative objectives, trust is reduced and the emotional component of perception will take precedence over the cognitive (subjective vs objective decision making). Therefore, even if adequate and scientifically based, the message(s) may not be trusted and used by people because they are delivered through a communication process lacking empathy, not focused on the identification of the real information needs of target audiences, or their sensitivities and perspectives. In these cases the communication process is often transformed into a conflict between contrasting positions where emotional reactions, sometimes in a chaotic way, prevail and focus on the health issue is lost. Active listening from institutions enhances the level of trust in them and allows people to discuss the gap between the perceived risk (by the public) and the actual risk (the experts' views) (Covello VT, 1985).

The stages of implementing the communications strategy are identified in the four pandemic phases (inter-pandemic, alert, pandemic, transition) that correspond with the new approach to the influenza threat index by the WHO, and are specifically illustrated in D3.1[4]**.** These four global phases encourage national and international authorities to react to different risk assessments', describing the spread of a new influenza subtype but also considering different levels of involvement and communication needs from stakeholders.

[4] TELL ME Deliverable D3.1 New framework model for communication, page 14.
Available from http://www.tellmeproject.eu/sites/default/files/D3.1%20-%20New%20Framework%20Model%20for%20Outbreak%20communication.pdf

Inter-pandemic phase

Particular attention has to be paid to the preparation phases, when IAs are supposed to develop their communication plans. It is worth stressing that IAs have the responsibility for activating and coordinating the communication process. This role includes managing the evolving reactions of multiple stakeholders. Effective and strategic communication has to be planned and programmed: this means getting a targeted, goal-driven message out at the opportune time through the appropriate channel. "Develop a plan and a strategy" is therefore the first step in the communication process (NIH, 2008).

Communication planning sits within the inter-pandemic phase. Researching and developing a communication strategy represent a crucial stage in enabling focused interventions, which are agreed amongst the stakeholders and institutions involved, and include clearly identified and monitored communication objectives.

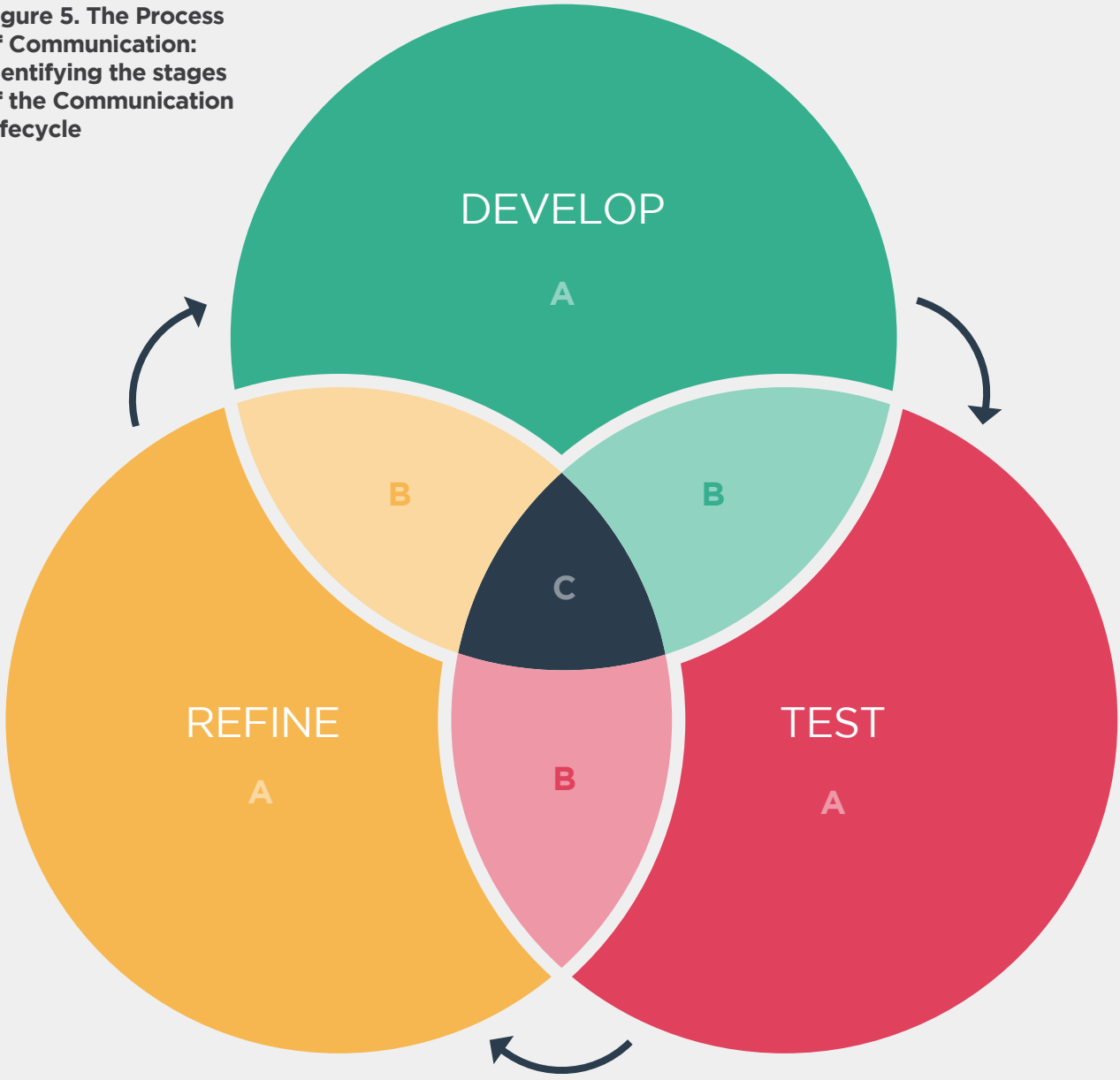
Planning reinforces an institution's role in promoting the exchange of information and interaction among the different stakeholders in a risk situation, both as active subjects in risk assessment and management and as exposed citizens. Therefore prior planning of responses to outbreaks helps promote participation in decision-making processes and the sharing of information. The overall communications strategy is a transversal action to be developed during each phase and changes according to specified objectives (Knowledge, Attitudes, Practices/Behaviours) and target audiences during each phase. The World Health Organization European Regional Office (WHO/Europe) recommends separation of each step, so as to maintain process transparency and to activate effective communication among all the participants in each stage of the same process. Elements informing a crisis communication plan (**Figure 6**) include the identification/definition of different items:

a. Issuer subject/-s (who activates the communicative process) - a clear indication of the authority launching, coordinating and following the process;

b. Communication target/-s (whom communication is addressed to): general population and directly involved people, even other subjects;

c. Communications objective/-s (reason to communicate): objectives can be intended in a general way (based on communication being right and a professional duty, it favours network creation, information exchange, integrated collaboration among institutions, institutional reliability, awareness and individual and collective empowerment) and more specifically, reference to desired changes in target audience knowledge, behaviours and attitude. According to the tools used, timing and resources available, a communications intervention may aim at enhancing knowledge, a behavioural change involving what people think or feel toward a specific phenomenon and, on a longer term, a behavioural change. More practically, at the planning stage, it is possible to envisage he creation of a multidisciplinary working group composed of experts from different institutions, regional and municipal structures and administration representatives, in order to establish, organize and share the communication strategy. And to favour information

Figure 5. The Process of Communication: identifying the stages of the Communication Lifecycle



A INTERESTED PARTIES

- Professional Journals
- National representative groups
- Awards
- National midwifery leaders

B KEY STAKEHOLDERS

- HCPs midwives collaborate with, e.g. GPs
- Pregnant women
- Organisation's executives

C CORE STAKEHOLDERS

- Midwife representative group
- Health agency pandemic planners
- Health agency communications professionals

flow and integrated cooperation among the stakeholders involved, to design and perform key-messages and, where applicable, to identify in-depth training requirements including communication skills training;

d. Communication content/-s (what): communication content should be periodically updated according to the latest evidence and should be homogeneous, clearly expressed, focused on the target, notified through clear and unmistakable messages, even repeated, responding to target audience worries and showing empathy. It is fundamental that uncertainties and lack of information are appropriately considered and declared. Evidence should be clearly separated and supported by opinions and judgments, in as much as this increases trust in scientific institutions and the relationship of trust and collaboration with regard to institutional figures and related institutional structures (Covello VT, Sandman P, 2001). In order to make citizens fully aware of available data, new information should be communicated as soon as available, according to specific criteria and agreed conditions. Communication content must be agreed, from time to time, among experts and local administrators, based on collected data and available evidence, paying attention to individual and collective risk perception. To collect information on risk perception, it will be necessary to use specific tools and methods: opinion leaders involvement, other local professional figures involvement, telephone interviews, analysis of information spread by media, focus groups and face to face interviews;

e. Communication tools and activities (how): communication tools have to be integrated, chosen according to the communication objective, targets, available resources (human, economic, structural, etc.), timing and context. Options include: press releases, interviews released to local or national media, websites, letters, brochures, telephone interviews, vis a vis meeting, public debates, scientific publications, scientific conferences. Attention has to be paid not only to oral communication, but also to the non-oral (face expression, look, gestures and body movements, posture, mimicry) and para-oral ways (volume, voice timbre and tone, rhythm, sighs, silence), especially for those communication tools using interpersonal relationships.

f. Communication time/-s (when): moment to starting information flow, time dedicated to communication, operator times and individual times, time (historic-social stage) during which the communication is performed, start and end date of a campaign, availability of institutions to quickly answer media requests;

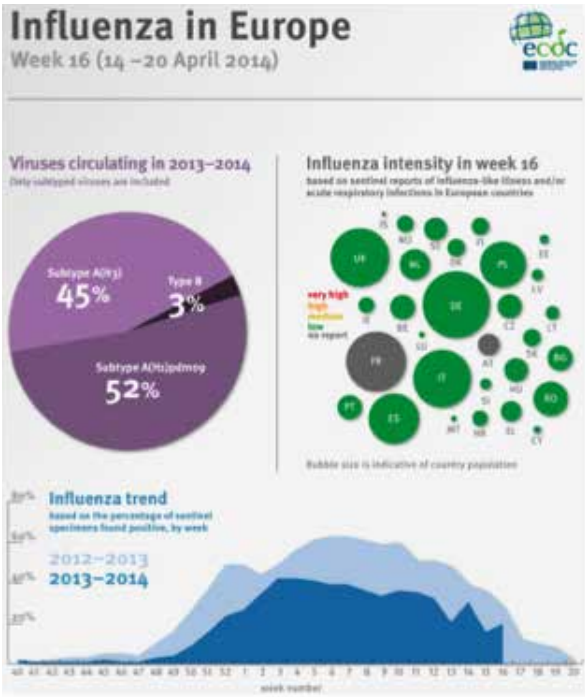
g. Communication contexts (where): both the external context where the communicative exchange occurs and the individual situation of those who communicate.

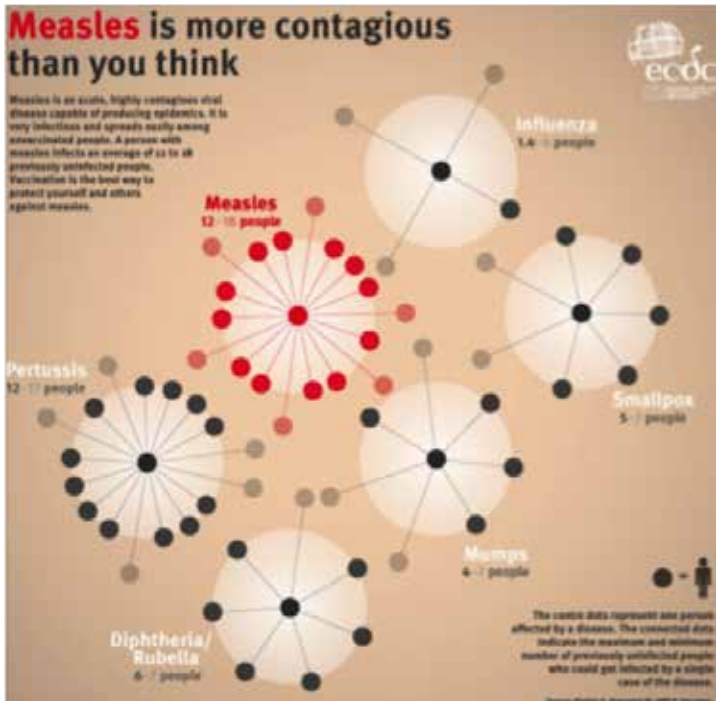
Figure 6. Putting the Crisis Communication Plan in practice: a grid

A Responsible Institutional Subject	B Target audience	C Objectives	D Content/ Message(s)	E Communication Tools/Activities	F Timing	G Context

Europe has entered a new inter-pandemic phase of seasonal influenza since 2011. Figure 7 (ECDC, 2014) shows an example of a tool aimed at informing a professional target audience about the kind of communication that is performed during the inter-pandemic phase. These text and graphic sheets are developed through the official ECDC website (http://www.ecdc.europa.eu) and printable versions are available.

Figure 7. Examples of ECDC communication in the inter-pandemic phase





Alert phase

With the pandemic finishing, IAs gradually come back to the pre-pandemic situation with new issues to deal with regarding people who were affected by the disease and attempts to minimize any future outbreaks. This last phase is the time when institutional bodies are undertaking evaluations or even formal enquiries to assess how well their plans and preparations worked against the particular features of the pandemic that occurred. Commonly, at transnational and/or multinational levels, evaluations which are conducted are general but many more relate to specialist areas like vaccination, surveillance or communications. Many evaluations and lessons learnt exercises are also carried out at national and local levels.

Pandemic phase

Local health authorities have an important role to play in planning, activating and assessing communication activities during the pandemic phase. This includes the “speaker” function during an emergency. Then, a toll free number should be activated to answer questions coming from the public and particularly the media. The function of official spokesman becomes fundamental during the pandemic phase.

The main goal of communicating during an emergency or outbreak is to help people by channelling their fear towards acknowledgement of the situation, an appropriate level of vigilance and constructive preparation.

Figure 8. Feelings and reactions which can be addressed through Emergency Communication

Figure 9. Common problems and challenges institutional actors must address during an emergency

Identified Problems/Challenges in Emergency Communication	Roles and responsibilities for IAs
Absence of strategy	Have in place a communication strategy, up-to-date with the needs and demands of present audiences and stakeholders.
Confusion of roles	Ensure legitimate institutional bodies have designated duties and responsibilities.
Different points of view, needs and perceptions coexist	Accept diversified worldviews. They must be listened to and understood. Ensure that communication effectively meets the public's needs.
Inappropriate times	Schedule precise and opportune timing within the communication plan.
Passivity/inappropriate language	Adopt a linguistic style which matches the target audience(s) and objectives.
Tendency not to communicate	Assume that non-communication is impossible since each act has communicative weight.
Negative is predominant on positive	Highlight measures to avoid and/or to limit infection (Non-Pharmacological Interventions, NPIs; vaccination).
No trust	Activate and maintain trust building process; networking.
Increasing confusion	Keep high levels of institutional credibility and acknowledgement.

High levels of 'noise' from multiple sources of information	Develop few and clear messages, dealing with concrete actions to follow.
Selective news is reported by the media	Create a solid and constant relationship with media. Ensure that news media receive timely, accurate and authoritative information to support their reporting.
Spreading of incorrect information	Be proactive in monitoring content which is developed through traditional and new media. Use a range of media, including electronic, print and online media.
Wrong or dangerous behaviours are suggested	Put in practice a successful outbreak communication implying an effective trust building process. Deliver communications materials through health providers.

Text box 2. Experiences of communication during the pandemic phase of 2009 H1N1

In many countries, a specific plan guided the communications and social marketing response during the H1N1 pandemic (Executive office of the President of the US, 2009; Sweet, 2009; CDC, 2010; Public health agency of Canada and Health Canada, 2010; Deirdre Hine, 2010; Van Tam et al 2010;). It appeared clear that without key activities, such as media training and creative development of the advertising campaign, it would have been very difficult to launch an effective campaign.

In general, during the first phase of communication the strategy promoted infection prevention behaviours including: frequent hand washing, coughing into one's arm not hand and staying at home if sick. These messages were later complemented with personal preparedness and immunization information.

In some cases, a general plan including different responses and communication strategies based on different potential scenarios of the pandemic evolution were prepared in order to ensure preparedness and to cover a variety of contingencies (Executive office of the President of the US, 2009; Socialstyrelsen and Swedish Civil Contingency Agency, 2011).

However, in the case of the H1N1 pandemic, it was observed that the absence of a comprehensive and coherent communication strategy created confusion leading to loss of credibility among the stakeholders and public alike (Van Tam et al 2010).

Transition phase

Figure 10. The communication requirements of institutional actors at each phase

Overview of IAs' Communication Actions

- Using a solid foundation of networking throughout, lead national health organisations in preparing to respond to a possible pandemic or other health emergency
- Develop and manage a policy and legislation framework, including developing proposed National Health Security Legislation and implementing International Health Regulations
- Establish principles and plans for support of essential services in the event of a pandemic or other health emergency
- Strengthen disease surveillance systems and contact tracing capacity
- Build laboratory capacity to deal with existing and emerging communicable diseases
- Be responsible for communications with several target groups regarding a possible or actual pandemic to help them increase their awareness and understanding

Phase 1: Inter-pandemic

Objectives	**Communications activities will build public awareness and understanding around the risk of an influenza pandemic** The aim is to build a base level of awareness and understanding across the general public and primary care providers regarding the nature of the risk and the threat of an influenza pandemic.
Key messages	**To the population** • What is an influenza pandemic • What is the current disease situation • What is the government doing to prepare for an influenza pandemic • Basic hygiene measures that will help restrict the spread of any influenza virus • Why it is important that eligible people continue with vaccinations as outlined by national immunizations guidelines/recommendations • What are antiviral medications and their potential role during an influenza pandemic • The situation regarding the development and production of a vaccine to combat an influenza pandemic • Where to get further information **To the health professionals** Same as for general public, plus specific messages regarding: • More details about flu and the threat of an influenza pandemic • How to implement infectious disease control measures
Objectives	• Website to be updated with health measures, warnings and state of current situation • Resource kit (including a DVD) for professionals, brochures for population and travellers, electronic information bulletin for key groups • Free call information line with operators available on working days. Outside of working hours recorded messages are provided directing callers to the website and/or other institutional services, translations are also provided • Coordinated cross-governmental approach in place to ensure accurate and consistent delivery of information through spokespeople to the media, public announcements and professional channels

Phase 2: Alert

Objectives	**Within the alert stage of an influenza pandemic, the communication strategy will ensure the public have access to clear and current information that supports actions to minimize the risk of illness.**
Key messages	**To the population** • What is an influenza pandemic • What is the current disease situation • Clear, specific actions that can be taken to limit the risk of catching flu • Food safety and guidance around food preparation • Basic hygiene measures that will help restrict the spread of an influenza pandemic • What the government is doing to prepare for an influenza pandemic and especially disease containment measures • What are antiviral medications and their potential role during an influenza pandemic • Facts about the virus presenting the pandemic threat – symptoms and mode of infection • Strategies to help protect individuals, families and communities prepare for and respond to the threat • What people must do if they think they are infected by the new strain of influenza • The importance of practicing prevention and containment strategies to slow the spread of the disease to allow time for a vaccine to be made and distributed • Where to get further information **To the health professionals** Same as for general public, plus specific messages regarding: • National information campaign through a comprehensive advertising strategy utilising a range of media (print, electronic, online) • Services of phone lines and call centres to be expanded to provide callers with constant and accurate information • Website to be regularly updated with information about prevention, protection and treatment of pandemic influenza both to health (human and animal) professionals and to population (general, subgroups) • Web based resources (including printable versions) for the public and professionals; information bulletin to key stakeholders • Regular and intensified media interviews and briefings, creation of dedicated media conference room for daily teleconferences and distribution of relevant information to spokespeople, media, etc. • Public announcements, regular delivery of information to state and territory health (human and animal) care services about the current situation

Tools/Activities	
	• National information campaign through a comprehensive advertising strategy utilising a range of media (print, electronic, online) • Services of phone lines and call centres to be expanded to provide callers with constant and accurate information • Website to be regularly updated with information about prevention, protection and treatment of pandemic influenza both to health (human and animal) professionals and to population (general, subgroups) • Web based resources (including printable versions) for the public and professionals; information bulletin to key stakeholders • Regular and intensified media interviews and briefings, creation of dedicated media conference room for daily teleconferences and distribution of relevant information to spokespeople, media, etc. • Public announcements, regular delivery of information to state and territory health (human and animal) care services about the current situation

Phase 3: Pandemic

Objectives	**Within the response stage of an influenza pandemic, the communication strategy will inform and reinforce the need for appropriate actions that will minimize disease transmission and that will support maintenance of essential services** A strong communications effort will be made to support the deployment of the national medicines stockpile and pandemic vaccine, once it is available.
Key messages	**To the population** • Facts about the pandemic virus, symptoms and modes of infection • Personal protection, prevention and treatment options • The importance of practicing prevention and containment strategies to slow the spread of the disease to allow time for a vaccine to be made and distributed • What people must do if they think they have influenza • What the government is doing • Where to get further information • What services and support packages are available • Availability and access to anti-viral medication and any available vaccine **To the health professionals** Same as for general public, plus specific messages regarding: • More details about flu and the threat of an influenza pandemic • How to implement infectious disease control measures
Objectives	• Website to be updated every day with news bulletins, media interviews by government ministers and additional diversified educational material • Services of phone lines and call centres - to be enhanced involving several call centre agencies and 24-hour availability - a specific phone line for health professionals to be developed and increased. • Second national information campaign responsive to any newly emerged needs of the public and professionals • Update and redistribute information resources where necessary; regular electronic information bulletin • Expanded media liaison team including co-opting emergency trained public affairs officers from other agencies, states and territories and the private sector. • Deployment of media liaison officers to key trigger points of media activity, use of emergency management media centres

Phase 4: Transition

Objectives	**Communication activities at the recovery stage will support restoration of public confidence and a return to more normal living and working arrangements.**
Key messages	**To the population** • The containment of the pandemic • What support services are available for people who were affected by the disease • What the government is doing to minimize any future disease outbreaks • Where to get further information **To the health professionals** Same as for general public, plus specific messages regarding: • Future strategies for their healthcare practice • Details on how the pandemic was contained and the medical lessons learnt
Objectives	• Website will continue to inform the public, health professionals and the media about the current situation and the support available • Free call information line will continue to be available • A wide range of media to be involved, including medical press to discuss the management of the pandemic and future measures: regular media interviews and briefings publicise announcements about government planning for future pandemics

Inside risk management: communicating with different target audiences

Institutional communication is always important, but it becomes crucial when an emergency occurs; for example an epidemic or pandemic. A fundamental purpose of communication is in fact creating conditions to help all subjects participate actively, recognizing their own roles and responsibilities. Building channels of listening, credibility and trust are fundamental in managing emergencies. Each communicative act represents a moment that enters a wider strategic process to reach the common goal of improving health and protecting people from risks to their health. The communication process is more effective when stakeholders are able to work in a coordinated way - communicating and collaborating to solve disagreements.

Each IA must share their initiatives and coordinate with other social counterparts at different levels, which may have significant roles within the communications process (Ingrosso M, 2001), for example:

1. Population, representative associations and important figures of the social context (citizens associations, schools, teachers, priests or religious/spiritual leaders);
2. Other authorities, structures and institutions; administrations (e.g. the Mayor); civil defence; professionals and operators of local health institutions (working in hospitals and in epidemiological monitoring centres, GPs, family paediatricians);
3. Scientific/academic community
4. Private sector;
5. Media.

The wide-range of audiences IAs have to communicate with is summarised in **Figure 11.**

Figure 11. Communication process with target groups about analysis

In exploring the communication with this diversified range of audiences, it is important to remember that according to the co-responsibility principle, all the audiences should take part in the dialogue and interact with one another.

Most of the social actors mentioned above play a significant role within the wider community and have the possibility of interacting with people outside of official meetings and dialogue. This makes them not only able to help spread official information and avoid spreading misinformation, but also to provide IAs with indications of individuals' perceptions and prevailing worries. This last aspect is crucial for the establishment of future communication initiatives based on the public and specific audiences concerns.

Different types of audiences have very different information needs and languages. It is highly recommended IAs define the audiences they wish to communicate with according to the scheme shown in **Figure 12**.

Figure 12. Target groups analysis

IDENTIFYING PRIMARY AND SECONDARY TAGET	DOING DEEPER ANALYSIS OF TARGET	IDENTIFYING DETERMINANTS OF A BEHAVIOUR
	• Demography • Behaviours • Culture • Personal Data • Psycho-social Data	

In order to better know and understand the audience(s), several different methods of observation and in-the-field research are available: direct (without any mediation, so called immediate methods) and indirect (where a partial or total mediation is applied). They are here listed in **Figure 13.**

IMMEDIATE METHODS	ALMOST-MEDIATED METHODS	MEDIATED METHODS
• Face-to-face talks/interviews • Focus groups	• Phone interviews	• On line questionnaires and surveys by-mail • Press and media analysis

Beside target audience(s), an additional issue deals with the identification of stakeholders. They have to be considered as another key-element that must be addressed within institutional communication frameworks. Stakeholders can be individuals or groups; their expectations and positive or negative attitudes to the institutional communication plan should be accurately addressed and taken in account. Overall, a relationship with stakeholders should be developed and IAs should learn the most common misinterpretations and assess stakeholders' reactions to the message(s). In particular, IAs should involve their stakeholders in the communication planning. Furthermore, they should be constantly involved in identifying evaluation criteria and in the process of monitoring and evaluation itself.

General population, its subgroups and Civil Society Organizations (CSOs)

According the Outbreak Communication Framework Model (TELL ME Deliverable 3.1), the public should not be considered a homogenous object or a passive subject. On the contrary it is a community of people who have different interests and competences. They use or refuse information they are given according to their own perspectives. We aim to move from communication to empowerment: if there is more participation the public will be empowered which will have positive effects on the health system as a whole and help people to be able to handle their own health.

According to dictionary definitions, risk concerns the expected value of one or more future events. Technically, the value of those results may be positive or negative. However, general usage tends to focus only on the potential harm that may arise from a future event, which may occur either from incurring a cost ("downside risk") or by failing to attain some benefit ("upside risk"). Since risk calculation is made by an estimate of the danger and resultant emotional reaction, risk perception is a personal act and a multidimensional phenomenon. It is influenced by different elements related to personal and social contexts. Knowledge, values, beliefs, attitudes and personal history may be included in the first category, while the sort of risk and problem, social context, media and time can be recognized as related to the second category.

During an emergency situation, the population is usually very worried and sometimes exhibits scepticism and doubts against decisions made by IAs. In certain circumstances this can result in a complete absence of trust in institutions. Thus, even when appropriately argued, technical scientific assessments are often underestimated or ignored.

The worry for one's own and family's health, as well as the fear of a possible harmful event, are associated with an overall increased level of risk perception. Studies on factors influencing risk perception highlight this is related to emotional factors to such an extent that the "perceived offence" (the outrage element) contributes more than the real hazard to the individual's perception of the risk (Sandman PM, 1999).

Risk is accepted more easily when it is voluntary (vs. involuntary); controllable by people (vs public administration); equitable (vs. unfair) and natural (vs. artificial). Rare events are overestimated; risk acceptability is proportional to benefits and depends on how much of the risk is voluntary. Additionally, risk perception varies according to the possible effect on children and future generations, levels of trust in institutions, attention of the media and available scientific evidence.

Institutions must accept and actively listen to people's worries and be aware of the determinants characterising the perceived risk, so as to have greater opportunities to understand the origin of risk perception and be able to deal with it (Sjoberg L, 1999).

In outbreak communication, empathic listening represents an important way of understanding the main concerns of the population involved, especially in the case of target audiences with low vaccination rates such as children and pregnant women.

People tend to base their risk assessment not on the count of possible number of dead or injured, or damage to the environment, but on the perceived presence of specific characteristics of risk situations and the perceived properties of the source of the risk (Watzlawick P et al., 1972). For example, the familiarity with risk, individual control, comprehension, effects on children, effects on future generations, personal engagement, uncertainty of scientific data, voluntary exposure and trust in institutions. In fact, due to the fact that people's worries increase if the outbreak creates risks for children and the most vulnerable groups (e.g. pregnant women), institutional involvement must necessarily be aimed not only at ensuring effective safety conditions in the different contexts, but also at considering this worry and favouring both supported information flows and indications that may allow people, especially parents, to make functional choices for the health protection of their children and to trust institutions. Each individual carries out a personal risk assessment (Leiss W, Krewski D, 1989), implying the emotional component of perception (Slovic P, 2000) as well as social and individual issues. In developing communication, it is fundamental IAs remember that citizens are not a mass entity but people which take in, process and act on information differently, bringing their own approach to the real world. All institutional initiatives have to be shared with the involved subjects, including the population, through specific planned, coordinated and monitored communication initiatives. Some questions should be addressed by IAs. A list is provided opposite.

1. What are the target audiences' perceptions, values, needs.
2. Which ideas and arguments really work?
3. Which linguistic style should to be adopted?
4. What is the context surrounding the communication initiative?
5. How can the message become part of the context?
6. What are the skills that produce real changes to attitudes?
7. What is the relationship with the target audience?
8. How are IAs' goals related to the audiences' own objectives?

Text box 3. Communicating with public in 2009 H1N1

According to the Crisis and Emergency Risk Communication approach (CERC; CDC, 2006), providing timely information to the public is a central component of an emergency response. In accordance with this a study assessed the response of health departments in providing online information within 24 hours of a public health emergency declaration. This study showed 46 out of 51 states had at least some specific information on H1N1 on their web sites, and the information was generally easy to access. Thirty sites included information for health care providers; fourteen provided their own content, and sixteen linked to the CDC information. Slightly over half had press releases posted on their sites. Nine states had information or a link to information in another language on their home pages. In contrast to what was observed for states, only 34% (52 out of 153) of the local health department websites sampled provided any information specific to H1N1 within twenty-four hours after the declaration of a public health emergency. More than half (54%) accomplished this by linking to the CDC or their respective state health department websites. Less active communication was noted for local health departments: only 14% had posted a press release (Ringel et al 2009).

The public's acceptance or rejection of vaccines is another sensitive issue to do with pandemics. IAs have to understand the social, cultural and political drivers of vaccine reluctance or refusal. Lack of confidence in vaccines can be about ineffective communication, delivery issues, different belief systems, or the need for specific strategies to address the problem. It is fundamental to understand what drives human behaviour and one method of study that is recommended to be used is "participant observation". Participant observation is a strategy that can be followed by IAs and is based on paying attention to small details, which can reveal the underlying issues generating concerns. Institutional actors should be aware that communities already have their own approach to health care and IAs need to understand it. These issues have been widely studied and presented in the D1.7, WP1 Summary Report[5].

In the past there used to be a polarized view that people were either pro- or anti-vaccine. Most people are in favour of vaccines and, depending on the type, nearly nine in ten of them accept vaccines. Some groups are absolute vaccine refusers and are never going to change their minds, usually because they have held an alternative belief system about health for a very long time. But recently more people have started to mistrust vaccines. An increasing reluctance to be vaccinated is observed and some of these people are converting to the outright vaccine refusers group. Therefore, it is important for IAs to define and address vaccine hesitancy. Among determinants of vaccine hesitancy and refusal, three main groups can be recognized. First, the individual reasons related to personal belief systems or community-level belief systems: these may include everything from religious to philosophical notions, and are held primarily by people who reject artificial means of triggering an immune response or believe in alternative forms of medicine, such as homeopathy. Second, there are contextual factors, such as wars, conflicts and other external circumstances that make vaccine refusal more likely. Third, there are vaccine specific issues, for example public concerns over an adverse event or a piece of research. Sometimes faulty research or research that has been misunderstood is used as a basis for refusal or hesitancy.

[4] TELL ME Deliverable D1.7 Population behaviours during epidemics Summary Report. Available from http://www.tellmeproject.eu/sites/default/files/120687142-D1-7-Population-Behaviour-in-Epidemics-Summary-Report.pdf

Countries take several factors into account when they are considering which vaccines to include in their national immunization programmes. At a global level, the primary concerns are safety and efficacy. At a national level, the main considerations are mainly the disease burden and the cost. When vaccines reduce the disease burden, the rationale for continued vaccination is to maintain the lower burden. Another factor that countries consider is feasibility. Is it feasible to introduce a particular vaccine given the existing infrastructure? Finally there is the important issue of acceptability. Will the vaccine be acceptable to the health professionals, who will administer it, and to the public receiving it?

Some people say anti-vaccine movements and vaccine hesitancy are because of the internet. But we have had these challenges before. What has changed thanks to the internet is the scale of the challenges: the speed with which rumours travel and the potential for worldwide dissemination. In general, the internet has become a massive archive of positive and negative opinions, so the ease with which someone with an alternative belief can build their case and disseminate this all over the world has changed dramatically in recent years. A set of elements can be recognized in order to achieve good vaccination coverage: communication, political commitment, local engagement, identification of gaps and strengthened local vaccination programmes.

The difficulties found in communication during the H1N1 pandemic, prompted some agencies to think that in the future, science and research may want to focus more on firmly determining a pandemic's virulence before communicating it to the public (Public health agency of Canada and Health Canada, 2010). But it is evident that this approach is unsuccessful (WHO, 2005; CDC 2007). It is important to bear in mind that any future pandemic will take place in a multisource environment and therefore a wait-and-see approach may not be the best one to take with the general public. National health agencies put a lot of effort in to developing clear, consistent and coordinated communication across the full range of communication channels, tailored to the needs of specific audiences, even if these activities have been implemented with great variability in the various countries. This should be considered crucial for maintaining the public trust, compliance and support essential to the effective management of a pandemic.

Other health infrastructures, professionals and providers; experts and scientific research communities; private sector (pharmaceutical industry and commerce)

It has been shown how effective internal communication between IAs can promote the integration of environmental and epidemiological data and strengthen the interaction between all of the actors involved in implementing the healthcare system. In an epidemic or pandemic the diversity of exposure modes and different effects combined with social alarm, particularly during the alert phase, highlight the need to promote effective communication within the scientific community and relevant institutions as a prerequisite to ensure a consistent and transparent communication among all relevant stakeholders. In particular communication strategies addressed to the healthcare sector should take into account the possible differences in expectations, and explain clearly the rationale for the decision as well as customise the messages delivered to different health care audiences, from public and private professionals to experts and scientists (Tay et al 2010).

Regarding the relationship of institutions with the pharmaceutical industry and commerce, the main issue faced is the problem of trust among growing segments of the public. Enhanced transparency may in the long run help the pharmaceutical industry to repair their reputation and become a legitimate partner during healthcare crises.

Regarding all of these groups there should be a wider use of opinion leaders as an intermediate link to disseminate health messages. Especially those acting at a local level (authoritative people in the community, teachers, bloggers and so on). From the interviews conducted with bloggers in TELL ME Deliverable D2.7[6], it is evident they are thirsty for information 6 and willing to cooperate with governmental authorities. One of the suggestions was to create a short-list of bloggers who would offer their service to the government in return for access to the latest data.

[6] TELL ME Deliverable D2.7 The new Global Health Security Regime.
Available from http:// www.tellmeproject.eu/sites/default/files/137730645-D2-7-the-New-Global-Health-Security-Regime.pdf

Media

Media standards and values mostly differ from those of the scientific and health communities. Even if the specific goals vary accordingly to the nature of media outlet itself, common media goals are to be first, write stories with impact, win prizes or receive acknowledgements, impress sources, figure out what is really happening, tell stories in a compelling way, and get on the front page. These aims do not coincide with the health expert's goal of educating the public and gaining the public's confidence, understanding, and cooperation (Fineberg, 2008). For this reason, it is important to develop a trusting relationship with journalists to better guarantee a good working relationship during a crisis. Having consistent news briefings and working to establish a collaborative relationship with the media are important actions to maximize communication through traditional media during an emergency (Tay et al 2010). The European Union recommends the use of a selected group of experts to answer questions from journalists, as well as the availability of a spokesperson, factors both considered essential (EU, 2010).

National health agencies now consider proactively engaging the media can help spread official information and campaigns; integrating this spread with other communication channels.

For this reason, the IAs' press teams should always inform journalists so as to provide them with reliable and not alarmist information and news. It is crucial that institutions and professional figures responsible for communicating with the media are aware of some significant criteria and "rules" helping them to communicate and collaborate with the media. This can be the object of specific media training initiatives.

Section 2

Communication means and modes

Interpersonal communication as a professional competence

In the field of outbreak communication effective interpersonal communication is a fundamental skill that can build confidence and trust among internal and external stakeholders. This is especially true when the interpersonal communication is used as a professional competence. The following skills and knowledge are crucial: listening and empathy, awareness of own verbal and nonverbal communication and knowledge of social and cultural contexts. The complexity of outbreak and emergency messages and the sensitivity of the feelings involved necessitate listening to the specific information needs, questions and concerns of people involved in the decision-making process. The relational skills used to do this facilitate the interaction, the exchange of information, needs and emotions and the sharing of perspectives.

Institutional actors should be able to lead the communication process with competence, experience, listening, empathy, honesty, clarity, dedication and effort, while paying attention to the public who are considered the centre of the relationship. It is also important that the IAs are able to put themselves in the public's shoes, to grasp their point of view without judgment, always keeping in mind that the relationship takes place amongst audiences with different roles.

The information is effective if it is scientifically valid and up to date, but also understandable and well argued, if it gives meaning to the public, and is actionable. It should be remembered that an aware and skilled communication process can also facilitate interpersonal relationships among IAs. It is an important tool for building collaboration and arriving at mutually agreed solutions.

For public health officials, counselling-related skills represent professional added value, because these can encourage the creation of effective interpersonal relationship.

The objective of intervention is not convincing and replacing the audience's point of view with another ("I will tell you what to do as an expert"). Instead, enabling processes of coresponsibility makes health professionals recognize the public as an active subject. To achieve this effectively, it is necessary to acquire and show skills in listening. The components of interpersonal communication are listed below.

1. Values
2. Culture
3. Emotions
4. Knowledge
5. Resources
6. Personal skills
7. Communicative styles
8. Prejudices, bias, preconceptions
9. Pros and cons in communication capabilities

Listening and empathy are communicative competences, a skill that can be learned and used by health professionals and IA staff in their work to enhance their communication effectiveness. Listening represents the first step in the professional relationship: it is based on empathy and on accepting the other's point of view, on the creation of a positive relationship and of a nonjudging mood (Rogers CR, 1989). It is needed to show interest and attention to a speaker's needs and to create a solid relationship of trust and cooperation, the foundations for a future partnership. It is possible to listen by putting oneself in the other's shoes, entering their reference scheme and trying to look at the world through their eyes. This can create an understanding of the information from their rational and emotional viewpoints (thoughts, experience, emotions, significance) helping to recognise emerging needs. To listen through empathy means, therefore, to open up to the other person, follow and deeply understand his/her worries and emotions, taking on the same worldview. To live for some time as if you were the other. If this is missing, it is not possible to use empathy; the end result will be identification. Being empathic does not mean confusing the two points of view even if they often differ only slightly. Empathy is in fact supported by distinction and not confusion. In the professional relationship between expert and public, empathy contributes to maintain separation between the two roles. Only through this distinction is it possible to recognise one's own sensitivity and to face the emotional reactions of the public, thus avoiding defensive behaviours which are often the reason for conflicts and symmetrical escalations. With this distinction, it is possible to keep the appropriate distance from the public in a transparent way, to take part emotionally without burning oneself out. This corresponds to being able not to judge, leaving one's own values and perceptions aside for a time in order to embrace those of the other person. This kind of approach is translated into avoidance of being directive and making suggestions or even interpretations.

Listening can be activated through the development of bidirectional communicative channels able to favour information flows and useful exchange so as to know the public's

information needs, its worries and for supporting explanations justifying the use of some interventions over others. Professionals may use several communication channels and tools to help the population or specific groups listen to and understand risk perception: vis a vis interviews, telephone interviews, interviews to key figures, press and media analysis, focus groups, public debates and face-to-face meetings. Interaction between professionals and people through interpersonal relationships generally represents the most effective way to implement a bidirectional exchange. A bidirectional exchange helps deepen each parties risk perception, and discuss personal experiences, information acquired and poor areas of communication. It creates the basis for a relationship built on trust and cooperation. Within an interpersonal relationship it is possible to use a specific method called empathic mirroring which can ease the act of listening and helps both people focus on the other's point of view risk perception. The four basic techniques of empathic mirroring are: reformulating, clarifying, ability in questions and use of first person messages. They are described as follows:

- "Reformulating" is a technique which repeats what the other has just said, using the same words or rephrasing in a more concise way using other terms, without adding other concepts to the content. In this way, the operator may obtain a positive result from the other person, and they know they have been listened to. One can wait until the other person has finished a sentence before intervening and repeating what has just been said. "Then you're telling me that…", "This means that you think…", "In other words…". The repetition acts to reassure the speaker that they have been heard and understood. They are therefore motivated to further express their views, to cooperate and stay focussed on the issue being discussed.

- "Clarifying" uses the outlining emotions associated with the content of the communication. This is clear both in oral and non-oral communication. "I can see in your eyes that you're worried"; "By your words I can feel you are uncertain about what I am saying".

- The "survey capability" is the ability to use questions, choosing the most appropriate type of question for the situation:
  1. "Open ended questions" to be preferred in the initial stage of the interview, they allow for a wider chance of answer, extend and deepen the relationship, encourage opinions and thoughts exposition;
  2. "Closed ended questions" are defined, they induce a sole specific answer, often stress an answer, limit the communication and make it more focused, demand only objective facts and sometimes may seem restrictive and obstructing (when?, where?, who?). Questions starting with "why" can be perceived as accusatory, and preferably should be avoided.

- The use of first-person messages ("I think that", "In my opinion") make it easy to distinguish between a professional's and another person's opinions helping to avoid conflicts. Its use helps to create a non-judgmental environment and an autonomous decision-making process.

Styles of health communication

Traditionally, messages aimed at prevention and health promotion can utilise a wide range of linguistic styles in order to capture the recipients' attention. It ranges from friendly, positive and reassuring tones, offering possible solutions to problems, to dramatic and shocking styles that aim to stimulate an emotional response in the audience. Between these two extremes other linguistic strategies are possible such as the use of irony. The most popular styles of messages used in prevention and health promotion are discussed below (Gadotti G, 2001):

- Paternalistic style: widely used by governmental authorities especially in the past, it is used to send messages to empower recipients by leveraging their consciousness, hinging on feelings of guilt and appealing to a sense of duty. Communication takes the form of a recommendation with an authoritative tone. It looks old-fashioned especially if a young audience is targeted.

- Informative style: message proposes to its recipients a description of the aspects related to a particular type of behaviour through rational arguments, appealing to rational reasoning, to a sense of duty and responsibility, without triggering feelings of guilt.

- Reassuring style: issue of health is described with delicate and reassuring tones highlighting possible solutions through the action of individuals. It aims at spreading belief in the possibility of solving the problem. The possibility of a successful solution motivates people to take the desired course of action (Gadotti G, 2001).

- Fear arousing appeal: with this kind of message, the sender wants to trigger a feeling of fear in the recipient. This style includes all those messages containing visual representations and/or showing negative consequences of a risky behaviour. The purpose is to make the subject perceive a sense of vulnerability, inducing a change in harmful behaviours. But, "where emotions are too strong, there is a risk of generating a negative effect, even leading to removal or rejection of the message." The use of this language is more popular in Anglo-Saxon countries (Gadotti G, Bernocchi R, 2010).

- Ironic or humoristic style: it turns out to be an excellent strategy to emotionally engage recipient(s) in order to increase the impact of the message. As Polesana observed, unlike the fear arousing appeal, irony does not need to show situations of tragedy with blood, death, or pain: when an irony-based approach is used, all this is evoked through a tinny implied comparison of opposites [...] that convinces people about the benefits and validity or not of suggestions/recommendations (Polesana MA, 2005).

Using a testimonial

A cross-cutting strategy in adopting various styles of language is created by using a testimonial to give more strength to messages. The use of famous people does not guarantee effectiveness by itself. People identified to provide testimonials must meet suitable criteria. A good testimonial must first have a strong appeal to the target audience. Secondly, it is appropriate that the testimonial is linked somehow to the issue of interest, in order to achieve a strengthening-role effect as a credible witness. In any case, a testimonial must be appreciated both for the positive image in general and for consistency with the issue(s) being discussed and promoted. Regardless of the individual's characteristics, choosing the most appropriate language to communicate health issues should take into account the target audience(s), type of subject and the objective(s) the communication has (Gadotti G, Bernocchi R, 2010).

Spokespersons

Based on the experience of the H1N1 pandemic, countries adopted a ‘single authoritative voice’ to provide information to the media (Deirdre Hine, 2010), or different types of spokespersons who had credibility with the target population, that could help to transmit pandemic influenza messages (Public health agency of Canada and Health Canada, 2010; PAHO, 2009). Most states used their Chief Health Officers as their main media spokesperson, allowing for a natural link between decision-making and public communication responsibilities (Weeramanthri et al 2010).

A toolbox: support material and operational tools to communicate with different target groups

In general, a communication channel can be defined as one-way or two-way. With a one-way channel there is no possibility of feedback and interaction with the receivers of the information. The issuer(s) cannot easily know whether messages were listened to, understood or how they were interpreted. In comparison when a two-way channel is used an interactive exchange and feedback is possible. Channels that are recognized as one or two-way are listed below.

One-way-media	Two-way-media
" traditional" internet	Web 2.0
informative campaign	conference, workshop
bulletin, scientific article	press-conference
press, radio, TV	face to face communication
brochure	public debates
letter	

Channel selection depends on a variety of elements, for example: the objective of the communication, audience and recipients, economic conditions, available structures and resources, routines and timelines. IAs should follow an integrated approach using different channels and be aware of the differences among the available channels and specific competences they involve.

Scientific publications represent the most qualified source of information, however the language used and the depth of information provided shows they are addressed to experts. Therefore, regular information to healthcare figures is required, both inside and outside the region, through differentiated methods and/or specific written material at individual and group level (letter, email, telephone call, meetings, newsletter, bulletins, topical fact sheets).

In the alert phase, to help aid contact with the population living in the areas involved, it can be useful to send an ad personam letter explaining in simple, concise language the situation, the initiatives launched, how they work, timings and, in particular the advantages for each individual and family. This first contact can create the premise for additional chances of relationship building with individuals, especially if the letter indicates telephone numbers and/or internet web sites of reference and the service and/or services to be contacted.

At the same time, the communication plan could include brochures and posters for use in identified places such as GPs' offices, local health authority services and all other sites considered appropriate for effective information spreading. This can contribute to describing the context surrounding the emergency, focusing the attention on health risks and simultaneously supplying indications on how to avoid risks and on preventive actions to be implemented at individual and group levels. Brochures and posters represent adequate one-way channels to reach a cognitive objective (to inform citizens), thus answering specific informative needs of target audiences. However, their effectiveness can be strengthened if used together with other tailored two-way channels (e.g. primary care consultations). The informative value of a brochure is strengthened when it is handed to a person at the end of a consultation. In this context, brochures represent a communication tool used to further emphasise the information already exchanged during the discussion.

Brochures must include a few significant and clear messages for the target audience to which they are addressed, as they are supposed to be focused on the specific informative needs, concerns and doubts of the audience.

Brochures must therefore describe actions that public administrations and health institutions have adopted and/or will adopt in the near future and state the name of the service and a telephone number for the public to call. These actions are aimed at strengthening the level of trust in the relationship. Language used must be simple, clear and understandable for the intended audience(s), avoiding technical terms and jargon.

Moreover, communication interventions such as public debates on the issue/emergency/potential outbreak or tailored meetings within specific institutional contexts can reinforce message effectiveness, especially if leaders are able to use listening and counselling skills (see section 1.6) (De Mei et al, 1998).

Communicating online

Beside traditional media, a new term is used by the international Telecommunication Union in its May 2012 Report on Trends in Telecommunication Reform: 'broadband world'. It is used to address the growing adoption of mobile technology and social media across the globe. Social media refers to "online technologies and practices to share content, opinions and information, promote discussion and build relationships. Social media services and tools involve a combination of technology, telecommunications and social interaction" and, accordingly to Kaplan and Haenlein, there are six different types of social media: collaborative projects (e.g. Wikipedia), blogs and microblogs (e.g. Twitter), content communities (e.g. YouTube), social networking sites (e.g. Facebook), virtual game worlds (e.g. World of Warcraft) and virtual social world (e.g. Second Life). Applied technologies include blogs, picture sharing, wall-postings, email, instant messaging, music sharing, crowdsourcing and voice over IP.

H1N1 was "the first pandemic with a blogosphere and other rapid communication tools that were impossible to ignore" (ECDC, 2010). New and social media were used both to disseminate information and to monitor issues of concern for the population; for example, identifying concerns pregnant women had about vaccination. Their use was different among countries and the best practice of their application comes from the Centre for Disease Control (CDC) (Deirdre Hine, 2010). In the UK social media used included Facebook, Twitter and YouTube, to re-direct people to the National Health Service (NHS) website rather than to engage in discussion (Deirdre Hine, 2010). In other countries the use of new media, and social networks in particular, is limited but growing quickly. In 2011, the WHO declared that the use of new information technologies, including social networks, should be an essential part of strategic communications planning, including research, training and guidelines for member states (WHO, 2011). Certainly, social media cannot and must not replace other communication tools, but when used in a strategic way, can support current communication systems (Merchant MR et al, 2011).

After generally describing the main features of diversified tools which IAs can use in outbreak communication with different types of targets, some practical examples are shown in Annex I using brief description charts based on one-way and two-way communication. For each communicative tool an example is also provided.

Conclusions

When IAs have to communicate about epidemics and pandemics a very complex process is undertaken involving several different stakeholders all with their own worldviews, perceptions and needs. Outbreak communication strategies have to be both planned by institutions and led in a conscious and strategic manner, based on executing a solid crisis communication plan. This does not simply entail one-way communication or teaching, but involves a debate and the exchange of information between all of the stakeholders involved in the emergency/outbreak situation.

In order to avoid an improvised and sporadic approach, it is fundamental that communication by IAs is well planned and managed competently and intentionally. It is important to use communication methods and tools which are adequately aligned with the specific context and intended target groups. Both individuals and the community as a whole have to be effectively involved so that homogenous, consistent and strategically integrated interventions can be implemented.

In this context, institutional outbreak communication does not correspond to performing oneway communication but initiates dialogue and reciprocal exchange between everyone involved, despite their different roles and diverse responsibilities. Particular attention should be paid to in-house communication processes since IAs should take care of internal communication involving subjects directly responsible for risk management, including key figures who can contribute to communication within the region. Institutional actors should keep in mind that overall communication effectiveness increases whenever it is coordinated and constantly monitored by competent institutions.

As often occurs, organisational issues interweave with communication aspects. Good communication facilitates organisation of work and an efficient organisation helps to reduce elements of tension.

To be really effective, IAs' outbreak communication must follow a number of general principles that are:

- Be the first source of information, establish a right and credible voice;
- Build trust, express empathy and caring early, show competence and expertise, stay honest and open;
- Keep the message consistent.

Furthermore, risk communication strategies must acknowledge the importance not just of openness but also of transparency in the way in which assessments are made and decisions taken. Clear, consistent and coordinated messaging across the full range of communication channels, tailored according to the specific audiences' needs, is crucial to maintain high levels of public trust in institutions, and to ensure essential compliance and support for the effective management of a pandemic.

Communication about risks is more effective if based on an approach that is driven by listening to risk perceptions about what people think and feel about the risk and its potential consequences. Even if people have different interests and skills, they are able to reinterpret the information received, use them or reject them according to their own purposes and values. Communication strategy tasks are very different from providing information to the public or convincing them of the integrity of choices made by technical figures or the decision-making authority; it is about launching a process which recognises different perspectives and suggests and supports choices concerning risk management by listening to public concerns. In such a framework, outbreak communication strategies developed by IAs must include some critical elements:

- Sharing information resources (clinical, risk management, etc.) with primary care providers;
- A comprehensive market research program to ensure that communications effectively meet public needs, remembering to give people constructive and meaningful tasks to do and the fundamental respect of others' emotions;
- Direct-access information services, such as call centres and websites, to provide upto-date information and advice;
- A national information campaign using a range of media, including electronic, print and online media and communications materials delivered through health providers;
- Constant media engagement to ensure that news media receive timely, accurate and authoritative information to support their reporting.

Section 3

Bibliography and appendix

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Appendix 1: Flyer/brochure/booklet

Type of communicative tool	Flyer/brochure/booklet
Communication mode	One-way
Target(s) which is recommended for	General population or a specific subgroup
Phase(s) to apply	Inter-pandemic, Transition; Pandemic

Main characteristics

Format	• Consisting of four/six pages maximum • Name, logo and contact details of the promoting service in order to make it recognizable by the final user • A brief summary is inserted to facilitate the identification of the subject of the content thanks to titles and subtitles • Structured with short texts, overuse of adjectives and very long sentences should be avoided • Graphics should be used to make it attractive and readable
Style	• Easy to use and concise tool that provides information quickly • An appropriate communication means to achieve a knowledge objective (e.g. inform) responding to the specific information needs of the target audience • Containing a small number of meaningful and clear messages, and keywords which can be highlighted • Language should be simple and clear, attentive to the needs of the target audience and avoid complex technical terms which may not be widely understood

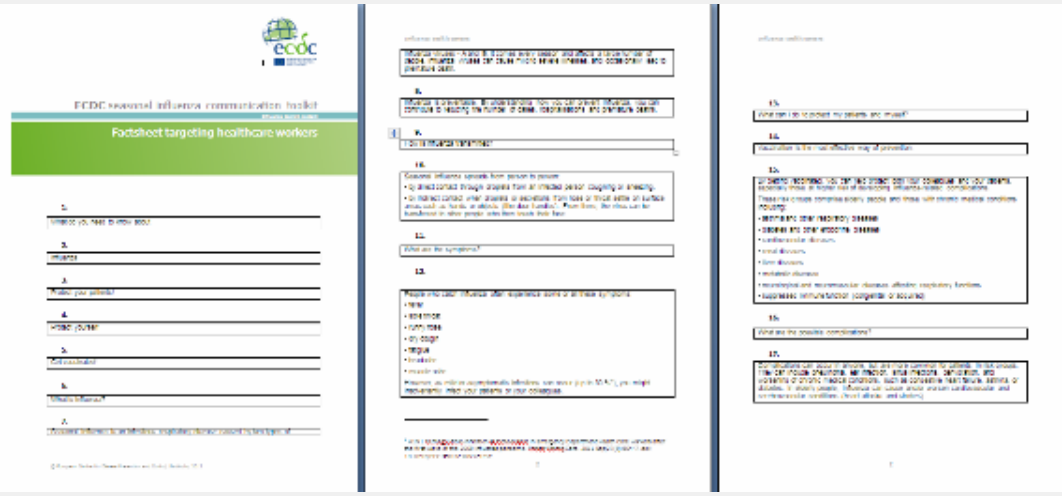
Content	• Questions to be developed, the so-called five W's: **who** communicates (Who), what, where, when and why • Key-points to be outlined: concise picture of the health problem and its risk (what it is); definition of its importance for health (why it is important); description of actions taken and/or will be implemented by institutions (what can be done); information about healthy behaviours to be adopted at individual and collective levels (every contribution is essential)
Further details	• The effectiveness of a flyer/brochure/short booklet can be enhanced if used with other communicative interventions. It can be attached to any letters sent to citizens, given to people by a competent operator (e.g. healthcareprofessional) as part of a service or at the end of a consultation, or during public meetings
Sample of flyer (developed by the Italian MoH in 2009 H1N1)	

Appendix 2: Thematic factsheet/informative bulletin

Type of communicative tool	Thematic factsheet/informative bulletin
Communication mode	One-way
Target(s) which is recommended for	Technical target (e.g. HCWs, GPs)
Phase(s) to apply	Alert, Pandemic

Main characteristics

Format	• Consisting of one page or two-sides • Name, logo and contact details of the promoting service to strengthen the in order to make it recognizable by the final user • Graphs and tables are the most important parts • Accompanying texts have to be short, highlighting relevant data and information
Style	• Containing a small number of meaningful and clear messages and keywords which can be highlighted • Technical language can be better tailored according to the target that is addressed to • Can be used to involve IAs and all those representative figures who may have a decision-making role in several kinds of settings, such as health care but also school, public administration and transport etc.

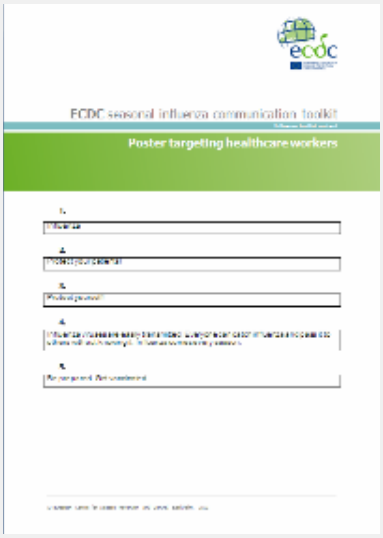
Content	• Describing characteristics and distribution of the health problem, the consequences that can result, as well as the action range that different actors can take to combat it • Can be delivered both to support an evidence-based exchange of information and to promote a mutual discussion to build alliances and networks. In the latter case, it can be promoted as a tool for advocacy with the multiple aims of spreading information, getting political commitment of decision makers and helping healthcare professionals to communicate with the public
Further details	• The effectiveness of a thematic factsheet/informative bulletin can be enhanced if used with other communicative interventions such as meetings between HCWs and IAs.
Sample from ECDC	

Appendix 3: Poster

Type of communicative tool	Poster
Communication mode	One-way
Target(s) which is recommended for	General population or its specific subgroup(s)
Phase(s) to apply	Alert, Pandemic

Main characteristics

Format	• With a total size of 70cmx100cm a good level of visibility and readability can be achieved • Given the size, image resolution must be very high (300 DPI) • Title should immediately attract readers, so it is appropriate to use a strong font style, in bold and with a large size in proportion to the paper size • Name, logo and contact details of the promoting service in order to make it recognizable by the final user
Style	• An appropriate communication means to achieve a knowledge objective (e.g.inform) responding to specific information needs of the target audience • Both the graphics and content must be eye-catching and be easy to read • Containing only the text that is strictly necessary in order to give more space to graphical elements (figures, illustrations, photos and whatever else helps to attract attention and aid understanding)

Content	• Can contribute to the circulation of information about the virus and vaccination and all the actions which can be implemented at individual and collective levels • Key-points to be outlined: concise picture of the health problem and its risk (what it is); definition of its importance for health (why it is important); description of actions taken and/or will be implemented by institutions (what can be done); information about healthy behaviours to be adopted at individual and collective levels (every contribution is essential)
Further details	• Where it is placed represents a vital aspect as a good location can make people more likely to read it. A poster should be placed in easy to see positions, attended by the target audience (e.g., vaccination services, paediatrician and GP waiting rooms , other health care services, pharmacies, schools and places which are considered suitable for the dissemination of information)
Sample from ECDC	

Appendix 4: Educational kit

Type of communicative tool	Educational kit
Communication mode	One-way
Target(s) which is recommended for	School population
Phase(s) to apply	Inter-pandemic, Transition

Main characteristics

Format and style	• Paper materials (brochures, posters, factsheets, etc.) and/or multimedia, such as CD-ROMs and tools for designing and implementing activities • A health promotion folder which can be used for interactive communication about knowledge and/or practices in a school context
Content	• In the school context, it can be addressed to teachers and contain scientific information which could increase their knowledge base, as well as tools for organizing activities to be offered to students during school time with the aim of disseminating information, stimulating active participation and sharing different points of view
Further details	• Given the variety of materials it may contain, it could be useful to provide a handbook for teachers, that explains how this tool can be used within the classroom

Appendix 5: Role playing/simulation game

Type of communicative tool	Role playing/simulation game
Communication mode	Interactive
Target(s) which is recommended for	Young people
Phase(s) to apply	Inter-pandemic, Transition

Main characteristics

Format and style	• Interactive virtual simulations which constitute a real game but with educational goals • Used primarily with a young audience who have a greater level of confidence with the interactive media and the web
Content	• Real-life situations are reproduced and outbreak knowledge and skills are needed to achieve predefined objectives, facilitating the internalization of information and behavioural strategies which can be applied in the real world • Based on the "learning by doing" technique, skills and strategies can be learned and behavioural change through the action is encouraged, with the advantage of operating within a protected simulation environment
Further details	• Compared with passive learning, typical of lectures, and one-way flow of information, the active participation of users is promoted since they are personally involved in experiencing the simulated environment and behaviours

Appendix 6: Traditional web

Type of communicative tool	Traditional web
Communication mode	One-way
Target(s) which is recommended for	All
Phase(s) to apply	Alert, Pandemic; All

Main characteristics

Format	• Allowing users read-only content through the web pages, supporting a one-sided communication • Source of information is easily recognized: name, logo and contact details of the promoting service in order to make it recognizable by the final user • User-friendly web page structure
Style	• Accessible language, particularly for people with below average reading ages • Providing different target-based/tailored thematic sections and areas e.g. to population, professionals, at-risk groups etc.) • Textual and graphic parts are well-harmonized
Further details	• A traditional web page should be linked to and promoted on social networks
Sample of Frequently Asked Questions (FAQs) by WHO during 2009H1N1	• What is a pandemic? • What is the pandemic (H1N1) 2009 virus? • What is post-pandemic? • What is phase 6? • Vaccines for pandemic (H1N1) 2009 • Antiviral drugs and pandemic (H1N1) 2009 • What can I do? • Who is more at risk of severe illness? What about other risks? • Travel • The safety of pork • How will the global response to the pandemic H1N1 be reviewed?

Appendix 7: Web 2.0 and social media

Type of communicative tool	Role playing/simulation game
Communication mode	Interactive
Target(s) which is recommended for	Young people
Phase(s) to apply	Inter-pandemic, Transition

Main characteristics

Format	• Web 2.0 is configured as a "virtual place where anyone can freely access through the use of free software in order to share information and collaborate to create new knowledge". It covers all the online applications that allow high levels of interaction between web-based tools (such as e.g. Blogs, forums, wikis, YouTube, etc.) and the people who use them so that people "are producers and users of information at the same time"
Style	• New means of communication such as social media can be used to have a constant dialogue with the public and target audiences • Tools such as Facebook, Twitter and similar technologies are now widespread in our society but in order to manage them well IAs must have specific and solid competences such as skills in both written communication on the web and personalized information management
Content	• Unlike websites, which allow users read-only content through the web pages, Web 2.0 allows to "share, create connections, collaborate and engage users directly in a conversation that leads to the creation of on-line shared information" • Web 2.0 has the advantage of being able to reach a wide target audience in a short time and potentially at low cost, while possibly maintaining a high and constant level of involvement with the target audience.
Content	• Social media cannot and should not replace other means of communication, but where it used in a coordinated and strategic manner social media can enhance existing communication systems

For more information on the TELL ME project or to access the guidance documents and tools, please go to **www.tellmeproject.eu**

Alternatively, you can contact us on the details below.

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villa@zadig.it

School of Public Health at the University of Haifa (Israel)
Website: http://hw.haifa.ac.il/index.php/facultydeps/publichealth
Contact: Manfred Green, Anat Gesser-Edelsberg,

Centre for Research in Social Simulation, CRESS (UK)
Website: http://cress.soc.surrey.ac.uk
Contact: Nigel Gilbert, Jennifer Badham

National Centre for Epidemiology, Surveillance and Health Promotion, CNESPS (Italy)
Website: www.iss.it
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Vrije Universiteit Brussels, VUB (Belgium)
Website: www.vub.ac.be/infovoor/onderzoekers/research/team.php?team_code=LSTS
Contact: Paul De Hert, Paul Quinn

National Disaster Life Support Foundation, NDLSF (US)
Website: www.ndlsf.org
Contact: James J. James, Italo Subbarao, Jack Horner

Vitamib (France)
Website: www.vitamib.com
Contact: Olivier de Bardonneche, Gérard Brugal, Youssoufa Tahirou

Zadig Ltd (Italy)
Website: www.zadig.it
Contact: Roberto Satolli, Luca Carra, Roberta Villa, Dimitris Dimitriou

Centre for Science, Society and Citizenship, CSSC (Italy)
Website: www.cssc.eu

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PART 6: NEW COMMUNICATION STRATEGIES FOR PREVENTING MISINFORMATION

- **ST3.2.4 New communication strategies for preventing misinformation**

tellme

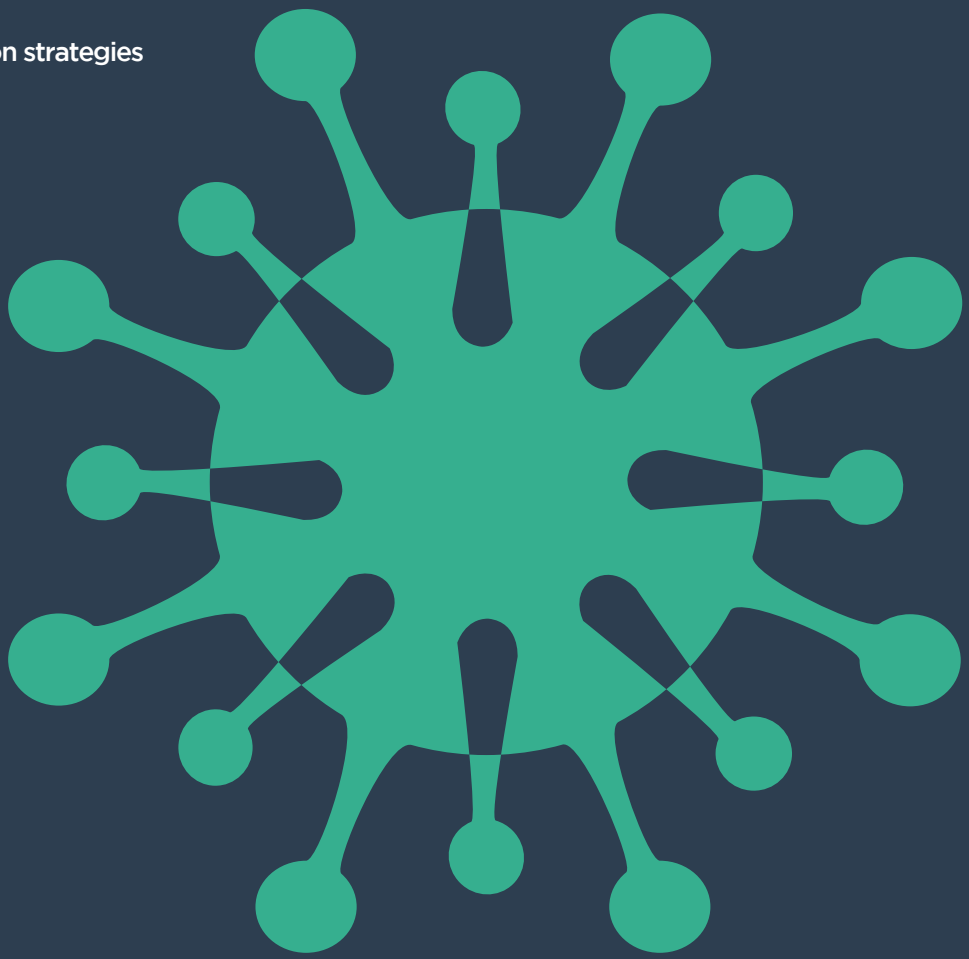
ST3.2.4

New communication strategies for preventing misinformation

2nd Reporting Period
WP3 Developing new communication strategies

Responsible Partner: ZADIG
Contributing Partners:

Dissemination Level: PU



TELL ME - Transparent communication in Epidemics: Learning Lessons from experience, delivering effective Messages, providing Evidence.
Project co-funded by the European Commission within the 7th Framework Programme – HEALTH theme

Contents

Section 1

Executive summary

Scope

It is common in situations of an emergency to have messages being distorted and misinterpreted for various reasons. These include inconsistencies in the language used to communicate complex messages, the existence of information gaps, shifts in communication priorities as situational factors change according to new information made available, public perceptions based on prior experiences, and so forth. In addition, more recent advancements in the field of information-communication technologies (ICT) and the establishment of new social media as a key component in the process of risk and outbreak communication, simply adds another layer of complexity for public health authorities and officials in the communications field. This is due to specific features and functions of social media, which can create a distorted mirror effect where important information may be modified and/or, misinterpreted, while misleading or erroneous information can appear to be sensible, if presented convincingly.

The present document takes a specific focus on issues related to the emergence and spread of misinformation and rumours, within the wider outbreak communications environment and across the four pandemic phases (inter-pandemic – alert – pandemic – transition), as specified by the World Health Organization (WHO)[1]. While the original intention was to develop guidelines for preventing misinformation within the boundaries of influenza pandemics, it was decided to extend the scope of this document to cover infectious diseases where both preventive (e.g. social distancing) and protective (e.g. vaccination) measures are likely to be introduced.

[1] WHO (2013). Pandemic influenza risk management: WHO interim guidance. Available from http://www.who.int/influenza/preparedness/pandemic/influenza_risk_management/en/

Aims

The main purpose of this document is to offer recommendations to prevent the emergence and spread of misinformation in the course of a major infectious disease outbreak, and how misinformation can be corrected. Additionally, the document seeks to provide a background context in relation to the origins and persistent effect of misinformation and rumours in time. Finally, the document discusses key components of outbreak communication, such as presentation of scientific uncertainties and information gaps, and their role in the emergence of misinformation.

Methodology

The recommendations and guidance is largely based on the findings identified following a comprehensive exercise carried out in the context of the TELL ME project[2], which included a broad study of population behaviour during major epidemics and pandemics (Work Package 1), and the investigation of emerging challenges and new methods for outbreak communication (Work Package 2). Furthermore, this document builds on the concepts and elements introduced in the TELL ME Framework Model for Outbreak Communication[3], such as the use of a participatory approach to outbreak communications planning, the role of opinion leaders and the use of social media to reach target audiences.

[2] The TELL ME project. Accessible at http://tellmeproject.eu/

[3] TELL ME Deliverable D3.1 New framework model for outbreak communication. Available from http://www.tellmeproject.eu/content/d31-new-framework-model-outbreak-communication

Target audience

This guidance document is intended for public health officials, communicators or professionals with a role in the development and implementation of communication strategies during major infectious disease outbreaks.

Section 2

The anatomy of misinformation in 21st century outbreak communications

It is a widespread notion that the revolution in the information-communication technologies (ICT) field epitomised modern society. In essence, new communication technologies aspire to satisfy an innate desire for humans to know more about their immediate environment, and to overcome ignorance or stereotypical views about the world – mostly at socio-cultural or political level. Because of the advancements in ICT, national borders have been virtually removed, while new pathways have opened for cooperation on a global scale, considering the "single-click" speed by which information can travel. Most importantly, the world experienced a radical transformation in the landscape of communications, in direct consequence of information becoming more dynamic in nature and less confined to the boundaries of institutional mechanisms or structures.

Information and communication are two inseparable concepts, embedded in each other at their core. Any process that contains the element of communication implies availability and sharing of information. For instance, the World Health Organization (WHO) defines risk communication as "an interactive process of exchange of information and opinion on risk assessors, risk managers, and other interested parties"[4], while crisis communication is "concerned with transferring of information to significant persons (publics) to either help avoid or prevent a crisis (or negative occurrence), recover from a crisis, and maintain or enhance reputation" (Fearn-Banks, 2007; p. 2). While communication can be defined in explicit terms as a process, the meaning of information is rather implicit. In essence, information can be described as a signal or a stimulus transmitted that could reach intended and unintended recipients. Information is a message that requires the recipient to decode based on additional contextual parameters accompanying that message.

Etymologically, the word "information" traces its roots in the Latin word forma [:form], and more specifically the verb formare, which means to give shape, to form. This would seem to apply in the context of major infectious disease outbreaks, where information transmitted by public health authorities, the media and the public can actually shape (or influence) perceptions and behavioural responses to an outbreak. In the more recent potential and actual epidemics (e.g. H7N9 influenza, MERS-CoV, Ebola Virus Disease), we have witnessed the unstoppable pace by which information can spread and the distances it can reach, especially through online media and internet-based communication channels. We have also witnessed a form of deinstitutionalisation of information in the sense that information escaped the conventional one-way route of transmission from public health authorities to the public, to become more of an instrument used in online communications for people to satisfy the need to communicate, to connect, to share information and know more about what happens in other parts of the world. Nowadays, information has become less of a commodity; belongs to no one and is in the hands of everyone.

[4] WHO: Definition of risk communication.
Retrieved from http://www.who.int/foodsafety/micro/riskcommunication/en/

This attempt to conceptualise information would be incomplete without considering another layer that is particularly important in the context of outbreak communication. It has to do with the general assumption that information is true, and is projected in that way during communications. But what happens in the case where a statement or message does not conform to someone's established perception of reality? Or when information is misinterpreted and appears wrong or misleading due to some contextual factors, relevant to quality, format, amount and source of information? As much as accurate and timely information is imperative in the outbreak communication process to achieve a successful intervention, the diffusion of false and inaccurate information could have the exact opposite effect.

This document focuses on misinformation, i.e. the unintentional spread of erroneous or inaccurate information, which could have a major and direct impact on perceptions and attitudes toward public health measures related to an infectious disease outbreak, with the effect of creating delays in response, spread of damaging rumours, inadequate resource allocation, misdirected efforts, and ultimately, unnecessary loss of life[5]. In contrast to disinformation, where there is deliberate spread of false information with the aim to serve or protect private interests by evoking certain reactions. Misinformation is more a consequence of contextual factors which prevent the information or message from arriving intact and clear to the recipient. There are multiple sources from which misinformation can be generated and spread in the event of an outbreak (for different reasons), including the mass media, internet-based communication channels, public health authorities and the scientific community, to name but a few. Despite the source, however, the outcome remains the same; the emergence of misinformation can intensify scepticism, influence the decision-making process and lead to indifference or resistance toward recommended protective measures, particularly with regards to prophylactic measures, such as social distancing and vaccination.

As an extension of the above, misinformation can have serious consequences both at individual and community level. Misconceptions about the mode of transmission of a virus have been associated with heightened emotional distress, and can lead to potential proliferation of panic for entire communities (Lau et al., 2009). This highlights the importance of public health authorities providing clear and consistent information and updates about the disease, as well as the need to continuously assess whether the messages are being received intact and understood within the community (Lau et al., 2009).

[5] WHO (2009). Global Surveillance During an Influenza Pandemic. Version 1, April 2009. Retrieved from http://www.who.int/csr/resources/publications/swineflu/surveillance/en/

The following sections of this document provide both a theoretical framework and practical recommendations about various aspects of misinformation and rumours in the wider context of major infectious disease outbreaks. In particular, the following key questions are explored with reference to misinformation and rumours:

- Where do they come from?
- What conditions foster their emergence?
- Why do they persist?
- How do they spread?

Section 3

Mapping the origins and sources of misinformation

In the context of major infectious disease outbreaks that receive wide news coverage and generally spur public interest, the emergence of misinformation inevitably makes its appearance from an early phase of an outbreak. The rapid sequence of events that unfold over a short period of time makes it difficult to filter the relevance, importance or quality of information that is made available from a number of different sources, whether these are official statements from public health authorities or personal accounts and reflections presented by people who are directly affected by the outbreak.

At the outset of an infectious disease outbreak, the state of communications is most unstable due to heightened public emotions and limited availability of scientific evidence from which to draw conclusions, which in turn gives room for the emergence of tenuous criticisms, speculations and rumours, mostly relevant to issues around vaccination. At the time when people need clear-cut information and reliable guidance to help them develop a better understanding concerning the outbreak, it is usually the exact same period where people are bombarded with information in the form of opinions expressed by a number of experts that suddenly flood the media, the breaking news with correspondents from the field and personal stories and experiences shared with a click of a button.

It should be noted that the presence and origins of misinformation extend beyond the visible boundaries where communications and exchange of information take place during the time of an outbreak. There is another – more implicit – level, where misinformation concerning infectious disease outbreaks and preventive measures trace its roots back to urban myths and misconceptions that were formed in the past, but have been established in the conscience of people as facts with the passage of time. Finally, the role of literary fiction and films on infectious disease outbreaks should be acknowledged as another source of misinformation, not only influencing behavioural responses towards the disease or suggested preventive measures, but also with regard to expectations and understanding of public health authorities' roles and responsibilities in times of an emergency[6].

Based on the available scientific literature, this section identifies potential sources and origins of misinformation, specific to major infectious disease outbreaks, whose presence can lead to distortion and misapprehension of public health messages, and influence perceptions and the decision-making process for individuals, especially with regards to adherence to medical recommendations and adoption of preventive measures.

Public health authorities

It may seem like a paradox, but dissemination of misinformation can have their origins in public health authorities' method and style of communications in the initial phases of an outbreak, when efforts are made to transmit an overall sense of reassurance and control over the situation, avoiding at the same time making any statements that could raise alarm in the general public. At other times, public health authorities keep a reserved stance in the face of uncertainties, especially with regards to the type and level of information being disclosed to the general public, either due to missing input from experts or simply in order to avoid criticisms about possible overestimation or underestimation of risk. As highlighted in the TELL ME Framework Model for Outbreak Communication[7], silence by public health authorities cannot be an option, since missing information and communication gaps can easily evolve into misinformation (Myers & Pineda, 2009).

Public health authorities can also become a source of misinformation due to situational factors, especially due to external pressures. This could occur when there is a need to make an official statement or to take action on the basis of risk assessments, despite unverifiable information or limited evidence, which later proves to be erroneous, consequently requiring corrective action to be taken in response.

Mass Media

Traditionally, mass media (i.e. TV, radio, newspapers and magazines) are associated with the spread of misinformation, since the need for timely news coverage inevitably produces some inaccuracies in reporting. According to Lewandowsky et al. (2012), there are several systemic reasons to explain why mass media constitute a source of misinformation. Most importantly, there is a tendency by the mass media to oversimplify or misrepresent scientific results in an effort to capture the attention of that portion of the audience with limited interest in scientific data . Additionally, in the case of TV or radio broadcasts journalists often aim to present a "balanced" story, however it is suggested that in some cases the outcome can be highly misleading due to the "asymmetric" choice of experts selected to take part in debates.

[7] TELL ME Deliverable D3.1 New framework model for outbreak communication. Available from http://www.tellmeproject.eu/content/d31-new-framework-model-outbreak-communication

Social media and internet

The case of the social media and internet is somewhat different to the role of mass media with regards to the spread of misinformation. Although the internet and widespread use of social media (especially Twitter) have revolutionised the availability and sharing of information at international level, at the same time the spread of misinformation has been facilitated in the absence of conventional peer review or "gate-keeping" mechanisms, such as professional editors (Lewandowsky et al., 2012). The interactive nature of social media and the fact that everyone can actively generate (and access) content through different communication channels (e.g. websites, blogs, Twitter, YouTube etc.), increase probabilities for the spread of misinformation online, due to the overflow of subjective views and interpretations of factual information presented by the authorities.

The internet can be a valuable resource for people seeking to keep up-to-date and well-informed about the course of an outbreak, however the quality of health information retrieved online is extremely variable and difficult to evaluate. It is a common practice for people to use an online search engine (e.g. Google, Yahoo etc.) to locate information and have questions answered, but these search engines are limited to identifying relevant websites whose reliability of content cannot be determined. Lewandowsky et al. (2012) note that the internet (and social media, as an extension) can be considerably misleading, and to some extent online resources progressively start to replace expert advice from official and well-established sources of information, including healthcare professionals and public health officials. Due to the fact that the internet offers a vast selection of different sources for someone to retrieve information from, and considering that people generally seek to confirm their already established opinions over an issue, it has been made much easier to find these sources, which may be untrustworthy but support existing views, a phenomenon known as selective exposure (Prior, 2003). Particular reference should be made to online videos as an effective and popular means of spreading misinformation and rumours in the event of an outbreak. It is characteristic that following the H1N1 influenza pandemic, a study revealed that almost 1 in 4 videos uploaded on YouTube during the time of the outbreak, presented viewers with misleading information (Pandey et al., 2010).

Scientific community

The scientific community can be considered as another potential source of misinformation during infectious disease outbreaks, due to the extensive use of technical language in the description of characteristics of the outbreak. In their work on misinformation about vaccines, Myers and Pineda (2012) provide a list of examples where scientific terms used by experts can be misinterpreted by the general public. An example is the use of the expression “vaccine adverse event” to describe something that has occurred temporally related to vaccine administration, which may or may not be caused by the vaccine, whereas many misconstrue that term to mean “vaccine side effect”.

Additionally, the approach adopted by many academic scientists to carry out initial risk assessments and publish research findings from the early phases of an outbreak, can also lead to unintentional spread of misinformation or generate misconceptions about the seriousness of the outbreak, either due to the lack of sufficient epidemiological data to support a hypothesis or because of some intuitive judgements made by recognised experts in the field. The fact that no absolute truths exist in the field of scientific research, eventually sets the arena for different and conflicting views to be expressed by scientists, which contributes to generating more confusion and uncertainty from the perspective of the general public.

Healthcare professionals also form part of the scientific community, and traditionally have been regarded as trustworthy and reliable sources of information. However, healthcare professionals can also become another potential source of misinformation. This is particularly the case when healthcare professionals are approached by their patients and asked to provide expert advice about an issue for which they are uninformed or their information is incomplete. Another characteristic of healthcare professionals is the lack of available time to fully engage in discussion with concerned patients or parents about issues around vaccination, and any uncertainties or doubts not effectively addressed could evolve into misinformation spread among individuals.

Industry

Different industrial sectors can be negatively affected by the spread of misinformation following the emergence of an infectious disease on a large scale. This includes the pharmaceutical industry, the transportation sector and tourism industry, to name a few. However, these sectors can also constitute a source of misinformation, by holding back some information or communicating messages that are misleading in order to secure their interests, which are not always in line with recommendations made by public health authorities in the event of an outbreak.

Medical myths and rumours

Medical myths are characterised by their persistence to surface again and again during infectious disease outbreaks, in which case it could be argued that misinformation, partly, has its origins in those myths. On several occasions, medical myths appear in the form of personal stories and may seem to be plausible in the absence of scientific evidence or any official response to discredit certain claims. Individual misconceptions about an infectious disease or the necessity to take up preventive measures can also have their roots in urban myths that circulated at some point in the past, within the context of another infectious disease outbreak.

[6] TELL ME Deliverable D1.5 Narratives and urban myths.
Available from http://www.tellmeproject.eu/content/d15-report-narratives-and-urban-myths

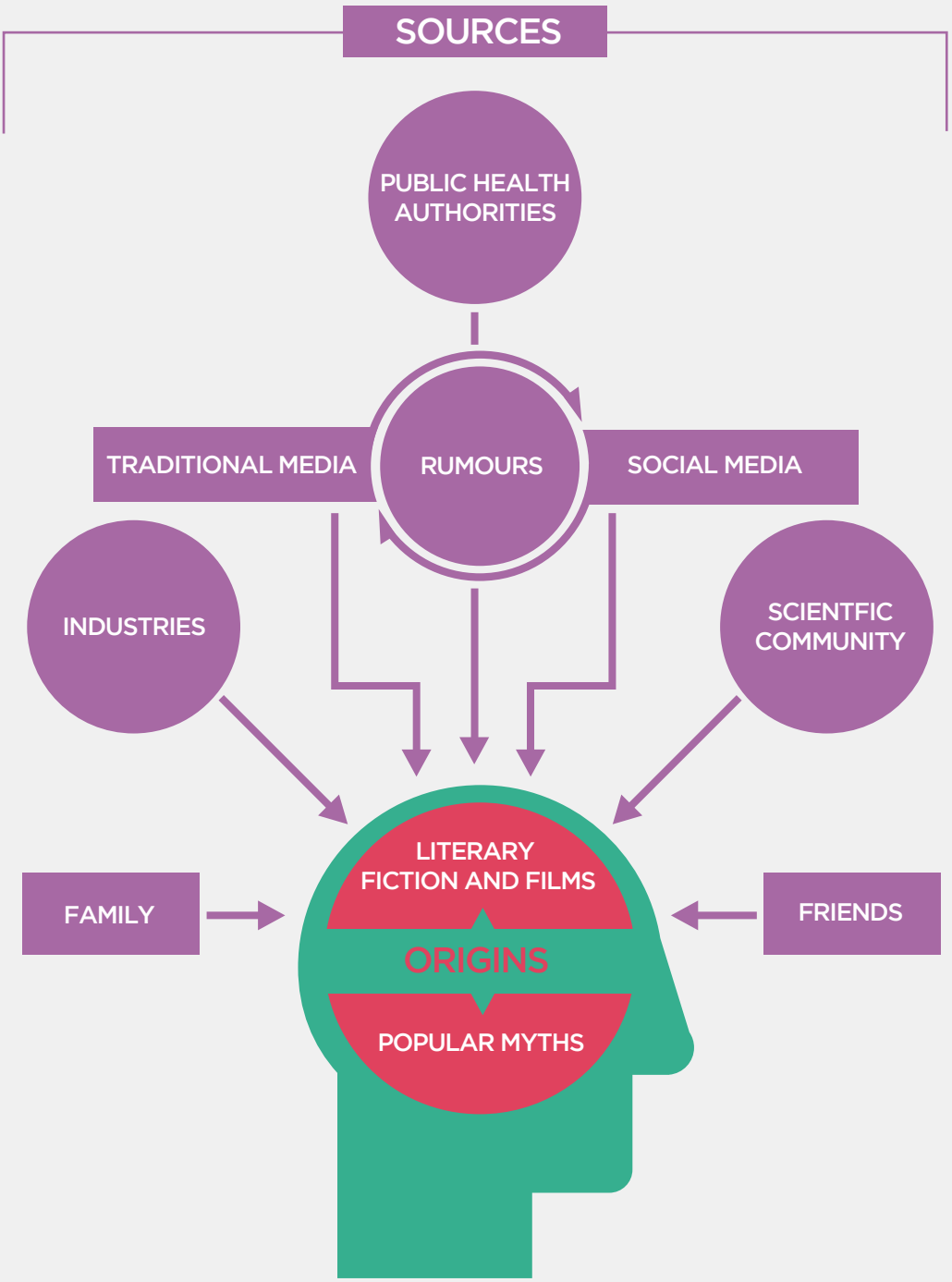
Literary fiction and films

According to Lewandowsky et al. (2012), works of fiction can give rise to lasting misconceptions for people, and such effects of fictional misinformation have been shown to be stable and difficult to eliminate. Particular attention is drawn to the case where literary works of fiction or films pretend to accurately portray science based on extensive research, however they fail to do so in some respect. A recent example would be the 2011 film Contagion, with inaccuracies being reported from the perspective of public health officials' response to the outbreak, and certain procedures followed to develop a vaccine to contain the virus.[8]

Literary fiction and films share some characteristics with urban myths and rumours. First, they use some factual information as point of departure to construct their narrative, which makes it difficult for the reader or viewer to distinguish between valid and inaccurate information. Second, in the cases where misinformation presented as part of a story is consistent with prior erroneous beliefs over an issue that an individual may have, then misinformation would be accepted as valid information. Finally, in the event of an infectious disease outbreak, static misinformation deriving from works of fiction can resurface as misconceptions, yet appearing to the individual as actual knowledge.

Figure 1 overleaf: Possible sources and origins of misinformation in the event of an outbreak.

[8] Contagion: A movie pandemic versus the reality of public health. Retrieved from http://wmdjunction.com/110923_contagion.htm


SOURCES
PUBLIC HEALTH AUTHORITIES
TRADITIONAL MEDIA
RUMOURS
SOCIAL MEDIA
INDUSTRIES
SCIENTFIC COMMUNITY
FAMILY
FRIENDS
LITERARY FICTION AND FILMS
ORIGINS
POPULAR MYTHS

Section 4

Where does it all start? The “incubation process” of misinformation

The appearance of misinformation and rumours during major infectious disease outbreaks and issues surrounding vaccination can be attributed primarily to communication aspects at the early (alert) phase of the outbreak. In particular, from the onset of an infectious disease outbreak, international public health authorities are expected to provide critical and timely information – in the form of official announcements or press releases – and carry out initial risk assessments about clinical and epidemiological data, including modes of transmission, level of severity and geographic spread of the virus. According to the World Health Organisation (WHO), announcing early constitutes a best practice in outbreak communication (WHO, 2005). However, there are two potential problems identified – and solutions offered – in the case of early announcements (WHO, 2005; p. 3):

- Rapid announcements may surprise important partners who might disagree with the initial assessment. This can be minimized by having well-established communication pathways in place among key and predictable stakeholders.

- Early announcements are often based on incomplete and sometimes erroneous information. It is critical to publicly acknowledge that early information may change as further information is developed or verified.

In the case of major infectious disease outbreaks, early announcements set the scene and trigger a process for misinformation and rumours to emerge, since conditions of urgency can seriously affect the quality and flow of information, while the release of misinformation takes the form of a snowball as more actors progressively get involved in the communication process.

Misinformation in-between scientific uncertainties and information overload

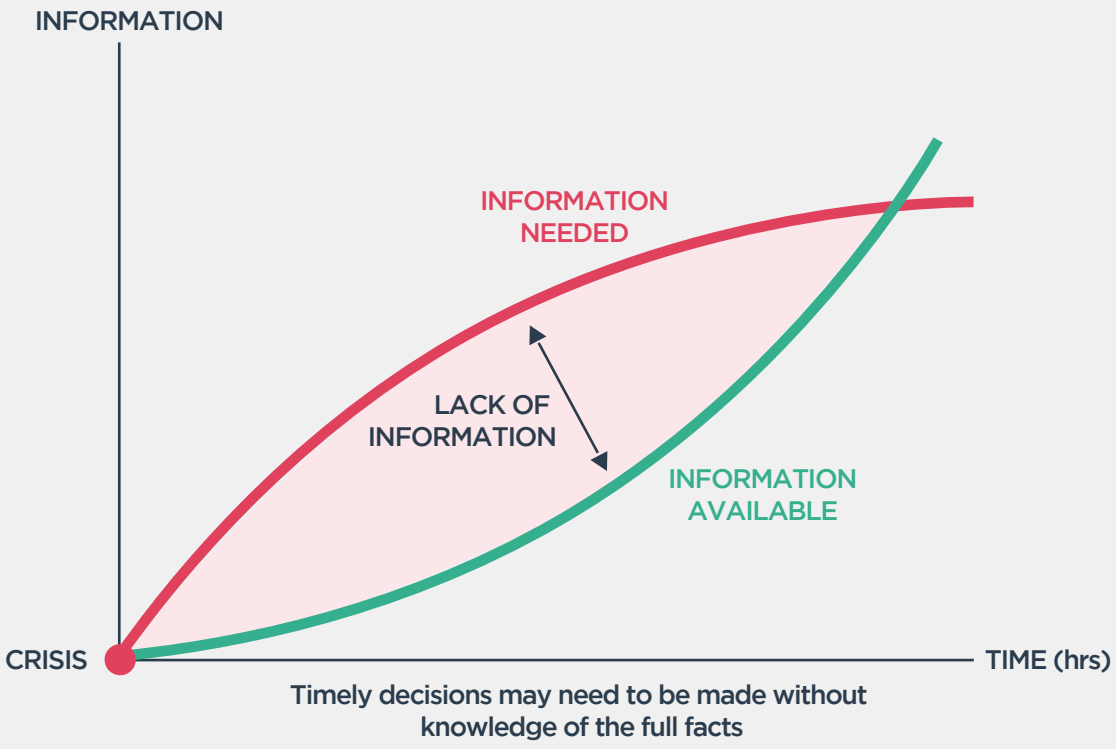
The departure point for possible emergence of misinformation and rumours are scientific uncertainties about a novel or re-emerging infectious disease[9]. Any efforts to share uncertainties with the general public in a context where the general assumption is that public health officials should be in a position to know, can raise concerns and generate mistrust towards recommendations and specific measures taken by the authorities. Misinformation may be generated not only as a direct result of scientific uncertainties per se, but also depends on the method of communication and how these uncertainties are handled by the authorities. Thus, it is important to consider and evaluate at a secondary level the role and contribution of scientific experts in the process, who are often reluctant to share uncertainties with public health officials and decision makers who actually need this kind of knowledge. This reluctance results from a desire to avoid possible criticisms or become misinterpreted in their estimations about the outbreak. In essence, scientific uncertainties are about probabilities and risks, so it is not enough for public health authorities to simply acknowledge any uncertainties, but demonstrate control over these uncertainties and explain the way responses become tailored based on expert advice and probabilities, so that misinformation and rumours cannot be generated in this direction. In the opposite case where scientific uncertainties remain concealed for a significant period of time following the outbreak, there is a greater possibility also for conspiracy theories to emerge, which can be very difficult to discredit afterwards.

It could be argued that any uncertainties openly expressed by official sources implies a weakness of scientific evidence and the need to gather more epidemiological data or to analyse other contextual factors, before the next official statement or announcement is made. A lack of evidence can make the authorities have silent intervals and consequently create some information gaps, at which time many aspects of the outbreak remain open to interpretation, while multiple scenarios about the disease start to take shape in internet blogs, forums and social media platforms. Again, the role of the scientific experts involved in the evaluation of the outbreak is pivotal at this stage, since information gaps can be a direct product of scientific experts' scepticism and delayed disclosure of information or uncertainties to public health officials and decision makers. These information gaps are important for groups of stakeholders that progressively become engaged in the communication process, namely representatives from the scientific community and the traditional mass media. On the one hand, people representing the scientific community may become a source of misinformation due to premature assumptions made about the outbreak, with the limited information they have on their disposal.

[9] According to Lipsitich et al. (2009), there are two main sources of uncertainty that critically affect severity estimates and makes it difficult to provide an assessment with confidence. The ratio of severe cases is overestimated in the occasion where a considerable amount of mild cases is not reported or tested, as public health officials may become unable to test a large fraction of suspected cases. In contrast, severity estimates are biased downwards when there is a calculation as a function of a simple ratio of number of deaths to the number of reported cases.

On the other hand, the existence of information gaps can lead to speculation or generation of misleading information from the media, affecting public perceptions about the risk which is amplified with the systematic use of figurative speech and overstatements to capture people's attention[10]. As suggested by TELL ME deliverable D1.2[11], there is an information mismatch presented at the very beginning of any type of crisis, since the information needs of different actors and organisations involved progressively in the process, exceed the information that can be made available by official organisations due to the uncertainties described earlier (see **Figure 2**).

Figure 2: The information mismatch



[10] More information is presented in TELL ME Deliverable D1.5 Narratives and urban myths. Available from http://www.tellmeproject.eu/content/d15-report-narratives-and-urban-myths

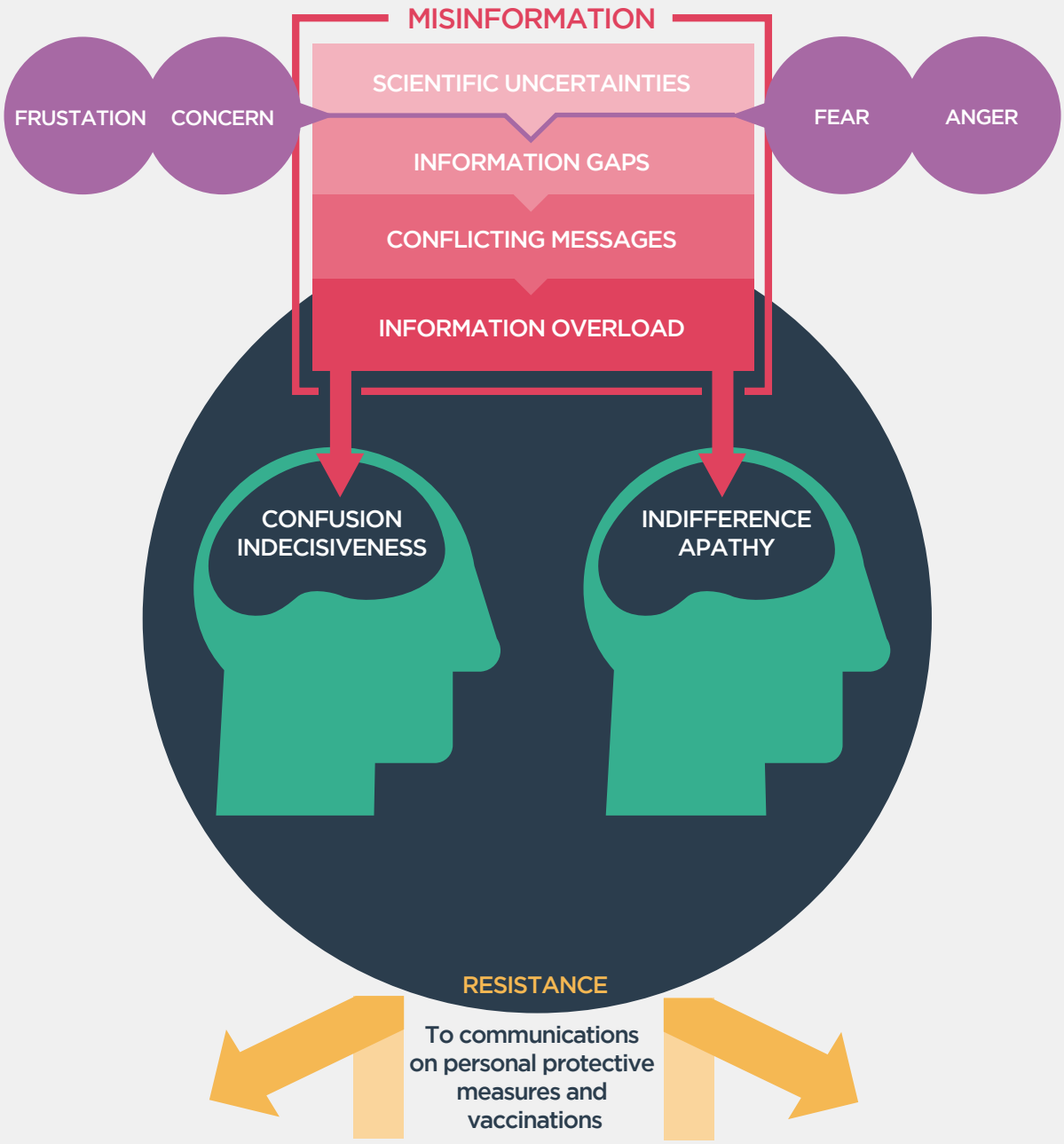
[11] TELL ME Deliverable D1.2 Review of components of outbreak communications. Available from http://tellmeproject.eu/content/d12-review-components-outbreak-communication

The presence of scientific uncertainties and information gaps during the initial phases of an outbreak, often leads to conflicting messages mostly as a combination of different opinions and positions expressed by experts from the scientific community, and the approach made by traditional mass media with regards to the coverage of the story. It is a common practice in news reports about vaccine safety or vaccination issues in general, to host the views of scientists, healthcare professionals and self-proclaimed experts, as well as some personal stories of people. The last takes the form of an investigation based on testimonials from those who wish to share their concerns or influence the perception of others by providing subjective arguments on the risk of vaccination. On such occasions, it is not uncommon for journalists to also assume the role of an expert on scientific issues related to public health to provide a more convincing story.

Depending on the media hype created over an infectious disease outbreak, the probabilities for emergence and widespread dissemination of misinformation increases when individuals make the passage to active information-seeking behaviour, with the utilisation of internet-based communication channels as primary sources of information. The online environment hosts an infinite number of resources, positions, opinions and perspectives, of varying degrees of accuracy and credibility. Combined with media reports and comments on the public health authorities' response and official announcements on the outbreak, individuals eventually become subject to information overload[12] which creates a serious risk for misinformation since there is insufficient time to assess the validity, accuracy and usefulness of each piece of information posted online. Information overload can generate confusion, but most importantly repeated and unfulfilled scares can lead to indifference, apathy and mental exhaustion (Strother, Ulijn & Fazal, 2012), in which case messages and communications about personal protective measures and vaccination become particularly difficult to reach individuals at the time of the actual crisis.

Figure 3 overleaf: Critical aspects for the emergence of misinformation and eventual side-effects.

[12] Information overload has been described by E. Rogers (2003) as "the state of an individual or a system in which excessive communication inputs cannot be processed and utilised, leading to breakdowns"(pp. 368-369).


MISINFORMATION
SCIENTIFIC UNCERTAINTIES
INFORMATION GAPS
CONFLICTING MESSAGES
INFORMATION OVERLOAD
FRUSTATION
CONCERN
FEAR
ANGER
CONFUSION
INDECISIVENESS
INDIFFERENCE
APATHY
RESISTANCE
To communications on personal protective measures and vaccinations

In the era of new digital media and advanced information-communication technologies, people have developed a need for immediate answers to any issue of interest or concern, as part of the "technological promise" to have information available whenever, wherever and however one desires. What constitutes to be informed or to be kept informed during the course of an infectious disease outbreak varies with the actual information needs and communication requirements of each person. In addition, public health authorities' interpretation of what the perceived information needs are or what the general public should know about in different phases of an outbreak, given that priorities and information needs change as the pandemic unfolds, is a contributing factor.

As a general rule, it should be the needs and concerns of the general public that drives the process and shapes the content of communications. For instance, the audience may desire simple instructions or they may be looking for a range of information on which to make independent decisions, and instead may be the recipients of sophisticated epidemiological information about disease patterns or assessments on the quality of public health response and accountability issues. Obviously, any kind of information has its own value, but it requires evaluation for its relevance in different phases of an outbreak.

The TELL ME Framework Model for Outbreak Communication suggests that during the early phases of an outbreak, communication gaps and silence from the part of official organisations and public health authorities can set the stage for misinformation and rumours to emerge. Indeed, as cited by WHO (2005) in their outbreak communication guidelines, keeping an outbreak hidden from the public is almost impossible and it is therefore recommended that early reporting by health authorities will help to prevent rumour and misinformation (WHO, 2005a). However, as has been highlighted in previous sections, special attention should be given to the fact that misinformation can also occur as a result of the information overload when different actors start to become involved in the communication process. To this end, internet-based communication channels and mass media not only contribute to the information overload, but also provide the arena where conflicting - and often distorted – information is presented.

As has been highlighted by TELL ME deliverable D1.4[13], although two-way communication is listed as a strength of social media, this can also be used negatively to further perpetuate misinformation. It is relatively easy for messages to get distorted or to be used out of context. For example, in popular social media platforms such as Twitter or Facebook, with each "retweet" or "share" the original message can potentially be modified or added to according to the user. While the initial source of information will remain the same, the commentary/interpretation on such initial source of information can be altered drastically. From the side of public health authorities, it is crucial that any information presented in relation to an outbreak is clear and precise in content, without leaving any gaps or room for interpretation since it is common practice for people to infuse personal traits and beliefs in the dissemination of information or messages.

While population demographic characteristics (e.g. education, religion, language etc.) and cultural factors can influence the interpretation of information and messages that circulate in the event of an infectious disease outbreak, it is important to delineate at this point the different type of information provided by public health authorities at early phases of the outbreak, which can possibly trigger the spread of misinformation and rumours, in the presence of communication gaps and inconsistencies or in the absence of key information which correspond to the actual communication needs of the general public (see Table 1).

Figure 1 overleaf: List of possible information gaps and uncertainties that can generate misinformation and rumours.

[13] TELL ME Deliverable D1.4 Vaccine acceptance and refusal to vaccination. Available from http://www.tellmeproject.eu/content/d14-report-vaccine-acceptancerefusal-vaccination

Key information	Critical aspects that may contribute to the diffusion of myths and misinformation
Signs and Symptoms	• No information on how to detect early signs of the disease • No information about the incubation period • Lack of evidence about actual symptoms • Misidentification of symptoms • Reported symptoms are non-specific • Reported symptoms are similar to other infectious diseases
Transmission	• Uncertainty about the origin of the virus • Uncertainty about the mode of transmission, e.g animal-to-human, human-to-human • Uncertainty about how the virus spreads • Misapprehension/Confusion over some terms, e.g. “bodily fluids, direct contact”
Risk of exposure	• Limited availability of epidemiological information on disease attributes, e.g. infectivity, virulence • Limited availability of information about environmental determinants of disease • Uncertainty about which population segments are more susceptible to the disease
Prevention (Non-pharmacological measures)	• Lack of evidence on the effectiveness of recommended measures • Information overload regarding recommended measures for prevention • Cultural factors that influence compliance with recommended measures or interpretation of messages • Excessive use of authoritarian language in the communication of messages
Prevention (Vaccination)	• Uncertainty about vaccine efficacy • Uncertainty about vaccine safety • No information about possible vaccine side-effects • No information about vaccine ingredients • No information about testing methods used • No information about how to find out more about the vaccine
Geographic spread	• No information about the spatial distribution of the disease • Inconsistencies in reporting of new cases elsewhere in the world (false alarm)

Approaches to reporting scientific uncertainties

The early phase of a major infectious disease outbreak is perhaps the most delicate to handle from a communications' perspective, since misinformation and rumours can become generated in the absence of available scientific information and spread fast via different communication channels such as mass media and social media. Therefore, it is paramount that any uncertainties in relation to an outbreak are put in the proper dimension and context, in order to establish a relationship of trust with the general public and successfully implement a communication strategy.

Public health officials with a decision-making capacity need to convincingly demonstrate the rationale and legitimacy of decisions taken for the reduction of threat posed by an outbreak. To achieve this, a key part in the process of communications and development of messages for the general public is the transfer of knowledge and views expressed by public health experts who operate both at national and local level. According to Fischhoff (2012), "scientists are often hesitant to share their uncertainty with decision makers who need to know it". The following recommendations highlight a few points of consideration for public health officials and communicators to ensure that uncertainties can be reported in official statements without the fear of generating speculation and misconceptions from the side of the general public when communications take place.

#1: Organise regular meetings with representatives from the scientific community and public health experts to delineate qualitative characteristics of existing uncertainties and deepen discussions around issues where opposing views are expressed.

#2: Explain the importance of disclosure of uncertainties to the general public as part of an effective communication strategy, and specify how these uncertainties are to be presented in the process of developing messages for different sub-populations and at-risk groups.

#3: Obtain a clear view on probabilistic parameters presented for the transmission of the virus and make independent evaluations on scientific grounds about which information would be crucial to release at which phase in support of a public health message to promote a protective action.

#4: Take note of semantic aspects in the development of messages as similar expressions or words (e.g. “we can estimate…”, “we can predict…” , “we suppose…”) to convey uncertainty may evoke different reactions or perceptions in respect to the value of the message.

#5: Determine what other contextual factors need also to accompany the message such as the reasons why and under what circumstances these uncertainties occur.

#6: Once a message has been produced that contains an element of uncertainty, have it evaluated by a group of public health experts to understand whether the message creates any possibility to be misinterpreted or be misleading.

Section 5

Why so persistent? The sticky effect of misinformation and medical myths

Characteristics and continued influence of misinformation over time

This analysis of misinformation related to infectious disease outbreaks continues with a common observation which concerns the remarkable persistence of misinformation and medical myths over time, despite the overwhelming evidence presented by the scientific community and efforts made to correct these misconceptions as they often make their (re) appearance at periods of considerable uncertainty, suspicion or concern about an outbreak that receives global attention. In the first instance, this persistence on reappearance of medical myths can be attributed to stereotypical views and established misconceptions among the general public about the mode of transfer of a virus or the effectiveness of pharmacological and non-pharmacological interventions.

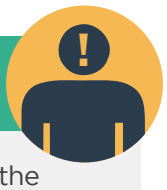
TELL ME deliverable D1.5[14] provides a list of misinformation and myths that circulated at the time of the more recent influenza pandemic, retrieved by various sources and divided into sub-categories according to their content (see Box 1 overleaf).

Box 1 overleaf: Misinformation and myths that appeared during the 2009 influenza A(H1N1) pandemic.

[14] TELL ME Deliverable D1.5 Narratives and urban myths.
Available from http://www.tellmeproject.eu/content/d15-report-narratives-and-urban-myths

Misinformation and myths in relation to the influenza virus

PERSONAL CONCERN



- The swine flu is just a bad cold / The swine flu is annoying but harmless / The symptoms are like the seasonal flu.
- This is a mild flu, death rates are lower than seasonal flu.
- It is unlikely for healthy adults and young people to get the swine flu.
- The swine flu can prove to be dangerous only for the elderly / pregnant women.
- The swine flu does not pose a major threat for children over 5 years old.
- The swine flu is transmitted by pork products / Someone could catch the swine flu by simply being around pigs.
- By shaking hands with people, one could spread/get the swine flu.
- Only those who live in cold weather regions can get the swine flu.
- Immunity is conferred by contracting the swine flu.
- A person cannot get the flu twice during the same season.
- It is better to get the swine flu at early stages while the symptoms are mild, than risk catching it later or getting vaccinated.

GENERAL CONCERN

- The swine flu is man-made.
- The swine flu was intended as a weapon of mass destruction.
- The swine flu is an excuse for mass vaccination.
- Governments wanted to create a global crisis.
- Governments wanted to use the H1N1 strain as beta test / a biological warfare agent.
- Once this pandemic is over, the humanity is safe for another few decades.
- The H1N1 outbreak is declared a pandemic, therefore millions will die.
- Outbreaks like the swine flu pandemic are inevitable and cannot be prevented.

Misinformation and myths in relation to vaccines and other preventive measures

VACCINE-RELATED

- The flu can be transmitted from the vaccine.
- The flu vaccines are dangerous / more dangerous than the H1N1 virus.
- Squalene, ingredient of the flu vaccine used as a booster, caused the Gulf War Syndrome.
- Thimerosal, ingredient of the flu vaccine used as a preservative, contains mercury, a poisonous substance responsible for autism and other developmental disorders.
- Flu vaccines cause the Guillain-Barré Syndrome.
- Flu vaccines actually weaken the immune system weaker, making people less able to withstand viruses on their own, same as the antibiotics leading to the creation of more resistant viruses.
- Governments plan to make mandatory vaccinations for people against the H1N1 virus.
- If someone gets vaccinated against regular flu each year, there is no need then to get vaccinated for the swine flu.
- The flu vaccine needs to be administered before November (or December), in order for it to be effective.

NON-VACCINE RELATED

- It is enough that someone just eats organic food, takes vitamins, wears a mask, washes hands and drinks plenty of liquids.
- Face masks alone can protect someone from the swine flu.
- Bringing a child to a ‘swine flu party’ is the better option for building a natural immunity to the virus.
- There is no treatment for the flu.
- Antibiotics can effectively fight the flu.
- Resting is the best treatment for the flu.

It is noteworthy to mention that most of these medical myths presented during the most recent influenza pandemic in 2009 were not created and emerged ex nihilo. Instead, these medical myths and misinformation trace their roots back to other major infectious disease outbreaks and pandemics of the past. In an effort to explain what causes this phenomenon of persistence of medical myths in sizeable segments of the population and the reason behind difficulties in correcting widespread belief in misinformation, the study by Lewandowsky et al. (2012) concludes that this can be attributed in principle to cognitive variables that rest within each person as well as the ability to reach the target audience. This study suggests that at first level individuals thoughtfully evaluate the "truth value" of information and make their judgements on the basis of the following factors:

- Personal experience (i.e. information is compatible to personal beliefs)
- Internal coherence (i.e. information does not create contradictions with existing knowledge)
- Source credibility (i.e. information is presented by a trusted source)
- Perceived social consensus (i.e. information is widely accepted as truthful by others)

It is understood that misinformation can easily be adopted as factual information on the basis of the abovementioned factors, and once accepted as factual information then become highly resistant to change. This leads to another critical part in the process that explains the persistent effect of misinformation, or the continued influence effect as described by Johnson and Seifert (1994), in which it is suggested that misinformation can be particularly difficult to correct and can have lasting effects even after this has been discredited. One reason for this persistence concerns the way in which people make causal inferences based on available information about a given outcome. As a result, erroneous information may continue to have a lasting influence on beliefs and attitudes, even after this information has been corrected, if not replaced by an alternate causal explanation (Johnson and Seifert, 1994).

Besides the problem of continued influence effect for misinformation, also characteristic in the process at cognitive level is the backfire effect, which is a term used to denote any attempt of debunking a myth with the undesired outcome of fortifying this myth in people's mind. In their work, Lewandowsky et al. (2012) collected and summarised the different manifestations of the "backfire effect" as described in the literature, offering also solutions of practical value that could be used for the retraction of misinformation (see Table 2).

Table 2 overleaf: Strategies to avoid backfire effects in the effort to retract misinformation.

Problem	Solution
Familiarity backfire effect Repeating the myth increases familiarity which reinforces the myth (Skurnik, et al., 2005)	*Emphasis on facts* Avoid repetition of the myth; focus on facts that need to be communicated
Overkill backfire effect Simple myths are more cognitively attractive than trying to process scientific information instead (Schwarz, et al., 2007)	*Simple, brief rebuttal* Keep content easy to process and make use of visual cues (i.e. infographics) to communicate messages and reduce misconceptions
Worldview backfire effect Evidence that threatens worldview can strengthen initially held beliefs (Nyhan and Reifler, 2010)	*Affirm worldview* Frame evidence in worldview-affirming manner by endorsing values of the audience

(Source: "Misinformation and correction: Continued influence and successful debiasing" by Lewandowsky et al., 2012, Psychological Science in the Public Interest, 13(3), p. 122)

Except the cognitive part associated with the persistence of misinformation, there is also the pragmatic context to consider, such as the frequency of exposure or repetition of misinformation, which is known to lead to the acceptance of presented statements as truthful (Begg, Anas and Farinacci, 1992). For some infectious diseases the systematic recurrence of misinformation can be attributed to the cyclical nature of media reporting, such as the case of seasonal flu and associated protective measures. Moreover, the media are characterised by the tendency to publish stories with a potential to stir up some debate, such as the case of MMR vaccination, which continues to appear as a controversial issue despite the fact that no legitimate link has been found between childhood vaccinations and autism (Gerber and Offit, 2009).

Recommendations for the retraction of misinformation in outbreaks

On the basis of principles presented in the work of Lewandowsky et al. (2012) on the persistent effect of misinformation, a sequence of steps is suggested for the construction of a replacement narrative for an effective retraction of misinformation.

#1: Find a trustworthy, recognisable and respected source to communicate the message.

#2: Put emphasis and map out the core facts you wish to be communicated.

#3: Avoid making reference to the myth from the beginning of the narrative.

#4: Reinforce core facts by enriching the narrative with additional details and scientific evidence.

#5: Present core facts in a simple, straightforward worldview-affirming manner.

#6: Make use of visual cues (i.e. infographics) to present core facts, when possible.

#7: Warn explicitly before the "false information" is about to appear in the narrative.

#8: Ensure the replacement narrative leaves no gaps to be filled with new myths.

#9: Evaluate content as per the potential to threaten the worldview and values of the audience.

Section 6

The importance of preventing misinformation from transforming into common knowledge

In the introductory part of this document, it was highlighted that the more recent advancements in the field of information-communication technologies have instigated a more dynamic and total diffusion of information from multiple sources. It has also been noted that the speed by which information can travel, the continuous information overflow and individuals' habit to "consume" easy-to-digest information, constitute factors that foster the emergence and spread of misinformation in situations where levels of uncertainty and fear are high, such as the case of infectious disease outbreaks.

Prior to the 21st century revolution in information-communication technologies, misinformation and rumours had a considerably long distance to cover from emergence to wide diffusion and possibly acceptance as "common knowledge" in the absence of alternative narratives[15]. Nowadays, considering that misinformation and rumours become diffused in an uncontrollable pace via online resources and the social media, the focus moves to the mechanisms involved for the adoption of misinformation as factual information and eventually become common knowledge for the wider population.

At the level of outbreak communications, the adoption of misinformation and rumours as factual information can be explained under the lens of a theory suggested by Everett Rogers in the 1960s, known as the diffusion of innovations theory. According to Rogers (1995), "diffusion is a process by which an innovation is communicated through certain channels over time among the members of a social system". According to the authors of the TELL ME Framework Model for Outbreak Communication, in the context of outbreak communications, misinformation and rumours can indeed be considered as a particular type of innovation. As suggested by the abovementioned theory, the communication channel constitutes a key element and is defined as "the means by which messages get from one individual to another and information is transmitted to or within the social system.". The communication channels used for the diffusion of an innovation are: a) interpersonal channels (one-to-one), b) mass media channels (one-to-many), and c) internet-based communication channels (many-to-many).

[15] From the Wikipedia is indicated that the assertion of something being "common knowledge" is sometimes associated with the fallacy argumentum ad populum (i.e. the assumption that just because everyone believes something to be true, then it must be true), which is of particular relevance to the persistent effect of misinformation.

Internet-based communication channels (e.g. social media, blogs, forums etc.) constitute one of the key elements in the TELL ME Framework Model for Outbreak Communication[16] considering that online social networks are fully incorporated into – and on some occasions even govern – daily life activities for an ever-expanding number of users around the world. Social media has dramatically influenced the way information and ideas become shared in real time. From the wide range of social media that exist nowadays, Twitter and Facebook are considered to be the prime communication channels used by individuals to share information and diffuse their opinions and perceptions over different issues. The unique qualities and characteristics of social media urged governments to utilize these communication platforms as integral part of preparedness and response plans regarding communications during emergencies[17].

Despite the benefits and positive impact of social media in situations of emergency, there are two main problems associated with this type of communication platform; namely, the possibility for information overload and the ease with which misinformation and rumours can spread. It is characteristic that during the 2009 influenza A(H1N1) pandemic, journalists described Twitter as "a hotbed of unnecessary hype and misinformation about the outbreak[18]". According to the TELL ME Framework Model for Outbreak Communication, public health authorities and organisations still remain sceptical about how social media, such as Twitter and Facebook, could be better utilised in response to an outbreak, and present factual information amid a sea of speculative statements made by online users.

[16] TELL ME Deliverable D3.1 New framework model for outbreak communication. Available from http://www.tellmeproject.eu/content/d31-new-framework-model-outbreak-communication

[17] TELL ME Deliverable D2.5 New social media. Available from http://www.tellmeproject.eu/content/d25-new-socialmedia

[18] CNN (30 April 2009): Swine flu creates controversy in Twitter, report by John D. Sutter. Retrieved from http://edition.cnn.com/2009/TECH/04/27/swine.flu.twitter/

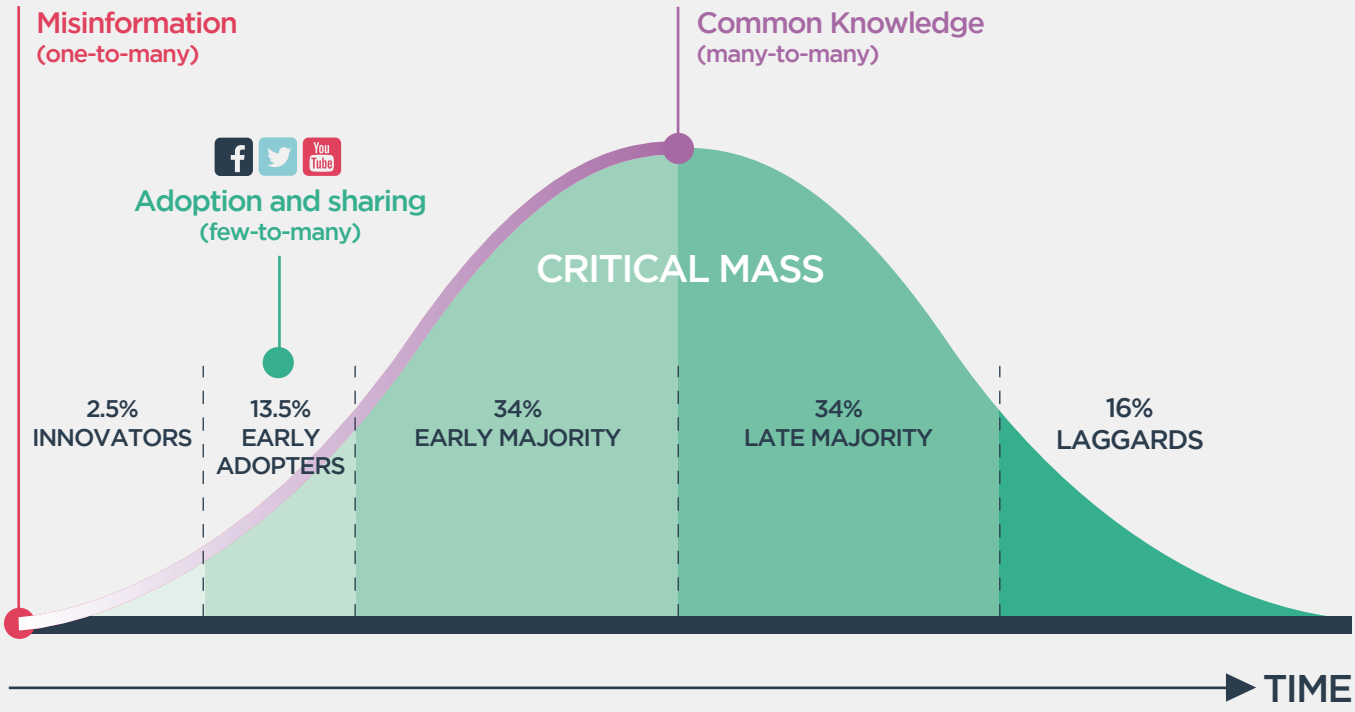
Another internet-based communication channel that merits attention is the YouTube channel, with unique features and the potential to widely influence public perceptions, especially when projected videos/interviews/messages are associated with a campaign led by certain individuals or groups. Of particular interest is that a significant number of videos available from the YouTube channel have been identified as deceptive or scientifically inaccurate with regards to infectious disease outbreaks and vaccination. Indicatively, Kata (2012) performed an analysis of YouTube immunization videos and found that 32% of these videos opposed vaccination, with higher ratings and more views than pro-vaccine videos, while 45% of negative videos conveyed information contradicting reference standards.

Coming back to the application of the diffusion of innovations theory in outbreak communications, and considering the qualities and characteristics of internet-based communication channels regarding the spread of misinformation and rumours, it is also important to carefully consider the element of time in the effort to explain how misinformation can be adopted as factual information and eventually be transformed into common knowledge. When an emergency occurs, such as a major infectious disease outbreak, individuals instinctively start seeking for information that will help them alleviate their uncertainty. They want to acquire information that will help them process their situation and respond effectively to the risk it presents (Ulmer, Sellnow & Seeger, 2007). This means that from an early phase of an outbreak there are a lot of people who adopt an information seeking behaviour through utilisation of internet-based communication channels, which automatically makes these people susceptible to misinformation generated and spread by anyone whose views and beliefs find a “corner” to be presented.

The adoption curve by Rogers (1995) presents clearly the process followed for the adoption of an innovation/misinformation or rumour, which could apply in a major infectious disease outbreak (Figure 4). Although individual users who generate and spread misinformation online may be a small minority (innovators), the content of misinformation can quickly reach a significant part of the community/connected users (early adopters). The crucial point is the moment when misinformation reaches the critical mass, i.e. the passage from early adopters to the early majority. Since this segment represents about 1/3 of the community, further adoption can become self-sustaining and misinformation then enters into common knowledge.

Figure 4 overleaf: The adoption curve and the transformation of misinformation into common knowledge.

Figure 4: The adoption curve and the transformation of misinformation into common knowledge.



Source: Everett Rogers, Diffusion of Innovations

Section 7

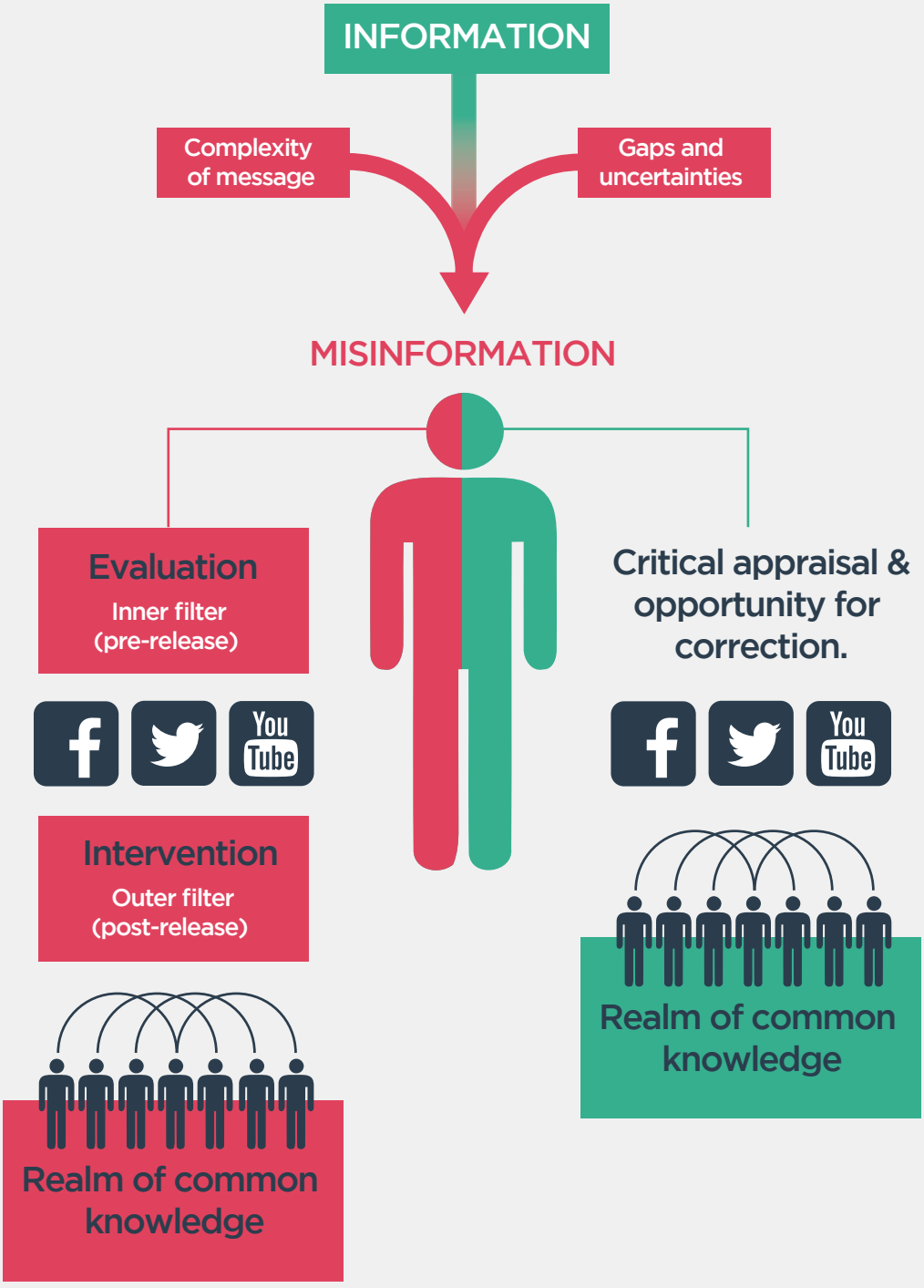
The critical role of opinion leaders to control the spread of misinformation

To include another variable in the diffusion of innovations theory, the critical role of opinion leaders should not be overlooked in the spread of misinformation. Opinion leader is understood as any individual with a capacity to influence other individuals' attitudes or behaviours with some relative frequency. Similar to social media, opinion leaders comprise another key element of the TELL ME Framework Model for Outbreak Communication, and the combination of the two can determine to a large extent the degree of success or failure of a communication strategy or campaign. Individuals who are positioned at the centre of a virtual community of people can accelerate the process by which misinformation and rumours become adopted, and enter the realm of common knowledge, as presented above.

It has been suggested by Nisbet and Kotcher (2009) that opinion leaders' views, behaviours and actions can have even a greater influence than the mass media with regard to shaping public perceptions and attitudes toward an issue. According to the authors of the TELL ME Framework Model for Outbreak Communication, this could be attributed to the fact that opinion leaders are seen as trustworthy members within a community, and any positions expressed are not interpreted with suspicion that serve some underlying interests. This suggests that misinformation and rumours are more likely to be rapidly adopted by a significant number of people (early adopters) as soon as released via use of internet-based communication channels.

It could be argued that there are two critical phases concerning the release of misinformation by opinion leaders (see Figure 5). In the first phase (pre-release), an individual is the recipient of information which is made available by a specific source (or sources). This information becomes distorted or misinterpreted for a number of reasons, with most common the complexity of the message, information gaps and scientific uncertainties. It is crucial that in the wider context of preparedness for an emergency, public health authorities and other government actors to establish some type of connection with identified opinion leaders in order to provide resources, raise awareness and instil a sense of responsibility regarding their role in the outbreak communication process. The aim of this approach would be to encourage individuals to critically evaluate and responsibly share any information in the event of an infectious disease outbreak, to prevent possible misinformation from reaching a wider audience.

Figure 5: The influence of opinion leaders in the diffusion of misinformation and response measures.



At the second phase (post-release), where misinformation or rumours are released via an internet-based communication channel, it calls for an immediate and effective intervention by public health authorities is required to prevent misinformation entering the realm of common knowledge, when it would be considerably more difficult to contradict an established worldview over an issue. So, which is the approach to be adopted by the authorities for an effective and rapid intervention to the spread of misinformation and rumours?

This can be achieved by systematic monitoring of the web and by performing a real-time analysis of possible misinformation, rumours and myths that circulate and spread from the onset of a major infectious disease outbreak. According to Savoia et al. (2013), "a real-time analysis of the information environment is valuable in knowing what is being communicated to the public and could be used for course correction of public health messages during a crisis". Also, provided that systematic monitoring of the web in case of an outbreak is governed by rules of transparency and respect for privacy and data protection, this could be a useful tool in the hands of officials to better understand what are the main sources of concern, doubts, fear or anxiety, and opinion leaders' presence can contribute in the direction of eliciting these sentiments and proceed to more precise interventions to counter misinformation and rumours.

Section 8

Strategies for prevention and response to misinformation in the course of a major infectious disease outbreak

Preliminary context

In 2013, the World Health Organisation (WHO, 2013) published interim guidance on pandemic influenza risk management which defines four global phases with reference to the spread and impact of a potential new influenza subtype (see Box 2). Notably, in the context of risk and outbreak communications, and especially in relation to the emergence and spread of misinformation and rumours during major infectious disease outbreaks (epidemics or pandemics), it could be suggested that this categorisation between the four phases can find application also to other communicable infectious diseases, apart from the influenza subtypes.

Box 2: The four phases of influenza pandemic according to the WHO.

Phase	Description
Interpandemic phase	A period between influenza pandemics.
Alert phase	The phase when influenza caused by a new subtype has been identified in humans. Increased vigilance and careful risk assessment, at local, national and global levels, are characteristic of this phase. If the risk assessments indicate that the new virus is not developing into a pandemic strain, a de-escalation of activities towards those in the inter-pandemic phase may occur.
Pandemic phase	This is the period of global spread of human influenza caused by a new subtype. Movement between the inter-pandemic alert and pandemic phases may occur quickly or gradually as indicated by the global risk assessment, principally based on virological, epidemiological and clinical data.
Transition phase	As the assessed global risk reduces, de-escalation of global actions may occur, and reduction in response activities or movement towards recovery actions by countries may be appropriate, according to their own risk assessments.

(**Source:** "Misinformation and correction: Continued influence and successful debiasing" by Lewandowsky et al., 2012, Psychological Science in the Public Interest, 13(3), p. 122)

As suggested by the title, this section of the document seeks to offer public health officials with a set of guidelines and practical recommendations for avoidance and response to misinformation presented in the course of a major infectious disease outbreak as a result of scientific uncertainties, information asymmetries, conflicting messages and information overload, to name a few. These four pandemic phases constitute points of reference in order to provide practical recommendations in a meaningful way. The recommendations combine key concepts of risk and crisis communication, research findings of the TELL ME project and key elements presented in the TELL ME Framework Model for Outbreak Communication.

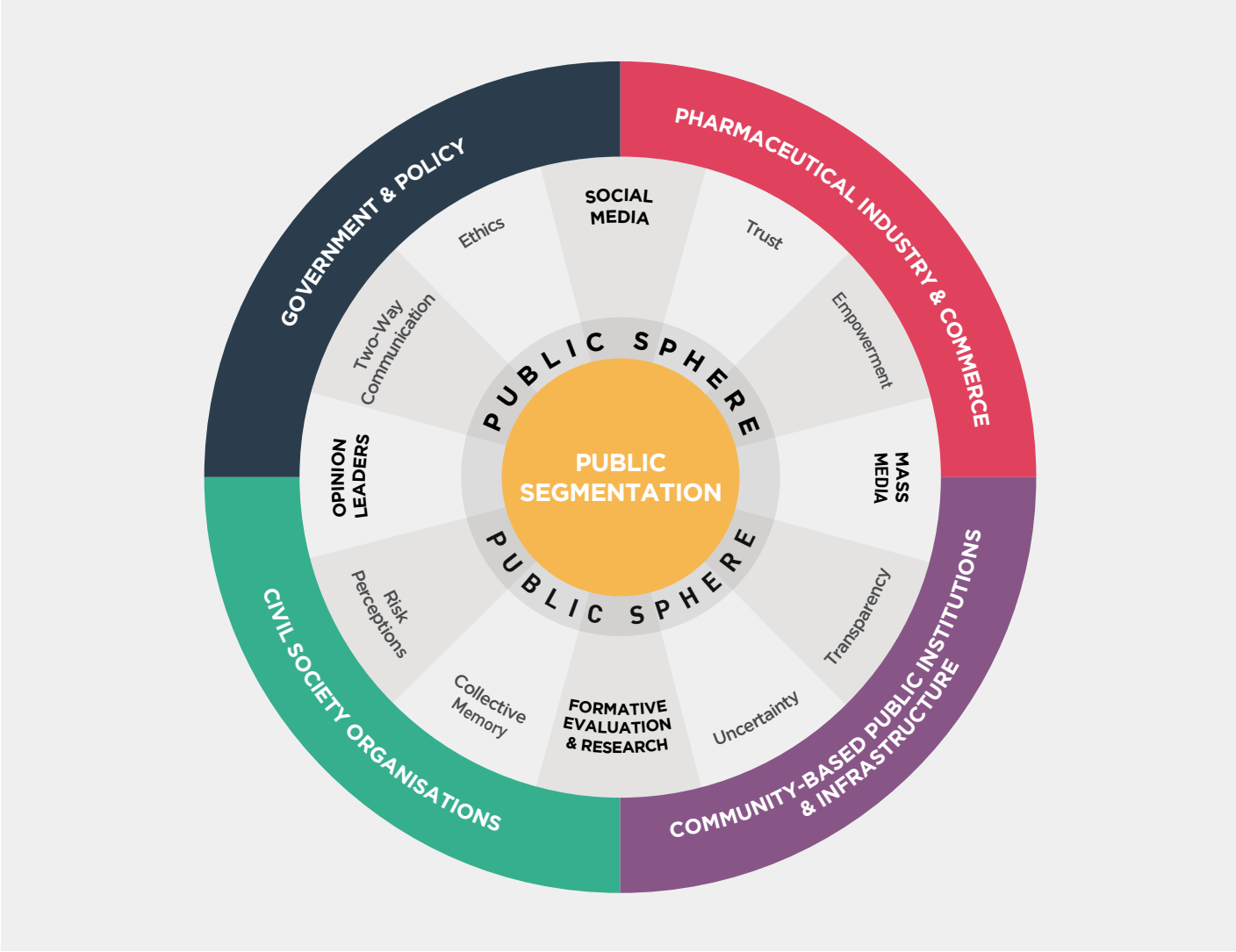
Good practices for preventing the emergence of misinformation and rumours

	Practices
1	*Be sincere* Admit to present mistakes, acknowledge errors made in the past and demonstrate how lessons have been learned.
2	*Be transparent* Open disclosure of information on risk assessments and scientific uncertainties to allow people make informed decisions on the basis of available data.
3	*Be clear* Adapt the content of statements and/or messages in a language that is clear and comprehensible by different population sub-groups or at-risk groups.
4	*Be specific* Present evidence-based messages and give precise instructions as to what, when and how people should act upon this information.
5	*Be consistent* Decide on and adhere to a specific communication strategy as regards the style of communications and methods used to disseminate messages to the public.
6	*Be cooperative* Establish two-way and open communication channels with different stakeholder groups from both the public and private sector, in order to understand the communication requirements for each group and tailor messages according to the varied information needs.
7	*Be confident* Provide reassurance about the level of preparedness and acknowledge possible weaknesses of the response mechanism, accompanied with a plan of action to mitigate risks.

	Practices
8	*Be perceptive* Accept cultural truths as important as health truths and consider the effect and influence of socio-cultural and religious factors in the interpretation of messages.
9	*Be respectful* Acknowledge there are other perspectives and make efforts to approach people with opposing views and engage into constructive dialogue to understand where the opposition stems from.
10	*Be proactive* Anticipate the increase in demand for more information from the side of the general public, and focus on presenting educational messages that increase awareness, promoting actions "to prevent" rather than "to control".
11	*Be creative* Introduce metaphors and other forms of figurative language to communicate complex information to the general public.
12	*Be quick* Establish online mechanisms for timely dissemination of trustworthy information and early detection of misinformation and rumours that spread via internet-based communication channels.
13	*Be methodical* Consider the factor of health literacy for different population sub-groups and introduce increasingly more complex messages as people learn over time, so that information can find target, and not evoke fear or feelings of uncertainty instead.
14	*Be present* Reach out and actively seek for feedback from people on their experiences, concerns, fears, anxieties and doubts in the course of an outbreak. Provide up-to-date information on the status of the outbreak, signs and symptoms, transmission and protective measures.

Strategies to control misinformation in different phases of an outbreak

This section offers recommendations and a sequence of suggested actions to be taken by public health authorities across the different phases of a major infectious disease outbreak (epidemic or pandemic), for preventing the emergence and spread of misinformation. For each phase, distinct recommendations are offered for different components presented in TELL ME framework model, and form part of the public sphere. These components are: a) social media, b) mass media, c) opinion leaders, and d) the general public (public segmentation).



The interpandemic phase

The interpandemic phase is the best time to develop and enhance emergency risk capacities. With regard to the model, it is the time for ethnographical research that is aimed at constructing profiles of diverse risk groups, emphasizing their beliefs, their community leaders and ideologies. In a sense, when the level of perceived risk is low there is little chance to educate the public or involve other stakeholders in the pandemic plan hence we do not see real movement on the model.

(TELL ME Deliverable D3.1, p. 14-15)

Component	Suggested actions
Social media / Online resources	• Identify which type of social networks and internet-based communication channels are mostly used or preferred by different audiences. • Identify bloggers and online writers who are seen as a reliable source of information from the community. • Establish and maintain presence on social media platforms and seek to provide incentives for people to keep visiting the official website and portals. • Build a network of organisations and develop partnerships to channel public health messages and communications through the various webbased platforms used. • Explore in advance the potential that each social media platform can offer and standardise the type and style of communication depending the media platform used.
Mass media	• Invite journalists and media representatives as legitimate stakeholders to contribute in the development of future pandemic preparedness and response plans. • Establish an 24/7 “enquiry point” for journalists to verify information or rumours that circulate online. • Organise joint workshops for journalists and health professionals with a focus on communication aspects and the impact of misinformation during infectious disease outbreaks.

Component	Suggested actions
Opinion leaders	• Identify individuals who are seen as trustworthy members within a community and have the capacity to influence behaviour of others. • Identify opinion leaders with active presence in social media and definite views on public health issues. • Establish relationships with public figures that have a large public following in social media with the aim to recruit as "ambassadors" in future public health campaigns.
General public	• Promote initiatives to further improve health literacy skills and knowledge. • Consider how cultural diversity within the population can influence reaction and response to a disease or death.

The alert phase

The alert phase is characterized by the identification of a novel influenza subtype in humans. This is the time for careful risk assessment on all levels. Using open channels with Member States, activating networks of information and think tanks to conduct global risk assessment under the revised IHR (2005). In terms of the different components of the model, the mass media, the social media, the opinion leaders and the research becomes crucial. With reference to social media, people actively seek information to allay their concerns and reduce uncertainty. At this stage, both the social media and the mass media serve their integrative function, making people feel as if they are part of a larger community. The opinion leaders' function becomes more pronounced because they serve as an alternative source of information (other than the media) and as a source of interpretation for people seeking clarification. Formative research already conducted will have gathered information on different segments of the public. It now needs to focus on relevant risk groups and on online discourse as important indicators of public risk perceptions. The transnational, European, national and local stakeholders become much more active and involved in the public sphere.

(TELL ME Deliverable D3.1, p. 15)

Component	Suggested actions
Social media / Online resources	• Monitor in a systematic way social media, the web and other online platforms to detect misinformation or rumours that spread. • Seek to identify the source or the origins of misinformation and proceed to correct immediately. • Take note of any conspiracy or anti-vaccine websites that appear on the first pages of an online search engine, following insertion of popular keywords in relation to the outbreak. • Perform real-time analysis of posts and user comments in social media platforms to identify public concerns, fears and popular misconceptions in relation to the outbreak.

Component	Suggested actions
Mass media	• Send press releases to news outlets at regular and fixed intervals, determined from a balance between information demand and actual availability of information. • Use press conferences to explain the circumstances under which any uncertainties occur and define the concept of risk in the context of the outbreak • Schedule meetings with editors-in-chief and other media representatives to develop a common understanding around what messages are vital to transmit to the public. • Promote fact-checking as a standard practice for reporting during an outbreak.
Opinion leaders	• Search and evaluate initial views expressed by already identified opinion leaders in relation to the outbreak. • Monitor for criticisms and negative views expressed by opinion leaders toward public health authorities' response.
General public	• Put emphasis on key prophylactic measures which are easy to process and implement on daily activities. • Develop messages that are "intrusive" or do not come into direct conflict with cultural perspectives or religious practices. Seek for a balance. • Provide instructions for evaluation criteria to assess the reliability of information retrieved from websites or other news sources. • Indicate to people where they could find reliable health information online. • Provide updates about existing uncertainties and differences in opinions expressed by public health experts.

The pandemic phase

The pandemic phase is the most severe risk assessment concerning the global potential spread of the subtype virus. The fact that a pandemic was officially declared calls for support and response on all levels. It is the time when different level stakeholders are fully engaged in the effort to mitigate the spread and educate the public. It is the full participation of transnational European, national and local stakeholders in the public sphere. They receive input from research and mould it into specific communication strategies designed to communicate with the public. This is the stage where there is a need to emphasize self-efficacy, uncertainty and transparency as an integral part of communication with the public.

(TELL ME Deliverable D3.1, p. 16)

Component	Suggested actions
Social media / Online resources	In addition to the "alert" phase: • Use various social media and online platforms to communicate consistently key messages to the public in direct response to concerns and fears widely expressed via social media platforms. • Keep record of which type of information or communication has been successful, by monitoring the number of people who clicked on provided links or re-tweeted specific messages.
Mass media	In addition to the "alert" phase: • Monitor whether there are inconsistencies in the terminologies used to describe key information in relation the outbreak. Proceed to correct. • Monitor whether official statements are distorted by news reports or presented without an appropriate context.

Component	Suggested actions
Opinion leaders	In addition to the "alert" phase: • Request from opinion leaders to actively support and take part in public health campaigns and communications to contain the spread of the outbreak. • Show tolerance to criticisms and offer explanations to counter scientifically unsupported advice.
General public	In addition to the "alert" phase: • Focus on communications that motivate people toward a positive behavioural change (i.e. adherence) and try not to enforce decisions (i.e. compliance).

The transition phase

The transition phase signifies the return to routine. While from an epidemiological point of view this is the time to minimize response, on the level of outbreak communication it is a crucial time for recovery on all levels. All components should be thinking about lessons learned from the last pandemic and preparing themselves for a possible scenario of a future outbreak. From the point of view of ethics, it is the time to assess, through research, to what extent the experience of the pandemic had stigmatized different subpopulations and what type of public campaign can improve their image.

(TELL ME Deliverable D3.1, p. 17)

Component	Suggested actions
Social media / Online resources	• Evaluation of misinformation detected in the course of the outbreak with reference to qualitative characteristics that determined the level of diffusion. • Evaluation of the social media platforms used and type of inconsistencies detected between messages as a result of the distinct features of each platform.
Mass media	• Evaluation of points of criticism toward public health authorities concerning communication gaps and information mismatch in the course of the outbreak. • Identify any patterns in the re-appearance of misinformation and medical myths as part of a general discourse around the risk associated with the outbreak.
Opinion leaders	• Keep connected and provide feedback on the positive contributions made to control the outbreak.
General public	• Make available a post-pandemic evaluation report to summarise what worked well in terms of communications and what could have been done better.

Section 9

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villa@zadig.it

School of Public Health at the University of Haifa (Israel)
Website: http://hw.haifa.ac.il/index.php/facultydeps/publichealth
Contact: Manfred Green, Anat Gesser-Edelsberg,

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