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Effective Communication
in Outbreak Management for Europe

WP 7 Ecom@eu
Month 24 Summary Report

Effective Communication Outbreak Management: Development of evidence based tools for Europe

WP 7 Objectives:

1. **Report summarizing the key findings from WP 1-6 by month 24.**

2. **Report on the proceedings of end user meeting two by month 2.**

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Contents

Introduction to Ecom@eu

The SARS and influenza pandemics in recent years have sensitised politicians, health authorities and the general public all over the world that effective measures should be in place to counter the impact of such major epidemic outbreaks.

Intervention measures include large-scale vaccination and distribution of antiviral therapy. Although scientific knowledge and technical ability have increased tremendously in the past years to respond effectively, major deficiencies have become apparent in the governments' and health authorities' ability to communicate the need for such large-scale measures in a trustworthy manner and increase the acceptance thereof among the general population and specific risk groups. Communication is not a mono-disciplinary issue.

In order to develop effective communication strategies, integration of social and behavioural sciences, communication, media expertise and civil society is needed. In this project we explicitly bring together these disciplines to go beyond the current knowledge in each individual field in order to develop an evidence-based behavioural and communication package that can be applied effectively by health professionals and agencies throughout Europe in case of major epidemic outbreaks.

Objectives of Ecom@eu

Europe represents a diverse range of different countries with different languages, cultures and health system infrastructures. It is therefore essential that all the project outputs take full account of this and have saliency and relevance to the different circumstances within individual countries. It would be inappropriate to just focus on countries with highly developed systems and infrastructures and assume the outputs from this would be relevant to countries with less developed or different systems. While resources do not allow us to examine in detail every country and produce individually tailored recommendations and outputs, it is nevertheless possible to address this challenge of diversity in two key ways:

Firstly, to ensure that from the start of the project key stakeholders in all countries are identified and informed about the nature of the work, and have opportunities to comment and input in an End User Forum.

Secondly, to select countries from different clusters in Europe to look at in more detail. This will allow a more sophisticated understanding of differences to be gained and ensure outputs are better tailored to different country circumstances. Specifically the Ecom@eu programme has been designed to explore and deliver greater understanding focused on the following seven task areas:

1. Assessing the time-dependent influences of epidemiology and risk communication including media content on human behaviour during the 2009 H1N1 pandemic.
2. Analysing, using Social Marketing principles, vaccination behaviour (including the use of incentives/disincentives), audience segmentation, and vaccination service delivery
3. Analysing knowledge, attitudes, risk perception, vaccination non-response and reasons for resistance regarding vaccination and antiviral therapy during past epidemics.
4. Applying a Discrete Choice Experiments to determine acceptance of preventive measures in the case of epidemic outbreaks.
5. Integrating the key findings of the studies under objectives 1-3 to determine critical factors, groups and media to be addressed in the development of effective behavioural and communication strategies.
6. Testing behavioural interventions and communication strategies tailored to different target audiences of future epidemic outbreaks.
7. Finalize and disseminating a package of evidence-based behavioural and communication tools that can be tailored to individual European countries.

These tasks are being delivered through the following Work Packages (WP) at month 24. Work on packages 1- 6 is nearing completion and for the next 24 months work will now focus on WP 8- 10.

WP1: Dealing with the 2009 H1N1 pandemic: Time-dependent influences of epidemiology and risk communication on human behaviour

This work package aims to identify possible influences between disease (2009 H1N1) severity and progress (epidemiology), the changing pattern of risk communication in the media, and changing official pandemic control recommendations and public behaviour during the swine-flu pandemic in Czech Republic, Denmark, Germany and Spain. In addition the key stakeholders (public health officials, GPs and nurses) perceptions on official action and public reaction during the 2009 H1N1 pandemic and their wishes for improving future pandemic management are to be explored.

WP2: Media and social media content analysis of the H1N1 pandemic

A retrospective media content analysis will be conducted regarding the 2009 H1N1 pandemic in the Czech Republic, Denmark, Germany and Spain to analyse how the H1N1 pandemic was portrayed in the media (opinion, risk perception factors), and how the mass-media and the social media influenced each other.

WP3: Social Marketing analysis of vaccination behaviour, audience segmentation, and service delivery

This work package applies the principles of social marketing and behavioural economics to the subject of outbreak management.

WP4: Vaccination knowledge, attitudes, risk perception & vaccination non-response

This work package will measure knowledge, attitudes, risk perception, information need, and intention towards behavioural measures such as vaccination and anti-viral therapy for seasonal influenza and new emerging epidemics.

WP5: Acceptance of preventive measures: Discrete Choice Experiments (DCE)

With Discrete Choice Experiments (DCE), this work package will analyse in a quantitative way how people trade-off vaccination risk (or anti-viral therapy risk) versus disease risk.

WP6: Vaccine-resistant group analysis

This work package will identify vaccine resistant groups in European countries, and study motivations for vaccine resistance (e.g. religious, anthroposophical, ethnic etc.).

WP7: Integration of key findings from WP 1-6

In this work package, the findings from all other work packages will be integrated and analysed to determine critical factors, groups and media to be addressed in the development of effective behavioural and communication strategies (WP8 andWP9).

WP8: Testing effective behavioural intervention and communication strategies

This work package builds on the main findings from WP 1-6. It is clearly solution oriented, and aims to test the effectiveness of a broad range of behavioural interventions and

communication strategies tailored to different target audiences and segments of future epidemic outbreaks.

WP9: Building of web application tools

In this work package we will develop a range of tools, with an emphasis on web application tools that will support health professionals and related agencies in times of an outbreak.

WP10: Tool finalisation

In this final work package the tools that are developed in WP 9 will be fine-tuned and integrated into a package. The tools can be tailored to individual European countries and to specific target audiences/segments as needed.

Innovative features of the Objectives of Ecom@eu project

Although scientific knowledge to respond to outbreaks of infectious diseases has increased, deficiencies remain in the ability of health authorities to communicate the need for large-scale measures such as vaccination and antiviral therapy and increase its acceptance. For effective behavioural and communication strategies, integration is needed of social, behavioural, communication and media sciences. We bring together these disciplines to go beyond the current knowledge to develop an evidence-based behavioural and communication package for health professionals and agencies throughout Europe in case of major outbreaks.

Executive summary of the key findings from WP 1- 6 at Month 24

In WP 1 (Time-dependent influences of epidemiology, risk communication and human behaviour during the 2009 A/H1N1 pandemic), epidemic curves of the A/H1N1 pandemic in Germany, Spain, UK, Czech Republic and Denmark were plotted, based on a comprehensive literature review and websites of the national infectious disease units and ministries of health. A chronology of key events was compiled for these countries (e.g. cases, deaths, official national pandemic control measures introduced recommendations given, introduction of vaccination), as well as information on public risk perception, attitude and protective behaviour gathered. In addition the number of media messages in selected newspapers and TV channels were plotted. All collected data have been plotted along a time-line (March 2009 – April 2010 separately for the four countries. Overall the peaks in media attention do not coincide with the rise in the number of cases or deaths in the countries. Often international events such as first cases and deaths have had a more profound effect on media attention than subsequent events in the own country.
(Key stakeholders perceptions and wishes) Interviews were conducted with 26 experts (public health officials, GPs and nurses) in 8 European countries. The interviews revealed that although official risk communication with the public is an important aspect, it only works if this is backed by a general trust of the public in national authorities. In addition macro level stakeholders while emphasising the need for rapid information, micro level stakeholders like GPs and nurses rather wished for reliable information sources whom they can hold accountable. Most stakeholders agreed that social media is an important communication tool which should be better utilized, concrete ideas on how this can be done were however lacking.

In WP 2 (Media and social media content analysis of the A/H1N1 pandemic), a comprehensive literature review was conducted on media reporting of H1N1 across the globe. A main conclusion was that media attention was not parallel to the course of the epidemic, but was rather event-oriented, which may have led to a risk overestimation. Mass media coverage was dramatized through a disproportionate mention of risk and through an emphasis on threat, while neglecting efficacy information, thereby increasing public fear and maladaptive responses. Media content analysis showed that coverage of the pandemic was considerable and came in waves, and mostly concerned the threat rather than preventive measures.

In WP 3 (Social Marketing analysis of vaccination behaviour, audience segmentation, and service delivery), the key findings from the behavioural review were that 1) the complex behaviour challenges associated with pandemic events highlight the limits of conventional communication approaches; 2) Multiple interventions are more successful at influencing behaviour; 3) Humans are not entirely rational when making health choices and this understanding needs to be reflected in pandemic programmes; 4) Behavioural models and theory can help strengthen the development, delivery and evaluation of pandemic communication and behavioural programmes; and 5) It is not sufficient to consider an individual's voluntary behaviour change in isolation from social and environmental factors. Key findings from the segmentation and customer journey mapping of three countries were that there was a lack of audience research used to inform communications strategies and tactics. Generally there was little evidence of the use of segmentation to plan interventions or customer journey mapping to assess public interaction with interventions and service delivery.

There was reasonable consistency in message content and tone of communications and the focus of messages was on the seriousness of the potential risk coupled with reassurance and suggested actions. There was little evidence that much consideration had been given to the emotional appeal in communications. Message givers varied across countries. All three countries understood the importance of but had differing approaches to media coverage and

briefing, and all three countries perceived internet-based communication to be problematic and not as developed as it should be as part of an overall strategy. Evaluation of communication interventions was seen mainly to be of relevance at the point of crisis.

In WP 4 (Vaccination knowledge, attitudes, risk perception & vaccination non-response) a systematic literature review was performed of studies regarding risk perception during the A/H1N1 pandemic. The aim was to gain insight into public perceptions and behavioural responses to the 2009 Influenza A (H1N1) pandemic, focusing on trends over time and regional differences. We screened 5498 articles and identified 70 eligible studies from PubMed, Embase, and PsychINFO. Public misconceptions were apparent regarding modes of transmission and preventive measures. Perceptions and behaviours evolved during the pandemic. In most countries, perceived vulnerability increased, but perceived severity, anxiety, self-efficacy and vaccination intention decreased. Improved hygienic practice and social distancing was practiced most commonly. However, vaccination acceptance remained low. Marked regional differences were noted. To prevent misconceptions, it is important that health authorities provide up-to-date information about the virus and possible preventive measures during future outbreaks. Therefore, they should continuously monitor public perceptions and misconceptions. Because public perceptions and behaviours varied between countries during the pandemic, risk communication should be tailored to the specific circumstances of each country. Finally, the use of health behaviour theories in studies on public perceptions and behaviours during outbreaks would greatly facilitate the development of effective public health interventions that counter the effect of an outbreak.

In WP5 (Acceptance of preventive measures: Discrete Choice Experiments (DCE)) relevant attributes, together with attribute levels were selected for the general public's and health care worker's choice to adhere to preventive policies or not in epidemic outbreaks. Firstly, there are disease specific attributes (i.e. susceptibility to the disease (percentage of people that will get sick or that will develop symptoms), and severity of the disease (percentage of sick people that will develop severe symptoms, including death)). Secondly, there are vaccine specific attributes (i.e. effectiveness of vaccine.

In WP6 (Vaccine-resistant group analysis) it was shown that common determinants of non-vaccination are found in various under-vaccinated groups, and are found in the general public. Besides common determinants, each specific group also has some specific determinants for non-vaccination. Arguments against vaccination as ventilated by under-vaccinated groups are of little or no influence in the media for the general public. It was concluded that under-vaccinated groups can be used both as sentinel for occurrence of vaccine preventable diseases and as sentinel for determinants of non-vaccination in the general public.

Integration of key Findings from WP 1- 6

At Month 24, i.e. halfway through the E-com@eu programme, we have developed eight key conclusions based on the work completed to date. These conclusions are companied by suggested actions that we will take in the second half of the programme up to month 48.

1. ***Risk perception and recognition of personal risk status can be influenced by 'trustworthy' sources of information; some people want official information providers to be held responsible for the information they give the public.***

Implication: Develop and promote trustworthy sources of information and individual decision aids and self-risk assessment tools.

2. ***Mass media / digital media have a spotlight effect that increases perception of risk but moves on in advance of later advice about appropriate action.***

Implication: Health officials and politicians are the most prominent sources in news about an epidemic, so they can have a big influence on the content and tone of media coverage. During the spotlight, they should ensure to inform the public where to find advice later on about appropriate action. Develop a continuous flow of trustworthy, easy to access and interpretable information through all pandemic phases."

3. ***There is a need to target communication and behavioural programmes for different groups based on determinants, attitudes, cultural, religious beliefs and behaviour.***

Implication: Test the 'Return On Investment' associated with investment in targeting programmes. Develop in country and regional segmentation models and a tailored communication and behavioural programmes. Develop segmentation guidance tools.

4. ***A dominant current characteristic of many existing programmes is a focus on rational decision making and the transmission of accurate advice. People are however not influenced by rational decision making alone when deciding to comply with recommended actions and behaviours.***

Implication: There is a need to go beyond communication dominated responses and develop interventions that focus on non-rational decision making and behavioural influence including determinants, service access, design and delivery. Develop pandemic preparation planning guidance and tools that promote 'Comprehensive' strategic planning driven by SMART behavioural objectives.

5. ***Disease characteristics, perceptions of efficacy of advice and personal risk perception have a big impact on decision making and compliance with recommended actions and behaviours.***

Implications: There is a need to develop scenario planning tools that reflect different disease trajectories and responses.

6. ***Health Care workers are key sources of information and public opinion, but are often not optimally used in such roles due to their lack of accurate risk perception and or understanding about risks associated with pandemic events.***

Implication: Investigate this lack of awareness and willingness to accept their key public health role and develop strategies and tools to better inform and engage health care workers.

7. ***Under-vaccinated groups (UVG) are often as diverse in their opinions and actions as the rest of the population; however they do have distinct information, access and support needs.***

Implication: Test the 'Return On Investment' associated with investment in targeting programmes at UVG. Develop UVG intervention strategies that reflect specific needs of different communities but are based on common communication and behavioural programmes used with the whole population.

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Interim report WP 1

A/H1N1: Time dependent influences of epidemiology and risk communication on human behaviour

Key aims of Work Package 1

(i)To identify the time dependent correlations between disease severity and progress (epidemiology), the changing pattern of risk communication in the media, and the changing official recommendations and public behaviour during the 2009 A/H1N1 pandemic from April 2009 to March 2010

To achieve this objective epidemic curves of the A/H1N1 pandemic in selected EU countries (Germany, Spain, Denmark, Czech Republic and UK) were plotted. These provide information on the magnitude and pattern of disease spread and serve as a time-line. Data on (i) official (national and international) public health and health behaviour recommendations released during the different phases, (ii) information on the A/H1N1 related media volume and changing trends in communication contents during the different phases (from WP 2), and (iii) public perception and changing health behaviour (e.g. vaccine intention, vaccine uptake etc.) during the different phases (from WP4) will be plotted along a time-line. Possible interactions of these determinants will be discussed in context.

(ii) To assess the stakeholders (e.g. public health officials) perceptions on official/public action/reaction during the different phases of the A/H1N1 pandemic and assess the anticipated challenges and wishes for future pandemic management from the stakeholders' perspective.

A semi-structured questionnaire has been developed based on published risk-communication literature and findings from WP1, WP2 and WP4. Stakeholders involved in the management of the A/H1N1 pandemic (from national health authorities, local public health authorities and health care staff) from north, south, east and west European countries have been identified with the help of project partners and by snow ball sampling and invited to a telephone or personal interview. The aim of the interviews is to gather qualitative information on the problems stakeholders at different levels faced both in terms of the quality and timeliness of the information they received as well as the difficulties they faced in passing on this information to others e.g. media, health authorities and patients. In addition the expectations and wishes of the experts as to what should be improved with respect to risk communication in future is to be explored.

Key findings:

Findings from the analysis of time dependent correlations between epidemiology and pandemic management

- WHO advised countries in late April to change their pandemic management strategy from outbreak containment to mitigation. This was followed in June by a similar advice from the ECDC acknowledging that a containment strategy is very resource-intensive and therefore not a recommended strategy beyond pandemic alert phase 4. UK, Germany, Spain and Denmark continued to employ a strategy of containment (the UK and Denmark until early July, Spain until late July and Germany until early August). Probably, this was only possible because of the relatively mild nature of the virus. Since the spread of A/H1N1 was not uniform throughout any country, a move away from the containment approach may be premature in largely unaffected areas. Rather than taking a country wide approach a more flexible, localized strategy as adopted for "hot spots" vs less affected areas in the UK, might be a more efficient use of resources.

- Most EU countries adopted a risk group based vaccination strategy to first vaccinate those at highest risk. This approach also helped to deal with the initial limited supply of vaccine. Later as the vaccine supply increased countries expanded their vaccination programs and some countries even adopted a whole population approach. Information on reasons behind the selection of risk groups and about the side effect and safety of the pandemic vaccine were communicated via government websites and leaflets both for the public and for professionals. Reasons for the low vaccination coverage rates were seen in the late arrival of the vaccines, the moderate character of the pandemic, vaccine safety concerns and scepticism regarding the need for vaccination among a large part of the healthcare workers.

- In November 2009, shortly after the initiation of the vaccination programs, between 58% - 69% of German, Danish and Czech citizens and nearly half (49%) of Spanish and British citizens believed it was rather or completely unlikely that they would personally get infected with the A/H1N1 virus.
- Many European countries made limited use of social networks. The use of social media may also help to identify public concerns on vaccination and to adjust information material accordingly.
- Europe wide surveys showed that between 80% – 90% of responders mostly or completely trust health professionals trust mostly or completely to inform them about the pandemic flu. While in the UK nearly two thirds reported receiving information from leaflets this was only the case for 8% - 19% of responders in the other four countries. Hence healthcare professionals as the primary contact have an important role in informing the public and promoting the adoption of preventive measures.
- Expert evaluations of the pandemic response in UK, Germany and Spain mention that the exchange of information between health authorities and healthcare professionals should be improved.

Findings from the stakeholder interviews

- From the stakeholder interviews so far we got the impression that stakeholders prefer to read only short texts. Face to face and telephone meetings seem to have played a key role in the information gaining process.
- The stakeholder interviews revealed that the broad variety of information sources (e.g. broadcasts from the ECDC, ECDC press briefings) were not frequently used. Hence it may not be the lack of high quality information or different media channels rather it seems to be the lack of knowledge about their existence which was a problem.

- Participating in the Europe wide EWRS meetings organized by DG Sanco was mentioned as extremely helpful for receiving first-hand information in a short time (before it became public) and also for being informed about the situation and the response planned in other EU (including neighbouring) countries. The fact that the public health authority of the Netherlands was part of these meetings was mentioned as very helpful. (Netherlands)

- Apart from paying attention to the content of messages and the audience to be addressed it is also important to consider and weigh which media tool is to be used. This could mean using new media like twitter to reach a broader spectrum of people or to use video-clips to give the messages a face and greater credibility. (Germany)

- The health authorities had to react not only to media reports coming up in their own country but also in neighbouring countries, because people would ask, why a certain activity is undertaken in that country, but not in their own or vice versa. (Netherlands)
- Health-care support staff tends to have a strong influence on health behaviour. Midwives in England tended to not recommend pregnant women to get vaccinated against A/H1N1, which maybe an explanation for the low vaccine uptake of 14.9% among pregnant women. The vaccine uptake was also lower among the GP support staff (~35%) compared to GPs (~50%) in the UK. Health care workers mention not belonging to the risk group on account of age etc., however not seeing that they belong to a priority group for vaccination. (UK, Germany)
- Risk communication should also prepare for time periods of great panic during which communication networks like mobile phone lines may break down. Key persons may not be reachable. It is important to prepare for such phases and have alternatives like 'Walkie Talkies' or satellite telephones. (UK)
- Prominent individuals can have a very decisive influence on public behaviour. A doctor in Sweden who got severely ill later publically promoted the vaccine while a doctor and public health activist in Catalonia, Spain strongly opposed vaccination. (Sweden, Spain)
- Decision making aid (in consultation with ethicists etc.) on thresholds (no. of deaths averted etc.) at which an official vaccination strategy should be decided/ initiated, should be prepared ahead of time.(Sweden)
- Public transparency in the decision making process is important to be prepared against later criticism. The decision steps should be comprehensible and well documented and retrievable for e.g. through a website (Sweden)
- Sweden had one of the highest (~60%) vaccine coverage rates in Europe. While it may have been the reason for fewer A/H1N1 cases and deaths, the number of cases developing narcolepsy following vaccination was higher in Sweden compared to other countries. This led to massive public criticism and as a consequence also led to significantly reduced uptake of the seasonal influenza vaccine in the subsequent years 2010 – 2013. (Sweden)
- When does new information merit an information update? Decisions should be made on threshold levels for when a new update should be sent out. Finding the right balance so as not overwhelm the professionals with information is important. (Sweden)
- To avert the development of rumours and extensive amount of enquiries, the importance of giving all stakeholders in an area information at the same time was stressed.
- While hotlines for GP's have many advantages, a disadvantage mentioned was that GPs would start calling for decisions, they would normally take themselves.

Key recommendations

- In order to make informed decisions regarding vaccination, the risks associated with pandemic A/H1N1 infection versus the risk of vaccination need to be more clearly explained.
- Face to face and telephone meetings being one of the most important sources for information should be well moderated and a key focus of the risk-communication strategy. It is also important to find the right balance between the frequency of time consuming face to face meetings and telephone conferences.

- Health care professionals are generally trusted and have a strong influence on public vaccination decisions. The low vaccine uptake among health professionals in many European countries highlights that communication about protective measures like vaccination first needs to be specifically address these stakeholders (especially at the micro level) and their concerns need to be taken seriously. For a vaccination program to be successful it is important that these groups are vaccinated themselves. The recommendation to get vaccinated would be much more trustworthy and talking about benefits and potential side effects from a personal point of view is more authentic.
- Specially health care (support) staff often have a more direct link and therefore a strong influence on patients/individuals.
- Disseminating information in form of short video-clips was suggested as a more visual way to inform the public. Such clips could be posted on the homepage of the institution and be distributed via multiple channels (Facebook, twitter...)
- Certain professional groups (e.g. midwives), have a strong influence on the behaviour of population groups which may be at risk (e.g. pregnant women). Health care support staff (e.g. GP assistants) too may have a more direct link and therefore a strong influence on patients/individuals. If these professionals have concerns about the recommended protective measures it is important to organize meetings with key-persons from these groups and inform them in detail, listen to their concerns and develop special risk-communication strategies.
- Even if it is not possible to prevent communication lines, like mobile phone networks, from breaking down during certain rapidly evolving phases of an outbreak, it is possible to be prepared for this. This could mean developing a special communication network to which key decision-makers have access.
- The dissemination of official pandemic management related information to similar professionals groups or institutions (e.g. hospitals in a region) that are likely to exchange information with each other, should be done simultaneously to avoid the spread of rumours.

Issues/tools to be tested in WP 8 and 9

Suggested tools to help improve risk communication

- Visualization is an important aspect of communication. Public transport plays an important role in the transmission and spread of airborne infectious diseases. A simulation model which could visualize the spread of an influenza infection via the public transport system would allow undertaking ‘what-if’ analysis. It could be used both as a tool to estimate transmission as well as a visual aid to illustrate individual vulnerability. Combining it with a mathematical model may also allow an estimation of the magnitude of spread.

- In a time of new media it is easily possible for a (local) health authority to not only disseminate information in textual form, but also as short video-clips. This highly visual method helps setting the information in context and linking it with a face. It also offers the possibility to use the voice and gesture to underline the key messages. The clip could be posted on the homepage of the institution and be distributed via multiple channels (Flu App, Facebook, twitter...).

- An official ‘Flu App’ could be used to disseminate and rapidly update information about the flu. It would be easily accessible and the user would know the source of the information. It could also be used in two way manner to ask questions the user

might have. One audience could be the meso (public health professionals) and micro (physicians, nurses), the national level could disseminate its recommendations via this tool. Another audience could be the general public, here information on protective measures, possible symptoms and what to do, links to video-clips etc. could be given. Would ensure that the source of information is

- Using a distinctive word mark or logo (similar to a registered trademark) as a visual indicator for all officially authorized communication would help the public to immediately distinguish between official and unofficial sources. In addition it would enable the national level to speak with one voice and use a variety of media and news channels at the same time for dissemination.

Tool ideas and unresolved issues/further research recommendations

'Data organization tool' or 'decision making aid'?

- The enormous amount of information generated in the wake of a pandemic, be it on national response measures during the different phases, epidemiologic information, decision making processes, public risk perception and behaviour surveys, media communication or subsequent evaluations on how the pandemic was managed, are a very valuable source for the management of future pandemics even though they may be different in nature. The challenge however is to find the relevant information in the so called 'Big Data'. A 'data organization tool' which is easy to feed with information and at the same time also provides information in a user friendly manner for e.g. with different levels of detail and where feasible as graphic illustrations could be a handy tool for decision makers.

  An idea would be a tool which organizes the data of previous pandemics along the pandemic time-line at country level. The starting point would be important milestones like first cases/deaths in index country, first cross border spread, first cases/deaths in own country, members of specific groups affected (e.g. children, schools, pregnant women), antivirals (effective / not effective – side effects), Vaccines (available/priority groups/side effects/ safety concerns) etc.. For each of these milestones, users would find the corresponding response measures (in terms of - national response instructions/ communication means and measures/border control measures/ public survey results/ changes in social media activity etc.) taken/present at that particular time during the previous pandemic. This information would be short and precise but the user could click on links for more detailed information and also what the media messages in major news media were at that time. Interested countries could feed in their information into this online tool. It would have to be ensured that an official 'Gate keeper institution' regulates the access to this tool. It would be a sort of 'scientific crowd sourcing'. The information would be open to access. Users would be able to see what triggered a change in response and what type of measures were implemented when a certain event occurred and by clicking on other countries see what they did in the situation. The tool will help to structure data and enable to learn from previous experiences not only in the own country.

- Linking with 'Opti Alert' (http://www.opti-alert.eu/) an EU project which aimed to raise the efficiency of alerting systems through personalized, culturally sensitive multi-channel communication. The goal of the project is to create an adaptive alerting system that allows intuitive, ad-hoc adaptation of alerting strategies to specific alerting contexts. In addition the aim is to facilitate improved regionalization and personalization of warning messages, as well as a closer cooperation and integration of industry-funded alerting systems with state-funded alerting tools.

- WP9 could also develop the work of WP 1 further by developing software for an interactive time-line which brings together the most important (i) pandemic events (e.g. number of cases, number of fatal cases, pandemic phase), (ii) actions (official containment/mitigation measures initiated/recommended) and (iii) responses (risk-perception survey results, vaccine uptake, number of media messages etc.) of a pandemic along the pandemic time-line for each country. The event, action and response information for each time point on the initial opening interface would be very brief but this information would be linked to more detailed documents like WHO statements, press releases, official guidelines or leaflets, scientific evaluations etc. for those interested. The usefulness of such a software could be explored/tested by asking potential end-users

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WP 2 Interim report:

Media Content Analysis of the H1N1 Pandemic.

Key aims of Work Package 2

This project analyses the international media coverage of the H1N1 epidemic in 2009. It addresses the public debate about the development of the disease, vaccination and other recommended measures, as well as key media events and stakeholders by means of a literature review of previous empirical studies and a media content analysis of print and TV in Spain, Germany and the Czech Republic. Key research questions were:

1. How much media attention did H1N1 receive over the course of the pandemic (2009-2010), and were there any systematic differences across European countries?
2. What issues did the European news media report about?
3. Who were key stakeholders in the media debate?
4. Did the media dramatize H1N1 news, in terms of overly emotional news content or use of dramatic formal features?
5. Do epidemiological laws coincide with journalistic laws, or is media attention for a health epidemic governed more by news value criteria?

Theoretical background: Indicators of Dramatization

Media coverage about a health topic such as H1N1 has been defined as dramatizing if it exaggerates existing risks, if it awards it with a disproportionate amount of attention considering the actual relevance of the threat (e.g., a media hype; or if coverage portrays the (health) threat primarily based on arousing or emotional language as well as based on formal features rather than factual ones Although these definitions have clear merits, they also have a downside: they need an objective reference point as to what constitutes ‘too much’, or ‘exaggerated’, or ‘too emotional’ media coverage. As Kitzinger (1999) points out, answering the question of whether the media dramatize risks often entails two underlying normative assumptions: first, that there is an “ideal risk reporting”, such as an objective representation of risks, second that the official providers of risk information, namely health officials and journalists, act on a purely ‘scientific’ basis.

In the present research we introduce a non-normative, quantified approach to dramatization of risk based on scientific theories on risk perception, health communication, and media sensationalism. We developed a coding scheme specifying three indicators of dramatized media coverage that – together – may inform about how mass media coverage about H1N1 may amplify risk perceptions in the public: (a) the volume of media coverage, (b) the media content presented, particularly an overemphasis of threat while neglecting measures of self-protection, and (c) the tone of coverage.

We provide just a brief sketch of the scientific theories that we relied upon in the definition of these three indicators. Regarding (a) the amount of information, prior research found that extensive coverage on a risk may serve as risk amplifier, regardless of its accuracy. Thus, the sheer volume of news coverage on H1N1 could have contributed to panic. Regarding (b) media content, research has provided ample evidence that specific types of information presented – or the lack thereof – can influence individuals’ perceptions and health behaviours .For instance, information regarding the severity of a health risk without recommendations on how to reduce this risk may result in fear and maladaptive responses to risk. Hence, the content of news on H1N1 may have influenced public perceptions of the threat posed by H1N1. Finally, regarding (c) tone of coverage, research demonstrated that an emotional tone of messages about health risks impacts message perception, and that

negative affect can increase risk perceptions. Therefore, the tone of media coverage on H1N1 may have contributed to heightened public risk perceptions.

Methods

Literature Review on Global Media Reporting on H1N1

For the purpose of the present literature review, we identified relevant prior publications through a search in two computerized scientific databases (EBSCO Host, Web of Science) on Aug, 1st 2012. We combined the search term Media or Newspaper or Radio or TV or Online or Twitter or Facebook or YouTube or Blog* or "Content Analysis" or Framing with each of the search terms H1N1, "Swine Flu", or "Pandemic Influenza". Since Web of Science is a multidisciplinary database, we filtered out articles from unrelated disciplines. Our search resulted in a total of 285 articles (EBSCO Host database: 42, Web of Science: 243). The 285 articles identified were sorted using a number of inclusion and exclusion criteria (Appendix 1). 13 articles containing content analyses of the mass media coverage of H1N1 were retrieved for the present literature review (see Appendix 2).

Content Analysis of European Media across H1N1 epidemic

Sample

News reporting during the epidemic outbreak in three European countries (Germany, Spain, Czech Republic) was analysed. For each country two opinion-leading newspapers (one daily serious, and one daily tabloid newspaper), a main evening newscast, and a weekly news magazine were selected. The analysed media set included for Germany ARD Tagesschau, FAZ, Bild, and Spiegel, for Spain, TVE Telediario, El Pais, 20 minutos, and Tiempo (Internet), and for Czech Republic, CTV Udalosti, Lidove Noviny, Blesk, and Respekt.

All news items published between April 1, 2009 and March 31, 2010 were included in the current analysis. We analysed H1N1-related news reporting over the course of a whole year, which only one other study has done so far.1941 news items (print articles or TV news segments) were included for the present analysis. All news stories were fully manually coded on a statement-level, resulting in a sample of 49236 statements.

Coding instrument

For each statement the source (i.e., person making a statement), as well as the protagonist (i.e. the person, group, company, institution, or organization the statement is made about) were coded. For protagonists, the tonality of statements was coded on a 5er-scale from support to rejection, with an additional sixth category coding neutral tone.

Based on prior content analyses on media coverage of epidemics, and based on literature in health communication as well as risk communication we developed a set of predefined statements referring to eleven different topics and coded how often these were present in news stories. Topics included severity of the virus, the susceptibility to a virus infection, the mention of preventive measures, particularly vaccination but also other measures (e.g., hand-washing, avoiding crowds, facial mask) and efficacy statements about such measures. Further we coded societal-level (government) actions taken to prevent pandemic spread (e.g., vaccine development, mass vaccination programs), and secondary consequences, i.e. consequences of H1N1 beyond the primary health consequences (see Figure 1).

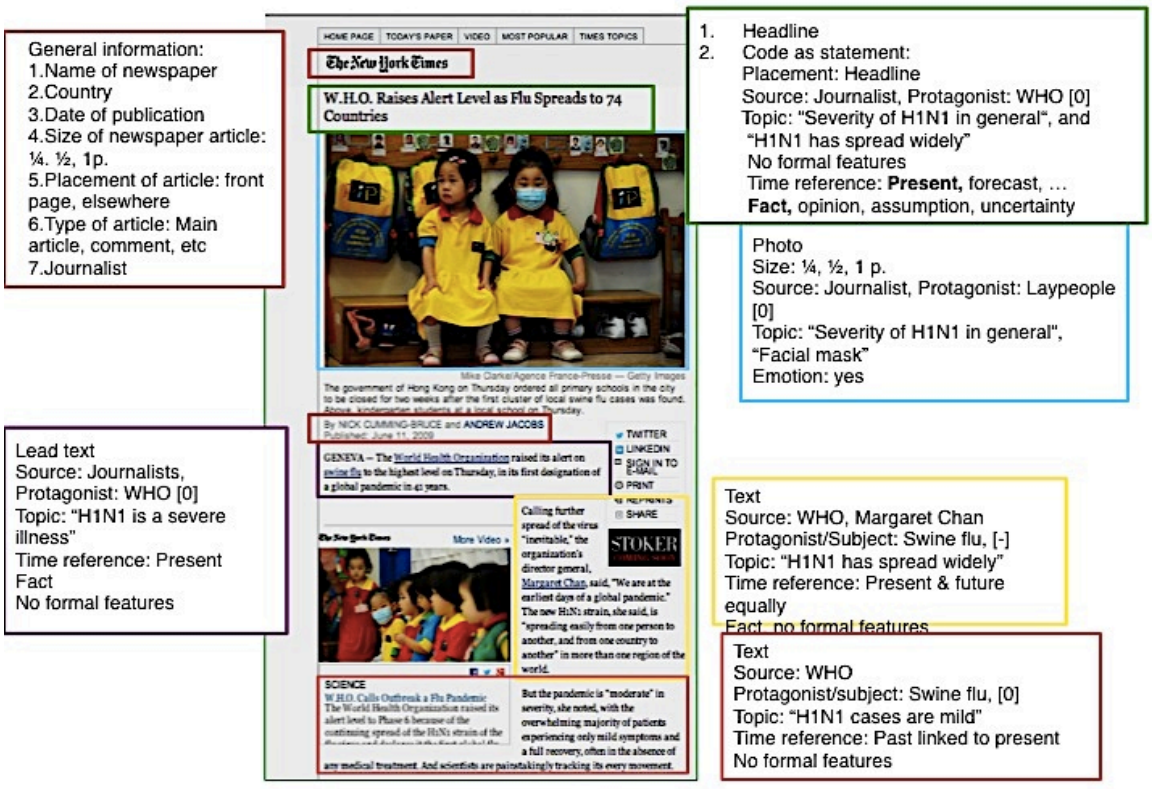

Figure 1: Example of how media content was coded

We distilled a set of indicators of emotionalized media content, e.g., explicit emotional content, scandal (conspiracy theories), personalization, use of worst case scenarios, emotional language and emotional images.

Key Findings [1]

Media attention

The 2009 H1N1 pandemic received immense media attention, as all of the 13 studies we reviewed found. Our review revealed that attention was not parallel to the trajectory of the epidemic, i.e. reflecting the number of infections, but was instead rather event-oriented. Precisely, we identified three peaks in media attention triggered by real-world events: the start of the epidemic, WHO declaration of pandemic, and the introduction of the vaccine.

A similar pattern was observed in our extensive analysis of media coverage in three European countries, although the Czech Republic deviated with only two large news peaks. Overall, the findings show that media logic does not equate epidemiological logic: news attention does not increase with increased casualties or people affected by an epidemic, but rather follows the laws of news values, where severe cases that appear earlier in the epidemic and closer to home have higher news values that cases appearing later on and further away (simple because they are 'not news').

[1] PLEASE NOTE: All results presented here are only preliminary since the validation of the reliability of the data, particularly the intercoder-reliability, has not been provided yet.

Findings also show that media attention for H1N1 was immense, especially in the onset of the epidemic, and especially in the Czech Republic, compared with Germany and Spain. In total, we identified 1941 H1N1-related articles published between April 1, 2009 and March 31, 2010 across the 3 European countries. The amount of articles varied quite substantially between the different countries: Czech media published far more news items on H1N1 (N=839) than the other countries, while Germany (N=561) and Spain (N=541) show comparable numbers of H1N1-related news items. The sheer volume of information – regardless of its accuracy – may work as a spotlight to increase the accessibility of the specific risk in the recipient's mind, which, in turn, may lead to risk overestimation.

Main topics in news reporting

We analysed the main themes in H1N1 news across the different European countries. A large part of media articles focused on the threat of H1N1, both in terms of severity (how serious are the consequences?) and susceptibility (how likely is it that people will be affected?). Reports of H1N1 threat were present in 43% of all news reports. Also a large part of media articles was devoted to strategies of dealing with the H1N1 threat: mention of preventive measures, vaccine effectiveness and availability, and collective level preventive measures together account for 33% of all articles. Other categories reflect the debates surrounding the introduction of the vaccine, e.g., vaccine development, acceptance and safety. Most news topics pertained directly to health; only 7% of news articles referred to secondary consequences of the virus. See Figure 2.

Stakeholders as sources of news or as news objects

The majority of statements (60%) originate with journalists themselves, without any reference to other sources. However, among the sources quoted health officials and politicians account for the highest amount of statements, with 13 and 8 percent respectively. Contrary to the general perception among journalism scholars that news increasingly personalizes by presenting accounts of affected victims or including personal testimonies, laypeople account only for 1 percent of all statements. Looking at the presence of laypeople as objects of statements, however, paints a completely different picture. With 24 percent of all statements, laypeople are one of the most prominent protagonists in the news. These findings indicate that H1N1-related news did feature laypeople, such as victims, prominently but in most cases journalists talked about them rather than "giving them a voice". Different than often feared, anti-vaccination groups feature have only marginal presence in the news; neither as sources nor as protagonist have they gained any prominence.

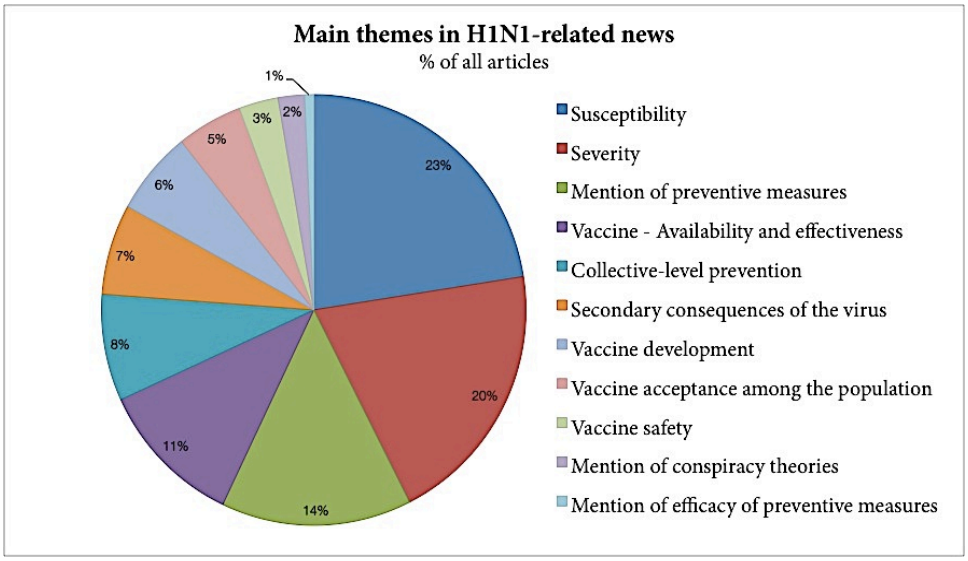

Figure 2: News topics across European countries

Emotionalisation of news

Across all countries and media forms, 18.3% of print media included emotional content, and 22,6 % of print media included emotional formal features. For television, 7 % include some emotional content, whereas 20,7 % include some emotional formal features. Across different European countries, Czech Republic scores highest on all 3 factors. If we zoom in on the details of emotional news content we find that it is mostly sports-related. There is rarely any reference to personal stories of victims. With regard to formal features we find that most emotion is found in emotion-laden language (see Appendix 3).

Amount, severity, and emotionality of media coverage across H1N1 epidemic

When we analyse the amount of media attention and the number of high severity and emotional media reports across the 2009-2010 time span, we see that all three media curves generally follow the same pattern. There are no apparent cases where emotional or high severity media reports became disproportionally large or small, compared to the total number of media reports. These findings suggest that emotional media content does not vary systematically as a function of media amount or content, but rather represents a fairly stable proportion of entire media attention across content and time. See Figure 3.

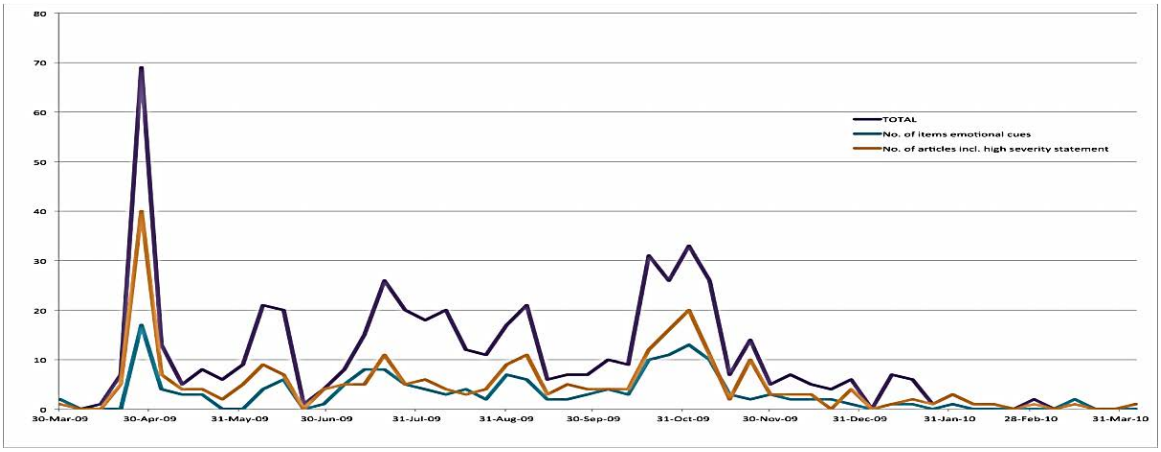

Figure 3: Total amount of media attention, number of articles with high severity statements and with emotional content across H1N1 epidemic

Conclusions

We examined previous research on global media coverage on H1N1 and media coverage in Germany, Spain and the Czech Republic across the time frame of the H1N1 epidemic.

Media Content: Threat versus Efficacy News

As regards content-related causes of dramatization, our literature review showed that most stories featured the seriousness of and susceptibility to H1N1; efficacy information, despite being the second most prevalent information in news on H1N1, was far less prevalent than threat information. A similar pattern was observed in our own content analysis of European media: news that featured information about the threat of H1N1 was by far the most prominent, and information about strategies to deal with this threat again was second most prevalent. An emphasis on H1N1-related threat while neglecting efficacy information may increase public fear and maladaptive responses in the public. As with the effects of sheer

media amount, such effects should be regarded as a side effect of media coverage, as journalists cannot report about effective coping strategies until these have become available.

Tone of Media Coverage

Previous studies have hardly examined the tone of media coverage on H1N1. Specifically, none of the reviewed studies examined formal features such as images, language, personalized narratives, or camera effects. Formal features have been identified as a crucial component of dramatization and have in the context of other epidemics also been researched. Our content analysis of European media included a thorough and extended analysis of emotional content and format features that suggest emotionaliation, such as the use of emotional words, case histories, and worst case scenarios. Findings showed a rather consistent amount of emotionalisation of H1N1, which represented less than one fifth of all news reports. Emotionalisation was higher in the Czech republic than in Spain and Germany. We found no indication of systematic variations as a function of media amount, content or time, suggesting that journalists do not emotionalise more for specific topics or in specific time frames (e.g., during peaks).

Issues/tools to be tested in WP 8 and 9

(1) Spotlight function of mass media. Mass media can create public awareness, but they only do so in short episodes (spotlights), and particularly in the beginning of an epidemic, when vaccine is often not yet available or still under development during (that means the primary coping measure is missing when public attention to the problem/risk perception is maximum. We expect awareness to wane after mass media spotlight moved on to other topics, i.e., if vaccine becomes available, probably low public attention to topic, low risk perception.

(2) Media logic is not determined by epidemic logic: media publicity curves do not coincide with epidemic curves. Media attention or publicity is caused by "news values" (see: http://en.wikipedia.org/wiki/News_values) that are not identical to number of infections or deaths.

(3) Health officials and politicians are the most prominent sources in (mass media) news about an epidemic, they potentially have a big influence on the content/tonality of mass media coverage about an epidemic.

(4) Vulnerability is mentioned by the media, but it is often communicated in abstract ways and not as a "personal vulnerability"; the specific individual vulnerability is not communicated, possible solution is an App that becomes popular during spotlight (while topic is on agenda), informs about individual vulnerability and keeps awareness even if mass-communication spotlight wanes.

(5) Messages should not only communicate threat, but always provide coping recommendations and opportunities, too. Messages that report threat without recommendations on how to deal with this threat are likely to cause panic.

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WP3 Interim Report

Social Marketing analysis of vaccination behaviour, audience segmentation, and service delivery.

Key Aims of WP 3

Social Marketing strategies have been applied with increasing success in public health and health promotion. Heavy emphasis is placed on audience and behavioural analysis, before particular intervention component strategies are developed and pre-tested. Social marketing strategies have not yet been applied extensively in infectious disease control and vaccination campaigns.

The Social marketing methodology brings a strong behavioural focus to the proposal. Work package 3 applies new perspectives and insights from the fields of social psychology, Social Marketing, behavioural economics, neural science, and communications theory to the subject of outbreak management and to the development of new behavioural interventions. In this context it seeks not simply to help improve countries" effectiveness in communications, but also to help them better connect this to achievement of specific and measurable behavioural outcomes.

This behavioural focus is essential if countries are to go beyond just increasing knowledge and raising awareness, and instead be able to improve the rates of people actually being vaccinated, as this will be the ultimate (behavioural) measure of success. The key deliverables for WP 3 are:

1. To produce guidance on using behavioural influencing approaches, including incentives/disincentives to promote service uptake.

2. To review and analyse current vaccination service delivery in different European countries from a customer perspective.

3. To develop a prototype audience segmentation model indicating subgroups of people distinguished by attitudes, beliefs and behaviours in relation to uptake.

4. To develop a set of behavioural goals that can act as service impact metrics for different phases of a pandemic, including the pre-pandemic phase.

Key findings from WP 3

The key findings from the behavioural review were that the complex behaviour challenges associated with pandemic events highlight the limits of conventional communication approaches. It was also found that in most cases multiple interventions are more successful at influencing behaviour. The review also found that those responsible for developing communication and behavioural programmes in the field of pandemic events need to recognise that:

1) Humans are not entirely rational when making health choices and this understanding needs to be reflected in pandemic programmes.

2) Behavioural models and theory can help strengthen the development, delivery and evaluation of pandemic communication and behavioural programmes.

3) It is not sufficient to consider an individual's voluntary behaviour change in isolation from social and environmental factors.

Key findings from the segmentation and customer journey mapping of three countries

It was found that there was a lack in all countries of audience research used to inform communications strategies and tactics in relation to both preparation and dealing with pandemic events as they happen. Generally there was little evidence of the use of segmentation to plan interventions or customer journey mapping to assess public interaction with interventions and service delivery. There was reasonable consistency in message content and tone of communications and the focus of messages was on the seriousness of the potential risk coupled with reassurance and suggested actions.

There was also little evidence that much consideration had been given to the emotional appeal in communications. Message givers also varied across countries, form Medical directors to politicians both local and national. There was no consistent or audience based selection of the information givers or spokespersons. The selection appeared to be driven by considerations of positional authority rather than who could have the most impact on audiences form an audience perspective.

All three countries understood the importance of but had differing approaches to media coverage and briefing, and all three countries perceived internet-based communication to be problematic and not as developed as it should be as part of an overall strategy. The UK however had developed a sophisticated and generally successful digital strategy that performed well. Evaluation of communication interventions was seen mainly to be of relevance only at the point of crisis. In summary the main findings were that there is a:

1. Lack of audience research used to inform communications strategies and tactics.
2. Little use of segmentation or customer journey mapping
3. Reasonable consistency in message content and tone of communications, the focus of messages was on the seriousness of risk coupled with reassurance and suggested actions.
4. Message givers varied across countries.
5. All three countries understood the importance of but had differing approaches to media coverage and briefing.
6. All three countries perceived internet-based communication to be problematic and not as developed as it should be as part of an overall strategy.
7. Evaluation of communication interventions was seen mainly to be of relevance at the point of crisis.

Key findings for the SMART behavioural objectives scoping review

This review sought to understand and them develop a set of SMART (Specific, Measurable, Accurate, Relevant 'and Time bound) behavioural objectives for pandemic communication and behavioural influence interventions. What became clear was that:

1. The literature does not produce a consistent consensus on a collection of specific pandemic behaviours
2. There is a lack of a robust set of agreed behavioural objectives for pandemic events. This is because not everyone agrees 'what works' and what behaviours should be targeted.
3. Within the literature the term 'behaviour' and 'intervention' were used interchangeably. There is often lack of precision in guidance.

4. Practical challenges of designing studies in a pandemic situation which would help prove what works and what doesn't.

Given the fact that there did not appear to be widespread use of behavioural objectives it was decided that there was little point o undertaking a review or consensus exercise to develop a set of such objectives. A prototype set of objectives were developed and it is suggested that they are tested during the next development stage of the Programme alongside some more research about why SMART objectives are not used to help plan and evaluate communication and behavioural programmes in the field.

Key recommendations

To date WP3 has developed a number of key recommendations for consideration by countries and regions when considering further development of pandemic preparedness:

Citizen2 Focused Solutions

If the outcome our aim is to achieve compliance with recommended actions the approach there is a need move away from a top down one way communication dominated models of practice. Practitioners need move towards a model that is based on citizen's needs, dialogue and feedback and an approach that is responsive to demands and changing circumstances. We also need an approach that is focused more on impact and outcome measurement in terms of actual behaviour.

The advances in understanding and methodological development in the field of systematic health programmes and behaviour change planning need to be better integrated into pandemic communication and behavioural influence programme management.

The development of more systematic approach to health behaviour change and a growing body of research that goes beyond communication theory has been developing over recent years. Intervention forms such as social marketing, co-creation and community engagement are examples of these new forms of social policy delivery. This development along with more general improvement in social policy implementation planning has resulted in a growing consensus about how to go about establishing, delivering and evaluating more successful behavioural programmes in the social sector. This understanding should be used to shape intervention programmes.

Cultural and organisational issues, the status of communication and marketing

Behavioural influence and communications often exists as a bolted on adjunct to the influence of medical and epidemiological understanding in the policy development and strategy development process. Communication and those responsible for influencing behaviour in relevant organisations often operates in an environment where messages and policies are developed prior to and independently from a marketing and communications strategy. This often leads to a producer-led selling approach, i.e. a focus on broadcasting evidence based messages about risk reduction and communication focused on compliance with medical opinion. A significant cultural and technical shift is required within governments and specialist responsible agencies to a more customer-led marketing approach, and a fully integrated partnership between marketing and communications professionals and policy and delivery professionals.

[2] We use the term 'citizen' to indicate members of the public, the exact word to be used will need to be considered in the light of debate resolution in relation to the issues raised in section two of this paper.

Capacity and Capability

Marketing practitioners in many governments across Europe have excellent technical skills, but there are many countries where this capacity is not so well developed. There is a need to continue to build and sustain a high-level of professional capacity and the marketing and communication professional community will need to have the skill-set that will enable them to engage in policy development as well as programme delivery and evaluation if marketing and communications is to be more strategically engaged in pandemic preparedness policy formulation. The implications of adopting such an approach could include countries undertaking marketing and communications capacity and skills audit and the development of an assistance programme to develop training courses and mechanisms for sharing of best practice and skills and other competences for example, influencing policy makers, stakeholder management and leadership skills.

Silo research and evaluation

There are no current reliable estimates for how much is spent on marketing and communications research in the field of pandemic preparedness and management across Europe. However, it is reasonable to conclude given the size and importance of the issue to governments that the aggregate figure is significant. Most of this research is commissioned for individual agency programmes rather than for the European common good. The implications of adopting such an approach would include:

- Closer liaison and co-ordination with medical, epidemiological, social and marketing and communications research
- Initiate more centrally/ joint-funded marketing and communications research projects to minimise overlaps and maximise strategic joined up opportunities.
- Use ‘upstream’ horizon scanning and developmental research to pro-actively set the strategic marketing and communications agenda across European countries and specialist agencies.
- Develop standardised procedures for evaluative research to demonstrate the effect of pandemic marketing and communications programmes with the public but also inter and internal organisational communications programmes. This research should develop protocols for process measures of campaign efficiency, impact evaluation i.e. short term change such as awareness, as well outcome measures such as behaviour change or compliance.

Key outputs: tools and unresolved issues/further research recommendations

To date WP3 has developed and published five reports. These are all available via the e-Com website. The five reports relate to the WP objectives set out above. The five reports are:

1. Report on Behavioural Analysis. From Communication to Behavioural Influence, an Overview of Approaches and Issues.
2. The use of Segmentation and Customer Journey Mapping in three European Countries in relation to pandemic influenza, based on the 2009 H1N1 outbreak. Part One. A report of three case studies (England, Italy and Hungary) and their use of audience research for communications aimed at health care workers and the general public.
3. Customer Journey Mapping and Segmentation Report Part Two: A. Prototype Tools / Guides to Customer Journey Mapping in relation to Pandemic Influenza
4. Customer Journey Mapping and Segmentation Report Part Two: B Prototype Tools / Guides to Guide to Segmentation in relation to Pandemic Influenza

5. Developing potential S.M.A.R.T[3] Pandemic Behavioural Objectives

Issues/tools to be tested in WP 8 and 9

To date WP3 has developed nineteen proto tools that could be tested in the next phase of the Programme. These tools have all been developed to assist those responsible for developing strategies and plans focused on the communication and behavioural influence interventions associated with pandemic events.

These pro-tools are:

1. Adopting a Goals and SMART Objectives Approach to Specifying Specific Behavioural Targets in Pandemic Communication and Marketing Programmes
2. Checklist: When to use the media
3. Checklist for Designing Information Programmes
4. 30 Point Summary of Principles that Influence Behaviour
5. Key Influencing Factors Check List
6. Open Analysis Approach to Selecting Models and Theories of Behaviour Change
7. Principles for Designing Interventions Informed by Theory and Models of Behaviour Change
8. Cost value matrixes, the de CIDES Framework and the Intervention Matrix tools.
9. The Intervention Matrix Tool
10. Behavioural Economics Principles Assessment Questions Checklist
11. Common Programme Planning and Weaknesses Check List.
12. Checklist for Assessing the Strength of Planning for a Behavioural Intervention
13. Senior Responsible Officer Review Checklist
14. Ensuring Effective Engagement in Pandemic Communication and Behavioural Influencing Programmes 7 Point Checklist
15. Guide to segmentation
16. Proto segmentation model
17. Guide to Customer Journey Mapping
18. A set of potential SMART behavioural goals for the three audiences identified
19. Potential list of 26 metrics that could be used to measure the SMART Objectives identified.

These tools could be tested in the next phase of the project and refined to form the basis of a set of tools that could aid those responsible for the communication and marketing aspects associated with pandemic events.

[3] **S.M.A.R.T.** Specific. Measurable. Appropriate / Agreed . Realistic / Reliable. Time bound

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WP4 Interim Report

Vaccination knowledge, attitudes, risk perception & vaccination non-response.

Key aim of the WP 4

Behavioural responses of the general public are very important in limiting spread of influenza-like viruses. Compliance with preventive measures, such as non-medical interventions, antiviral treatment, and vaccination, is dependent upon the willingness and ability of the general public. Compliance with preventive measures is not self-evident. Therefore, the public needs to be informed and motivated through effective risk communication, also to build trust in public health authorities and prevent misconceptions. Surveillance of perceptions and behavioural responses of the general public during pandemics provides useful information for risk communication.

The key objectives for WP 4 are:

1. To systematically review studies into risk perception during the H1N1 pandemic
2. To systematically review studies into vaccination and antiviral therapy acceptance during the H1N1 pandemic among the general population
3. To make an overview of studies on willingness to comply with preventive measures regarding AH1N1 and seasonal influenza (such as vaccination) and reasons for (non) compliance among health care workers
4. To study vaccination coverage with regard to geography, age, gender and social economic status in at least 4 European countries from different key clusters
5. To identify 1) knowledge, attitudes, risk perception and information needs for seasonal influenza and new emerging infectious diseases, and 2) reasons for accepting and declining vaccination and antiviral therapy in at least 4 European countries from different key clusters
6. To develop a protocol for outbreak managers to identify the urgency and level of risk communication
7. To have the protocol evaluated by the end user forum of outbreak managers of national level from different EU countries

Key findings

The key findings from the systematic literature into public perceptions and behavioral responses during the 2009 Influenza A (H1N1) pandemic were:

1. The public in the different countries was generally well informed about the main modes of H1N1 virus transmission, and the knowledge level remained relatively stable during the pandemic phases. Nevertheless, there were a number of misconceptions about recommended preventive measures, especially vaccination, and other modes of transmission of the H1N1 virus

2. Perceptions and behaviours evolved during the pandemic. In most countries, perceived vulnerability increased. This was consistent with the fact that the number of infected and fatal cases increased rapidly during these phases. Perceived severity, anxiety, self-efficacy and vaccination intention decreased. This was probably caused by intense media attention in most countries in the early phase and waning attention in later phases.

3. Improved hygienic practice and social distancing were practiced most commonly.

4. During the pandemic peak phase, the majority of respondents in most studies reported that they would be willing to accept a H1N1 vaccination, if offered. Actual vaccination acceptance remained low, because the vaccine was not available until the post-pandemic phase, when the virus had run its course. Marked regional differences were noted in vaccination acceptance.

Key findings of the compilation of systematic reviews on influenza vaccination among health care workers, and their reasons for (Non) compliance

1. Main reasons for influenza vaccination compliance among HCW are: belief of personally being at risk, belief that influenza is severe, and belief in the vaccine's efficacy (i.e. protection of oneself, close relatives or patients).

2. Main reasons for influenza vaccination non-compliance among HCW are: doubts about vaccine safety/concerns about vaccine side effects, doubts about efficacy of vaccination, belief of rapid vaccine development compromising vaccine safety, and the perception that influenza is not a serious/fatal illness.

While no single intervention component is capable of raising influenza vaccination rates in health care workers rapidly and to a relevant degree, a comprehensive, well-supported, well-staffed and well-planned, multifaceted vaccination intervention programme can raise uptake rates substantially and sustainably.

A method that can be used for effective intervention development is Intervention Mapping. This is a planning model that guides steps towards intervention development, and directs the focus to towards the intervention. It includes six fundamental steps: 1) needs assessment, 2) development of matrices, 3) theory-based intervention methods and practical applications, 4) intervention program, 5) adoption and implementation, and 6) evaluation plan see: (Bartholomew LK, Parcel GD, Kok G, Gottlieb NH, Fernandez ME. Planning health promotion programs. An Intervention Mapping approach. 3rd ed. 2011, San Francisco, CA: Jossey-Bass).

Key findings from the online survey in the UK, Sweden, Poland, and Spain, on risk perception of seasonal and pandemic influenza

1. Good hygiene and avoiding people who are coughing and sneezing was considered to be more effective in preventing seasonal influenza than vaccination.

2. 40% of all respondents were willing to be vaccinated against seasonal influenza. This percentage was highest in the UK (57%).

3. Of the 4 countries, respondents from Sweden had the lowest risk perception towards both seasonal and pandemic influenza, the lowest belief in the effectiveness of preventive measures (response efficacy), and the lowest intention to perform these measures.

4. Respondents from Poland scored highest on risk perception, response efficacy and intention to perform preventive measures regarding seasonal influenza. Respondents from the UK scored highest on these issues regarding pandemic influenza.

5. Sketching a mild versus an intermediate versus a severe pandemic influenza scenario (in terms of number of deaths and percentage infected) only had a small influence on perceived severity, vulnerability, and intention to perform preventive measures. It had no influence on response efficacy and self-efficacy.

WP 4 developed a protocol for outbreak managers to identify the urgency and level of risk communication. The key elements of this protocol are:

1. Checklist to describe the characteristics of the disease (e.g. transmission route, incubation time, fatality, contagiousness, outbreak setting, treatment options, preventive measures)

2. Checklist to identify the risk perception and experience of the public (e.g. public knowledge, perceived severity, distrust, financial consequences, risk for children or pregnant women, media interest, political interest)

Based on these data, a broad assessment can be made of the urgency of risk communication, the target group(s) and the means and materials to be used.

- Guideline how to organise a public survey, analyse the results and translate the results into communication messages
- Dos and don'ts regarding infectious diseases risk communication. By taking these points into consideration, the effectiveness of the communication is increased
- Appendix with example questions for public surveys into (an outbreak of) infectious diseases

Key recommendations

The recommendations below followed from the systematic literature into public perceptions and behavioural responses during the 2009 Influenza A (H1N1) pandemic:

1. To prevent misconceptions, it is important that health authorities provide up-to-date information about the virus and possible preventive measures during future outbreaks. In addition, they should be transparent about governmental decision-making. This is essential not only to instruct and motivate the public to take effective preventive measures, but also to build trust in public health authorities and to prevent misconceptions.
2. Therefore, public health authorities should continuously monitor public perceptions and misconceptions and take this information into account when communicating with the public.
3. Because public perceptions and behaviours varied between countries during the pandemic, risk communication should be tailored to the specific circumstances of each country.
4. Finally, the use of health behaviour theories in studies on public perceptions and behaviours during outbreaks would greatly facilitate the development of effective public health interventions that counter the effect of an outbreak.

The compilation of systematic reviews on influenza vaccination among health care workers, and their reasons for (non) compliance, showed that it is important to optimize education for health care workers about influenza vaccination. This should include factual information about:

- characteristics of the virus and number of (fatal) cases;

- possible vaccine-related side-effects and their incidence;
- vaccine effectiveness
- the importance of protecting themselves, the healthcare infrastructure, and patients.

Key recommendations from the online survey in the UK, Sweden, Poland, and Spain, on risk perception of seasonal and pandemic influenza, were:

1. Public health authorities can promote the seasonal influenza vaccination by stressing that it is far more effective than performing good hygiene and avoiding people who are coughing and sneezing.

2. In case of pandemic influenza, European health authorities should be aware that there can be large differences between countries in risk perception of the public and in willingness to perform preventive measures. It may be necessary to increase public awareness and risk perception in some countries, but to decrease it in others.

3. In a pandemic situation, the general public may not be able to discriminate between a mild versus a severe situation only based on epidemiological data such as (large) numbers of deaths and percentage infected. Health authorities should interpret these data for the public in terms of mild or severe, in order to increase or decrease their risk perception and willingness to perform preventive measures.

The protocol for outbreak managers to identify the urgency and level of risk communication will be evaluated in February/March by the end-users of the E-com@eu project. Recommendations will follow later from this evaluation.

Issues/tools to be tested in WP 8 and 9

Ideas for concrete tools for policy makers following from WP4 are:

1. Overview of possible interventions / intervention components to increase influenza vaccination coverage among health care workers.

2. An (online) protocol for outbreak managers, to identify the urgency and level of risk communication. The protocol contains a checklist to describe the characteristics of the disease, a checklist to identify the risk perception and experience of the public, a guideline how to organise and analyse a public survey and translate the results into communication messages, and dos and don'ts regarding infectious diseases risk communication.

3. A standard questionnaire to measure risk perception and related concepts.

The risk communication protocol that we have developed will be evaluated by the those end-users who attend the London E-com@eu meeting in March. However, this is a modest evaluation. It might be possible to have the protocol further evaluated in WP8. Also the other two (ideas for) tools could be evaluated in WP8.

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Interim Report WP 5

Acceptance of preventive measures in epidemic outbreaks across Europe. A Discrete Choice Experiment (DCE) .

Key aims of the WP 5:

1. To obtain insights in the attributes that influence preferences of the general population of four different countries of different key-clusters in Europe (The Netherlands, Poland, Spain and Sweden) for pandemic vaccinations;
2. To determine the trade-offs that people make between these attributes;
3. To investigate if and how these preferences differ within and between the populations of different countries;
4. To calculate the expected uptake of several base case vaccination programmes for several hypothetical disease outbreaks; and
5. To develop a tool for policy makers to adapt the discrete choice experiment (DCE) to differences among European countries and a tool to estimate the uptake of different vaccination programmes in various outbreak situations in different European countries.

We used a DCE to achieve the main aims mentioned above. DCE methodology is a survey-based stated preference technique to investigate individual preferences quantitatively. In DCEs, the assumption is that an intervention (here: a pandemic vaccination programme) can be described by its characteristics (attributes) and that those characteristics can be further specified by variants of that characteristic (attribute levels). The relative importance of attributes can be assessed by presenting respondents a series of choice sets in which they are asked to choose a preferred alternative from a set of two or more hypothetical intervention alternatives (here: pandemic vaccinations) with varying combinations of attribute levels.

To achieve these aims we worked closely together with other E-com@eu project members:

- We used the results of the review study by WP4 for the selection of attributes and attribute levels.
- Members gave feedback on the selected attributes and attribute levels either by email or during the Consortium meeting in January 2013.
- To improve the presentation of the attributes and levels in the choice sets, we used knowledge/expertise of members in the design phase of the DCE.

Key findings

We selected the most relevant attributes and attribute levels based on: 1) a systematic literature search in several online databases as well as using the results of the review study by WP4, 2) a focus group study based on theoretic behaviour models (Health Belief Model and the Protection Motivation Theory) in four countries (in total 15 group discussions were conducted), and 3) nine international expert interviews. As a result, we selected two relevant disease specific scenario variables: severity of the disease and susceptibility to the disease, and five relevant vaccination programme attributes: effectiveness of the vaccination, out-of-pocket costs of the vaccination, safety of the vaccination, by which body the vaccine was advised and how the vaccine was discussed in the media.

In total, 2,068 internet panel members (samples representative per country based on age, gender, region and educational level) of four different countries completed the questionnaire, which included 16 choice sets of two hypothetical pandemic vaccinations with varying combinations of attribute levels and an opt-out alternative (i.e., a no vaccination option), during the summer of 2013. Including an opt-out was necessary since, as in real life, respondents are not obliged to take a vaccination.

The results of the direct ranking question, in which respondents were asked to rank factors that influence their decision to get vaccinated from most to least important, are comparable with the results of the focus group discussions and the DCE results and therefore support the convergent validity. In all included countries except Sweden, effectiveness of the vaccination was ranked by the majority of the respondents as most important when deciding to get vaccinated or not, while in Sweden, the majority considered safety of the vaccine as most important. Swedish focus group participants mentioned frequently that their negative experiences with the Influenza A/H1N1 pandemic vaccine would influence their vaccine uptake behaviour during future pandemics.

DCE data was analysed using regression analysis (latent class model). Results showed that preferences of all included countries were in the same direction, which indicates that across countries similar considerations about having vaccinations were put forward. Vaccinations with higher out-of-pocket costs and less certainty about future side effects, as well as the negative advice by friends/family or physician and negative media coverage influenced respondents' preferences for pandemic vaccination negatively. A higher vaccination effectiveness and positive advice of friends/family, physician, government and public health institute and international organizations influenced preferences for pandemic vaccination positively. In all included countries, the effectiveness of the vaccine interacted with the seriousness of the disease. This indicates that the influence of effectiveness of a vaccination on the preference for pandemic vaccination is dependent upon the levels of severity and susceptibility of a disease. If the susceptibility to or severity of a disease are considered to be higher, while the effectiveness of a vaccination is the same, preference for vaccination increases relative to no vaccination. I.e. if the outbreak was more serious, respondents of all countries were willing to pay more for more effective vaccines (Figure 1). Effectiveness, advice regarding vaccination and out-of-pocket costs were the three most important attributes across included countries (data not shown). The WTP values indicate that respondents of the included countries were more sensitive to advice against vaccination compared to advice in favour of vaccination (Figure 2). Furthermore, the WTP indicates that respondents of all included countries overall considered the recommendation by physicians, governments/PH institutes and international organizations as more valuable than those by family and friends.

Although all results pointed in similar directions in the included countries, different aspects were emphasized across countries. Though respondents of all included countries were willing to pay for more effective vaccines, Polish and Spanish respondents were willing to pay significantly more money to obtain extra effective vaccines in a mild outbreak than Dutch and Swedish respondents (Figure 1). However, when the outbreak was more serious, also Dutch respondents were willing to pay significantly more compared to Swedish respondents for extra effective vaccines.

Figure 1 will be updated once results have been published in a peer-reviewed journal. Willingness-to-pay (WTP) in euros for a 10% more effective vaccine for three scenarios. All the country specific WTP values are converted (by using OECD's purchasing power parities (PPP's) and currency exchange rates of May 2013) to euros at the Dutch price level to be able to compare the WTP values between countries. A mild outbreak is defined as 5% of the population getting sick and 5% of those getting severe symptoms, a moderate outbreak as 10% of the population getting sick and 25% of those getting severe symptoms, and a severe outbreak as 20% of the population getting sick and 75% of those getting severe symptoms.

Whiskers represent the average WTP (and their 95% Confidence Interval) for a 10% more effective vaccine. NL=Netherlands, PL=Poland, ES=Spain, SE=Sweden.

Figure 1

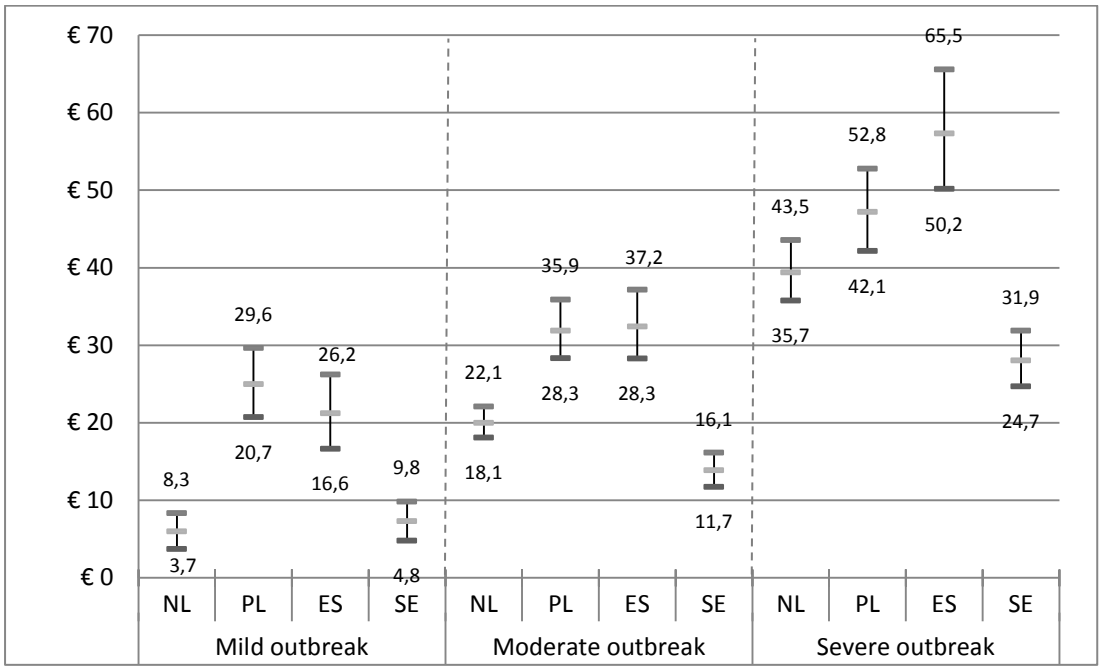
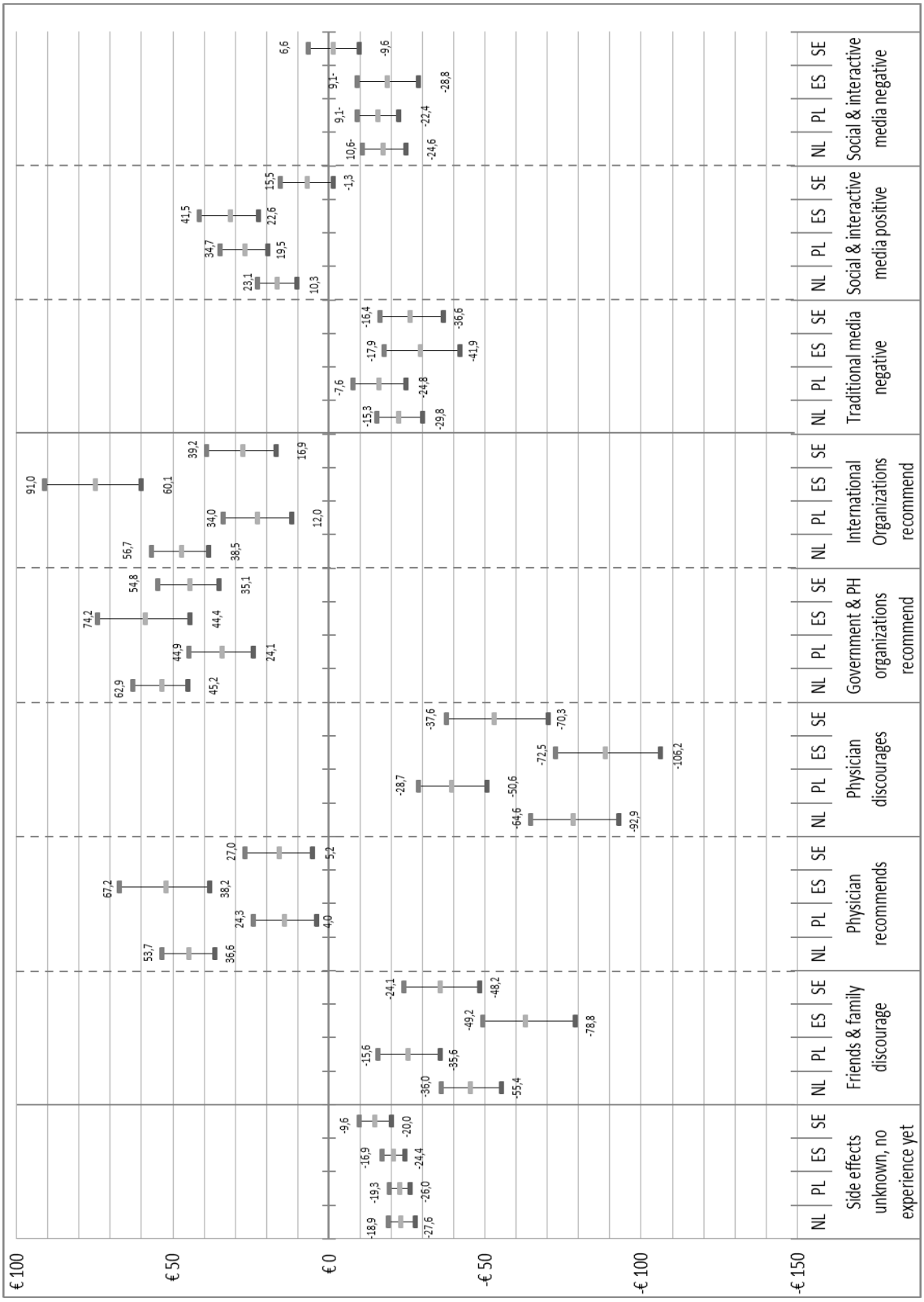


Figure 2 will be updated once results have been published in a peer-reviewed journal. WTP in euros for safety, advice and media coverage attributes. All the country specific WTP values are converted (by using OECD's purchasing power parities (PPP's) and currency exchange rates of May 2013) to euros at the Dutch price level to be able to compare the WTP values between countries. The WTP can be used to directly compare DCE results between countries and can be seen as a measure to visualize the importance of attribute levels; the higher the WTP the more important the attribute level. Whiskers represent the average WTP (and their 95% CI) for the shown level compared to the reference level (Respectively 'side effects unknown, expected to be safe', 'friends&family recommend', and 'traditional media positive). NL=Netherlands, PL=Poland, ES=Spain, SE=Sweden.

Figure 2



The WTP for all levels of the advice attribute showed that Polish respondents placed, on average, less value on advice regarding vaccination compared to respondents of other included countries (Figure 2). Although this finding is not significant, it was in line with results found in our focus group study and the attribute importance scores (data not shown). During

the Polish focus group discussions participants frequently mentioned their distrust towards physicians and the Polish government, as well as the need to decide for themselves without consulting others. Dutch and Spanish respondents placed significantly more weight on the advice of a physician (either recommendation or discouraging) compared to Poles and Swedes. Dutch respondents placed significantly more weight on the discouraging of physicians compared to the discouraging of friends and family, while respondents of other included countries did not. Only respondents from Sweden valued the advice of their government and public health institute over the advice of a physician significantly. Furthermore, when the vaccine was recommended by International Organizations respondents from Spain were more willing to get vaccinated compared to respondents of other included countries. Only Swedes placed no additional value on social & interactive media coverage compared to traditional media while respondents of other included countries did.

Additionally, our results showed that subgroups within the included countries can be distinguished. For example, Dutch data showed that in general (i) female respondents made different trade-offs than males, and (ii) respondents who stated that they were never in favour of vaccination made different trade-offs than respondents who stated that they were (possibly) willing to get vaccinated.

The mean predicted uptake of a base-case vaccination programme (i.e., a vaccine with an effectiveness of 70%, that was supposed to be safe, was advised by friends, received positive traditional media attention and had no out-of-pocket costs) for a mild pandemic was lowest in Sweden. When an outbreak is more serious, the vaccine uptake increased in all countries.

Key recommendations:

Insights in the attributes influencing the intention to accept or decline a pandemic vaccine may have implications for both national and international health policy. Agencies responsible for preventive measures during pandemic outbreaks can use these insights to improve their strategies for future pandemics.

When communicating public health messages regarding vaccination, one should be aware of preference heterogeneity between and within countries and therefore use different sources and channels to distribute the messages and focus on different vaccination programme attributes. The current study provides guidance for communication during future pandemics by the identification of several groups with different preferences for pandemic vaccinations within one country and with differences between the four countries. A strategy for the Netherlands could be, for example, that the Dutch government and National Institute of Public Health and the Environment (RIVM) starts the communication for the first phase of a vaccination programme by targeting the more vaccination minded persons, especially males, to reduce the number of people that are prone to be infected immediately. Furthermore, the focus of this communication should be on the expected effectiveness of the vaccine. Next, physicians should advice people, especially females, who are less vaccination minded, to take the vaccine. For public health messages during vaccination programmes, it is also important to monitor side effects. Updates of the side effects of the vaccine need to be given on a regularly basis to make sure that an informed choice can be made and to reduce fear of the side effects of the vaccine.

Furthermore, policy makers can use the expected uptake probability of hypothetical vaccinations when predicting the number of vaccinations that will be needed during future outbreaks.

Key outputs: tools and unresolved issues / further research recommendations (400 words)

Publication aim: To publish three papers in peer-reviewed high-impact medical journals (one paper on the focus group discussions in three countries (the Netherlands, Poland, and Sweden), one paper on the results of the DCE in the Netherlands, and one paper on the comparison of DCE results between four European countries).

Tools:

1. We will provide a guideline: 'How to prepare and conduct focus groups?' The guideline will include the use of theoretic behavioural models in the preparation of focus group discussions.

2. We will create an online tool in which end users will be able to calculate the expected vaccination uptake for various disease outbreaks with various vaccines in different countries, using the DCE results. Given that a new outbreak occurs and several characteristics of the disease are known (number of people getting sick and number of people who suffer from severe symptoms), one could calculate, for example, how negative messaging regarding the vaccine by the media influences the expected uptake of a base case vaccination, compared to positive communication regarding the vaccine in the media.

3. We will make the DCE questionnaire available to end users, so that they can collect data and will obtain insights in the preferences of the population of other countries. Noteworthy, as the analysis of the DCE questionnaire requires specific econometric knowledge, the E-com@eu group can conduct the analyses for the end users.

Further research recommendations:

If a new pandemic outbreak occurs, the external validity of the DCE results could be tested by distributing and analysing the same questionnaire before a vaccine is available. Asking the same respondents, later when a vaccine is available, if they were vaccinated or not, we can test 1) to what extent people do respond to the real offer of pandemic vaccine in a manner consistent with their responses to hypothetical DCE questions, and 2) what the reasons are for discordance between stated preferences and real behaviour for people who say 'no' in a DCE and do 'yes' in real life and vice versa.

Issues and/or tools to be tested in WP8

We provide information on similarities and differences regarding vaccination preferences between and within countries in case of a pandemic outbreak, and are able to predict vaccination uptake for various pandemic outbreaks (mild, moderate, severe) with various vaccines in different countries. It is not our expertise to give concrete recommendations on how to communicate vaccination strategies. Other work packages do have this expertise (e.g. SSM). Results need to be compared and integrated.

ECOM

Interim report WP 6

Vaccine-resistant group analysis

Key Aims of WP 6

WP6 aims to describe evidence-based behavioural and communication strategies for Under-Vaccinated Groups for health professionals and agencies throughout Europe in case of major epidemic outbreaks of a vaccine preventable disease (VPD). Scientific knowledge and technical ability have increased tremendously in the past years and have enabled health authorities to respond more effectively to major outbreaks. However, the ability of governments and health authorities to communicate the need for large-scale preventive measures such as vaccination effectively during outbreaks, and to increase the acceptance of vaccination among specific under-vaccinated risk groups has not developed to the same extent. Consequently, unvaccinated pockets remain in many European countries, which still experience outbreaks of VPDs. It is unknown if, and how the opinions of these groups might influence the public.

Methods

From scientific literature reviews, grey literature and research in progress, we identified under-vaccinated groups (UVGs) in three European countries representing three geographical areas, and described their determinants regarding vaccination behaviour.

From this, we developed a 'Determinants and Performance Objectives Matrix' (DPOM) which combines performance objectives for each selected determinant where programme objectives were defined in order to achieve these performance objectives. The inherent hypothesis of this approach is that a determinant-based approach may be more effective and efficient than a segmented approach directed at specific sub-groups of the target population.

In order to identify whether UVGs are present on the internet with high public profile, a quantitative internet analysis of most frequently visited and commented sites, blogs and other in the selected three countries was performed. With this analysis we hope to find if and how vaccine resistance influences the media and thus possibly also the publics' opinion.

In the second part of the project, using an existing model on how determinants influence vaccination behaviour, we suggest a number of evidence-based communication and behaviour influence tactics for UVGs per determinant in the Determinants and Performance Objectives Matrix (DPOM) Tool.

Key findings

Selection and identification: Working at the Dutch National Institute for Public health and the Environment (RIVM), we chose the Netherlands as representative for north-western Europe, and for further geographical representativeness, we selected Portugal for south-western Europe and Romania for central/south-eastern Europe. We identified six UVGs in these three countries by means of outbreaks within their community, by vaccination coverage studies and by detailed review of peer-reviewed and grey literature: Anthroposophist, Orthodox Protestant, The Association for Conscientious Vaccination, Roma community, the 'macrobiotics' and the 'critical citizens'. These six UVGs are described

as examples. While they are present in the selected countries, most of them are not specific to these countries and can be found in many other European countries.

Determinants: The main determinants regarding vaccination were the perceived non-severity of traditional "childhood" diseases, fear of vaccine side effects, doubts about the effectiveness of the vaccine, religious objections, natural lifestyle, low access to health care centres and little trust in the Public Health authorities. We suggest performance objectives per determinant and link these to programme objectives in order to achieve these performance objectives (APPENDIX I 'Determinants and Performance Objectives Matrix').

Model: We could not find a model how determinants influence vaccination behaviour in UVGs. We thus have tentatively extended the existing Paulussen model for vaccination behaviour in the general public to a model for under-vaccinated groups. This needs to be validated in further research (APPENDIX II).

Media coverage: With all its limitations, the media analysis did not show significant influence of UVGs in mainstream media. Also specific pre-selected websites operated by active individual vaccine critics did not gain relevant media coverage. Celebrities with a vaccination issue did get relevant media attention, but not consistently over time.

Communication and behavioural influence tactics: Among each UVG identified, there is a variety of beliefs and objections to vaccination and not all members have the same beliefs (within-group heterogeneity). On the contrary, some shared similar beliefs (between-group homogeneity). Therefore, we suggest communication and behavioural influence tactics for the determinants most easily influenced or amenable to change rather than build a separate communication strategy for each UVG (APPENDIX III).

Key recommendations

Health professionals and agencies can use the suggested communication and behavioural influence tactics effectively throughout Europe, in the framework of countries own national immunisation programmes, in case of major epidemic outbreaks of a vaccine preventable disease (VPD). It must be emphasised that the communication approaches set out here are not presented as a total and complete set of interventions; rather they are illustrative of just the communications component of a fuller programme.

The potential efficiency of the suggested communication and behavioural influence tactics may be significant given that such an approach might also apply to the general population. What is not being advocated is a total disregard for the specific needs of specific segments of the population that resist actively or passively immunisation uptake. Rather the use of a determinants-based approach may augment and enhance more specifically segmented and targeted approaches based on specific sub-group characteristics. Moreover, when communication programmes are being developed and implemented locally (or nationally), the specificity and the tendency of each UVG needs to be taken into account in framing that strategy. A general principle that has emerged from this work is that communication with UGs has to start as soon as possible. To be effective, responsible organisations should not wait for the next outbreak to initiate communication. Rather than having a reactive approach, there is a need to undertake regular, proactive communication and dialogue with these groups to build relationships and trust.

Issues and/or tools to be tested in WP 8 and 9

Key outputs: tools and unresolved issues/further research recommendations

- Determinants and Performance Objectives Matrix
- Proposed model determinants influencing vaccination behaviour
- Communication and behavioural influence tactics

- Identification of UVGs by outbreak reports and vaccination coverage
- Identification of determinants for under vaccination by sociological, psychological or anthropological
- Studies or existing literature
- Model how determinants influence vaccination behaviour
- Media analysis
- Determinants and Performance Objectives Matrix
- Communication and behavioural influence tactics

WP 7 Second deliverable: Report on the proceedings of end user meeting two by Month 25 March 2014

Ecom@eu End user engagement

Objectives of the Ecom@eu end user engagement programme:

1. To establish a forum of potential end users of the package of evidence-based behavioural and communication tools that will be developed in the project.

2. To organise meetings of the forum during the course of the project to ensure their input and enhance their sense of ownership of the final product.

Description of work

The members of the end user forum have been recruited form among experts who are responsible for outbreak management at the national level in the member countries of the European Union, and a representative from the ECDC in Stockholm and WHO Europe.

The forum will meet 4 times during the project, in conjunction with the consortium meetings/ final congress, in order to be informed regularly about the progress of the project and to provide their opinion and input to important decisions to be made. In this way we expect that we are able to develop a package of communication tools that will be appropriate for all countries and that the outbreak managers are familiar with the tools. As part of WP10, those that take part in the end user forums will be given specific briefings regarding the final outputs of Ecom@eu to help facilitate the application of the final tools and insights developed

The consortium is also fundamentally concerned with building on countries existing capacity and skills. There are many experts within individual countries and their existing knowledge and skills need to be recognised and valued if a more coordinated response across Europe is to be achieved. Hence key stakeholders and risk communication experts from all EU countries will be identified and informed about the nature of the work, and have opportunities to give their comments. They will be invited to join the end-user forum and accompany the development process throughout the project.

A risk to the Ecom@eu programme is that decision makers do not take notice of the developed tools and recommendations developed. This could be due to a lack of knowledge or acceptability of the project results, or due a low perceived usability, i.e., that the findings are intriguing but not user-friendly. This is why we include stakeholders (end user forum) as part of the dissemination plan and as part of a core work package (WP11). The inclusion of a SME that has extensive experience in translating research findings to a broad audience (Media Tenor) and an SME that specializes in designing usable tools for consumers (Elastique) further ensures the design of usable tools.

Interim report for WP1.1

Summary of progress towards objectives and details for each task

We have made contact with and recruited experts from across the EU who are responsible for outbreak management at national level, as members for our end-user forum. The following countries/organisations were interested to participate in our end-user forum:

- *Austria, Ministry of Health*
- *Bulgaria, Ministry of Health*
- *Ministry of Health Hungary*
- *France, Inpes Unit*
- *Germany, Robert Koch Institute,*
- *Italy, Sanita*
- *Netherlands, Health Care Inspectorate*
- *Norway, FHI*
- *Portugal, Ministry of Health*
- *Sweden, SMI*
- *UK, Health protection agency*
- *ECDC*
- *WHO Europe*
- *Netherlands Public Health Department*
- *German Ministry of Health*
- *UK Health Protection Agency*
- *UK NHS England*
- *Health, Food chain safety and Environment Belgium*
- *DG SANCO- Health Threats Unit Belgium*
- *Euro Health Net*
- *DG Sanco Health Threats Unit*
- *'Tell Me' EU WP & Programme*

A full list of all the contacts made so far by the programme members is included in annex one.

Organisation of end user forum meetings

During our kick-off meeting, we invited the end-user forum members to attend on 21 March 2012. Eight people were available to come, but due to two last-minute cancellations (from Paula Vasconcelos from MoH Portugal and Ülla-Karin Nurm from ECDC), finally 6 members actually were present: Angel Kunchev from MoH Bulgaria, David Heard from Inpes France, Robbin Westerhof from Health Care Inspectorate Netherlands, Siri Hauge from FHI Norway, Miranda Mindlin from HPA UK, and Piotr Wysocki from ECDC.

At our second meeting at moth 24 the following end users attended:

Name	Email	Organisation
Miranda Mindlin	miranda.mindlin@phe.gov.uk	Sussex Public Health England Centre. England
Helena Rubinstein	Helena.Rubinstein@phe.gov.uk	Health Protection Directorate Public Health. England
Roberta Villa	robi.vil@hotmail.it	Tell Me. Italy
Robbin Westerhof	gr.westerhof@igz.n	Health Care Inspectorate Programme Public Health. Netherlands
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Dom McVey	dom@womresearch.org.uk	WOM Research. UK
Germain Thinus	Germain.Thinus@ec.europa.eu	DG SANCO - Health Threats Unit. Belgium
Klaus Riedmann	Klaus.Riedmann@bmg.bund.de	German Ministry of Health Head of Communication team. Germany
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Clive Needle	C.Needle@eurohealthnet.eu	CEO Euro Healthnet. Belgium
Adam Crosier	adam@womresearch.org.uk	WOM Research UK

A number of other users indicated their desire to be engaged with further development of the programme in phase two.

End User Recommendations for phase two of Ecom@eu.

At the second meeting key remarks and recommendations were given by end users and these can be summarized as:

1. The Health Threat Unit of the Directorate-General for Health and Consumer Protection (European Commission) is responsible for terrorism surveillance and early warning of biological, chemical, and radiological threats within the European Union. The Health Threat Unit runs the Rapid Alert System, which conducts surveillance on communicable diseases and diseases caused by acts of bioterrorism. The surveillance data are coordinated and evaluated by the Health Emergency

Operations Facility. Health threat information and warnings are sent to the member states by the Communication and Crisis Centre (BICHAT) and the Security Office in Brussels, Belgium. This unit would like to be informed regularly of the proceedings of the Ecom@eu project and participate in the end user forum meetings.

2. Please consider the Horizon 2020 programme. It is very much focused on products/results, i.e. what is new knowledge and what confirms existing knowledge.

3. Consider how one can get heard in a time when there is no pandemic or epidemic? Not in all years there is a seasonal flu epidemic.

4. The Ecom@eu project is of great added value to the work of the ECDC. It is very relevant and it would be good to have a joint implementation strategy.

5. Much of what the Ecom@eu project shows already happens in other fields, but not in crisis preparedness. We should lobby with governments that this is very important. Findings of this project may be useful for other crisis situations (not only pandemics).

6. As long as outbreaks are not declared a national crisis, there is no time and money to do intensive research, so how can things be simplified?

7. Consider what already exists in the EU, and how Ecom@eu products can be sustained, for example through other partners.

8. A main concern is how to keep the evidence updated (i.e. if an epidemic occurs 5 years from now)?

9. Regarding cultural targeting: do not make your products too much into final-finished products; they are more likely to be out-dated and/or not culturally appropriate. Leave it to individual countries to finalise them.

10. Consider 'The Influence Project', e.g. about the role of social media (Twitter) in crisis.

11. Countries are very different, let them customize a general tool themselves.

As a result of these recommendations the project will during the work of WP 8, WP 9 and WP10 focus on the following actions:

1. Establish good rapport with the **Health Threat Unit** through regular contact and possibly a visit by project leaders of Ecom@eu. We will plan to develop with the Unit a joint plan for disseminating the results of the programme through the Units networks.

2. Intensify contacts with **ECDC and WHO Europe** with special reference to developing joint implementation strategies.

3. Intensify contacts with **related projects** such as 'The Influence Project' and 'Tell Me' to streamline tools and products and to generally learn from each other.

4. Attempt to inform the field of **crisis preparedness** on knowledge and tools regarding communication that are either already known in other fields or come forth from the Ecom@eu project.

5. Our tools will be developed in **generic formats**, so that these can be easily customised for different countries by local authorities.

Project Website

In addition to the contracted work allocated as part of WP3 Strategic Social Marketing has kindly developed and maintained a basic project website as an interim communications platform for the project. This work was originally the responsibility of WP1.1. As part of end user engagement of the project, the current website has during the first two years of the project been used to make the emerging reports of Ecom@eu available. As we enter the second phase of the Ecom@eu project, a more interactive approach and new website will be developed and used to promote engagement with a wider group of end users and to act as a key platform to disseminate findings. It is planned that the new Ecom@eu website will be launched in August 2014.

Annex One End User engagement at Month 24

Name	Email	Organisation	Country
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Dr Angel Kunchev	akunchev@abv.bg	Ministry of Health	Bulgaria
Dr Caroline Brown	cbr@euro.who.int	WHO Europe. Programme Manager Influenza and other respiratory pathogens	Denmark
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