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WP3 ACTION PLAN DEFINITION D3.3 ACTION PLAN HANDBOOK

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ASSET

Action plan on SiS related issues in Epidemics and Total pandemics

7th RTD framework programme

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ASSET Action plan on Science in Society related issues in Epidemics and Total pandemics



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D3.3 Action Plan Handbook

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INTRODUCTION

ASSET Action Plan Handbook is a concise and practical executive manual, which includes detailed description and timetable of MML actions and related responsibilities within the consortium.

Its main purpose is to explain clearly and practically how ASSET project could contribute to bring some SiS themes (i.e. Crisis Participatory Governance, ethical and gender issues, transparency, and so on) into the public debate on pandemic and epidemic preparedness and response.

It can also represent a **model of actions for other projects and stakeholders**, by highlighting main targets, presenting some relevant contents and describing possible tools of such actions.

According to the DOW, "the action plan will be composed of action steps and will include a specific plan on competence development aimed at enhancing awareness, knowledge, commitment and capacity necessary to incorporate gender perspectives, ethical considerations, science communication, citizens participation, in flu pandemic preparedness strategies and actions".

D3.3 Action plan handbook is based on the objectives, strategies and actions outlined by the D3.1 ASSET Strategic Plan and by the D3.2 Roadmap towards responsible and open, citizens-driven research and innovation on vaccines and antiviral drugs. All of these three tasks take advantage of the capacity building activities of WP1 and are based on the results of Study and Analysis of WP2. Tools mentioned in this plan will be further described in the D3.4 ASSET toolbox.

D3.3 Action plan coordinates the scheduled activities of citizens' consultation (WP4), mobilization and mutual learning (WP5), policy watch (WP6) and communication (WP7), in order to improve their efficacy and effectiveness under the monitoring of internal and external evaluation (WP8), with some proposals for a legacy of ASSET project (WP9).

D3.3 Action plan reports different tools and actions targeted to different stakeholders, as anticipated by D3.1 ASSET Strategic Plan (p.15-16).

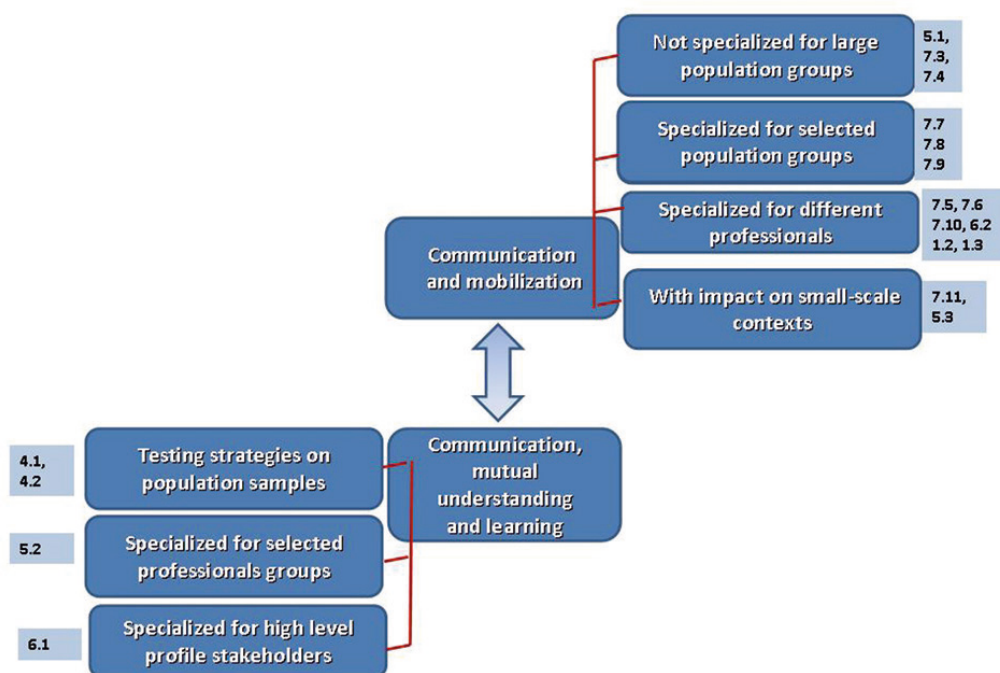


Figure 1, Approaches, characteristics, targets and related tasks (N.N) of the ASSET project



EXECUTIVE SUMMARY

The overall objective of ASSET project is to contribute to incorporating Science-in-Society issues into the system of Research and Innovation related to pandemic or epidemic preparedness.

This will be done by:

- ✓ exploring and mapping SiS-related issues in global pandemics
- ✓ developing a partnership with complementary perspectives, knowledge and experiences to address effectively scientific and societal challenges raised by pandemics and associated crisis management
- ✓ developing a participatory and inclusive strategy to succeed.

The structure of the ASSET D3.3 Action Plan Handbook is focused on the different targets of our action. This choice aims at making it a **practical and usable tool** for partners, stakeholders and other possible users, and could represent a model for future action plans, as well.

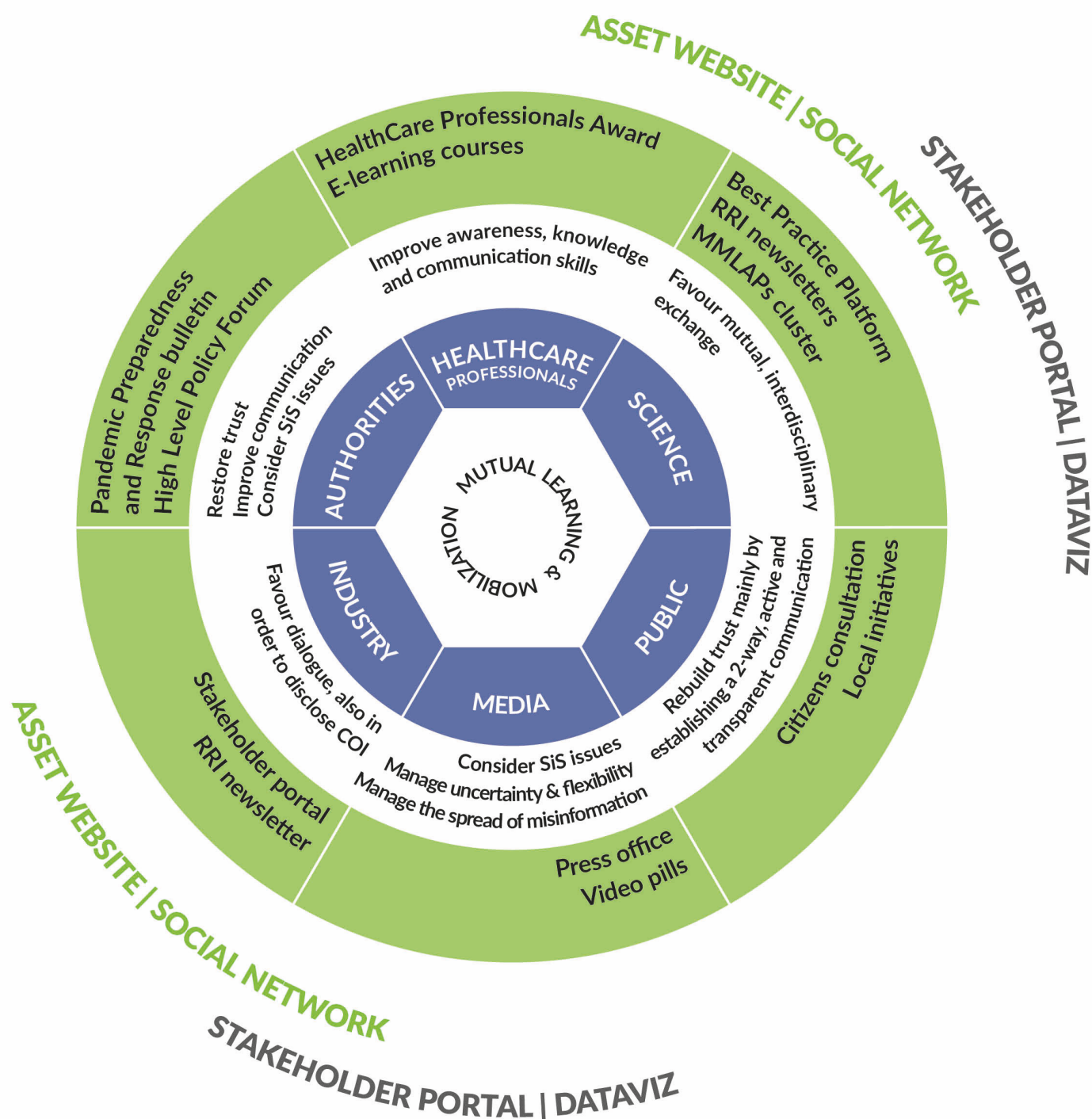
The document is therefore made of 5 sections:

- I. in the first one, the **6 main themes** of RRI that the project deals with will be presented
- II. in the second, the **6 main targets** of our actions will be specified. Some of the main challenges for them in the field of pandemic and epidemic preparedness and response will be suggested, too
- III. the third section will list **ASSET actions and activities** to mobilize the 6 main targets on the previous 6 themes. Some on these actions are planned and will be implemented during the project; some could follow up
- IV. the fourth section includes **a graphical synthesis of ASSET Action Plan** by target, along with a more detailed timetable
- V. the fifth section specifies what the **legacy** of ASSET project can be, that is how this experience, its activities and tools could turn out to be useful for stakeholders after the end of the project and which other actions could be taken in a possible ASSET 2 project, which could take this work on.



BEYOND ASSET

ASSET represents a model of actions for other projects and stakeholders, by highlighting 6 main targets, presenting some relevant contents and describing possible tools of actions on pandemic and epidemic preparedness and response.





Section I

6 MAIN SIS/RRI THEMES

Responsible Research and Innovation (RRI) is an inclusive approach to research and innovation (R&I), to ensure that societal actors work together during the whole research and innovation process. It aims to better align both the process and outcomes of research and innovation with the values, needs and expectations of European society.

To build a more resilient society able to tackle epidemics and pandemics, it is of paramount importance to create conditions of co-operation between stakeholders, decision makers, health professionals, scientists and the citizens.

For that purpose, during the last few years, the European Commission has promoted a “Science-in-Society - SiS” (FP7) approach, now further evolved into the concept of “Science with and for Society”. Its “greatest impact has been to raise the political importance of science in society [...], raising awareness of the problems and the need for all actors to work together, but also enhancing the understanding of the nature of problems”¹.

Furthermore, within the framework of Responsible Research and Innovation (RRI), two-way communication channels were promoted aiming at the ‘scientific citizenship’, consisting of “the active and knowledge-driven participation of citizens in democratic processes, including agenda setting, information gathering, co-creation and evaluation”¹.

Consequently, a particular project approach called the Mobilization and Mutual Learning Action Plan (MMLAP) was promoted to create potentially useful co-operation conditions between the scientific community, policymakers, citizens and their stakeholders. Finally, “the MMLAP provides an effective model for enhanced integration of stakeholders in European research”.

The ASSET D3.1 Strategic Plan outlined some priorities in the field of pandemics or infectious emergencies. According to this, MML Plan of Action should follow the 6 main cross cutting themes indicated by the RRI and studied by ASSET WP2.

In WP2, in fact, ASSET partners reviewed the state of the art in research on pandemics, its wider societal implications, research and innovation in this area, and the operational and regulatory environment.

WP2’s main objectives were to establish a baseline knowledge in the research and innovation context about:

1. governance of flu pandemics and other similar crises
2. unsolved scientific questions regarding influenza and pandemic situations
3. past experiences of governance, bringing research about influenza and pandemics closer to democratic institutions at all levels and moving from governance to crisis participatory governance
4. targeted ethical, legal and societal implications of pandemics
5. gender issues in pandemics
6. risk of intentionally caused outbreaks.

¹ D3.1 ASSET Strategic plan



1. GOVERNANCE OF FLU PANDEMICS AND OTHER SIMILAR CRISES

According to D2.1 Governance report, the role and performance of the WHO, ECDC and CDC in 2009 A(H1N1) pandemic were impaired mainly by lack of trust and perceived conflict of interest by the public.

D3.1 Strategic Plan highlights the roles played by WHO, pharmaceutical industry and the media in these challenges. It suggests a strategy based on independence, transparency, and fairness of the information communicated, for example by preparing comprehensive guidelines to counteract the effect of the “revolving door” phenomenon, which is the passage of experts from service in public health to jobs in industry and vice versa.

2. UNSOLVED SCIENTIFIC QUESTIONS AND OPEN ACCESS TO SCIENTIFIC OUTCOME

ASSET D2.2 Reference guide of unsolved scientific questions related to pandemics and epidemics highlighted some “unsolved questions” more relevant to the methodological features of the MMLAPs, like ASSET:

- ✓ the challenge of communicating science in presence of uncertainties. health experts and organizations often fear to reveal uncertainties and instead, prefer to provide a simple and unambiguous explanation. indeed, this is a complex challenge, since the public, especially in the digital age, demands full transparency and complete information. thus, much more research is needed, with various audiences, regarding issues and questions of uncertainty
- ✓ the underestimation of the role of social networks to understand public perceptions, disseminate information, establish a good dialogue and increase knowledge and awareness on complex issues
- ✓ the involvement of civil society to contrast the actual top-down uni-directional decision process
- ✓ the low exploitation of data coming from new informal surveillance approaches
- ✓ the lack of involvement of GPs and negative attitudes of healthcare workers towards vaccine
- ✓ the insufficient relevance given to non-pharmaceutical preventive steps (e.g. frequent hand-washing)
- ✓ the inter-disciplinary scientific approach to public health problems (e.g. scarce interest towards sociology, anthropology, behavioural mathematical models in epidemiology).

Some of these issues will be faced by several actions addressed to different targets within the plan.

3. CRISIS PARTICIPATORY GOVERNANCE AND SCIENCE EDUCATION

In epidemics and pandemics, rumours, amplified by the internet, challenge effective risk communication conveyed to the public by health workers and authorities.

According to ASSET D2.3 Report on Crisis Participatory Governance and Science Education, this can depend on:

- ✓ overall lack of public (both citizens and stakeholders) involvement in pandemic preparedness and response-planning
- ✓ top-down communication by experts and authorities



- ✓ overlooking the impact of social media and smartphones on the spread of rumours;
- ✓ neglect local conditions in pandemic planning and response
- ✓ lack of flexibility in pandemic planning and response
- ✓ underestimation of citizens need and capacity to evaluate and choose for themselves.

ASSET strategy aims at creating a channel of two-way communication between experts and the public, whose beliefs and attitudes should be considered in pandemic preparedness and response plans. Several tools described in the DOW and developed within the project will cooperate to this purpose.

Background, challenges and future developments of PPI (Patients and Public Involvement) for a crisis participatory governance of epidemics and pandemics are further deepened in the D3.2 Roadmap to Open and Responsible Research and Innovation in Pandemics.

ETHICS, LAW AND FUNDAMENTAL RIGHTS

Pandemics and epidemics, such as any other infectious outbreaks, raise several ethical issues, which include: solidarity; balance between public good versus protection of personal privacy and freedom; transparency and informed consent under emergency circumstances; stigmatization; resource allocation; prevention vs. treatment; ...

Ethical, human rights and legal implications of such emergencies, discussed in D2.4, must be considered in all preparedness and response plans. This is not only because of the relevance of these themes for society, but also for the impact that an overlooking of their importance could have on the spread of diseases. For instance, fears of being stigmatized can discourage patients from seeking care, while hidden information or undisclosed conflict of interest, as well as inaccurate and unjustified priorities in providing drugs and vaccines, can fuel distrust in authorities, making their advice less reliable in the future. As far as law issues are concerned, a failure in adopting the International Health Regulations can increase health risk in population, waste resources and delay the response.

Creating a sound and unique base for solutions to ethical problems is anyway far from the objective of this plan. ASSET can only address main stakeholders to consider these issues in the debate on epidemics and pandemics and to promote ethical best practices in the event of public health emergencies.

4. GENDER ISSUES

ASSET D2.5 report on Sex& Gender issues in pandemics and epidemics highlighted several points to be taken into account, when considering different risk and attitudes of women and man in case of an outbreak, with special regard to vaccination and flu.

Pregnant women in fact can be more vulnerable, as H1N1 (and recent zika epidemic) showed, but women in general can be, since they usually have lower rate of immunization than men do.

In addition to this, both vaccines and drugs are mainly tested on men, so that we cannot be sure that in women they have the same safety and efficacy, because of some studies showing different immunological response between sexes. For this, more research in the field should be encouraged.

Inclusion of women in decision committees and of this theme into preparedness and response plans should be enhanced.

ASSET will provide a Gender Platform for easing exchanges of information and point of views among different actors.

A two-way dialogue through social media, citizens' consultations and local activities, listening to



women's fears and causes of hesitancy, could contribute to improve attitudes of women toward vaccination.

5. INTENTIONALLY CAUSED OUTBREAKS

To understand and tackle the main governance problems posed by the risk of Intentionally Caused Outbreaks (ICO) in democratic societies, ASSET carried out an analysis of the history, state of the art and policy documents concerning intentional biological attacks in the D2.6 report.

This issue is very relevant in a period of rapid technological development and a dynamic threat environment. Therefore, national and international authorities should have policy documents that are well known among relevant actors and ready to be used in case of emergency, after having discussed the security and ethical implications of any measure before the crisis. Countries and institutions should also consider participation in international regimes for these issues.

Attitudes of citizens in the area are also in need of exploration, for example considering the risk of the dual use of research results and materials and what information they want to have about intentionally caused outbreaks.



Section II

6 MAIN TARGETS

ASSET wants to communicate and mobilise all the actors involved in the processes of preparedness and response to epidemic and pandemics, but language, tools and contents of this actions need to be diverse.

We have defined these 6 groups of possible stakeholders, even if some of them include different actors with different roles in epidemics and pandemics. An actor may be included in more than one group, as well. However, here we are concerned with the groups, and not individual actors.

1. INTERNATIONAL, NATIONAL AND LOCAL ORGANIZATIONS AND AUTHORITIES

In this group, we have included a large number of potential actors in epidemics and pandemics, even if their role can be different.

Some health authorities, like WHO and Ministers of Health, are more involved in governance; others have a major impact in scientific and communication issues, such as ECDC, CDC, US National Institutes of Health; local health units have to deal with practical implications of the crisis, such as vaccinating the public, facing their fears and possible mistakes made at higher levels.

In addition, non-health organizations and authorities too can be involved in case of a pandemic, which can influence public security, socioeconomics, travels, education and so on International organizations such as UNICEF, OECD and IATA, national government and non-government bodies and associations, even if not directly related to health, could both have an impact and be impacted by a pandemic crisis. Therefore, they should be addressed too, in order to make them aware of the possible implications in their activities.

Charities and NGOs can be an important bridge to reach population diffident towards authorities, as were citizens of Western Africa countries hit by the ebola epidemic. They are always on the frontline fighting the disease on the field, but can act also as cultural mediators, a sometimes-fundamental role.

2. HEALTHCARE PROFESSIONALS

Even if they are the main protagonist of the response to any infectious threat, healthcare professionals are not usually involved in the draft of preparedness and response plans. During the 2009 A(H1N1) pandemic, in many countries they were not even adequately and timely informed by health authorities and had to rely on media, as well as the patients who were asking their opinion, for example about vaccinating. In addition to this, education about vaccinology is scarce in many European medical school systems.

All of this does not encourage a good attitude to vaccination in doctors, nurses and other health professionals: the low rates of coverage reached in these groups in some European countries is a much powerful tool against vaccination than any rumours spread by anti-vaxx propaganda.

When preparing to respond to an epidemic or a pandemic, not only specialists in infectious diseases have to be involved: family doctors, paediatricians, school doctors, gyn/obs, midwives, nurses and health assistants also need to be considered because of the trust people have in them.

In addition to the associations of GPs, an important target might be the research networks of GPs, for their interface role between civil society and clinical research.



3. SCIENTIFIC COMMUNITY

Many branches of science can be involved in a crisis such as an epidemic or pandemic: medicine in different specialties (epidemiology, public health, virology, infectiology, pneumology, intensive care, paediatrics,...), laboratory diagnostics, immunology, vaccinology are often considered.

Nevertheless, in a Science-with-and-for-society approach, other expertise need to be integrated into pandemic preparedness plans: health and risk communication, social media, law, ethics, sociology, ethnology, gender studies, economics, mathematical modelling (and in particular behavioural epidemiology), informatics and so on.

Experts of different disciplines often do not dialogue and all of this knowledge is too often fragmented: only a mutual learning, integrated approach will allow a better management of future infectious crises in all their implications.

4. INDUSTRY

Pharmaceutical industry is an important stakeholder in the management of an infectious crisis. Especially in a historical phase when public research funding is increasingly being cut by governments because of scarcity of resources, the role of private companies is the key not only for producing and supplying, but also for developing new antivirals and vaccines.

Modern technologies, such as reverse vaccinology, could further accelerate the process in case of an emerging virus, when time is the key for efficacy and effectiveness of vaccination. In 2009, for example, vaccines could be supplied only when the peak of the pandemic was already decreasing, making them less useful. Now, it would be easier to have them in a shorter time.

Clear and transparent agreements with big firms currently working on vaccines are therefore essentials for WHO, but should also be signed by any country. A coordinated effort by all EU Member states, with a common negotiation, could obtain better conditions in terms of costs and flexibility. Since the public always considers relationships between big pharma and public health authorities with suspect, a strict policy on potential conflicts of interests should be developed and transparency should be always pursued.

At last, in a Science-with-and-for-society perspective, along with pharma industry, also diagnostics sector, airlines, farming, livestock, and many other economic activities could be possibly impacted in different ways and cases by an infectious outbreak and should be therefore addressed in complete and integrated preparedness plans.

5. MEDIA

The world of media went into a revolution in the last decades. The internet gave a much easier access to any kind of information than ever before in the history of mankind; the so-called web 2.0, where people could interact in an active way through blogs, wiki, comments, and social media gave another steer that has completely changed the parameters of communication, also in health and especially in emergency situations. Misinformation, as well as information, can much more easily spread.

The web 2.0 is a tool that enables not only to listen to the public's voice, but also to conduct a dialogue with the public and to allow public participation.

In 2009 A(H1N1) flu pandemic some health authorities in Europe were not ready to face this change. Lessons learnt in that situation, and then during ebola epidemic in West Africa in 2014, drove a greater attention towards new media, as new opportunities to listen to the public's voice and make them take part in the process.



However, in this scenario, newspapers and magazines, but even more radio and television, are not to be forgotten, since they still are important source of information, especially for the elderly.

6. GENERAL PUBLIC

As it is said in the Background section of ASSET D3.2 Roadmap to roadmap to open and responsible research and innovation in pandemics, the availability of information from several sources has shifted the traditional science/technology centred approach to a new one where the demands of patients and their relatives are central and they become active partners in the decision making process with regard to their health. As a consequence, the success of new therapies and public health interventions is increasingly dependent on how the needs of users are taken into the account...

Until recently, input from patients was listened but not always taken into account. A more active participation of patients and structured interaction between main health users and health care professionals (HCPs) in charge of research and development (R&D) could certainly render R&D more efficient and effective.

Following the suggestions of TELL ME project D3.1 New framework model for Outbreak Communication and in the innovative perspective of Patient and Public Involvement (PPI), public is not to be considered any more only the target of a top-down communication by experts and authorities, but an active stakeholder. As such, it must be listened to and its position need to be considered and respected.

It's important that governance relates to sub-populations, and that it tailors the risk plans and messages to various sub-groups, so that these plans would be tailored to the specific needs, culture and risk perceptions, as well as to the specific risks each specific epidemic (or risk situation) poses. The segmentation of risk groups, which traditionally includes health workers, pregnant women, elderly and children, should not be done automatically, but rather, be reviewed separately each time when a new pandemic emerges or a new vaccine is introduced.

Essential actors thus have to be associations of consumers, who have a fundamental role in many EU countries.



Section III

ASSET ACTION PLAN

For each of the 6 described target groups we will indicate, wherever possible:

- ✓ main **challenges**
- ✓ **objectives**
- ✓ ASSET **SiS/RRI lines** from which key messages and suggestions come
- ✓ **actions** implemented or to implement according to ASSET DOW
- ✓ specific **activities** to realize these actions, some of which will be more thoroughly described in the D3.4 ASSET tool box
- ✓ **responsibility** (of different partners)
- ✓ **timetable**
- ✓ **indicators.**

In section 4, where this Action plan will be resumed in a timetable, possible future actions are suggested too, which could represent a frame of proposal for a new project, a sort of ASSET.

1. INTERNATIONAL, NATIONAL AND LOCAL ORGANIZATIONS AND AUTHORITIES

CHALLENGES

1) Loss of trust

The main challenge faced by international organization such as WHO in managing preparedness and response to epidemics and pandemics is a loss of trust. This is growing for several reasons in our societies, but in this field it has been, at least partly, attributed to the management of the A(H1N1) flu pandemic in 2009.

In that situation:

- ✓ a misunderstanding about the definition of a pandemic convinced people that a false alarm had been given for economic interest (a challenge of risk communication)
- ✓ preparedness was tuned on the worst scenario, and did not adapt to a pandemic with an evolution less severe than it had been foreseen (a challenge of risk communication on uncertainty and the need for flexibility)
- ✓ conflicts of interest among people in the decision committees were not disclaimed (a challenge of transparency).

2) Scarce attention to SiS issues in preparedness plans

The 2013 [WHO Pandemic Influenza Risk Management Interim Guidance](#) provides some clues on the relevance of Ethical considerations in infectious outbreaks (Page 47, ANNEX 3). Such issues, as well as those related to crisis participatory governance and gender, need to be considered:



- ✓ in preparedness and response plans
- ✓ in the composition and declaration of decision committees
- ✓ and practically, when acting on the field.

The current epidemic of zika virus in Latin America, associated with a suspected rise of microcephaly cases in the same areas at the same time, is a good example of how gender and ethical issues can be strictly intertwined in an infectious outbreak. In this case, in fact, the risk regards almost only pregnant women (gender issue) and is related to advice for mass contraception and abortion in case of infection. In conditions of uncertainty about the causal association between zika infection and birth defects, all of this could have relevant consequences in terms of health impact and/or trust in institutions, either if the alarm were ignored and would be confirmed or if it would be accepted and turned out false.

In a situation of international political instability, with several terror attacks regarding cities in and out of Europe, the possibility of intentionally caused outbreaks cannot be excluded as well. Biological weapons have been rarely used so far, because of the difficulties they imply, but international organizations, as well as national governments, have to keep them into account when drawing preparedness and response plans. Viruses and bacteria could in fact be used to make victims and disrupt social systems.

This poses a challenge also on some lines of research regarding viruses and other infective agents, which could be potentially used for these purposes. A public debate should define where the border between secrecy and transparency, freedom of research and safety should be put.

CHALLENGES

- 1) Distrust (conflict of interests/communication/managing uncertainty)**
- 2) Scarcity of policy attention to crisis participatory governance, ethical, gender and communication implications of epidemics and pandemics in natural and intentionally caused outbreaks**



OBJECTIVES

1) Rebuild trust

In order to rebuild trust in authorities, which is essential in emergencies, ASSET project suggests to focus on 2 objectives, both in the RRI line of Governance:

- a. avoid and/or disclose conflicts of interest in any level of decision committees.

The contribution of pharmaceutical industry to epidemics and pandemics preparedness and response is essential. Private companies fund research on viruses and other infectious agents and have the expertise and capacities for producing, testing, getting approval and distributing vaccines and drugs. Most relevant experts in infectious diseases hardly can do their job without any kind of connection with big pharma, and this should not prevent them from sharing their knowledge. Anyway, this can be a kiss of death for institutions' independence and reputation. The "revolving door" phenomenon, which refers to people working alternatively for public health and private companies, needs therefore to be better regulated. Comprehensive guidelines for policymakers and members of advisory committees on conflicts of interest should be considered. In any case, transparency should be the golden rule.

- b. improve transparent and two-way communication.

To rebuild trust, both international and national authorities need to establish a transparent, permanent and two-way communication with public and stakeholders, long before any emergency, "in time of peace", as they say. Communities have a great importance in the process of preparation for crises. Thus, the organizations must have daily contacts with the various communities, in order to get to know their profiles and opinion leaders. Risk and crisis communication to the public, which in the past were mainly mediated by journalists, nowadays can also be direct, through new social media. These new media are both a challenge and an opportunity, because of their widespread, rapid and permanent diffusion: these characteristics in space and time easily spread false myths, hoaxes and misinformation, but can also be used to perceive people's fears, doubts and questions and answer to them accordingly, in a targeted way. Several ASSET actions, activities and tools will pursue this objective, for which a common language is also a must. Dissemination of information about the vaccine committees' decisions and activities will be essential for the governance and will be supported by the project official site, the mailing list (over 4,000 stakeholders) and through all the project links to the social media networks.



2) Include SiS issues in pandemic preparedness and response plans

Crisis Participatory Governance, Ethical, Gender and Communication implications of epidemics and pandemics need to be considered in all the international and national plans for preparedness and response to natural and intentionally caused outbreaks. ASSET's objective is therefore to raise awareness and capacity on these issues, following the RRI lines of Ethics, Law and Fundamental Rights, Gender Issues and Intentionally caused outbreaks.

OBJECTIVES

- 1) To restore trust:
 - a. tackle with conflicts of interests
 - b. make risk and crisis communication permanent, transparent, bidirectional
- 2) To include SiS issues into policies of preparedness and response to infectious threats

RRI LINES

ASSET actions towards international and national organizations and authorities will move in all the 6 lines of RRI/SiS described above.

ACTIONS AND ACTIVITIES

In ASSET project, several actions are aimed at the cited objectives.

1) To restore trust:

- a. in order to tackle with conflicts of interests ASSET is going to:
 - raise awareness, knowledge and commitment in policy makers by:

✓ **High Level Policy Forum**

In physical meetings and online discussion on ASSET Community of Practice (CoP) members will discuss whether, whenever appointing members of national vaccine and medication advisory committees, the waiting period for people who receive grants or hold stock in an industry ought to be regulated to be long enough to avoid conflict of interest. Moreover, the HLPF will analyse and give recommendations about the opportunity to set up comprehensive guidelines for policymakers or members of national vaccine advisory committees regarding previous funding or salaries from vaccine manufacturers whose vaccine is under consideration. Within the HLPF, the proposal of producing reports of vaccine committees meetings will be discussed, including the idea of drafting transparent summaries of main items and subjects, including dilemmas and



contentious issues

✓ **ASSET data visualization**

This tool of analysis can show the presence and disclaim of COI in different advisory boards and/or decision committees.

- host, share and disseminate research, viewpoints and suggestions to deal with potential conflicts of interest in preparedness and response to epidemics and pandemics by:

✓ **ASSET website**

The ASSET website is an open platform where relevant resources are collected and each group of stakeholders can have a chance to present different points of views. Features about the burning issue of COI can help to enlighten its risks and possible ways to elude them.

✓ **social media**

ASSET activity on social media can make circulate ideas and suggestions on the issue of COI, showing transparency and commitment to overcome it.

- b. in order to contribute to a better communication between authorities and the public ASSET is going to:

- create a common language to avoid misunderstandings. This task has been pursued by:

✓ **glossary**

Available on the website, which is supposed to be updated and improved during the project. Patient and Public Involvement terminology will be included.

- gather citizens' voice on several related issues (such as attitude towards vaccination or risk perception and trust in authorities in case of intentionally caused outbreaks) and bring it to authorities by:

✓ **social media**

Exploring the public discourse online, for example identifying sources of misinformation and opinion leader (i.e. "influencers") on vaccines, conspiracies, etc... by a new algorithm.

✓ **citizens' consultations**

On the same day, ASSET will ask about 400 citizens from 8 countries a series of questions regarding these 4 broad themes:

- personal freedom and public health safety
- communication between citizens and public health authorities
- transparency in public health
- access to knowledge.



Results about how citizens perceive their possible involvement and their ability to make informed and independent choices in the fields of preparedness and response will be disseminated through ASSET social media accounts and presented to authorities by:

✓ **Policy Workshop**

A Policy Workshop at the European Parliament, where the results of the consultations will be communicated to MEP's of relevant committees.

✓ **HLPF physical meetings and online discussion on CoP**

✓ **ASSET website**

✓ **Pandemic Preparedness and Response Bulletin.**

2) To include SiS issues into international and national policies

ASSET will try to raise awareness on crisis participatory governance, ethical and gender issues, also when dealing with intentionally caused outbreaks, with two kinds of actions:

- analyse commitment of authorities on these themes by:

✓ **ASSET data visualization**

- host, share and disseminate viewpoints and suggestions by:

✓ **ASSET website**

✓ **social media** (i.e. a Facebook group will be dedicated to gender issues in infectious outbreaks)

✓ **press releases**

✓ **ASSET brochure**

✓ **Gender Platform**

An evidence-based platform of knowledge on gender issues will be a great resource for researchers, policy makers and the public alike. A strong social media presence and activity will also accompany the Gender Platform, with the goal of reaching out to those interested in the issues. A booklet and a policy brief will be created to provide easily accessible information regarding the issue of gender and pandemics/epidemics and vaccinations.

✓ **HLPF**

✓ **Pandemic Preparedness and Response Bulletin**

✓ **other tools for science and risk communication will be provided by other past european projects (such as TELL ME, ECOM, HProimmune).**

Recommendations to include ethical and gender issues in preparedness and response plans, as well as suggestions to improve influenza vaccination rates in women could emerge from the debate within HLPF.

**TABLE 1**

Actions	Activities	Responsibility	Indicators	Timetable
<i>Raise awareness, knowledge and commitment on conflict of interest (COI) in policy makers</i>	HLPF Physical meetings and online discussion on CoP	Tiems	Items in HLPF meeting (min 1) Threads on CoP (min 1)	By the first half 2017 By m36
	ASSET dataviz	Zadig	N. analysis on the issue of COI (min 1)	By m36
	Pandemic preparedness and response (PPR) bulletin	Iss	Annual increase of SHs receiving the bulletin	By m48
<i>Host, share and disseminate viewpoints and suggestions to deal with COI</i>	ASSET website	Zadig	N. features on website (min 3)	By m48
	Social media	Zadig	N. posts and/or tweets (min 10)	By m48
<i>Create a common language to avoid misunderstandings</i>	Glossary	Ncipd	N. of updates	By m48
	PPI terminology	Lyonbiopole/lpri Ncipd	N. of items	By m36
<i>Gather citizens' voice and bring it to authorities</i>	Social media accounts	Zadig	N. of Fb likes and Twitter followers (+15%)	By m48
	Citizens' consultations	Dbt	Participation (50 people in each of 8 countries)	By m36
	Policy Workshop at the European Parliament	Dbt	Members of Parliament attending the meeting	By m48



	HLPF	Tiems	Items coming from social networks and citizens consultations in physical meetings' agenda and in threads on CoP	By m48
	ASSET website	Zadig	Contents by members of the general public (min 3)	By m48
			Features on citizens' consultations (min 1)	By m48
			Features on local initiatives (min 2)	By m48
	PPR bulletin	Iss	Annual increase of SHs receiving the bulletin (15%)	By m48
Raise awareness on SiS issues	ASSET dataviz	Zadig	N. of analysis on Sis issues (min 1)	By m36
	ASSET website	Zadig	N. of features on Sis issues (min 3)	By m48
	Social media (with a Facebook group dedicated to gender issues in infectious outbreaks)	Zadig	N. of post SiS-related (min 50) N. of fans to Gender issues Facebook group	By m48 By m48
	Press releases	Zadig	N. of press releases on SiS issues (min 5)	By m48
	ASSET brochure	Zadig	N. of international and national health authorities addressed (min 40)	By m48
	Gender Platform	Eiwh	N. of contents (min 20)	By m48
	Gender policy brief	Eiwh	N. of recipients	By m40



	HLPF	Tiems	Items on Sis issues in physical meetings' agenda and in threads on CoP (min 5)	By m48
	PPR bulletin	Iss	N. of European stakeholders addressed	By m48
	Tools from other EU projects (to be defined)	Hu, Zadig, Iss, Prolepsis	N. of European authorities addressed	By m48
	Present ASSET poster at Luxemburg DG Santé meeting	Zadig		By m30



2. HEALTHCARE PROFESSIONALS

CHALLENGES

During 2009 A(H1N1) pandemic, many healthcare professionals in most countries did not accept vaccination for themselves and their family, neither promoted it among their patients. The same reluctance and complacency is observed in many countries for seasonal flu and even for other recommended vaccinations.

Lack of awareness and involvement of Healthcare Workers (HCWs) on pandemics and negative attitudes towards vaccines are among the main “unsolved questions” underlined by ASSET D2.2 Reference guide on unsolved scientific questions and one of the main challenges related to preparedness and response to epidemics and pandemics.

This in fact has relevant consequences during an epidemic:

- ✓ lack of coverage among HCWs makes easier for any infectious disease to spread among patients, included those immunocompromised and at higher risk;
- ✓ since most people trust HCWs (and in particular GPs) more than authorities, their attitudes and behaviours have a strong impact on acceptance of vaccinations and of non-pharmaceutical steps (such as frequent hand-washing).

This situation has different causes: lack of vaccinology courses and of attention to flu in medical schools, lack of continuous medical education, psychological and sociological factors, but also the fact that healthcare professionals are not usually involved in the decision process, but are target of a top-down communication as well as the general public.

In addition to this, healthcare workers are not usually trained in communication and counselling techniques, which are essential when dealing with distrust and hesitancy towards vaccination or the risk of stigma during infectious outbreaks.

CHALLENGES

- **lack of knowledge among healthcare workers in the field of influenza pandemics**
- **complacency, hesitancy or refusal of vaccination among hcw**
- **lack of communication and counselling competence**
- **under-evaluation of the positive impact of changes of daily behaviours (e.g. frequent hand-washing) on the spread of influenza**



OBJECTIVES

To improve acceptance of vaccines by healthcare professionals is a main objective for all public health authorities, but this challenge can be addressed by several means: not only by providing information and improving knowledge about vaccines, but also by raising their awareness on the risk of infectious diseases and involving them in decisional processes.

Their communication skills towards people are essential as well, since they are the most trusted professional group when dealing with vaccines and infectious outbreaks.

OBJECTIVES

- **raise awareness on the risks of epidemics and pandemics**
- **improve awareness and knowledge about vaccines and infectious diseases, as well as non-pharmaceutical preventive steps, and personal adherence to vaccination (especially flu)**
- **improve communication skills**

RRI LINES

ASSET action towards HCPs will be mainly in the line of crisis participatory governance and science education, while raising their awareness on ethical, law and gender issues as well.

ACTIONS AND ACTIVITIES

In order to achieve the objectives of improving knowledge and raising awareness among healthcare professionals, ASSET action plan schedules three kinds of actions, with related specific activities to make them into practice.

1) Explore causes of hesitancy, complacency or refusal to flu vaccination among HCWs

As a background to the development of a clear strategy to improve the vaccination coverage based on knowledge, a local interdisciplinary study related to low vaccination coverage against influenza will be conducted within ASSET, through questionnaires and interviews to Bulgarian HCWs.

In countries with very low coverage is basically necessary to study not only the medical aspects of the refusal of vaccination, but also social, economic and other reasons.

It has therefore been planned to develop methodology and to organize an interdisciplinary study with epidemiologists and sociologists in Bulgaria at the local level, related to a better understanding of attitudes and barriers to vaccination with influenza vaccines among healthcare workers. In Bulgaria such studies have not been conducted so far and a clear strategy to improve the vaccination coverage based on knowledge has not been developed yet.



2) Provide information and training material, including SiS and communication issues

ASSET project does not fund any activity aimed at producing educational material for healthcare professional, but within an effort of optimizing previous efforts in the field, ASSET will include in its toolbox [TELL ME project e-learning course for primary care staff](#).

This course focuses on preventative measures, from hygiene to vaccination, to take in case of seasonal flu and other infectious outbreaks. It trains healthcare professional to convey this information to the public.

The course is also focused on **communication** and counselling skills, so that HCWs can learn what approach can be better when dealing with controversial issues, such as vaccines.

The risk of discrimination and stigmatisation linked to infectious outbreaks has also been emphasized, as this was one of TELL ME project peculiarity, within the ethical frame of SiS.

It can be proposed to European HCP associations as a tool of Continuing Medical Education.

The [HProImmune project](#) was another 3-year initiative titled promoting Immunizations for Health Care Professionals. The general objective of the project was the promotion of immunizations and the increase of vaccination coverage of HCWs by developing a tailored communication tool. With the aim of enhancing European knowledge on immunizations recommended for HCWs, HProImmune reviewed, summarized and widely disseminated existing information and best practices and explored through qualitative and quantitative analysis behaviours and barriers to HCW immunization.

Evidence was used to develop a comprehensive communication toolkit addressing the needs and perspectives of medical personnel in primary health care as well as hospital and public health personnel. The tool enables public health authorities and hospital administrators to plan and organize successful immunization activities contributing thus to the achievement of national strategic goals for increasing vaccination coverage, especially in the case of seasonal influenza.

The tool includes:

- ✓ a set of five comprehensive **fact sheets** on vaccines against influenza, hepatitis B, measles-mumps-rubella (MMR), tetanus – diphtheria-pertussis (Td/Tdap) and varicella. they are available in two different types, one for physicians and one for other HCWs
- ✓ a fact sheet on **myths and misconceptions** about vaccines
- ✓ **planning guidelines** for hospital administrators including step by step guide on how to plan, implement and evaluate hospital based programs for the promotion of immunizations, Best Practice recommendations, and templates for the development of related policies
- ✓ a set of proposed **templates for posters** for the promotion of immunizations
- ✓ other **accessories** as proposed material with promotional messages to immunize including USB keys, pens, marker pens, post it notes and notepads.

The toolkit was developed in English, translated into all the partnership languages (i.e. Greek, German, Lithuanian, Polish, Italian, and Romanian) and then pilot tested among primary health care personnel and hospital HCWs.

Other educational activities targeted to HCWs could be developed during the project.

ASSET project will deal with HCWs also by:



- ✓ **publications** in specialized websites
- ✓ **presentations** at conferences
- ✓ **social media**.

The science communication (7.5) activity and the research and innovation newsletter (7.10) will focus on the need to include communication to professionals in press conferences held during outbreaks in order to strengthen the communication aspect of these meetings, in addition to the professional aspects.

Healthcare workers will be informed by targeted mailing about “candidate best practices” on SiS-related issues collected on the ASSET Best Practice Platform and of related guidelines developed within it, in order to adopt them in their daily clinical activity.

3) Reward experiences of involvement in the field of vaccines

Some general practitioners and paediatricians try to increase awareness of their colleagues and the general population on the importance of vaccines.

Each year, starting from the second year of the project, ASSET will therefore reward health professionals in the primary health sector (GPs or groups of GPs) who have implemented an activity or intervention with the ASSET Best Practice Award for General Practitioners:

- ✓ to improve the response of local communities or groups of people in dealing with outbreaks of infectious diseases, such as influenza, measles, pertussis
- ✓ to promote immunizations for groups of children or adults for the prevention of diseases such as influenza, measles, rubella, pertussis.

Three European health professionals in the primary health sector (preferably GPs or group of GPs) will be awarded 3,000€ each. This grant in collaboration with the ASSET consortium could be used for education related activities, such as:

- ✓ to attend a public health related european conference (such as Escaide, Eupha or relevant). in this case the award amount will cover for the winner’s registration, travel and accommodation expenses
- ✓ to attend the ASSET Summer School 2016 in Rome. in this case, the award amount will cover for the winner’s travel and accommodation expenses to attend the summer school in rome
- ✓ to spend 5-10 working days working in one of the ASSET partner organizations
- ✓ other educational activity/ies, related to public health preparedness and Science-in-Society (SiS).



TABLE 2

Actions	Activities	Responsibility	Indicators	Timetable
<i>Explore causes of hesitancy, complacency or refusal to flu vaccination among HCWs</i>	Interdisciplinary study	Ncipd	Developed methodology, guides for interviews, n. of conducted interviews, published article	By m36
<i>Provide information and training material to HCPs associations in Europe</i>	TELL ME e-learning course HProimmune material	Zadig Prolepsis	N. of professional associations reached by email (min 20)	By m48
	Publications in specialized web-sites	Prolepsis	N. of publications	By m48
	Meetings and conferences	All partners	N. of presentations	By m48
	Social media posts Mailing to HCPs associations on best practices issues	Zadig Prolepsis	N. of posts related to HCWs	By m48
	Mailing to HCPs associations on best practices issues	Ipri	N. of mailings (min 1)	By m48
	Summer school	Iss	N. participating countries	By m48
<i>Reward experiences of raising awareness and involvement in the field of vaccines</i>	GPs ASSET award	Prolepsis	N. of invited associations and professionals	By m48



3. SCIENTIFIC COMMUNITY

CHALLENGES

The joint document by WHO and ECDC that recommends “Key changes to pandemic plans by Member States of the WHO European Region based on lessons learnt from the 2009 pandemic” underlines the need of an intersectoral approach to pandemic preparedness.

Nevertheless, up to now, there have been few exchanges among different fields of research essential to respond to infectious outbreaks: epidemiologists, virologists and public health experts have a main role, but also sociologist, anthropologist, behavioral mathematicians who develop models in epidemiology, media experts and so on should have their say.

A multisectorial approach is therefore needed to better tackle with SiS issues as well and studies on these issues, such as communication, gender and ethical issues, have to be encouraged. Moreover, a better understanding of attitudes and barriers to vaccination with influenza vaccines are needed, going into the cognitive bias and risk perception mistakes that enhance hesitancy and refusal.

CHALLENGES

- **scarce cooperation among different branches of science in preparedness and response to epidemics and pandemics**
- **scarce understanding of attitudes and barriers of people and professionals to vaccination with influenza vaccines**



OBJECTIVES

- ✓ acting as a platform of mutual learning among different competencies and stakeholders, ASSET has the main objective to favour exchanges between epidemiology, virology and public health with disciplines such as communication, sociology, anthropology, behavioural mathematic models in epidemiology, law and ethics
- ✓ underlining the results of risk communication, behavioural and social sciences, ASSET can contribute to develop a knowledge-based strategy to improve preparedness and response to infectious crises as well as vaccination coverage.

OBJECTIVES

- **to favour an intersectoral approach to preparedness and response to epidemic and pandemic including communication, sociology, anthropology, behavioural mathematic models in epidemiology, law and ethics in addition to epidemiology, virology and public health**
- **to contribute to develop a strategy to improve preparedness and response to infectious crises as well as vaccination coverage**

RRI LINES

Scientific community will be mainly addressed in the lines of Unsolved scientific questions and open access to scientific outcomes, Crisis participatory governance and science education and on Ethical, Law, Gender and Intentionally caused outbreak issues.

Governance can be involved as well, since scientific evidence is needed on a better management of infectious crises.

ACTIONS AND ACTIVITIES

1) Establish new relationship

ASSET can help to establish new relationships among different branches of science that could contribute to a better preparedness and response to epidemic and pandemics by two Actions:

- a. provide platforms of discussion and mutual exchanges:
 - ✓ a **transdisciplinary workshop**, held in Genève at m14 on 24th February 2015, was an important opportunity to synthesize the state of the art of research and to review existing studies on pandemics with their wider societal implications. Participants were partners of ASSET consortium with different backgrounds, who were called to establish, in WP2, a baseline knowledge about the 6 lines of research previously described as the 6 main RRI themes of ASSET activity



- ✓ the **MMLAP virtual cluster**, where methodological approaches are mainly discussed, both in teleconferences and on the ASSET CoP
- ✓ the **Best Practice Platform**, a web-based, ongoing, collection of candidate best practices on SiS related issues in scientific and clinical research on pandemics. It will be nurtured with the key points of the D3.2 Roadmap as well as with the results of the Tasks of WP2 in the light of the related results of the citizens' consultation, the HLPF meeting, the feedback in the ASSET CoP, the feedbacks to the Bulletin. It aims to:
 - collect and select promising good practices ("candidate best practices") on SiS related issues in research on pandemics
 - promote the above-mentioned good practices so that they may become widely adopted
 - transfer knowledge of good practices among researchers, practitioners, institutions and organizations
 - develop best practice guidelines
 - validate best practice guidelines
 - disseminate and encourage adoption of "candidate best practice".
- ✓ it will be sided by a **Stakeholder Portal**, which will provide a gateway for interested stakeholders to register their interest in becoming involved
- ✓ commitment to RRI, which includes a claim to open access science, is another peculiarity of ASSET project. A biannual **RRI newsletters**, devoted to Responsible Research and Innovation in the field of antiviral drugs and vaccines, will target researchers both in academia and industry. The newsletter will present the progress of the ASSET action and will keep researchers abreast on the most update news about RRI in their research field
- ✓ **ASSET Summer School**, organized by Iss in Rome, are good opportunities for experts of different disciplines to meet and share their knowledge ad opinions
- ✓ **ASSET website** hosts contents by different experts and backgrounds.

b. Share different approaches

ASSET will spread the results of this mutual exchange by several specific activities listed in the DOW:

- ✓ a **paper series**, available on the project's website, will feature the main outputs from the project in the form of research papers. the research and innovation community will be targeted by this paper series as well as by academic papers published in peer reviewed open journals;
- ✓ a **book** will be submitted for publication to a major international publishing house at the end of the project;
- ✓ the international science web portal **scienceonthenet** will disseminate articles, videos, data visualizations and news related to asset and its main topics to the research and innovation community;



- ✓ any chance of presenting ASSET mutual learning approach to **congresses and conferences** will be taken by partners during the project.

2) ASSET will suggest and encourage scientists of different fields to explore new lines of research.

All the mentioned platforms and tools of communication with the science community will be widely used to raise awareness on the importance of new studies about SiS issues both in season flu and in other infectious outbreaks.

For instance, in the line of Governance, the research community will be invited to carry on case-studies on the appointment of Ron Klain as “ebola czar” by president Obama. This can help build an evidence-based policy for the appointment of independent experts to coordinate the response to an infectious threat.

A better comprehension of the new social media mechanisms of spread of information and misinformation is needed as well.

For the same purpose all ASSET tools targeted to researchers will focus on gender and ethical issues, also in case of intentionally caused outbreaks.

A paper series entitled Epidemics and Pandemics, the response of society - ASSET Scientific Updates, will feature articles from the ASSET project and other related activities every 3 months and will publish them on www.scienceonthenet.eu.

**TABLE 3**

Actions	Activities	Responsibility	Indicators	Timetable
<i>Provide platforms for mutual exchange</i>	Transdisciplinary workshop	Datamining	N. of participants	m14
	MMLAP virtual cluster	Zadig	N. of discussions	By m48
	Stakeholder Portal	Ipri/Zadig	N. of participants N. of issues	By m48
	Best Practice Platform	Ipri	Portal usage/n. of contacted and registered bodies/qualitative indicators/qualitative and quantitative indicators on candidate BP	By m48
	RRI newsletters	Lyonbiopole	N. newsletters sent N. newsletters opened Update of the mailing list (n. researchers in academia & industry)	By m48
	ASSET Summer School	Iss	N. participating countries	By m48
	ASSET website	Zadig	N. of scientific contents (min 4)	By m48
<i>Share different approaches</i>	Paper series	Prolepsis/All partners	N. of papers (min 6) production	By m48
	ASSET book	Prolepsis	Done	By m48
	Scienceonthenet website	Prolepsis/Zadig	N. of contents disseminated (min 12)	By m48
	Presentations at conferences	All partners	N. of presentations	By m48
<i>Suggest and encourage new studies on SiS issues in infectious outbreaks and season flu</i>	All the above			



4. INDUSTRY

Targeting R&D sectors of pharma industry share most of the challenges, objectives, actions and activities of targeting scientific community, in the RRI line of unsolved scientific questions.

In targeting productive and commercial sectors of pharmaceutical companies, as well as other industries (i.e. all the activities that could potentially be affected by an epidemic or a pandemic), the relationships, and potential conflicts of interests, with international and national, health and non-health, authorities, must be considered.

In this regard, challenges, objectives, actions and activities are similar to those used to counteract the risk of conflicts of interests targeting international and national institutions, in the same RRI line of Governance. A frank dialogue with these stakeholders is anyway essential to guarantee an effective response in case of epidemic and pandemic, and must therefore be pursued in transparency.

TABLE 4

Actions	Activities	Responsibility	Indicators	Timetable
<i>Provide platforms for mutual exchange</i>	Stakeholder Portal	Ipri/Zadig	N. of issues	By m48
	Best Practice Platform	Ipri	Portal usage/n. of contacted and registered bodies/qualitative indicators/qualitative and quantitative indicators on candidate BP	By m48
	RRI newsletters	Lyonbiopole	N. newsletters sent N. newsletters opened Update of the mailing list (n. researchers in academia & industry)	By m48
	Website	Zadig	N. of contents by or related to industry (min 4)	By m48
<i>Disseminate results and suggestions of HLPF discussion about COI</i>	RRI newsletters	Lyonbiopole	N. of articles on COI (min1)	By m48
	Mailing	Zadig	N. of targeted mailing (min 1)	By m48
	ASSET website	Zadig	N. of articles about COI (min 1)	By m48
<i>Favour dialogue with industry representatives</i>	Include representatives of industry in ASSET Stakeholder Portal	Ipri/Zadig	N. of participants (min 2)	By m48
	ASSET website	Zadig	N. of contents by or about industry (min 4)	By m48



5. MEDIA

CHALLENGES

Both traditional and new media lead a key role in communication between authorities, scientific community and the public.

One of the main lessons learnt from 2009 A(H1N1) pandemic is in fact how rumours can more easily spread through the web 2.0, affecting governance of an emergency.

In particular, underestimation of the role of social networks to understand public perceptions and to disseminate information and increase knowledge and awareness in that case is considered one of the causes of the current lack of trust in public authorities.

However, a “no scandal no news” policy is the rule also for traditional media such as newspapers, magazines, radio and tv broadcastings, and must be kept in account when addressing this target.

In order to restore trust, a complete, transparent and two-way communication is compulsory nowadays, irrespective of the old or new media involved.

CHALLENGES

- rules of journalistic communication different from those of institutions
- underestimation of the role of the web 2.0 and especially of social networks

OBJECTIVES

In this situation, ASSET effort towards media will be according to 3 objectives. In addition to manage the spread of misinformation and myths on new media, we will try to introduce the concepts of uncertainty and flexibility in communication about epidemics and pandemics, while incorporating the SiS issues peculiar of ASSET activity.

OBJECTIVES

- manage uncertainty and flexibility in communication about epidemics and pandemics
- incorporate SiS issues in communication about epidemics and pandemics
- manage the spread of misinformation and myths on new media



RRI LINES

ASSET action towards media will be mainly in the line of crisis participatory governance and science education, while raising their awareness on intentionally caused outbreaks risk and ethical, law, gender issues.

ACTIONS AND ACTIVITIES

Main action towards media within ASSET consortium is on behalf of Press Office and Social media manager, who will provide a mailing list of international journalists and influencer with articles, dataviz, features and commentaries by different kind of stakeholders representing different point of views, including RRI issues.

All this communication activity is aimed at cooperation and transparency, in order to restore trust. For this, as an example, protocols of vaccine advisory meetings, when available, will be made accessible to the media and to the general public, in order to increase transparency, through the Pandemic Preparedness and Response Bulletin, the RRI Newsletter and the specialized section of the web site, and offered for discussion on the Stakeholder Portal.

1) Spread ASSET-related contents to the press

ASSET press office has created a network of international, mainly European, media people by previous contacts, active research online and participation to various events.

This preliminary activity produced:

- ✓ a **mailing list** to address them.

The second step is to send them periodically contents to make them well aware of the issues dealt with by ASSET, such as:

- ✓ **press releases**
- ✓ **videopills**
- ✓ **dataviz**
- ✓ a **press kit**, available in different languages, will present the main contents of ASSET activity
- ✓ a **press conference** to be kept in conjunction with the Policy Workshop at the European Parliament, will present the results of the citizens' consultations to the press.

[Health Reporting Training Tool \(HeaRT\)](#) is another finished European co-funded project, which provides training for journalists on how to better report on public health issues. ASSET will contribute to disseminate some of its tools through our mailing list.

2) Establish a coordinated presence on social media

ASSET created its own Facebook, Twitter, LinkedIn and Youtube accounts, to dialogue with main journalists and bloggers in the field of preparedness and response to epidemics and pandemics. This task is shared between T5.1 (Social Media Mobilization) and T7.4 (Media Office): the Twitter algorithm developed by Zadig in T5.1 will help to identify the most relevant influencers in order to reach them better.

**TABLE 5**

Actions	Activities	Responsibility	Indicators	Timetable
<i>Spread ASSET contents</i>	Mailing list	Zadig	N. of addresses	By m12
	Press releases	Zadig	N./year (min 8)	By m48
	Dataviz	Zadig	N./year (min 4/year)	Starting from m24 to m48
	Press kit	Zadig	N. of recipients	By m36
	Videopills	Zadig	N. of videos sent (min 6/year)	Starting from m28 to m48
	Final press conference	Zadig/Dbt	N. of journalists invited	m48
<i>Establish a coordinated presence on social medial</i>	ASSET accounts on the main social networks	Zadig		By m48
	Facebook		N. of fans	By m48
	Twitter		N. of followers	By m48
	Linkedin		N. of followers	By m48
	YouTube		N. of visualizations	By m48



6. GENERAL PUBLIC

CHALLENGES

The experience of 2009 A(H1N1) pandemic, deemed milder than it was expected, left as a legacy a reduced perception of the risk of pandemics. The Global risk Reports of the World Economic Forum refer that such a threat disappeared among people's fears after that year.

However, experts say that a new flu pandemic is unavoidable, and that the world should prepare itself to it; other emerging infectious diseases, such as those caused by MERS-CoV, ebola and zika viruses show that influenza is not the only threat.

It is therefore important to help people understand this risk and prepare to it, without either alarmism or complacency.

Public should be made aware of the meaning of the word "pandemic", which was misled in 2009. They need to be informed clearly of how and why it is declared, how possible conflicts of interests between industry and authorities are managed and what they have to do in case.

On the other side, before a new emergency is declared, citizens' increasing scepticism, fear and complacency towards vaccines need to be tackled, by involving them in a transparent process of knowledge and crisis participatory governance.

CHALLENGES

- **lack of awareness of the risk of pandemic;**
- **vaccine hesitancy and refusal.**

OBJECTIVE

Both challenges can be faced mainly aiming at one single, but not simple, objective, which is restoring people's trust towards authorities.

OBJECTIVE

- **rebuilding trust.**

RRI LINES

Action towards the public will be mainly in the line of Crisis participatory governance and Science education, but a parallel effort will be done in involving them in the Ethical, Law and Gender issues in pandemics, epidemics and Intentionally caused outbreaks.



ACTIONS AND ACTIVITIES

ASSET aims at rebuilding trust by the public mainly by establishing a two-way, active communication, which resumes all scheduled actions in this field. This is not the typical top-down information from authorities to public, but an involved form of participation in which attention is paid to the reasons of citizens as well.

ASSET will explore different categories of stakeholders, including public representatives and particularly marginalized social groups, to understand to what extent citizens are willing to participate and whether it is appropriate to encourage them to have a voice in the policy decision-making processes regarding vaccination policies and pandemic response.

To put this in practice ASSET have different specific activities:

- ✓ **citizens' consultations** will take place on the same day in 8 European countries. ASSET will ask about 400 citizens a series of questions regarding:
 - personal freedom and public health safety
 - communication between citizens and public health authorities
 - transparency in public health
 - access to knowledge.
- ✓ **social media** are the arena where the voice of citizens can easily be heard, but also where rumours and false myths are spread. ASSET presence in context is therefore the key;
- ✓ ASSET **website** will disseminate the contents and results of ASSET citizens' consultations, as well as host citizens voices (for instance, parents talking about their attitudes towards vaccines);
- ✓ **local initiatives** will provide good opportunities of meeting and dialogue;
- ✓ **Comenius program** will bring the ASSET issues and values into the schools, reaching the youth. This overall objective will be measured through the collaboration achieved with the schools and the extent of the involvement of the young people and educators in the competition setup. The information of the activities will be summarised by the task leader, Eiwh, and it is hoped that the dissemination activities can be standardised into a kind of "outreach" programme for young people that can be used again (or by others to whom it may be of interest);
- ✓ **Geneva music and science festival**, organized since 2012 by the Universities of Geneva and Lausanne, the Geneva Opera, the High Schools of Music in Geneva and Lausanne. The co-organization between universities and musical institutions allows intensive interaction between scientists and different players from the world of music as well as the public. The program includes conferences, symposia, workshops, accompanied with concerts and opera events in the evening. The first edition has been devoted to Music and Emotion. One of the next editions will be entitled to "Music and communicable diseases in Europe", (e.g., sexually transmitted diseases, tuberculosis, etc...) and their wider influence on European civilization. The Geneva colloquium aims to explore the possibility to use arts and music for people mobilization and to promote a scholarly reflection on the wider impact of infectious diseases on cultural productions and on the forms of their fruition. The Geneva location of this event will be leveraged to invite experts from WHO, and to disseminate information on the ASSET action to international organizations.



TABLE 6

Actions	Activities	Responsibility	Indicators	Timetable
<i>Establish a two-way participated communication with the public</i>	Citizens' consultations	Dtb	Eight citizen consultations with approx. 50 near-representative citizens	Finished and disseminated by m40
	Social media	Zadig	N of content items developed within the social media mobilization = ≥ 50	By m48
	Web portal	Zadig	N. of articles by general public (min 3)	By m48
	Local initiatives	Iss	At least one local initiative per year	By m45
	Comenius program	Eiwh	N. of schools and pupils reached	By m36
	Geneva Music and Science festival	Datamining	N. of related events: 1. Science&Music workshop: 100 participants 2. Conference&Concert: 700 participants	By m32



Section IV

ACTION PLAN SCHEDULE

TARGET 1. INTERNATIONAL, NATIONAL AND LOCAL ORGANIZATIONS AND AUTHORITIES						
Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
a) Raise awareness, knowledge and commitment on conflict of interest (COI) in policy makers						
<i>HLPF personal meetings</i>	Tiems	COI-related items in agenda	January HLPF meeting in Copenhagen (see Minutes on ASSET CoP)		Spring meeting in Brussels planned; review CoP conclusions	
<i>HLPF virtual meetings</i>	Tiems	Threads on CoP	Initiate discussions of key issues on CoP	Continue discussions of key issues on CoP	Initiate follow-up discussions of issues discussed in Brussels	Continue follow-up discussions of follow-up issues on CoP
<i>ASSET dataviz</i>	Zadig	N. of analysis		Define the issue	Perform and disseminate	
<i>PPR bulletin</i>	Iss	Annual increase of SHs receiving the Bulletin (15%)				
b) Host, share and disseminate viewpoints and suggestions to deal with COI						
<i>Website</i>	Zadig	N. of contents on the issue (min 3)	1 content	1 content	1 content	1 content
<i>Social media</i>	Zadig	N. of posts and tweets on the issue	Explore LinkedIn on the issue	Post contents	Post contents	Post contents
c) Create a common language to avoid misunderstandings						
<i>Glossary</i>	Ncipd	N. of updates	Adding zika and related items	Review contents	Add new voices	Total revision



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
PPI terminology	Lyonbio-pole/lpri/Ncipd	N. of items	Discuss and agree on terms with partners	NCIPD will add the new terms in the glossary		
d) Gather citizens' voice and bring it to authorities						
Social media	Zadig	N. of Fb likes and Twitter followers (+15%)	Use new algorithm to explore twitter social reach	Address influencers	Reinforce network connections Refer to HLPF meeting	Refer contents to policy workshop
Citizens' consultations	Dbt	Eight citizen consultations with approx. 50 near-representative citizens	Background material Training seminar Consulting stakeholders.	Consultations Workshop on the results Produce and public policy report	Dissemination to HLPF members	
Policy Workshop at the European Parliament	Dbt	N. of members of Parliament attending the meeting		Initiating contact	Confirming event, inviting HLPF and other stakeholders	Perform workshop and disseminate outcomes
HLPF	Tiems	Items coming from social networks and citizens' consultations in physical meetings' agenda and in threads on CoP	Review Citizens Consultation in Copenhagen; discuss progress among HLPF on CoP	Use CoP to inform HLPF of social media and citizen consultation results; discuss	Summarize citizen consultation and social media results at HLPF Brussels meeting	Continue to use CoP to inform HLPF of social media and citizen consultation results; discuss
Website	Zadig	Contents by members of the general public (min 3) Contents on citizens' consultations (min 2) Contents on local initiatives (min 2)		Min 1 1 before Min 1	Min 1 1 after Min 1	Min 1



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
PPR bulletin	Iss	Annual increase of SHs receiving the bulletin (15%)				
e) Raise authorities' awareness on SiS issues						
ASSET dataviz	Zadig	N. of analysis on SiS issues (min 1)	Perform and disseminate			
ASSET web-site	Zadig	N. of contents on SiS issues (min 3)	1 video	1 feature	1 video	
Social media (with a Facebook group dedicated to gender issues in infectious outbreaks)	Zadig	N. of post SiS-related (min 50) N. of fans to a Gender issues Facebook group	Min 10 post Create a Gender Facebook group	Min 15	Min 15	Min 10
Press releases	Zadig	N. of press releases on SiS issues (min 5)	Min 2	Min 1	Min 1	Min 1
ASSET brochure	Zadig	N. of international and national health authorities addressed (min 40)	Collecting addresses	Mailing		
Gender Platform	Eiwh	N. of contents (min 20)	May 2016 – list of target audiences completed May 2016 – decisions on the content of the platform, which will then begin to be created. Once this is done, the social media effort will begin June 2016 – list of target audiences completed, to be included in other dissemination efforts	Dissemination activity and social media presence continuing	Dissemination activity and social media presence continuing	Dissemination activity and social media presence continuing



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
<i>Gender policy brief</i>	Eiwh	N. of recipients by m48				Dissemination
<i>HLPF</i>	Tiems	Items on Sis issues in physical meetings' agenda and in threads on CoP (min 5)	Review SiS issues in Copenhagen; define key issues for HLPF discussion on CoP	Continue discussions of key issues on CoP	Initiate follow-up discussions of issues discussed in Brussels	Continue follow-up discussions of follow-up issues on CoP
<i>Pandemic preparedness and response bulletin</i>	Iss	N. of European SHs addressed				
<i>Tools from other EU projects (to be defined)</i>	Hu, Zadig, Iss, Prolepsis	N. of European authorities addressed				
<i>Presentations at conferences</i>	All partners	N. of presentations	Present ASSET poster at Luxemburg DG Santé meeting (Zadig)	Present ASSET results and perspectives at Tiems September Annual Conference		

POSSIBLE FUTURE ACTIONS TOWARDS INTERNATIONAL, NATIONAL AND LOCAL AUTHORITIES

Template for national preparedness plans.



TARGET 2. HEALTHCARE PROFESSIONALS

Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
a) Explore causes of hesitancy, complacency or refusal to flu vaccination among HCWs						
<i>Interdisciplinary study to better understand attitudes and barriers to flu vaccination among HCWs</i>	Ncipd	Developed methodology, guides for interviews, n. of conducted interviews, published article	Preparation of questionnaires and interviews with participating HCWs	Analysis and publication of the study results		
b) Provide information and training material to HCPs associations in Europe						
TELL ME e-learning course	Zadig	N. of associations reached by email (min 20)	Collecting addresses	Mailing	Evaluation	
HProimmune material	Prolepsis	N. of associations reached by email (min 20)	Collecting addresses	Choosing materials	Mailing	Evaluation
Publications in specialized websites	Prolepsis	N. of publications				
Meeting and conferences	All partners	N. of presentations				
Social media	Zadig	N. of posts related to HCWs				
ASSET Summer School	Iss	N. participating countries	2 nd edition		3 rd edition	



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
c) Reward experiences of raising awareness and involvement in the field of vaccines						
GPs ASSET award	Prolepsis	N. of invited associations and professionals	End of 1 st edition	Preparing and disseminating 2 nd edition	2 nd edition	3 rd edition

POSSIBLE FUTURE ACTIONS TOWARDS HEALTHCARE PROFESSIONALS

Analysis and suggestions for intervention in universities and medical schools.



TARGET 3. SCIENTIFIC COMMUNITY

Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
a) Provide platforms of discussion and mutual exchanges						
Transdisciplinary workshop	Datamin-ing	N. of participants (done by m14)				
MMLAP virtual cluster	Zadig	N. of participants N. of meetings	Virtual meeting and report	Virtual meeting and report	Virtual meeting and report	Virtual meeting and report
Stakeholder Portal	Ipri/Zadig	N. of participants N. of issues	Choose and invite participants	Discuss issue n. 1	Discuss issue n. 2	Discuss issue n. 3
Best Practice Platform	Ipri	Portal usage/n. of contacted and registered bodies/qualitative indicators/qualitative and quantitative indicators on candidate BP	Design and other methodological and preliminary steps. First contacts with bodies, organizations and single persons of interest	Start of conception and writing of BPG. Contacts with potential users. First phases of running of the BPP with fine-tuning of implementation details. Informing users and other BPP dissemination activities	Writing of BPG and its preliminary dissemination. Further contacts with potential users. Regimen running of the BPP with fine-tuning of implementation details. Informing users and other BPP dissemination activities	Writing of BPG and its preliminary dissemination. Further contacts with potential users. Regimen running of the BPP with fine-tuning of implementation details. Informing users and other BPP dissemination activities towards industry
RRI newsletter	Lyonbio-pole	N. newsletters sent N. newsletters opened Update of the mailing list (n. researchers in academia & industry)	Issue the 3 rd Newsletter	Issue the 4 th Newsletter	Issue the 5 th Newsletter	Issue the 6 th Newsletter



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
ASSET Summer School	ISS	N. of participating countries	2 nd edition		3 rd edition	
Website	Zadig	N. of contents on scientific issues (min 4)	Min 1 content	Min 1 content	Min 1 content	Min 1 content

b) Share different approaches

Paper series	Prolepsis	N. of papers (min 6)	Min 1	Min 1	Min 2	Min 2
ASSET book	Prolepsis	Done				
Scienceonthenet website	Zadig	N. of contents disseminated through scienceonthenet	Min 3	Min 3	Min 3	Min 3
Presentations at conferences	All Partners	N. of presentations	Present ASSET poster at Luxembourg DG Santé meeting (ZADIG), ...	Present ASSET results and perspectives at TIEMS September Annual Conference, ...		

POSSIBLE FUTURE ACTIONS TOWARDS SCIENTIFIC COMMUNITY

Organize a big, really transdisciplinary conference on the SiS issues in epidemics, pandemics and vaccines, with virologists, epidemiologists, public health experts, psychologist, sociologists, behavioural, communication experts and so on.


**TARGET 4.
INDUSTRY**

Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
a) Provide platforms of discussion and mutual exchanges						
<i>Stakeholder Portal</i>	Ipri/Zadig	N. of participants N. of issues	Choose and invite participants	Discuss issue n. 1	Discuss issue n. 2	Discuss issue n. 3
Best Practice Platform	Ipri	Portal usage/n. of contacted and registered bodies/qualitative indicators/qualitative and quantitative indicators on candidate BP	Design and other methodological and preliminary steps. First contacts with bodies, organizations and single persons of interest	Start of conception and writing of BPG. Contacts with potential users. First phases of running of the BPP with fine-tuning of implementation details. Informing industrial users. Other BPP dissemination activities towards industry	Writing of BPG and its preliminary dissemination. Further contacts with potential users. Regimen running of the BPP with fine-tuning of implementation details. Informing industrial users. Other BPP dissemination activities towards industry	Writing of BPG and its preliminary dissemination. Further contacts with potential users. Regimen running of the BPP with fine-tuning of implementation details. Informing industrial users. Other BPP dissemination activities towards industry
RRI newsletter	Lyonbio-pole	Issue n. 2	Discuss	Issue the 4th Newsletter	Issue the 5th Newsletter	Issue the 6th Newsletter



Website	Zadig	Issue n. 3	Publish (and disseminate) min 1 content	Publish (and disseminate) min 1 content	Publish (and disseminate) min 1 content	Publish (and disseminate) min 1 content
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b) Share different approaches

RRI newsletters	Lyonbio-pole	N. of articles on COI (min 1)				
Mailing	Zadig	N. of targeted mailing (min 1)				
ASSET website	Zadig	N. of articles about COI (min 1)				
Include representatives of industry in ASSET stakeholder portal	Ipri/Zadig	N. of participants (min 2)				
ASSET website	Zadig	N. of contents by or about industry (min 4)				

POSSIBLE FUTURE ACTIONS TOWARDS PHARMA INDUSTRY

Developing comprehensive guidelines to regulate the “revolving door” phenomenon.

**TARGET 5.
MEDIA**

Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
a) Spread ASSET contents						
Mailing list	Zadig	N. of addresses	By m12	Increase contacts of journalists	Increase contacts of journalists	Increase contacts of journalists
Press releases	Zadig	N/year (min 8)	Min 4	Min 4	Min 4	Min 4
Dataviz	Zadig	N/year (min 4/year)	Min 2	Min 2	Min 2	Min 2
Press kit	Zadig	N. of recipients	Collecting material and preparing press kit	Mailing to European journalists		
Videopills	Zadig	N. of videos sent (min 6/year)	Min 3	Min 3	Min 3	Min 3
Press conference	Zadig/Dbt	N. of journalists invited				Preparing location and contents Repeated mailing to invite journalists
b) Establish a coordinated presence on social media						
ASSET accounts	Zadig	Creation of ASSET accounts on the main social networks, update and increase of contents	Update and increase of contents (min 5)	Update and increase of contents (min 5)	Update and increase of contents (min 5)	Update and increase of contents (min 5)



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
Facebook	Zadig	N. of fans +5%	Regular content update	Regular content update	Regular content update	Regular content update
Twitter	Zadig	N. of followers +5%	Regular content update	Regular content update	Regular content update	Regular content update
LinkedIn	Zadig	N. of followers +5%	Regular content update	Regular content update	Regular content update	Regular content update
YouTube	Zadig	N. of visualisations +5%	Regular content update	Regular content update	Regular content update	Regular content update

POSSIBLE FUTURE ACTIONS TOWARDS MEDIA

Comprehensive guidelines made by a joint committee of scientists, public health experts, media people and public on how to communicate about epidemics, pandemics and vaccines.

**TARGET 6.
GENERAL PUBLIC**

Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
<i>Establish a two-way participated communication with the public</i>						
<i>Citizens' consultations</i>	Dbt	Eight citizen consultations with approx. 50 near-representative citizens	Background material Training seminar Consulting stakeholders	Consultations Workshop on the results Produce and public policy report	Dissemination	
<i>Social media</i>	Zadig	N of content items developed within the social media mobilization = ≥ 50	Regular content update	Regular content update	Regular content update	Regular content update
<i>Web portal</i>	Zadig	N. of articles by general public (min 3)		Publish min 1 content	Publish min 1 content	Publish min 1 content
<i>Local initiatives</i>	Iss	At least one local initiative per year by m45		Min 1	Min 1	Min 1
<i>Comenius program</i>	Eiwh	N. of schools and pupils reached	April 2016: final action plan to be decided on June 2016: identify schools to be contacted	September 2016: working together with schools	January 2017: school element complete March 2017: after assessing the project's results, dissemination of the activities will commence	



Activity	Responsibility	Indicators	Jan-June 2016	July-Dec 2016	Jan-June 2017	July-Dec 2017
<i>Geneva music and science festival</i>	Datamin-ing	N. of related events: 1. Science&Music: 100 participants 2. Conference& Concert: 700 participants	Done			

POSSIBLE FUTURE ACTIONS TOWARDS GENERAL PUBLIC

Prepare a “navigation map” of reliable sources on the web.



SECTION V

ASSET LEGACY

As planned in WP9, ASSET has a strategy for ensuring post-action sustainability and to give future participants, wishing to pursue ASSET, the means to efficiently implement ASSET recommendations. ASSET WP9 objectives, starting at m37, are:

1. development of a plan for financial sustainability of the action, after completion of the EC grant
2. organization of a brokerage event that will mobilize ASSET consortium and external stakeholders in order to identify concrete means to pursue and implement the project post-action.

Some activities could be keep on working after the end of the project, if financial sustainability will be provided:

- ✓ ASSET **website**, as a wide platform of mutual exchange
- ✓ ASSET **social media** accounts
- ✓ **High Level Policy Forum**
- ✓ **PPR bulletin**
- ✓ **RRI newsletters**
- ✓ **Gender Platform**
- ✓ **Stakeholder Portal**
- ✓ **Best Practice Platform**
- ✓ **MMLAP virtual cluster**.

Some tools developed during the project could also be used by other stakeholders, as a legacy of ASSET:

- ✓ ASSET **glossary**
- ✓ **PPI terminology**
- ✓ **data visualisation** to highlight aspects to be faced
- ✓ **algorithm for twitter analysis**
- ✓ **citizens' consultations methods** and results
- ✓ best practices **guidelines**.



New tools and activities could be developed in a new project (ASSET2?) within Horizon 2020 to complete ASSET's effort of making "science with-and-for-society" in the field of epidemics and pandemics, targeting each group of stakeholders:

1. INTERNATIONAL, NATIONAL AND LOCAL AUTHORITIES AND ORGANIZATIONS

Prepare a template for national and transnational preparedness plans, which could help make them:

- ✓ easier to be prepared and updated
- ✓ more consistent
- ✓ more aware of SiS issues.

2. HEALTHCARE PROFESSIONALS

Perform an analysis on coverage of infectious diseases, mainly influenza pandemic, vaccinology, relevance of non-pharmaceutical steps, SiS issues and preparedness in universities and medical schools and give suggestions for improvement.

3. SCIENTIFIC COMMUNITY

Organize a big, really transdisciplinary conference on the SiS issues in epidemics, pandemics, non-pharmaceutical steps and vaccines, with virologists, epidemiologists, mathematical modelers, public health experts, psychologist, sociologists, behavioural, scientists, communication experts and so on. Especially if this meeting could become a recurring appointment, it could be very useful for a more integrated approach to such crises.

4. INDUSTRY

Draft comprehensive guidelines for transparency, also considering the "revolving door" phenomenon, which implies professionals passing from pharma industry to public health and vice versa. Such a document help improve public trust in authorities.

5. MEDIA

Draft comprehensive guidelines for a better communication on epidemics, pandemics, preventive non-pharmaceutical steps and vaccines, made by a joint committee of scientists, public health experts, media people and representatives of the public.

6. PUBLIC

Prepare a "navigation map" of reliable sources of information about infectious diseases and vaccines on the web.

Bringing SiS issues into Pandemic Preparedness & Response

The overall objective of ASSET project is to contribute to incorporating Science-in-Society issues into the system of Research and Innovation related to pandemic or epidemic preparedness by:

- exploring and mapping SiS-related issues in global pandemics;
- developing a partnership with complementary perspectives, knowledge and experiences to address effectively scientific and societal challenges raised by pandemics and associated crisis management;
- developing a participatory and inclusive strategy.

6 MAINSIS/RRI THEMES

ASSET Strategic Plan outlined some priorities in the field of pandemics or infectious emergencies, which follow 6 main themes:

GOVERNANCE

- Following 2009 A(H1N1) pandemic, authorities still have to face **mistrust**;
- the **perception of conflict of interests** by the public is not completely solved;
- in **risk and outbreak communication** there is still space for improvement;
- **ethical, law, human rights and gender issues** are scarcely considered.

UNSOLVED SCIENTIFIC QUESTIONS AND OPEN ACCESS TO SCIENTIFIC OUTCOME

- Communicating **uncertainty**;
- role of **new social media**;
- top-down uni-directional **decision process**;
- **new informal surveillance approaches**;
- **involvement of GPs**;
- **non-pharmacological preventive steps** (e.g. frequent hand-washing);
- **inter-disciplinary scientific approach**.

CRISIS PARTICIPATORY GOVERNANCE AND SCIENCE EDUCATION

Previous challenges, along with:

- neglect **local conditions**;
- lack of **flexibility**;
- **underestimation** of citizens needs and capacity hurdle an effective participation of citizens in the management of a crisis.

ETHICS, LAW AND FUNDAMENTAL RIGHTS

Ethical, human rights and legal issues, which include:

- **solidarity**;
- **public good versus personal privacy and freedom**;
- **transparency and informed consent**;
- **stigmatization**;
- **resource allocation**;

are also relevant for their impact on the spread of diseases.

GENDER ISSUES

- **Pregnant women** can be more vulnerable;
- women have **lower rate of immunization**;
- mainly men in **clinical trials**;
- few women in **decision committees**;
- scarce attention to this theme in **preparedness and response plans**.

INTENTIONALLY CAUSED OUTBREAKS

- National and international authorities should have policy documents **ready to be used** in case of emergency;
- security and ethical implications of any measure must be discussed **before the crisis**;
- countries and institutions should also consider participation in **international regimes** for these issues;
- **attitudes of citizens** should also be explored.

