



share and move to face nasty bugs

**TITLE: POLICY WATCH**  
**SUBTITLE: PANDEMIC PREPAREDNESS AND RESPONSE**  
**BULLETIN REPORT 2**

ASSET Project • Grant Agreement N°612236

# ASSET

Action plan on SiS related issues in Epidemics And Total Pandemics

7<sup>th</sup> RTD framework programme

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Vn	Status	Date	Organisation / Person responsible	Reason for Change
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## EXECUTIVE SUMMARY

**The ASSET Pandemic Preparedness and Response Bulletin, *Share and move*** The current report has been divided in two main parts which represent the features characterizing the task of editorial production and delivery of the ASSET Pandemic Preparedness and Response Bulletin. This schedule essentially mirrors how the work on the Deliverable about task 6.2 is depicted in the Description of Work (DoW) where, at page 28 of 48, it is retrievable the information that Bulletin Issues must be included into technical Annexes.

**Context and main objectives: the ASSET Bulletin as a tool for policy watch** *Share and move* (the ASSET Pandemic Preparedness and Response [Bulletin](#)) is an updating tool on policy initiatives concerning pandemics and international public health crisis management, developed at local, national and international levels. This Bulletin – a total of seven editions to be issued by December 2017 – deals with the latest key health data, information and indicators in matter of Public Health Emergency Preparedness (PHEP), Emergent Communicable Diseases, revisions of national pandemic plans and/or strategies, as well as of relevant statements and recommendations in the field. *Share and move* wants to address effectively scientific and societal challenges raised by pandemics and more generally by what the World Health Organization (WHO) has recently defined public health emergencies of international concern (PHEIC). The ASSET Bulletin mirrors the approach launched by the European Commission in 2001 within its own «Science and Society» Action Plan. The main objective was identified to foster public engagement and a sustained two-way dialogue between science and civil society and to build a framework for Responsible Research and Innovation (RRI). That means the setup of a policy driven by the needs of society and engaging all societal players via inclusive participatory approaches. Then, it is noteworthy that the RRI framework is made of six key elements: governance, open access, engagement, gender equity, ethics, and science education.

The ASSET Pandemic Preparedness and Response Bulletin is a tool that aims at collecting and disseminating information on policy initiatives devoted to pandemics and related crisis management and developments at local, national and European levels. This biannual Bulletin will consider and revise specific issues related to EU strategic priorities in pandemic preparedness, including communication and other responses. The ASSET-PPRB is addressed to international stakeholders who are relevant in the field of pandemic preparedness, including risk communication strategies and other responses.

**Key issues: a matter of editorial choices** First, an Editorial Committee was established and is formed by 14 Consortium Partners: Valentina Possenti, Barbara De Mei, Alberto Perra, Paola Scardetta, Eva C. Appelgren (Board Coordination - Istituto Superiore di Sanità, Italy); Manfred Green, Anat Gesser-Edelsburg (University of Haifa, Israel); Mircea Ioan Popa, Adriana Pistol (Universitatea De Medicina Si Farmacie' carol Davila' Din Bucuresti, Romania); Mira Kojouharova (National Centre of Infectious and Parasitic Diseases, Bulgaria); Thomas Robertson (The International Emergency Management Society Aisbl/US); Agoritsa Baka (Institute of Preventive Medicine Environmental and Occupational Health - PROLEPSIS, Greece); Eva Benelli, Donato Greco (Zadig Srl, Italy). The Bulletin's Editorial Committee members are the main responsible for what is published in each issue, but also other ASSET Partners and external experts in the field contribute actively.



To better understand which columns are run and the sort of contents that is selected, the “*What’s new*” perspective has been adopted and implemented. It means news from the world of pandemic and more in general emergency, such as an epidemic, preparedness and response are firstly reported. This main section can be seen as a folder “case” including core issues such as PHEP, risk communication, laws. Major achievements by the most important international public health institutions are described as well as highlights and insights circulated by the most used social media. The Bulletin includes also a relevant website in the field, recent update from the ASSET project and a “snapshot”, standing for an innovative concept represented by a graphic item.

After the [first](#) issue, that is quite generic, the Bulletin has been shaped as a tool that is more specifically tailored according to the peculiarities of this challenging MMLAP project. As it has been explained above, ASSET is in fact aimed to bridge the gap between the scientific community and society in the field of epidemics and pandemics management. And the European Commission recalled the aim to foster public engagement and a sustained two-way dialogue between science and civil society by encompassing key strategic areas (engagement, gender equity, science education, open access, ethics and governance) within the main action plan launched in 2001.

Then, since its second issue, each ASSET Pandemic Preparedness and Response Bulletin, *Share and move*, is mainly based on one of the six SiS topics that were highlighted within the project “*Study and Analysis*” phase: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal and societal implications; gender pattern – vulnerability; intentionally caused outbreaks.

The [second](#) Bulletin focused on governance of pandemics and epidemics, the [third](#) issue concentrated on unsolved scientific questions. Proposing the same structure than in the others, the [fourth](#) number (published during the summer 2016) deals with intentionally caused outbreaks, even with regard to the steps of preparedness and response, and to relevant information shared on the web and by the most used social networks.

About the following PPRBs to be still published, it has been decided that: the fifth Bulletin will be on the participatory governance, the sixth issue on ethics, and the last edition (n. 7) on gender pattern.



## ACKNOWLEDGEMENTS

We acknowledge the Editorial Committee members<sup>1</sup> and all ASSET consortium partners<sup>2</sup> who have been useful in relevantly refining the First Issue of the Pandemic Preparedness and Response Bulletin as well as our colleagues from the Istituto Superiore di Sanità Resource Centre: Caterina Rizzo, Antonella Lattanzi, Lorenzo Fantozzi, Arianna Dittami and Valerio Occhiodoro for the valuable support provided, respectively, on editorial, linguistic, graphic, and technical issues.

## CONTRIBUTORS OF AUTHORS

Concerning the three Issues of the ASSET Pandemic Preparedness and Response Bulletin that the current Deliverable Report (D6.5) refers to, task contributors have been as it follows:

Valentina Possenti, Barbara De Mei, Alberto Perra, Eva C. Appelgren, Paola Scardetta (Istituto Superiore di Sanità, Italy): conception and design, identification of eligibility criteria for contributions, data-checking, writing/editing, working board creation and coordination;

Manfred Green, Anat Gesser-Edelsburg (University of Haifa, Israel): conception and design, identification of eligibility criteria for contributions, data-checking;

Mira Kojouharova, Anna Kurchatova, Veronika Dimitrova (National Centre of Infectious and Parasitic Diseases, Bulgaria): conception and design, identification of eligibility criteria for contributions, data-checking, writing/editing;

Mircea Ioan Popa, Adriana Pistol (Universitatea De Medicina Si Farmacie 'Carol Davila' Din Bucuresti, Romania): conception and design, identification of eligibility criteria for contributions, data-checking, writing/editing.

## BRIEF INTRODUCTION

Within ASSET (Action plan in Science in Society in Epidemics and Total pandemics), a four-year, European Commission funded Mobilization and Mutual Learning Action Plan (MMLAP) project, one of the two tasks in the WorkPackage “Policy watch” is about delivering a Pandemic Preparedness and Response Bulletin (T6.2).

If the first Deliverable published on this task, [D6.4 ‘Pandemic Preparedness and Response Bulletin Report 1’](#), widely describes the objectives and the main features in the conception of the ASSET Bulletin, the current Report is a slimmer updating tool on the state-of-the-art of the task 6.2 and its evolution from month 19 to 36.

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<sup>1</sup> Names are listed at Table 1 in the [D6.4 ‘Pandemic Preparedness and Response Bulletin Report 1’](#)

<sup>2</sup> Partners are retrievable on the ASSET website at URL: <http://www.asset-scienceinsociety.eu/about/partners>



## PART I: PLANNING, EDITING, CIRCULATING THE ASSET PPRBs

### 1. REFINING THE BULLETIN DESIGN

#### 1.1 THE EDITORIAL RATIONALE

The fundamental rule in choosing eligible contents to be published in each Bulletin is both relevance- and recency-based. After the first issue, the “What’s new...” formula originally identified has been modulated in the way that follows:

**Pandemic Preparedness and Response** The very first area is dedicated to specific achievements and/or progresses in the field of pandemics and more generally by what the World Health Organization (WHO) has recently defined public health emergencies of international concern (PHEIC).

**Emergency Preparedness and Response** This section can be seen as a very general “tank” containing several kinds of contributions (research articles, reports, news, etc.) about all ASSET SiS related issues such as PHEP, risk communication, laws. Possible examples in this “core” folder are: Ebola Virus Disease (EVD) in West Africa, risk communication, evaluation of pandemic plans.

**Public Health Institutions** This column is thought as a fix box to be fulfilled in with major achievements by the most important international public health institutions, i.e. WHO, WHO/EU, ECDC, and others, about the topics of interest.

**Social Networks** A space is reserved to exploit highlights, inputs and insights about pandemic preparedness and response circulated by the most used social media.

**On the web** One relevant website in the field is put in evidence in each Bulletin Issue.

**From the ASSET world** An update on significant ASSET achievements and outcomes (WPs, Deliverables, Events).

**In a SnapShot!** An additional item standing for an innovative concept in matter of preparedness and response represented by a “graphic element” with a verbal exploitation provided besides.

#### 1.2 THE COLLABORATIVE WORK

Given the same participatory methods and approach which have already been implemented, the Bulletin revealed to be based on a collaborative work among all Consortium Partners (it is witnessed also through the dedicated discussion threads open on the WP6 Forum of the internal Community of Practice platform), even if not directly involved on the related task. In each issue, depending on the thematic area covered, a single person is identified as main reference Partner.





## 2. PRODUCTION OF THE THREE PPRB ISSUES IN THE TIMEFRAME 19-36M

The effective editing of the first ASSET Pandemic Preparedness and Response Bulletin, “*Share and move*”, has been developed according to what has been described in the paragraphs of the previous chapter (#1). Following what has been indicated in detail in the [Strategic Plan \(D3.1\)](#), since the second issue, each Bulletin is mainly focused on one of the six SiS topics that were highlighted within the project “*Study and Analysis*” phase: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal and societal implications; gender pattern – vulnerability; intentionally caused outbreaks.

### 2.1 THE SECOND PPRB

**Let’s get started with governance of pandemics and epidemics** Similarly to our first Bulletin, the “*What’s new from...*” formula has been repeated and applied to the issue of governance. Beside the main section about pandemic preparedness and response, two other columns include highlights in the field circulated both by important international public health institutions and by the most used social media. Also this second issue shows relevant web tools related to (pandemic) preparedness and response, applicable news from the ASSET project and a “snapshot”, standing for an innovative concept represented by a graphic item.

### 2.2 THE THIRD PPRB

**After dealing with governance of pandemics and epidemics, it has been the time to concentrate on unsolved scientific questions.** [Planning for the Next Global Pandemic](#) is the title of an editorial on the International Journal of Infectious Diseases stating that “In order to mitigate human and financial losses as a result of future global pandemics, we must plan now. As the Ebola virus pandemic declines, we must reflect on how we have mismanaged this recent international crisis and how we can better prepare for the next global pandemic. Of great concern is the increasing frequency of pandemics occurring over the last few decades.” Also the article mentioned before “discusses many issues including priority emerging and reemerging infectious diseases; the challenges of meeting international health regulations; the strengthening of global health systems; global pandemic funding; and the One Health approach to future pandemic planning. [...] The West African Ebola virus pandemic has shown us yet again that the world is ill prepared to respond to a global health emergency.” That follows similar statements made after the H1N1 influenza pandemic in 2009 such as: “The world is ill prepared to respond to a severe influenza pandemic or to any similar global, sustained and threatening public health emergency”. In line with this approach, the third ASSET Pandemic Preparedness and Response Bulletin, *Share and move*, explores unsolved scientific issues (i.e. research on vaccines but also on human behavioural response and risk communication) that were highlighted within the project “*Study and Analysis*” phase, detailing them with regard to pandemic and emergency preparedness and response, and to relevant information shared on the web and by the most used social media. In the end, over specific issues raised, we would end as the editorial quoted at the beginning did: “Clearly a ‘One Health’ approach is the way forward”.





## 2.3 THE FOURTH PPRB

**A focus on intentionally caused outbreaks** Proposing the same structure like the previous ones, the fourth number of the ASSET Pandemic Preparedness and Response Bulletin, *Share and move*, deals with intentionally caused outbreaks that were highlighted within the project “Study and Analysis” phase, with regard to the aspects of preparedness and response, and to relevant information shared on the web and by the most used social media.



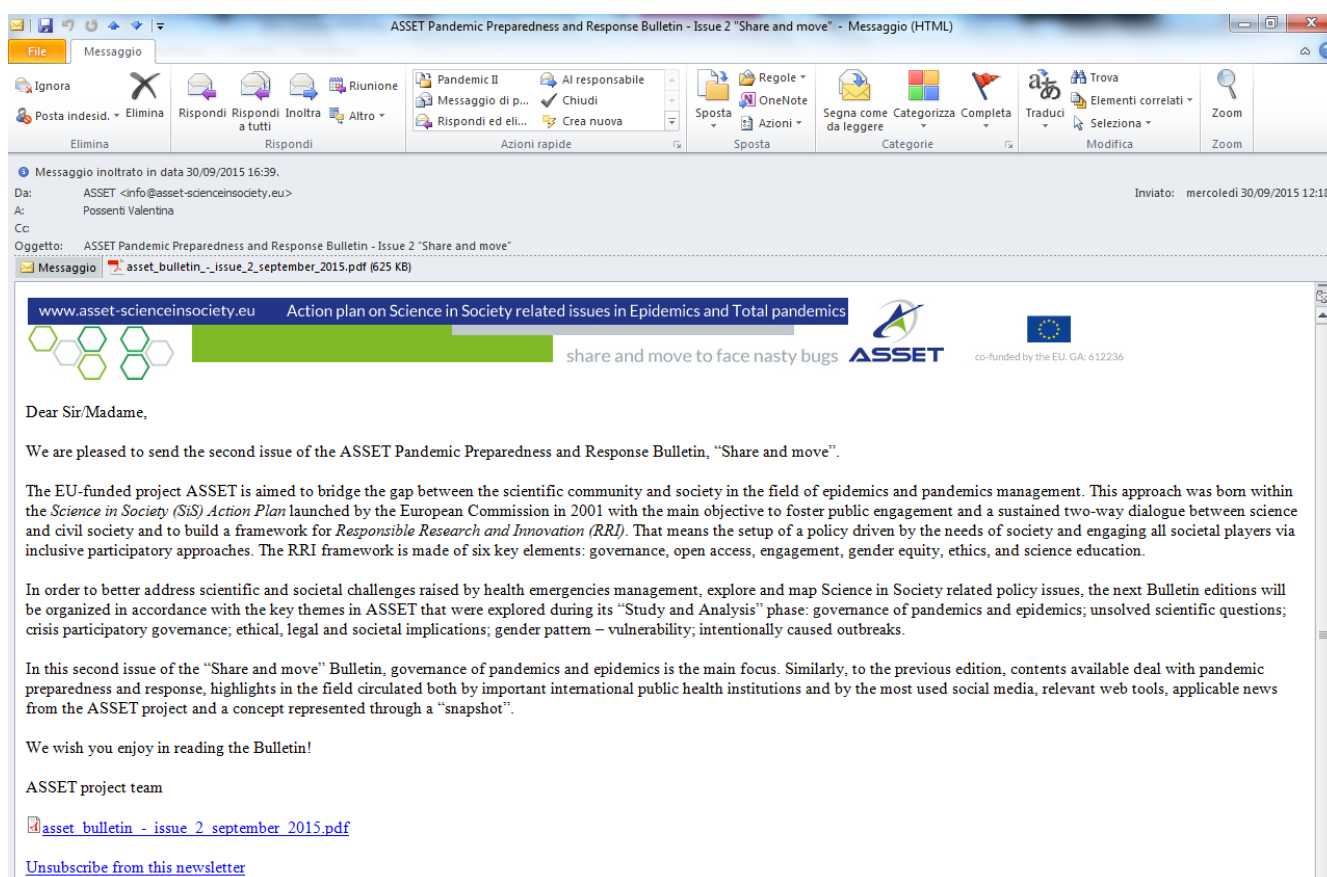
### 3. DISSEMINATION OF THE THREE PPRB ISSUES IN THE TIMEFRAME 19-36M

As indicated at paragraph 2.3 of the first Deliverable published on task 6.2, [D6.4 'Pandemic Preparedness and Response Bulletin Report 1'](#), a double spreading mode has been identified. The PPRBs are both circulated among a wide mailing list of relevant targets and available on the ASSET website.

#### 3.1 MAILING LIST OF RELEVANT STAKEHOLDERS

ZADIG is provided by ISS with a cover letter for sending the each Bulletin issue and takes care of spreading them to identified targets (Figures 1, 2, 3). In the timeframe 19-36M, the mailing list of addressees/targets initially assembled has been pretty improved both for quality and quantity. More than 7,000 stakeholders have been identified and have been divided in categories as country, affiliating institution, professional role, etc.

**Figure 1. The cover email with which the second PPRB has been sent out**



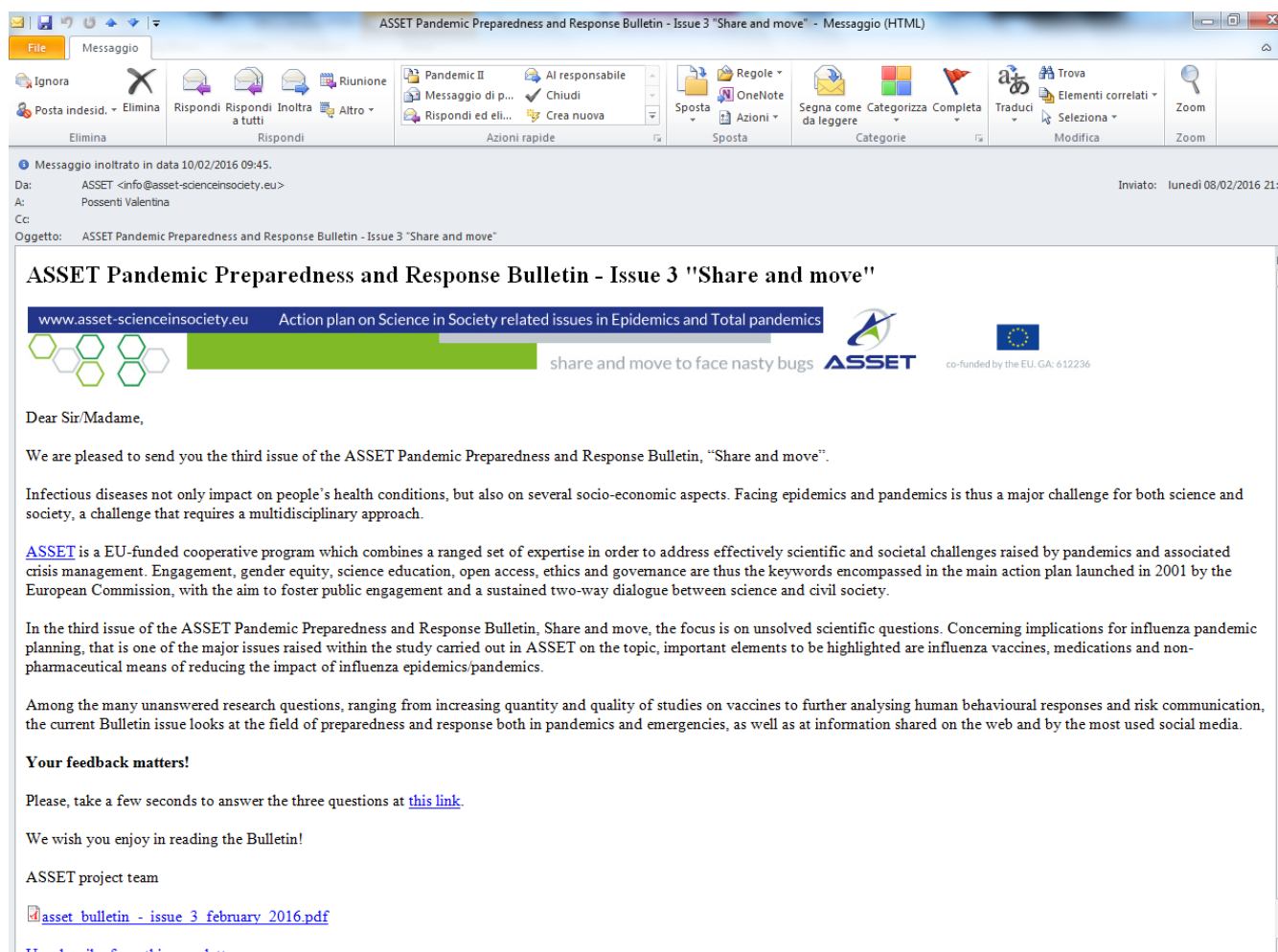


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**Figure 2. The cover email with which the third PPRB has been sent out**



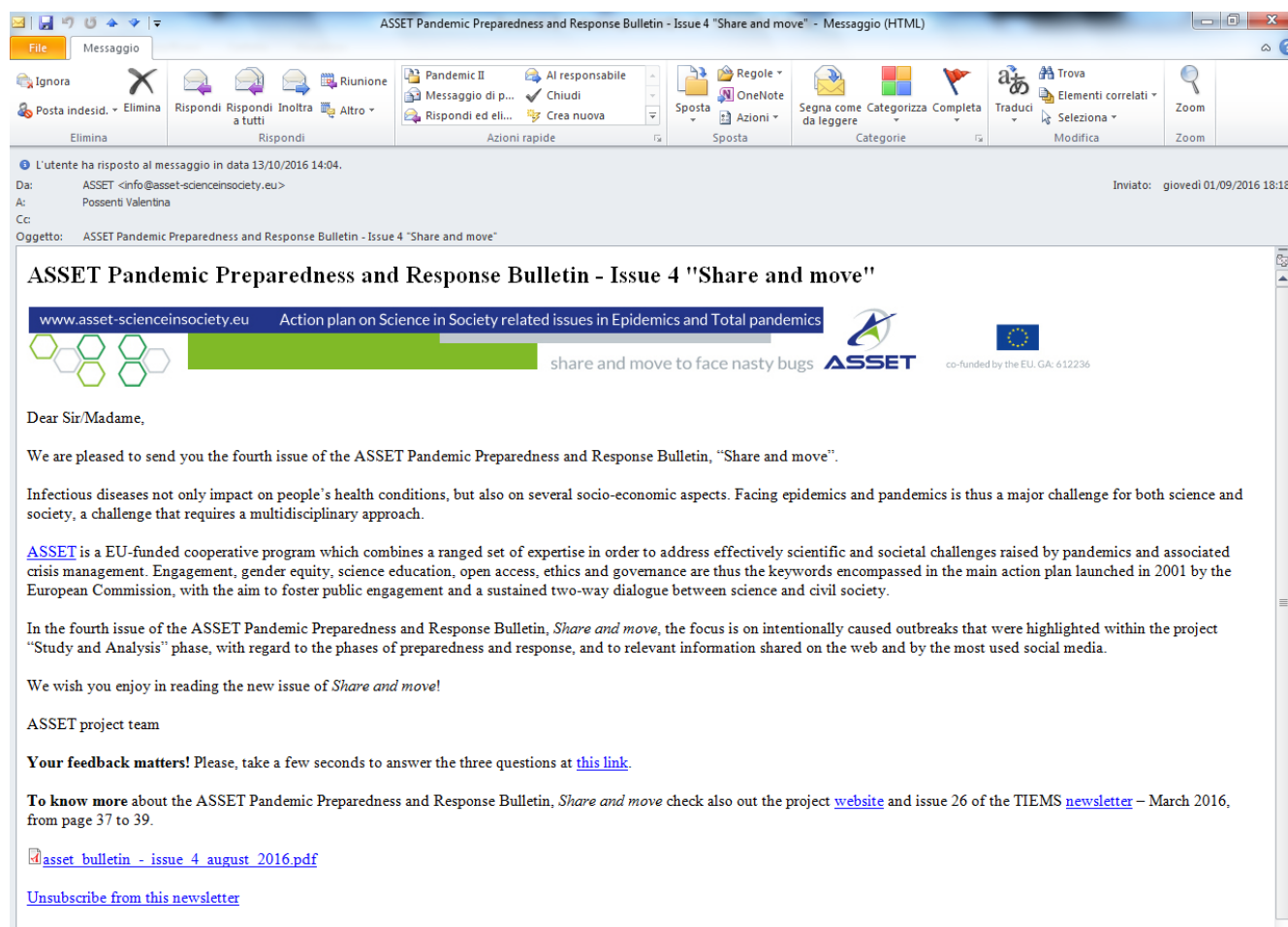


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Figure 3. The cover email with which the fourth PPRB has been sent out





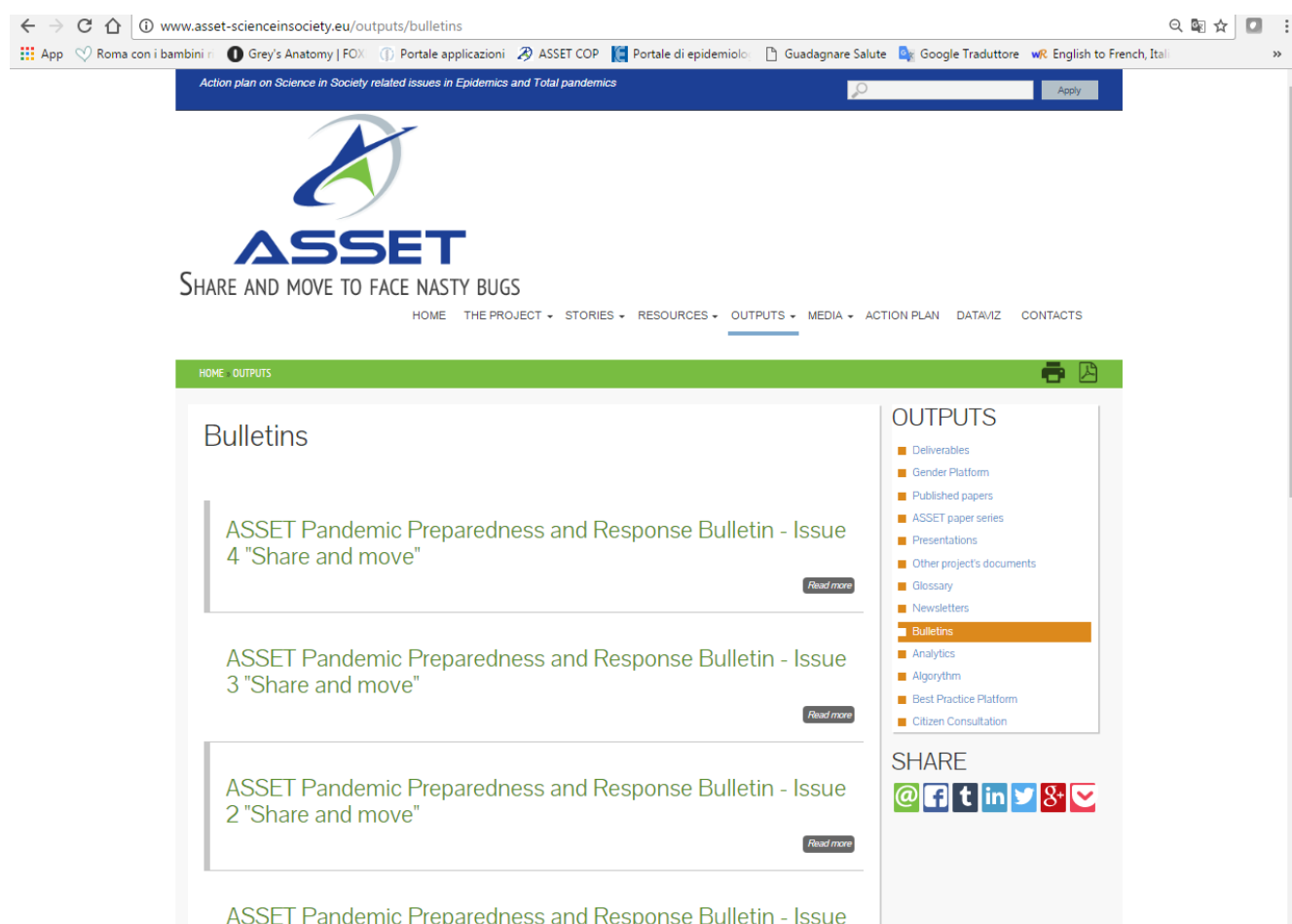
### 3.1.1 EVALUATING THE APPRECIATION OF THE PPRB AMONG READERS

Beside the monitoring of the PPRB spread that is explicitly foreseen within the project activities, ISS implemented a very brief, on line evaluation questionnaire to Bulletin readers in order to understand which is the level of appreciation. In spite of reaching 4,437 email addresses with the link, a low response rate can be observed. By the way, the few responders tell us about a pretty good rating of this editorial ASSET product.

## 3.2 SUBSCRIBING ON THE ASSET WEBSITE

As specified in the project DoW (T7.3, point 15; page 30 of 48), among tools available on the ASSET website also the electronic policy bulletin is included (Figure 3).

**Figure 4. The ASSET webpage where the electronic PPRBs are placed**





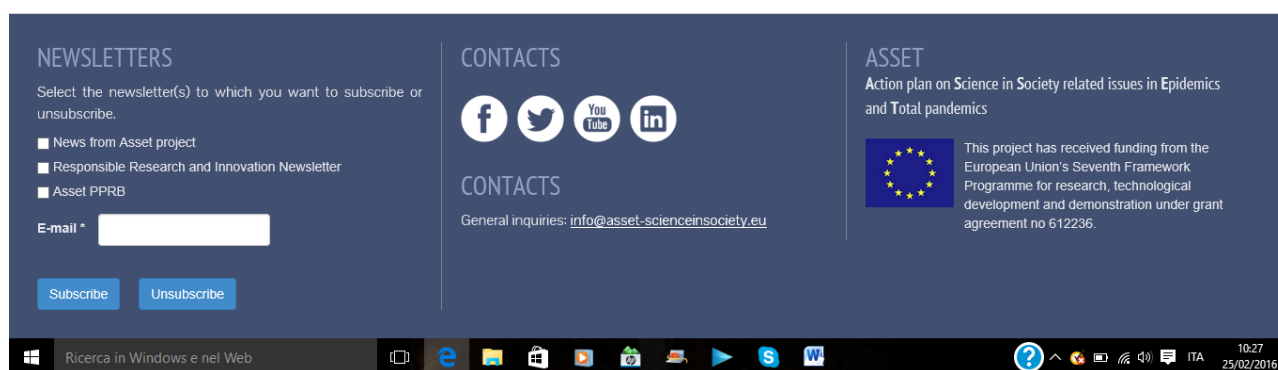
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Beside receiving the PPRB by email, it is possible to subscribe directly on the ASSET website so that each issued Bulletin will be automatically received by registered users in their own personal mailbox. This specific dissemination mode is very sensitive to the website visibility: an increasing number of subscribers might be expected as the total of visits improves. The bottom banner available on the ASSET homepage is reported at the figure 5 here below.

**Figure 5. The box on the ASSET webpage where users can subscribe for receiving the electronic PPRBs**





## PART II: THE THREE ASSET PPRBs PUBLISHED IN THE TIMEFRAME 19-36M

As recalled at page 4 of the current report, the second part is filled in with the three ASSET Pandemic Preparedness and Response Bulletins, *Share and move*, which have been effectively delivered from month 19 to month 36. They are issues n. 2, n. 3 and n. 4. This indication of including Bulletins published into technical Annexes is specifically retrievable at page 28 of 48 of the Description of Work (DoW).





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## ANNEX I – The SECOND ASSET-PPRB Issue



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### Pandemic Preparedness and Response Bulletin "Share and move"

Issue 2, September 2015



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





Highlighting strategic priorities and policy-related initiatives on Pandemic Preparedness and Response, the “*Share and Move*” ASSET Bulletin intends to be essential to a wide-ranged target: competent institutional actors and public health authorities, decision-makers, even on social networks.

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## Editorial

### WELL MET AT THE SECOND ASSET BULLETIN

#### Our selection of pandemic preparedness and response related issues

The [ASSET](#) Pandemic Preparedness and Response Bulletin "*Share and move*" has completed its own second issue. After the [first issue](#), we have now shaped it as a tool that is more specifically tailored according to the peculiarities of this challenging Mobilisation and Mutual Learning Action Plan (MMLAP) project. ASSET is in fact aimed to bridge the gap between the scientific community and society in the field of epidemics and pandemics management. This sort of approach has its roots since 2001 when the European Commission launched the [«Science and Society» Action Plan](#) with the main objective to foster public engagement and a sustained two-way dialogue between science and civil society and to build a framework for Responsible Research and Innovation (RRI). That means the setup of a policy driven by the needs of society and engaging all societal players via inclusive participatory approaches. The RRI framework is made of six key elements: governance, open access, engagement, gender equity, ethics, and science education.

The first sentence in the article "*Ebola: limitations of correcting misinformation*" published on The Lancet (Vol 385 April 4, 2015) says: "*Communication and social mobilisation strategies to raise awareness about Ebola virus disease and the risk factors for its transmission are central elements in the response to the current Ebola outbreak in west Africa*". It is quite relevant that a scientific dissertation on Ebola Virus Disease (EVD) outbreak highlights the role that communication and mobilisation play in such a fight against this lethal epidemic.

In order to better address scientific and societal challenges raised by health emergencies management, exploring and mapping Science in Society (SiS) related policy issues, the next six Bulletin editions will be organized in accordance with the key themes that grounded ASSET within the "*Study and Analysis*" phase. We are talking about: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal and societal implications; gender pattern – vulnerability; intentionally caused outbreaks.

Let's get started with governance of pandemics and epidemics. Similarly to our first Bulletin, the "*What's new from...*" formula has been repeated and applied to the issue of governance. Beside the main section about pandemic preparedness and response, two other columns include highlights in the field circulated both by important international public health institutions and by the most used social media. Also this second issue shows relevant web tools related to (pandemic) preparedness and response, applicable news from the ASSET project and a "snapshot", standing for an innovative concept represented by a graphic item.



## Pandemic Preparedness and Response

### What's new on the issue in Europe

#### The activity of boards and structures to better address the issue

A [Health Security Committee \(HSC\)](#), Basing on Decision 1082's dispositions, the composed of Member States representatives, committee took well defined and wide is established as technical body: a former ranged tasks in coordinating and supporting HSC was already existing since December the European Commission. HSC has decided 2001 but revealed to be instrumental in to formalize both one permanent working setting up [Decision 1082](#). It has already been group on preparedness and the HSC described at page 4 of the [previous](#) ASSET communicators' network. In order to "Share and move" Bulletin as a tool for an connect with the work developed by this integrated, coordinated and comprehensive board, the ASSET High Level Policy Forum approach to preparedness, risk assessment ([HLPF](#)) started reasoning about how to and crisis response. Taking on board the interrelate with [it](#). A first introductory provisions on communicable diseases from [meeting](#) was held in Brussels on 12<sup>th</sup> March the Decision 2119/1998/EC, this new one 2015, and for the second HLPF meeting's includes antimicrobial resistance and arrangement relevant inputs could be healthcare associated infections, also exploited from the workshop held by the [EU](#) covering bio-toxins, chemical and [HSC and the Network Unit of DG Santé](#) environmental threats. (Luxembourg; October 2015, 12-14).

#### Surveillance systems as tools for preparedness and response

#### When established structures can be flexibly adapted in pandemic occurrence

In Italy after the A/H1N1 pandemic flu, it was was set-up within the PASSI surveillance by demonstrated that, beside the availability of adding questions to explore different issues official surveillance systems, it is greatly related to the A/H1N1 pandemic flu. First data important to also have other sorts of collection was at the peak of the epidemic structures activated on the territory which (November 2nd, 2009) and was maintained till can be easily adapted when emergencies February 2010. A total of 4,244 subjects were occur and enable public health organizations interviewed. A decrease in all the indicators to avoid unstandardized, spot and expensive was observed across the four-months period: opinion surveys. Monitoring population perception of high risk of being infected (from perceptions, behaviours and knowledge 46% to 17%); concern about the pandemic (40% during pandemics is crucial to identify the to 12%); self-limitation of social contacts (17% need for improving communication and to to 8%); willingness to be vaccinated (34% to assess the degree of dissemination of 11%). More than 90% knew the main hygienic recommendations for prevention. The measures to control the spread of influenza. ongoing Italian Behavioural Risk Factor The most frequently reported sources of Surveillance System ([PASSI](#)) offered such an information were GPs and paediatricians (81%). opportunity to investigate [opinions](#) on the Behavioural changes followed the epidemic A/H1N1 pandemic flu in the general popula- curve. Health staff is the main target for timely tion 18-69 years. In fall 2009 a subsystem communication in emergency situations.





## Emergency Preparedness and Response

WHO report on Ebola crisis management as a lacking assessment experience

Have the preparedness and response capacities been really improved?

### WHO Ebola Report is a Missed Opportunity

The report by the independent panel the World Health Organization (WHO) created to examine its response to the Ebola outbreak fails to establish exactly what went wrong and why.

The WHO commissioned [a report](#) on its response to the Ebola outbreak to an assessment panel. It was meant to review roles and responsibilities at the three levels of the organization (headquarters, regions, countries) and the WHO's actions in the course of the outbreak, but in the end is weak on analysis and flawed in its central recommendation.

The proposal of establishing a WHO Centre for Emergency Preparedness and Response, according to new organizational structures and procedures, as a centralized system for emergencies based on 'command and control' contradicts WHO's decentralized and bureaucratic structure.

**A matter of roles and responsibilities** There are 21 recommendations in total but many of these are exhortatory rather than concrete and practical, providing no clear idea of what exactly should be the WHO's role in an emergency as compared to the multiple other actors in the UN, NGOs and the private sector. Yet the report leaves many of the questions about the WHO's role, responsibilities and actions, including those raised by the press coverage, unanswered. There are generalized statements such as 'WHO has a technical, normative culture, not one that is accustomed to dealing with such large-scale, long-term

### ASSET RESEARCH ON THE TOPIC

Where the issue of [governing](#) epidemics and pandemics has been studied in ASSET, three interrelated perspectives have been approached. Each of them involves specific stakeholder(s) participating in the process with their own role. It is shown that cooperation among international public health actors is essential to mitigate the spread of outbreaks.

**WHO role and performance during the 2009 H1N1 pandemic** Given the revision of the International Health Regulations (IHR, 2005) and the strengthened position of WHO as a central global force with authority and accountability in the field of international health, the eight core capacities defined by the IHR were investigated. Through the work in ASSET, some gaps were identified in the conceptual framework for monitoring these capacities. Two case studies were also analyzed for compliance with the revised IHR in Israel and Ukraine.

**Pharmaceutical industry performance** Conflict of interest, arising from connections between health authorities and pharmaceutical companies was a main issue targeted in ASSET's research on pandemic governance. The potential impact of those companies on the decision making process held by health authorities was analyzed. Their influence ranges from providing finance to "the revolving door" phenomenon, that is a free movement of key employees between regulators and drug companies.

**Role played by media:** who was supposed



and multi-country emergency responses' and 'WHO does not have an organizational structure that supports open and critical dialogue between senior leaders and staff'.

There is therefore plenty of work in front of the [three other panels](#) established to examine the lessons to be learnt from the global Ebola response in a longer time frame, but these will not have the same access to WHO documents. In that sense, an opportunity to establish exactly what went wrong has been missed.

#### [Ebola Report Misses Mark on International Health Regulations](#)

The report on how WHO responded to Ebola fails to adequately address the problems in global health governance it exposed. The Ebola outbreak was a disaster for the International Health Regulations (IHR)—the main international legal rules supporting global health security. The outbreak highlighted dismal compliance with IHR obligations on building national core public health capacities. During the outbreak, WHO failed to exercise the authority it has under the IHR. Many WHO member states violated the IHR by implementing travel measures more restrictive than WHO recommended under the IHR and that lacked scientific and public health rationales as the IHR requires. The final report of the Ebola Interim Assessment Panel asserted that 'the global community does not take seriously' its IHR obligations. The panel's IHR recommendations largely recycled old, ineffective ideas and reflected weak analysis of the outbreak, difficulties the IHR experienced before Ebola, and challenges confronting IHR reform after this crisis.

**IHR surveillance and response capacity building deserves priority** The lack of public health capabilities in Guinea, Liberia and Sierra Leone contributed to the outbreak's

to monitor governance performance during the 2009 H1N1 pandemic? Communication between the media and two central health authorities, WHO and Centers for Disease Control and Prevention (CDC), was analysed. Both authorities held virtual press conferences during the pandemic, and a study was carried out by ASSET partners on what journalists focused on and asked about (declaration of the H1N1 influenza, decision to hasten vaccines' production, transparency of stakeholders' conduct in the decision making process and possible conflicts of interests).

severity, which re-focused attention on a long-standing problem—the failure of many WHO members, especially low-income countries, to comply with IHR obligations to build core surveillance and response capacities.

**Lack of enforceable sanctions** The panel noted that many WHO member states, in violation of the IHR, adopted travel and trade measures during the outbreak. Most international agreements, including the IHR, do not contain enforcement sanctions. The panel referenced the World Trade Organization (WTO) as a precedent for IHR sanctions but WTO rules do not apply to restrictions on the movement of people. The IHR obligations on travel and trade measures include duties on states and the WHO before and during outbreaks and are part of a political bargain, that broke down in the affected West African countries and the WHO incentivized states to ignore the rules on those measures.

The panel criticized the WHO DG for not declaring the outbreak a public health emergency of international concern (PHEIC) under the IHR until August 2014, but the reason why an earlier awareness was not raised is not explored in sufficient





detail. The panel argued the IHR only gives the DG a 'binary decision' power of declaring or not declaring a PHEIC and at the same time empowers her to draw attention to outbreaks without declaring a PHEIC. Although for the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Emergency Committee convened nine times without declaring a PHEIC, the DG did not convene the Emergency Committee before August 2014 when information about Ebola in West Africa warranted this step.

Should building national IHR core capacities be prioritized over developing the WHO's emergency response capabilities? The panel dealt with reforms beyond the IHR, but its recommendations provided no priorities among the proposals made. The panel's claim that its 'recommendations are interdependent' does not obscure its failure to grapple with the hard choices Ebola forces on global health governance.

### About Preparedness and Response in the world

#### Spain encounters a fatal case of diphtheria after being diphtheria free for 29 years

Vaccine-preventable diseases (VPD) represent one of the main health challenges worldwide. Where immunization coverage has not reached optimal levels, VPD sporadic cases or outbreaks still occur. One example is represented by diphtheria, a toxin-mediated acute disease caused by the aerobic Gram-positive lysogenized bacillus *Corynebacterium diphtheriae*. The most frequent form of the disease is represented by pharyngeal and tonsillar diphtheria, which can become fatal (membranous obstruction of the respiratory tract). Absorption and dissemination of diphtheria toxin can lead to systemic toxemia, causing damage to the heart, nervous system and kidneys, in addition to respiratory symptoms. Before the introduction of routine childhood vaccination, diphtheria was a major cause of morbidity and mortality in the world. Immunity acquired by natural infection or from immunization does not prevent carriage. As a consequence, in endemic areas, healthy individuals with positive pharyngeal cultures represent a route of transmission. This fact supports the need of continuous vaccination, even in diphtheria-free areas for several years. Children and adults, who did not complete their immunization schedule, are the main groups

involved in the resurgence of diphtheria. During the last 29 years, this country has not dealt with any case of this disease.

According to the European Centre for Disease Prevention and Control (ECDC), diphtheria symptoms in a 6-year-old boy appeared on May 2015, 23<sup>th</sup> and 25<sup>th</sup>. A major problem with the treatment of the boy was the difficulty in acquiring diphtheria antitoxin, which is central to the successful treatment of the disease. Shortage of equine diphtheria antitoxin (DAT) was identified as an important problem by ECDC in the analysis of the case. An additional problem was that nowadays the clinical recognition of diphtheria encounters problems and delays, due to the lack of experience regarding this disease. Far in the past, in 1613, an epidemic of diphtheria in Spain was so powerful that the year remained in the history as "The Year of Strangulations" ("El Año de los Garrotillos"). On 28<sup>th</sup> May 2015, a child presented at the local hospital in the Catalan city of Olot (Girona) with fever, general malaise, pseudo-membranous inflammation of the upper air-passages. The next day, a throat swab was sent to the National Center for Microbiology and the PCR tested positive for the previously suspected toxigenic diphtheria. Also, the same sample was used



to confirm the diagnosis with Elek's toxigenicity test. On 31<sup>st</sup> May, the child was transferred to a tertiary care hospital in Barcelona and Spain reported the first case of diphtheria since 1986, through the Early Warning and Response System (EWRS). The next two days, the child received antibiotics and DAT, provided by France and Russia. Sadly, he developed respiratory, heart and kidney complications and had been kept alive on machines until his death, on the 27<sup>th</sup> of June. His parents have previously refused vaccination for him and his sibling.

Mass media was invaded by articles on this subject, all over the world, translated in all languages.

Using the Google search engine for the words "boy dies of diphtheria in Spain", about 217,000 results can be found.

The same search with French words displays about 76,500 results; there is a similar number for Spanish and Italian words search. This case brought once again to the public attention the importance of dealing with the incomplete coverage of vaccination. Besides this, protocols regarding the diagnosis and treatment of diphtheria in case of outbreaks must be updated to prevent potentially fatal delays. Several European countries do not produce stocks of DAT for themselves, in order to be able to react at a national level, if necessary. Vaccination policies should address a better knowledge in parents that vaccines represent a right for their children and that refusing vaccination might have dramatic outcomes. The "terrible guilt" they might feel for their decision cannot save anymore the child, a VPD victim.

### Middle East respiratory syndrome coronavirus infection, Mers-CoV

Between 13 and 16 June 2015, the National IHR Focal Point of the Republic of Korea notified WHO of 28 additional confirmed cases of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) alongside 8 additional deaths. By mid June, a total of 154 MERS-CoV cases, including 19 deaths, are reported. One of the 154 cases is the one confirmed in China and also notified by the National IHR Focal Point of China. As of 16 June, 5,586 contacts were identified (5,238 under home monitoring and 348 under facility monitoring). The WHO Committee defined the outbreak in the Republic of Korea as a "wake-up call".

The ECDC provides an up-date within its Rapid risk Assessment that prompted by the recent increase in the was number of confirmed MERS-CoV cases in South Korea. The South Korean disease cluster was generated by a primary case imported from the Middle East and is the largest cluster observed outside of the Arabian Peninsula so far. The occurrence of a person returning from the Middle East infected with MERS-CoV to Germany showed the continuous risk of importation to Europe. However, ECDC's latest rapid [risk assessment](#) on the topic concluded the risk of sustained human-to-human transmission in Europe remains very low.

### More cues about Mers-CoV. Eurosurveillance, Volume 20, Issue 25, 25 June 2015

Epidemiological [investigation](#) of MERS-CoV spread in a single hospital in South Korea, May to June 2015

Preliminary epidemiological [assessment](#) of MERS-CoV outbreak in South Korea, May to June 2015

The role of [superspreading](#) in MERS-CoV transmission



## Public Health Institutions

### Pandemic preparedness and response issue at the latest WHO General Assembly

#### Recent update on the issue

The [68th World Health Assembly](#) was held in Geneva, Switzerland from 18 to 26 May 2015. The [Ebola outbreak](#) was widely discussed. Another session of interest: "Pandemic influenza preparedness: sharing of influenza viruses and access to vaccines and other benefits ([resolution WHA64.5](#))".



World Health  
Organization

SIXTY-EIGHTH WORLD HEALTH ASSEMBLY  
Geneva, Switzerland  
18–26 May 2015

#### More cues about Pandemic Influenza Preparedness

[Critical Path Analysis](#) in the new report from Pandemic Influenza Preparedness (PIP) Framework, eNewsletter, March 2015/Issue 2; context and rationale for the [interventions](#) chosen by WHO in 2013–2016

Risk Communications Capacity-Building in the new report from PIP Framework, eNewsletter, March 2015/Issue 3 and [need to invest in capacity building](#) on the field

The last pandemic plan from WHO: [Pandemic Influenza Risk Management WHO Interim Guidance, 2013](#). An overview of the novelties in this plan is retrievable in the related ["Frequently Asked Questions"](#)

#### Food for thought

From *Legal preparedness and Ebola vaccines* by J. Monahan, S. Halabi on [The Lancet](#)

All [social actors] have a shared interest in recognising, understanding, and managing potential liability as effectively as possible within the framework of a global public health response.

Legal immunities for innovators and manufacturers of vaccines, such as the [Public Readiness and Emergency Preparedness declaration made by Secretary Burwell](#), can

be part of the solution. [...] Unlike many contingencies associated with future pandemics or similar global public health crises that are difficult — if not impossible — to predict, creating an improved framework for management of legal liabilities is a preparation that all interested stakeholders can make before the next global health emergency occurs.

#### Relevant events on preparedness and response

##### About response and planning the recovery against Ebola epidemic in March 2015

A EU high level [conference](#) on "Ebola: From Emergency to Recovery" for a long term support to the resilience of the affected countries, including the development of their health systems.





### Two key WHO regional meetings in April 2015

The First formal SEA Regional Workshop on PIP Implementation [Jakarta, Indonesia; April 2015, 27–29]: global health security, potential regional impact and challenges, and recommendations.

The Second annual SARINET (Severe Acute Respiratory Infections Surveillance in the Americas) meeting [Cancun, Mexico; April 2015, 28–30]: SARI surveillance, burden of disease, seasonality of influenza, and laboratory strengthening.

### A shortcoming one-day meeting in September 2015

The Science Policy Flu [Summit](#) [EU Quarter in Brussels; 30 September 2015, 30] by the European Scientific Working group on Influenza (ESWI) and the European Public Health Alliance (EPHA) to develop a European influenza action plan aimed at reducing the burden of epidemic and pandemic influenza.

## Social Networks

Looking at a discussion on Ebola vaccine trials developed on LinkedIn

### Local politicians joined in a 2.0 talk on trials for vaccines to fight Ebola in Ghana

Among Global Public Health group members on LinkedIn, a [discussion](#) about Ebola vaccine trials was started in the mid-June 2015. The opening question sounded like: *What is your opinion on Ghanaian politicians kicking against Ebola vaccine trials as a whole show, and what went wrong there?*

Such a talk has been reported as one of the current trending discussion on the professional social network, since about 150 comments and 250 "Like" have been posted in the month from June 15<sup>th</sup> to July 15<sup>th</sup>. The problem and topic of this discourse is vaccine trials to be run in a country – Ghana, actually – which has not recorded any not even a single case of Ebola. Beside this main comprehensive subject including so many issues (Ebola Virus Disease, vaccines and vaccination, clinical trials, population health in African countries), contributions posted refer also to the different items singularly. Or it is common that, instead

answering the starting question, "emotional" opinions are given. It is quite interesting to see how people from USA, Europe, Africa joined in the discussion, too. The debate involved several professional profiles ranging from health care workers to politicians. Indeed, the kind of opinions given within this social talk depends on the profile of each issuer. A most respondent can be observed with one third of comments posted. The great contribution from this group influencer is also in terms of links indicated (nearly 70, signaling scientific and divulgative articles). In the end, many aspects are addressed, but the real occurrence emerging with Ebola vaccine trials in Ghana is recognized in a lacking involvement of populace and civil society organisations. That is the reason why even these social actors are kicking against.



## A communicative storytelling about Ebola is viral on the web

### New animation cartoons for communities at risk

[The Story of Ebola, English](#) is a public health animation produced by Global Health Media Project in collaboration with the International Federation of Red Cross and Red Crescent Societies (IFRC), UNICEF, and Yoni Goodma. It brings to life key messages that help ongoing educational and awareness efforts in West Africa. Voice-overs in local languages are underway. This animated film features a young girl whose grandfather dies from Ebola and puts the rest of her family and their village at risk.

Woven through the story are critical messages to help people better understand Ebola, see themselves within the context of an outbreak, and see how to act in ways that can keep themselves safe from the disease and protect their communities. The re-emergence of cases in what were thought to be cleared locations in Sierra Leone and Guinea, as well as the new case in Liberia, remind us that the epidemic is far from over and could easily spread to other countries.

## Dealing with Ebola epidemic on social media

### Epidemic outbreaks pose socio-cultural issues to be governed

#### [WHO | Ebola – a test too far for one little girl](#)

who.int - Feature story from Guinea: The Ebola outbreak



continues and resources are needed to end the epidemic. When testing and treatment options are too far away

In Guinea, resources are needed against the Ebola epidemic. When testing and treatment options are too far away, people are less willing to cooperate. Mariam's case illustrates this problem. As a WHO team discussed her symptoms, she listened and showed no signs of distress. When she was told she must go to Conakry, over 3 hours away, she began to sob and her family refused to send her.

## On the web

### Tools from USA for developing a better preparedness and response capacity

#### ✓ A website

The [Federal Emergency Management Agency](#) They range from contents to information and portal is reported because of the great variety services. A plurality of tools is also provided of issues which are covered. such as social network accounts.





### ✓ A Report

The [fourth National Preparedness Report](#) is the document developed by Presidential Policy Directive 8 "National Preparedness". This annual report summarizes progress in building, sustaining, and delivering the 31 core capabilities described in the National Preparedness Goal. Each year, it assesses gains that whole community partners — including all government levels, private and nonprofit sectors, faith-based organizations,

communities, and Individuals — have made in preparedness, and to identify open challenges. The 2015 National Preparedness Report focuses primarily on preparedness activities (in terms of Prevention, Protection, Mitigation, Response, Recovery) undertaken or reported during 2014 with the intent of providing practical insights to inform decisions about program priorities, resource allocations, community actions.

### ✓ A conference

The [TIEMS 2015 USA Conference](#) took place at Portland State University from June 23 to 25 June. The program developed on emergency management discussing today's

relevant issues in the field of disaster response, among others lessons learned from the Nepal earthquake, with a speech by TIEMS Nepal representative, M. Chhetri.

## From the ASSET world

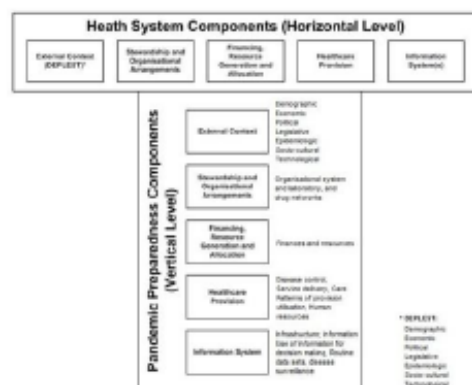
Progress of the project at a glance!

Crucial activities are being developed and nearby finalized

The [Stretgic Plan](#) and [Roadmap](#) are on their own way to be published so that the [Handbook](#) and the realted [Toolkit](#) will follow. The work on [public consultation](#) activities has been started, too.

The first [Summer School on Science in Society related issues in Pandemics](#) edition was held in Rome from September 2015, 21 to 24. It has been developed on the main six problem issues identified within the ASSET research.

In a SnapShot! The graphic concept at the Second Issue: [SYSRA](#)



To strengthen the pandemic preparation and mitigation as well as to overcome some of the underlying health system constraints the Systemic Rapid Assessment (SYSRA) toolkit evaluates priority disease programmes by taking into account the programmes, the general health system, and the wider socio-cultural and political context. The components under review were: external context; stewardship and organisational arrangements; financing, resource generation and allocation; healthcare provision; information systems.





### Disclaimer

The ASSET project was designed to accomplish a European Commission Call (DG Research and Innovation – HEALTH), for developing a Mobilization and Mutual Learning Action Plan in response to epidemics and pandemics with regard to Science in Society related issues.

The European grant agreement ensures scientific and editorial freedom to the ASSET consortium partners.

The views expressed in the ASSET Pandemic Preparedness and Response Bulletin “Share and move” are those of the authors and may not necessarily comply with European policy.

Statements in the Bulletin are the responsibility of their authors and not authors’ institutions.

In case of conflict of interests, it is declared.

Readers are advised to verify any information they choose to rely on.

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share and move to face nasty bugs

## ANNEX II – The THIRD ASSET-PPRB Issue



# Pandemic Preparedness and Response Bulletin

Issue 3, January 2016



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





Highlighting strategic priorities and policy-related initiatives on Pandemic Preparedness and Response, the “Share and Move” ASSET Bulletin intends to be essential to a wide-ranged target: competent institutional actors and public health authorities, decision-makers, even on social networks.

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## Editorial

### THE ASSET PANDEMIC PREPAREDNESS AND RESPONSE BULLETIN ACHIEVES ITS THIRD ISSUE

On the ground in this number: examining unsolved questions in pandemics and epidemics

Planning for the Next Global Pandemic is the title of an editorial on the International Journal of Infectious Diseases stating that "In order to mitigate human and financial losses as a result of future global pandemics, we must plan now. As the Ebola virus pandemic declines, we must reflect on how we have mismanaged this recent international crisis and how we can better prepare for the next global pandemic. Of great concern is the increasing frequency of pandemics occurring over the last few decades."

Emerging virus indicates a newly discovered virus, one that is increasing in incidence or with the potential to increase in incidence. Emerging viruses are recognized to be a threat not only to human health but also to the wild life and other species. Further, communicable diseases not only impact on people's health conditions, but also on several socio-economic aspects. Facing epidemics and pandemics is thus a major challenge for both science and society, a challenge that requires a multidisciplinary approach.

In such this framework [ASSET](#) is placed: a EU-funded cooperative program which combines a multidisciplinary set of expertise in order to address effectively scientific and societal challenges raised by pandemics and associated crisis management. Engagement, gender equity, science education, open access, ethics and governance are thus the keywords encompassed in the main action plan launched in 2001 by the European Commission, with the aim to foster public engagement and a sustained two-way dialogue between science and civil society.

As introduced in the [second issue](#) of the ASSET Pandemic Preparedness and Response Bulletin, Share and move, each number is mainly focused on one of the six Science in Society (SiS) topics: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal and societal implications; gender pattern – vulnerability; intentionally caused outbreaks.

After dealing with governance of pandemics and epidemics, it is time to concentrate on unsolved scientific questions. Also the article mentioned above "discusses many issues including priority emerging and reemerging infectious diseases; the challenges of meeting international health regulations; the strengthening of global health systems; global pandemic funding; and the One Health approach to future pandemic planning. [...] The West African Ebola virus pandemic has shown us yet again that the world is ill prepared to respond to a global health emergency." That follows similar statements made after the H1N1 influenza pandemic in 2009 such as: "The world is ill prepared to respond to a severe influenza pandemic or to any similar global, sustained and threatening public health emergency".

In line with this approach, the present third ASSET Pandemic Preparedness and Response Bulletin, Share and move, explores unsolved scientific issues (i.e. research on vaccines but also on human behavioural response and risk communication) that were highlighted within the project "Study and Analysis" phase, detailing them with regard to pandemic and emergency preparedness and response, and to relevant information shared on the web and by the most used social media.

In the end, over specific issues raised, we would end as the editorial quoted at the beginning did: "Clearly a 'One Health' approach is the way forward".



## Pandemic Preparedness and Response

### STUDYING THE “UNSOLVED SCIENTIFIC QUESTIONS” IN ASSET

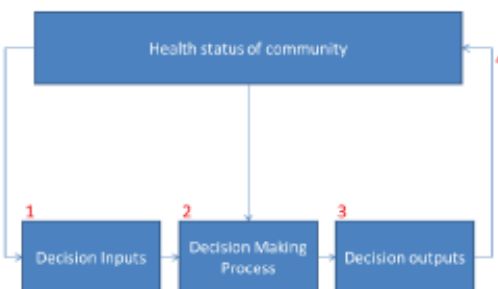
What were the main open problems occurring in the 2009 pandemic?

The European Commission's Directorate for Science, Economy and Society decided in mid-2010 to set up an Expert Group on Science, H1N1 and Society ('H1N1 Expert Group', or 'HEG') in order to clarify the 'Science in Society' (SiS)-related research questions raised by the H1N1 pandemic and associated crisis management. In their [report](#) 'Science, H1N1 and society: towards a more pandemic-resilient society', at page 5, the HEG Expert Group has pointed out the general lack of knowledge from humanities and social sciences in pandemic preparedness: 'Current knowledge about public perceptions, citizens' preferred sources of information and also the impact of health professionals were not taken into consideration'.

For the future, the sort of data Britta Lundgren has discussed in her [article](#), created by disciplines such as ethnology and folklore, provide an unexpected and fruitful source of information for policy-makers to draw on when discussing prerequisites for vaccination—not only when searching for rhyme or reason but also for re-interpretation of trust and fears. She analysed vaccine decisions operated by population in Sweden where a mass-vaccination intervention with the vaccine Pandemrix was performed. It was decided that everybody should have been vaccinated, stating that 'there is no rhyme or reason' for refraining from vaccination except for obvious medical reasons such as having an allergy to the vaccine or suffering from an autoimmune disorder. In the end, the uptake of the Pandemrix vaccine was high in Sweden (60%), and the interven-

tion was deemed a success in administrative and political terms. Anyway, the author argues that vaccination interventions requiring compliance from large groups of people need to take into account the kinds of personal experience narratives that are produced in the complex interplay of life factors.

Also following the proposals of the HEG, the ASSET project elaborated a reference [guide](#) of unsolved scientific related research questions raised by the H1N1 pandemic and associated crisis management. This report outlines the main unanswered scientific problems concerning pandemics, particularly focusing on influenza and taking as example the A(H1N1) pdm 2009, with the aim to identify key points for an optimal preparedness in case of a pandemic in the future. Results of analysing steps occurring in decision-making processes were shown: issues presented concerned the state of the art in surveillance of emerging pathogens with potential risk of causing pandemics; decisions, preparedness and response enacted during H1N1 pandemic; risk communication addressed and human behaviours. The authors suggested that "a lack of research independent from industrial interests, as well as not enough research, has been focusing on basic influenza mechanisms, in particular targeting questions essential for the protection of the society at large and not only for scientific interest".



In a [news](#) on BMJ Nigel Hawkes refers to a [report](#) from the Academy of Medical Sciences and the Wellcome Trust saying that "a failure to carry out research during the 2009 flu pandemic has left the world unprepared for another one, with huge gaps in the knowledge base that should by now have been filled". The brief note reports what Jeremy Farrar stated: "No vaccines were available to prevent severe acute respiratory syndrome (SARS) or Middle East respiratory syndrome (MERS) and it had





taken six to nine months to set up trials for an Ebola vaccine. Furthermore, the numbers involved in trials during the 2009 H1N1 flu pandemic had been “close to zero”. As a result, it is not known how well antiviral drugs such as oseltamivir (Tamiflu) and zanamivir (Relenza) work against pandemic strains of flu. [...] The research protocols and infrastructure need to be put in place now—in ‘peace time’—so we can start collecting new evidence immediately at the start of a new epidemic or pandemic.” Carl Heneghan and Ben Goldacre remind that because oseltamivir and zanamivir are effectively at the end of their patents, trials will have to be publicly funded, forcing clinicians to rely instead on “often woeful” observational data. The former expert insists “Use of antivirals in a pandemic would not be based on the best available evidence, but principally on poor quality evidence and opinion. This is primarily due to the failure to undertake trials in the last outbreak.” In another [note](#) on BMJ as well, Ingrid Torjesen reports that “Campaigners for clinical trial transparency have written an open letter to all US presidential candidates urging them to declare support for the principles of open access to clinical trial data and to commit to making it a reality in the United States if elected.”

Beside specific issues concerning vaccines, the ASSET guide highlights some other unsolved questions more relevant to the methodological features of the MMLAPs, as this collaborative program is, that are such many weak areas and topics as well as in a European contest of documented low trust in public authorities and politics (“post-trust society” phenomenon) the research community is challenged on:

- communicating science in presence of uncertainties, particularly through initiatives to the public were carried out without significant expertise input;
- involvement of civil society to contrast the current old-fashioned one-direction approach adopted within decision processes, implying any feedback from the civil society;
- absence of compliance to the “epidemic intelligence framework” and low exploitation of data coming from new informal surveillance systems;
- lack of involvement for those subjects active on the field, e.g. General Practitioners, within the process of increasing

awareness on pandemics and, for example, negative attitudes of healthcare workers towards vaccination;

- underestimation of social networks’ role to understand public perceptions, to disseminate information and to increase knowledge and awareness;
- inter-disciplinary approaching public health problems (e.g. scarce interest towards sociology, anthropology, behavioural mathematical models in epidemiology).

### Tracks of the ASSET Roadmap

In the ASSET project a systematic and accurate work followed the reference guide on unsolved scientific related research questions raised by the H1N1 pandemic and associated crisis management to design a [Roadmap](#) towards responsible, open, citizens-driven research and innovation on vaccines and antiviral drugs in pandemics. Starting from user involvement experiences in health and pharmaceutical sector, it is under study to what extent, and according to which conditions, user innovation is possible in the field of R&I on epidemic infectious diseases prevention and response. In this report evidence-based knowledge are collected to trace the pathway, showing what is the required to shift from a technological centred approach to a citizen-driven approach, indicating as well the extent and the conditions under which PPI is feasible. The review summarized in fact the best available evidence and also very instructive examples of situations where a user driven approach is strongly required as in developing diagnostic, prevention and campaign approaches. Both the figures of citizens and health professionals were used as filter.



Using the definition of roadmap as a detailed plan or explanation to guide ASSET in setting standards or determining a course of action, it can be considered as a part of the ASSET [Strategic Plan](#) that is further and in more depth detailed by the [Action Plan](#) and operationalized through a [kit of tools](#) identified. Then, among



the numerous hints produced for the roadmap a selection was operated on the ones we need to focus on in order to target industry, academy, institutional stakeholders in the field of vaccines and anti-influenza drugs. According to the EU decision 1082, such a roadmap is conceived as to be applicable at national level. The ASSET Community of Practice (CoP) believes that open innovation in pandemic related research requires initial investments because a shift in the traditional technology-based approach is needed. This idea is in accordance with the project Strategic Plan and its [Best Practice Platform/Stakeholder Portal](#). ASSET researchers found a significant increase in knowledge of patients' relevance and public involvement (PPI) in health research, that can be an important tool to overcome the current distrust in public health authorities and biomedical scientists. Unfortunately, public collaboration in research has been accidental whereas it should be systematic; few practical cases of PPI are available in literature. No examples of PPI in vaccine research are available. To involve progressively these topics within the RRI framework, ASSET is sharing these findings with relevant stakeholders and, to achieve that, using the opportunities offered by the its own Action Plan, like the project [High Level Policy Forum \(HLPF\)](#).

## MODELS FOR HUMAN BEHAVIOURS: THE VOICE OF EXPERTS IN THE FIELD

### A study

"[Survey](#) on the likely behavioural changes of the general public in 4 European countries during the 2009/2010 pandemic" is a chapter of the book titled [Modeling the Interplay Between Human Behavior and the Spread of Infectious Diseases](#). That study moves from the issue to assess the likely impact of public health interventions, it is important to predict the acceptance of control measures, as well as the behavioural changes that may occur among the general public in response to epidemics, in particular lethal ones. The emergence of 2009 pandemic allowed us to assess the general public's behaviour during the pandemic, via two surveys: one at the beginning and one after the first wave of the 2009 pandemic, in four European countries. Results showed some

differences between participating countries in previous behaviours relating to seasonal flu and in beliefs and knowledge about 2009 pandemic influenza. No substantial differences were detected among the four countries in the first survey with respect to the intended behaviours in anticipation of the spread of the pandemic virus. However, results from the second survey showed differences within and among the four participating countries. The two surveys were useful in showing differences between behavioural intentions and actual actions related to the 2009 pandemic influenza. To our knowledge this is the first study investigating the actual behaviour of the population in four EU countries and provides crucial descriptions of pandemic impact on social-network dynamics parameters which can be included in mathematical models.

### An interview

Alberto d'Onofrio (IPRI; ASSET Partner) interviews [Piero Manfredi](#) (University of Pisa, Italy) asking him three questions implying behavioural items in mathematical models.



Alberto d'Onofrio: *In Public Health (PH) Sciences and in Mathematical Modelling of infectious diseases the traditional focus is "Investigating epidemics that have a social impact". In Behavioural Epidemiology there is an additional paradoxical focus: "Investigating how the Society impacts on the spread of infectious disease". Why this new concept? Why is it important?*

Piero Manfredi: *Large historical evidences show that human societies always set up measures (sometimes lacking any scientific basis...) to respond to the threats posed by infectious diseases. Such measures were mostly occurring at the community level (e.g. quarantine, migrating, or closing the city gates), but also individual responses were reported. Despite this evidence, for long time mathematical epidemiologists have preferred to disregard individual behaviours, and the ensuing societal impact on infection spread, by assuming that individual behaviour is static, i.e. unaffected by available information about*





the disease and possible protection measures against it. This hypothesis implies that individuals will continue to contact each other at the same rate regardless of how low or high is the perceived risk of acquiring infection/dying from it, or will continue to keep the same vaccine uptake irrespective of any rumour about the risk of vaccine adverse events. This is a simplification of reality which in modern societies has been disconfirmed in several occasions. A major instance is represented by the scare of the Mumps-Measles-Rubella (MMR) vaccine, arisen after the publication of a paper (later retracted!) suggesting a causal link between MMR immunization and autism. This rumour suddenly increased the perceived risk of vaccine side effects, so that many parents decided not to immunize their children. This in turn yielded a protracted dramatic decline of MMR coverage in the UK, eventually responsible of measles resurgence. Another example: the failure of immunization against the 2009 H1N1 pandemics. In this case, a combination of possibly inadequate public communication jointly with the perception that the disease was mild led many people not to vaccinate to avoid risks of side effects from a vaccine perceived as being of insufficiently proven safety. These examples indicate that human behavioural responses can threaten the success of control programs, and therefore favouring diseases spread and persistence. This is why in the future it will be utmost important that modelling studies of infections further focuses on the interplay between diseases spread, their perceptions and related human responses, especially when these are at risk of being policy resistant.

**Alberto d'Onofrio:** Can PH Authorities try to influence behaviours of citizens. Might this kind of PH intervention be modelled?

**Piero Manfredi:** Yes. The PH system (PHS) is the key provider of information about infections and related risks, and about availability (and pro and cons) of possible control actions, such as e.g. immunization, screening, reducing risky behaviour, etc. As such the PHS can affect perceptions of risk by citizens. These perceptions from the PHS, and perceptions from other information sources, can be incorporated in the mathematical models.

**Alberto d'Onofrio:** Can Behavioural Epidemiology help overcoming doubts existing on applying mathematical models in PH?

**Piero Manfredi:** In the last 20 years, mathematical models for the transmission and control of infections have had a tremendous impact on PH, since they provide – within the boundaries of our knowledge – a rational approach to the impact evaluation of PH interventions. This role has been recently challenged exactly because most adopted models take human behaviour as given, i.e. as a “constant” unaffected by

the state of the infection, and by the information and rumours circulating in the population about pros and cons of control measures. That human behaviour can deeply affect the success of control interventions is a matter of fact nowadays, as we have seen. Awareness of this is therefore fundamental before planning any new intervention strategies. Explicitly considering hypotheses about human behaviour, e.g. about possible degrees of accepting an immunization program by the public, would allow a more general understanding of the likely effects of the program considered, thereby conferring robustness to the its assessment.

## Emergency Preparedness and Response

### EBOLA: IS REALLY GONE OR JUST FORGOTTEN?

If the infection is over in Liberia since September 2015, with about 30 people in West Africa getting infected with Ebola virus weekly, UN says outbreak ‘not yet finished

‘Even after progress in bringing the West African Ebola outbreak under control, the health risks and danger provoked by Ebola virus disease (EVD) is continuing. Liberia was declared Ebola-free since September 2015, 3 and Sierra Leone since November 2015, 7 but on January 2016, 15 a woman died. This outbreak in Guinea, Liberia, and Sierra Leone caught the world badly unprepared during 2013–14, leading to 28.607 notified cases and claiming 11,314 lives (November 2015) since the outbreak was first declared in March 2014. EVD is in fact included among the top five to ten emerging [pathogens](#) likely to cause major epidemics that were listed by WHO in the month of December 2015.

An [editorial](#) on The Lancet (Vol 386 October 24, 2015) states that “WHO responded slowly to this major challenge in countries with sparse health provision, and disease control measures worked imperfectly. [...] Despite previous outbreaks in sub-Saharan Africa, limited understanding of the physiological effects of Ebola virus has compromised preventive and therapeutic efforts. [...] A study in The Lancet Infectious Diseases on 49 survivors of a 2007 Ebola outbreak in Uganda reported ocular deficits and hearing loss, among other health problems, which persisted for 2 years [...] [as well as] post-Ebola discharge criteria are discussed [...] in The Lancet Global Health. Salutary lessons are still being learned



from the West African Ebola outbreak—opportunities for and benefits of research will be greatest in the communities most affected. WHO's Director-General Margaret Chan believes the world is "dangerously ill-prepared" for further infectious disease outbreaks spread through the air or contagious during an incubation period.

Strengthening of and investment in health systems in countries most at risk of infectious disease outbreaks are key to prevention, and in the worst case scenarios control, of health emergencies."



In a [study](#) published on The New England Journal of Medicine, it was estimated the effectiveness of artesunate–amodiaquine, as compared with artemether–lumefantrine or no antimalarial treatment, in reducing mortality among patients with confirmed EVD who were admitted to the Ebola treatment centre in Foya. Few treatment practices or therapeutics are known to significantly reduce the risk of death. Recent in vitro assessments of drugs approved by the U.S. Food and Drug Administration for anti-EVD activity have identified a number of candidates among compounds that are used to treat other diseases, including malaria. However, little to no evidence exists on the clinical efficacy of any of these compounds against EVD. Guidelines for the management of EVD recommend treatment for malaria in patients with suspected EVD, either for those patients in whom malaria has been confirmed by a positive laboratory or rapid diagnostic test or for all patients with suspected EVD regardless of malaria diagnosis. The latter option (systematic treatment regardless of malaria confirmation) is often preferred in settings with a high malaria burden because of the prophylactic effect of malaria drugs, even in the absence of current infection. Some guidelines recommend an artemisinin-based combination of artemether and lumefantrine as the first choice of therapy because of concerns about potential liver-related toxic effects of amodiaquine in the primary alternative combination, artesunate–amodiaquine. In August 2014, the Ebola treat-

ment centre in Foya (Lofa County, Liberia) ran out of its supply of artemether–lumefantrine after a sudden spike in admissions to the centre. During a 12-day period, artesunate–amodiaquine was supposed to be prescribed systematically for all patients with suspected EVD who were admitted to the Ebola treatment centre, with no other known systematic changes in care. Although this situation was unplanned, it provided the conditions to explore the possible differential effects of these two antimalarial therapies on survival among patients with confirmed EVD. The interest of the study in making these comparisons was driven by in vitro results that showed the efficacy of amodiaquine in inhibiting Ebola virus activity.

## RE-EMERGING INFECTIOUS DISEASES

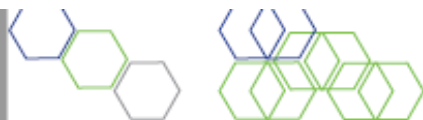
An [editorial](#) on The Lancet titles "Zika virus: a new global threat for 2015"

Zika virus is an emerging mosquito-borne arbovirus that was first isolated from a rhesus monkey in Uganda in 1947, and caused sporadic human infections in some African and Asian countries, with usually mild symptoms of fever, rash, and arthralgia. In 2007, it caused an epidemic on Yap Island in the Federated States of Micronesia, then spread to many countries in Oceania, before arriving in the Americas in 2014–15, probably via Easter Island.



Central and South America are facing new Zika outbreaks so that concerns about the threat posed to global health security by the virus are further escalating. After detection of autochthonous (locally transmitted) cases of Zika in Colombia, El Salvador, Guatemala, Mexico, Paraguay, Puerto Rico, and Venezuela, "five autochthonous cases detected in Suriname are reported in Correspondence online, with complete coding of the Zika virus sequence for one patient, and envelope protein coding sequences for three others. Phylogenetic analyses show that the Suriname strains belong to the Asian genotype, and are closely related to the strain that was circulating in French Polynes-





sia in 2013. Last month, the Ministry of Health in Brazil reported a twentyfold annual increase in cases of newborn babies with microcephaly in the north-eastern region of the country. The ocular findings (funduscopy changes in the macular region) in three of these babies with microcephaly are described in a second Correspondence published online. A causal link between Zika virus in the mother and microcephaly in the newborn baby has yet to be firmly established, but is a worrying possibility. Other congenital neurological anomalies and an increased frequency of Guillain-Barré syndrome linked to Zika virus have also been reported.

With an estimated 440 000–1 300 000 cases in Brazil alone (January 2016), Zika virus could be following in the footsteps of dengue and chikungunya, which are also transmitted by the *Aedes aegypti* mosquito. Given that an outbreak anywhere is potentially a threat everywhere, now is the time to step up all efforts to prevent, detect, and respond to Zika virus."

### Public Health Initiatives

#### **PANDEMIC INFLUENZA PREPAREDNESS: SHARING OF INFLUENZA VIRUSES AND ACCESS TO VACCINES AND OTHER BENEFITS**

Report of the Special Session of the Pandemic Influenza Preparedness Framework Advisory Group

The WHO Director-General has transmitted to the Executive Board at its 138th session the [report](#) of the Special Session of the Pandemic Influenza Preparedness Framework Advisory Group, which was held in Geneva on 13 and 14 October 2015. Within the relevant recommendations addressed to the DG, it can be found that all aspects of the PIP Framework should be comprehensively considered "and [to] assess whether implementation of the PIP Framework is meeting its objectives in accordance with its provisions to: Improve pandemic influenza preparedness and response, and strengthen the protection against pandemic influenza by improving and strengthening the WHO Global Influenza surveillance and response system "WHO GISRS", with the objective of a fair, transparent, equitable, efficient, effective system for, on an equal footing: (a) the sharing of H5N1 and other influenza viruses with human pandemic potential; (b) access to vaccines and other benefits".

### MANAGING GLOBAL HEALTH SECURITY

The World Health Organization and Disease Outbreak Control

In line with the lectio magistralis by Luigi Migliorini (WHO/EU) at the [first edition](#) of the ASSET Summer School (Rome; September 2015, 21–24), this book examines how the World Health Organization's approach to fulfilling its disease eradication mandate – now commonly described as 'global health security' – has changed and adapted over time. Drawing on constructivist and rationalist theories of international organization, as well as several case studies (malaria, smallpox, SARS, influenza, Ebola), the volume explores how the organization's secretariat has exercised autonomy and authority to establish new customary practices and amend disease control policies and procedures in response to past failures and successes. Kamradt-Scott also investigates how the organization's member states have responded to these changes by imposing new constraints on the WHO's behaviour, and what these changes signal for the future. The topics are: 1) The Legal Basis For The WHO's Global Health Security Mandate And Authority; 2) The WHO's Classical Approach To Disease Eradication; 3) Securitization And SARS: A New Framing?; 4) New Powers For A New Age? Revising And Updating The IHR; 5) Pandemic Influenza: 'The Most Feared Security Threat'; 6) Global Health Security And Its Discontents.

### I-MOVE: A EUROPEAN NETWORK TO MEASURE THE EFFECTIVENESS OF INFLUENZA VACCINES

Monitoring seasonal and pandemic influenza vaccine effectiveness in Europe

Since 2007, the European Centre for Disease Prevention and Control (ECDC) has supported [I-MOVE](#) (influenza monitoring vaccine effectiveness), a network to [monitor](#) seasonal and pandemic influenza vaccine effectiveness (IVE) in the European Union (EU) and European Economic Area (EEA). To set up I-MOVE, both a literature review and a survey were conducted on methods used in the EU/EEA to measure IVE and held expert consultations to guide the development of generic protocols to estimate IVE in the EU/EEA. On the basis of these protocols, from the 2008/09 season, I-MOVE teams have



conducted multicentre case-control, cohort and screening method studies, undertaken within existing sentinel influenza surveillance systems. The IVE estimates have been useful in helping to guide influenza vaccine policy at national and European level.

## PAST CONFERENCES

**Lessons learned for public health at the EU Conference on the Ebola outbreak in West Africa.** Some ASSET project Partners partook in the Communication Workshop

Ministers for Health as well as high-level representatives from the Member States, European Commission, World Health Organization (WHO) and NGOs met on 12 October 2015 in Mondorf-les-Bains (Luxembourg) for a three-day [conference](#) entitled "Lessons learned for public health from the Ebola outbreak in West Africa – how to improve preparedness and response in the EU for future outbreaks". Among the main [conclusions](#), it was stated that cross-sectoral cooperation is needed to strengthen the European health security system and Ebola served mainly as a test so far, leaving so much desired in terms of preparedness and response. Four workshops were held and the third dealt with "Communication activities and strategies addressed to the public and health professionals". Some [ASSET](#) Consortium Partners joined it that led to three main conclusions: Health Security Committee Communicators network shall be fully operational and active; Emergency Risk Communication must be considered as an integral part of any emergency response; an important factor to take in account is deployment of trained communication experts to affected countries. When preparing national and transnational emergency plans, research on communication and other SiS related issues (such as exploited in programs like ASSET or also [TELL ME](#)) need to be carefully considered because of their impact on the spread of the disease itself.

## PHEMCE Stakeholders Workshop 2016

Among the range of serious threats the United States continues to face to its national health security naturally occurring and emerging infectious diseases (EID), including pandemic influenza, can be retrieved. The Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) coordinates Federal efforts to ensure that our nation is prepared with the medical countermeasures it needs to meet the challenges posed by EID threats. This two-day [workshop](#) (January 2015, 6-7) highlighted past progress and future directions in developing, stockpiling and effectively utilizing drugs, vaccines, and devices that may be required in public health emergencies.



## NEXT CONFERENCES

### Research and innovation on vaccines

All about vaccines will be explored at the [Euro Vaccines 2016](#) (10<sup>th</sup> Euro Global Summit and Expo on Vaccines & Vaccination) conference that is going to be held in Rome, Italy from June, 2016 16 to 18.

### An international forum for the prevention and control of emerging infectious diseases

The [Conference](#) on Emerging Viruses (ICEV 2016) will be held in Dubai August 10-11, 2016. Ebola, HIV, dengue, Influenza, Hantavirus are some of prominent emerging viruses. Over 2.5 billion people - over 40% of the world's population - are now at risk from dengue and WHO currently estimates there may be 50-100 million dengue infections worldwide every year.





## Social networks

### BRIEF HIGHLIGHTS FROM LINKEDIN

#### Treatment of Ebola with malaria and Zika are discussion issues

Within the discussions started and run by the LinkedIn group "Global Public Health" (169,316 members) also two of the issues presented in the current Bulletin are debated: correlation between Ebola and preventative Malaria treatment (3,215 "like"; 01/2015) and how Zika is not always a harmless infection resulting in microcephaly that is a brain condition affecting more than 2,000 infants in Brazil (3,821 "like"; 01/2015).

### HHS FUNDS DEVELOPMENT OF HIGH-SPEED MANUFACTURING FOR N95 RESPIRATORS

#### Manufacturing line could offer more than 10 times current capacity for pandemic preparedness

On December 15, 2015, it is communicated in a note that to protect health care workers and other patient caregivers in an influenza pandemic or other public health emergency, the U.S. Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response (ASPR) will support development of a high-speed manufacturing line to produce N95 respirators. This type of equipment is used in health care settings to prevent the transmission of microorganisms through airborne particles. ASPR leads HHS in preparing the nation to respond to and recover from adverse health effects of emergencies, supporting communities' ability to withstand adversity, strengthening health and response systems, and enhancing national health security. HHS is the principal federal agency for protecting the health of American population. Pandemic preparedness in the United States is considered imperative to protecting health and saving lives, and respirator manufacturing capacity remains a critical gap in that preparedness.

### THE US RESPONSE TO EBOLA TOLD ON YOUTUBE

#### CDC chooses to communicate by video on the web

The US Health and Human Services, Office of the Assistant Secretary for Preparedness and Response/Biomedical Advanced Research and Development Authority played a role in coordinating the US Government response to the Ebola outbreak. The speaker, Dr. Thomas Warf, describes experiences related to the importing and exporting of Ebola virus samples and the research and development of potential Ebola vaccine candidates. Comments on this video are allowed in accordance with CDC comment [policy](#)

This video can also be viewed at this [link](#) (Published on 09 December 2015)







## On the web

### THE EU-FUNDED PROJECT ECOM

To develop evidence-based tools for an effective communication in outbreak management

**ECOM** stands for *“Effective Communication in Outbreak Management: development of an evidence-based tool for Europe”*. It is a research project under the 7<sup>th</sup> Framework Programme of the EU (FP7-HEALTH-2011) and runs from February 2012 till February 2016. Its main goal is to develop an evidence-based behavioural and communication package for health professionals and agencies throughout Europe in case of major outbreaks of infectious diseases.





## From the ASSET world

In terms of Policy watch, the second ASSET [High Level Policy Forum](#) meeting has been organized by TIEMS and hosted at the Danish Board of Technology (DBT), in Copenhagen, on January 2015, 15. The main focus of the meeting was the ASSET Strategic Plan, the Vaccination and Gender Issues findings and Preparations for Citizens consultations. Other topics of discussion were the EU conclusions and the decision 1082 update coming out from the EU Lessons learned Conference and Workshop in Luxembourg in October 2015.



Within the work on [Action Plan definition](#), basing on the lines defined in the ASSET [Strategic Plan](#) and in its [related Roadmap](#) project researchers are studying a detailed description and timetable of MML actions in its [Action Plan Handbook](#) to be operationalized through a [Tool Box](#). The action plan is composed of action steps and includes 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.



WP3 TITLE: ACTION PLAN DEFINITION  
SUBTITLE: Strategic Plan

## In a SnapShot!

### FROM ECDC

A tool to calculate the Burden of Communicable Disease in Europe



The Burden of Communicable Disease in Europe (BCoDE) [toolkit](#) is a stand-alone software application which allows calculation of disability-adjusted life years (DALYs) for a selection of 32 communicable diseases and six healthcare-associated infections.



## Disclaimer

The ASSET project was designed to accomplish a European Commission Call (DG Research and Innovation - HEALTH), for developing a Mobilization and Mutual Learning Action Plan in response to epidemics and pandemics with regard to Science in Society related issues.

The European grant agreement ensures scientific and editorial freedom to the ASSET consortium partners.

The views expressed in the ASSET Pandemic Preparedness and Response Bulletin "Share and move" are those of the authors and may not necessarily comply with European policy.

Statements in the Bulletin are the responsibility of their authors and not authors' institutions.

In case of conflict of interests, it is declared.

Readers are advised to verify any information they choose to rely on.

Suggestions and/or questions are welcomed at [valentina.possenti@iss.it](mailto:valentina.possenti@iss.it)

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## ANNEX III – The FOURTH ASSET-PPRB Issue



# Pandemic Preparedness and Response Bulletin

Issue 4, August 2016



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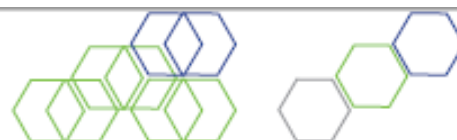
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Action plan on Science in Society related issues in Epidemics and Total pandemics



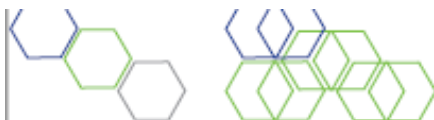




Highlighting strategic priorities and policy-related initiatives on Pandemic Preparedness and Response, the “Share and Move” ASSET Bulletin intends to be essential to a wide-ranged target: competent institutional actors and public health authorities, decision-makers, even on social networks.

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## Editorial

### WELCOME TO THE FOURTH ISSUE OF THE ASSET PANDEMIC PREPAREDNESS AND RESPONSE BULLETIN

The focus in this number is on the intentionally caused outbreaks

[Report from Paris](#) is the title of an article by Charlotte J. Haug published on the New England Journal of Medicine that describes the process since the terrorist attacks occurred in Paris in November 2015 till a long-term healing perspective implying concepts such as preparing a resilient system as a whole and ending "This is public health [...] During that night, I [Benoît Vallet, Director General of Health in France] had the feeling I was back in the emergency room or in an intensive care facility. But this time, I was curing the body of society". These statements have become even much more meaningful after the attacks in Brussels, in Iraq and in Pakistan in late March 2016.

The European cooperative program [ASSET](#) combines a multidisciplinary set of expertise in order to effectively address scientific and societal challenges raised by pandemics and what WHO defines public health emergencies of international concern. Engagement, gender equity, science education, open access, ethics and governance are thus the keywords encompassed in the main action plan launched in 2001 by the European Commission, with the aim to foster public engagement and a sustained two-way dialogue between science and civil society.

As anticipated in the previous ASSET Pandemic Preparedness and Response [Bulletin](#), *Share and move*, each number is mainly focused on one of the six Science in Society (SiS) topics dealt with in ASSET: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal, and societal implications; gender pattern - vulnerability and intentionally caused outbreaks.

The [second](#) issue focused on governance of pandemics and epidemics, the [third](#) Bulletin concentrated on unsolved scientific questions. Proposing the same structure like the previous ones, the present number deals with intentionally caused outbreaks that were highlighted within the project "Study and Analysis" phase, with regard to the aspects of preparedness and response, and to relevant information shared on the web and by the most used social media.



## Pandemic Preparedness and Response

### STUDYING “INTENTIONALLY CAUSED OUTBREAKS” IN ASSET

How do these public health international emergencies characterize?

The risk posed by Intentionally Caused Outbreaks (ICO) represents a growing concern for law enforcement, governments and public health officials around the world. Biological materials - such as bacteria, viruses, parasites and toxins - are significantly cheaper and easier to produce, handle and transport than radiological or chemical materials. They are difficult to detect and symptoms from exposure may not appear for days, possibly weeks. Moreover, advances in laboratory technology have brought the science for building a bioweapon within reach of terrorists and non-state actors. Although it has been very rare to see biological materials being used as weapons, such incidents are of importance due to their potentially high consequences. Even a hoax event can be an effective way of instilling widespread fear among the public.

When an outbreak occurs, it may be difficult to determine whether the outbreak is intentional or not. By assessing the history, proven occurrences, threat assessments and countermeasures (among other areas) we are able to see some overarching issues that could constitute governance problems for concerned actors.

In ASSET, ICOs have been addressed by [analysing](#) relevant policy documents and carrying out a taxonomy of the main governance problems, chiefly the tension between secrecy and transparency, freedom of research and security, citizen involvement and experts' decisions.

The analysis has been performed about science progress that can potentially be used for biological attacks, capacity response to biological threats, policies developed at national and international levels, laboratory safety and security, dual-use and biological threat agents.

The taxonomy of the main governance problems posed by the risk of ICOs in democratic societies was

- developed and populated as a table cross-categorising the problems.

The main governance problems were then classified under specific problem areas:

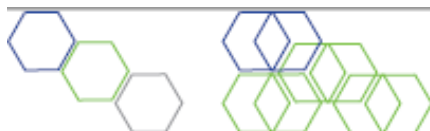
- **Tension between secrecy and transparency** - problems relate to state biological weapons programmes, international agreements with vague repercussions and loose implementation, dual-use research, stockpiles, biological agents' reservoirs and public communication;
- **Freedom of research and security** - criticalities mainly refer to dual-use issues, movements of agents and equipment, laboratory safety and security and the security of the public;
- **Citizen involvement** - weak issues concern protection of citizens, their say in decision-making processes, involvement in prevention, preparedness, response and recovery as well as public communication aspects;
- **Experts' decisions** - the main governance problem areas lie within expert involvement in policy, expert involvement that is required for decisions and complex problem areas not possible to solve without expert advice and communicating complex areas to policy-makers and the public.

Each problem occurring in the four categories listed above was analyzed at international and national levels, considering the implication of several features, namely medical services, infrastructure, public, law enforcement, industrial, communication, media, research, and pharmaceutical.

#### What's next

As explained before, governance problems were the focus. An approach based on identifying problems may be less complicated than a solution-oriented approach. Problem identification does not mean there are no possible solutions to be operated. These are problems that should be noted while developing policies and good governance, but the overview of main policy documents does give some pointers to viable solutions and important focus areas that are already progressing.

Governance problems may be more easily identified in current literature and research rather than existing policy documents that aim to address the problems. In other words, policy-makers do not necessarily have to come up with new solutions for all governance problems. It is important to address the problems identified, but equally important to keep working



with solutions that can be furthered and broadened such as international regimes and agreements.

This analysis could be used as food for thought concerning intentionally caused outbreaks, for all phases of contingency planning. There is a wide variety of issues in the field, and no single policy solution can be sufficient without a holistic approach that considers the society as a whole. All of the four problem areas identified should be considered and the taxonomy might be consulted to better define focus areas and to investigate most important aspects to include. Stakeholders who could be interested in the analysis developed are: policy makers dealing with intentionally caused outbreaks, chemical, biological, radiological and nuclear (CBRN) security, bioterrorism and related subjects.

## A FOCUS ON ALERT-RESPONSE CAPACITY BUILDING UNDER THE INTERNATIONAL HEALTH REGULATIONS (IHR)

### Procedures concerning public health emergencies of international concern (PHEIC)

Some serious public health events that endanger international public health may be determined under the Regulations to be public health emergencies of international concern (PHEIC). The term Public Health Emergency of International Concern is defined in the IHR (2005) as "an extraordinary event which is determined, as provided in these Regulations:

- to constitute a public health risk to other States through the international spread of disease; and
- to potentially require a coordinated international response".

This definition implies a situation that is serious, unusual or unexpected, carries implications for public health beyond the affected State's national border and may require immediate international action. The responsibility of determining whether an event is within this category lies with the WHO Director-General and requires the convening of a committee of experts - the IHR Emergency Committee. This committee advises the Director General on the recommended measures to be promulgated on an emergency basis, known as temporary recommendations. Temporary recommendations include health measures to be implemented by the State Party experiencing the PHEIC, or by other States Parties, to prevent or reduce the international spread of disease

and avoid unnecessary interference with international traffic.

The Emergency Committee also gives advice on the determination of the event as a PHEIC in circumstances where there is inconsistency in the assessment of the event between the Director-General and the affected country/countries. The Emergency Committee continues to provide advice to the Director-General throughout the duration of the PHEIC, including any necessary changes to the recommended measures and on the determination of PHEIC termination. WHO maintains an IHR roster of experts and the members of an IHR Emergency Committee are selected from this roster and/or WHO expert advisory panels and committees. At least one member of the Emergency Committee should be an expert nominated by a State Party within whose territory the event arises.

## GLOBAL HEALTH SECURITY INITIATIVE (GHSI)

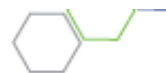
The [Global Health Security Initiative](#) is an informal, international partnership of health officials from the G7 countries, Mexico, and the European Commission, with WHO participation as an expert advisor to the GHSI. The aim of the GHSI is to strengthen health preparedness and response globally to threats of biological, chemical, radio-nuclear terrorism (CBRN) and pandemic influenza. It provides a platform for health security preparedness at global level and provides advice during health emergencies.

This Initiative was launched in November 2001 by Canada, the European Union, France, Germany, Italy, Japan, Mexico, the United Kingdom and the United States with the WHO participation. The GHSI was envisaged as an informal group to fill a gap for like-minded countries to address health issues of the day, such as global health security.

## EUROPEAN CBRNE RISK ANALYSIS

Roberto Mugavero (from the University of Rome "Tor Vergata" - Department of Electronic Engineering), Valentina Sabato, Federico Benolli, Silvia Soldatelli (from the OSDIFE - Observatory on Security and CBRNe Defence) carried out an assessment of the current chemical, biological, radiological-nuclear and explosive (CBRNe) risk framework, highlighting main data related to criminal and accidental events occurred





in Europe from July 2014 and December 2015. The study is published in issue 26 of the TIEMS [newsletter](#) - March 2016, from page 83 to 92. There are also several European projects that deal with research on CBRN(e) risk and mitigation.

On 22 October 2013, the EU adopted a Decision to improve preparedness across the EU and strengthen the capacity to coordinate response to health emergencies ([Decision No 1082/2013/EU](#) of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC).

This Decision entered into force on 6 November 2013.

This legislation is an important step forward in improving health security in the European Union and protecting citizens from a wide range of health threats. It helps Member States prepare for and protect citizens against possible future pandemics and serious cross-border threats caused by communicable diseases, chemical, biological or environmental events.

The EU coordinates national policies to combat major cross-border threats to public health, including deliberate or accidental release of CBRN agents. The EU also develops CBRN preparedness and response plans at the EU-level.

EU preparedness focuses on all types of CBRN hazard - man-made, natural, accidental or deliberate, e.g. deliberate contamination of drinking water, accidental radio-nuclear contamination or the emergence of a new infectious disease including those that take the form of a pandemic.

**Organisational framework for CBRN threats in the EU** - The EU Health Security Committee is the key coordination body for health security in the EU. The Committee is composed of representatives from the national administration of each EU country, the Commission's Directorate-General for Health and Consumers and other relevant Commission departments and agencies (e.g. ECDC, EMA). The three sections of the HSC are (1) CBRN, (2) influenza and (3) generic preparedness planning.

The Commission is actively developing and strengthening the international relations and cooperation on health security. It is a member of the Global Health Security Initiative, the international partnership to enhance public-health preparedness and response. With the World Health Organisation, the Commission is developing a road map for joint work on: international health regulations (IHR), emergency preparedness, communicable diseases such as HIV/AIDS and tuberculosis, antimicrobial resistance, immunization.

The EU-level CBRN preparedness/response activities include:

1. crisis-management arrangements and strategies
2. communication systems linking up EU countries
3. expert advice on prevention, treatment and mitigation
4. health risk assessments
5. promoting research in CBRN related topics.

**Preparedness:** the EU action in the field of preparedness planning for serious cross-border health threats aims at strengthening capacities to respond rapidly to any kind of emergency affecting or likely to affect public health. This includes advising national authorities and ensuring that they take on board the EU dimension, considering that emergency planning at national level may also have an impact beyond borders. Having an EU-level strategy provides a backbone for developing national plans to address different types of health threats - e.g. pandemic influenza, SARS, other events caused by biological or unknown agents, accidents caused by chemical agents, natural events of environmental origin such as climate change, or deliberate acts. It helps to ensure the inter-operability of national plans - through coordination mechanisms, analysis and communication tools.

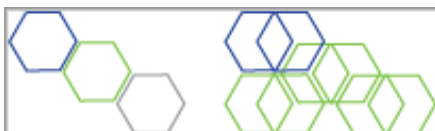
Important areas of preparedness planning are:

- Generic preparedness planning
- [Pandemic influenza preparedness](#) (including joint procurement of pandemic vaccines)
- Preparedness for chemical, biological and radio nuclear (CBRN) threats
- Bridging health and security.

**Risk assessment:** in responding to an emerging cross-border health threat, the first crucial step is to assess the risks. The Decision 1082/2013/EU on serious cross border threats to health puts in place rapid and efficient risk assessment mechanisms. This involves mobilising expertise from the relevant EU and international bodies, to provide robust scientific advice to feed into risk management. Such advisory bodies include:

- European Centre for Diseases Prevention and Control (ECDC)
- European Food Safety Authority (EFSA)
- World Health Organisation (WHO)





**Risk management:** the Commission is working closely with EU governments to ensure that their response to serious cross-border health threats is coherent and well coordinated. The Commission's Health Security Initiative includes a requirement for them to notify all types of threats at EU level, not only communicable diseases.

The EU Health Security Committee has established a solid base for preparedness activities, by:

- enabling EU governments to exchange information and evaluate health events
- functioning as a discussion forum that advises health ministers
- facilitating coordinated crisis response by EU governments.

The Decision 1082/2013/EU on serious cross-border gives the Health Security Committee a solid legal footing in co-ordinating preparedness. It allows the Health Security Committee to decide quickly on the coordination of national responses, communication messages to the public and to the healthcare professionals.

**Risk communication:** clear and effective information and communication with the public and EU governments is an essential part of the crisis response. The Commission seeks to improve this by developing EU-wide strategies, better integrating communicators into the crisis-management process and strengthening their cooperation with decision-makers and risk managers.

The Health Security Committee has established a network that brings together communicators from national risk-management authorities, the Commission and EU agencies.

Within the EU, the network helps communicators cooperate with each other:

- during a crisis - share information in the early stages and coordinate common strategies and messages to the public
- longer-term - exchange best practice on health risks/crisis communication and recommendations for preventing diseases caused by the threats.

Globally, the network is an important channel for containing and mitigating global health threats. It enables the EU to spread information rapidly worldwide, by connecting with existing communicators' networks under the Global Health Security Initiative and the WHO network under the International Health Regulations (IHR).

## PHEMCE STAKEHOLDERS WORKSHOP 2016

The United States continues to face a range of serious threats to its national health security from the deliberate use or accidental release of chemical, biological, radiological, and nuclear (CBRN) agents, as well as from naturally occurring and emerging infectious diseases (EID), including pandemic influenza. The Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) coordinates Federal efforts to ensure that the USA is prepared with the medical countermeasures it needs to meet the challenges posed by CBRN and EID threats. A two-day [workshop](#) (January 2015, 6-7) highlighted past progress and future directions in developing, stockpiling and effectively utilizing the drugs, vaccines, and devices that may be required in public health emergencies caused by either naturally occurring epidemics or intentional chemical, biological, radiological and nuclear attacks. The workshop developed along four tracks:



### Track 1: Operational Capacity & Effective Utilization

- PHEMCE Preparedness Goals and Operational Capacity
- Clinical Guidance on the use of Medical Countermeasures
- Challenges of collecting post-marketing data on safety and efficacy for MCMs approved under the animal rule
- The Strategic National Stockpile



### Track 2: Federal Initiatives & Progress

- Revised MCM Requirements process combined with
- Risk Assessments
- Science Needs during Crisis Response
- Biosafety and Biosecurity
- Focusing on Populations with Special Needs



### Track 3: Industry Partnerships

How Can We Help You Make that Product?

Accelerating Research Transitions: NIH Support and

Services for Medical Countermeasure Development

Combating Antibiotic Resistant Bacteria Program  
Past, Present and Future of the MCM Initiative at FDA



### Track 4: Emerging Infectious Diseases

The MERS CoV Connection

Dealing with Emerging Infectious Diseases

Ebola Response - After Action Report

Influenza and respiratory pathogens update

transmission in some settings. The Committee was provided with additional data on the current understanding of the history of Zika virus, its spread, clinical presentation and epidemiology. The following States Parties provided information on a potential association between microcephaly and other neurological disorders with Zika virus: Brazil, France, United States of America, and El Salvador.

The Committee advised that the recent cluster of microcephaly cases and other neurological disorders reported in Brazil, following a similar cluster in French Polynesia in 2014, constitutes a Public Health Emergency of International Concern (PHEIC). The Committee provided a list of recommendations to the Director-General for her consideration to address the PHEIC (clusters of microcephaly and other neurological disorders) and their possible association with Zika virus, in accordance with IHR (2005). Advice given by experts concern surveillance of microcephaly and other neurological disorders and precautionary measures about Zika virus transmission, in terms of longer-term and travel measures; clinical, virologic and epidemiologic data sharing among national authorities to facilitate international understanding of these events, to guide international support for control efforts, and to prioritize further research and product development. Based on this advice the Director-General declared a Public Health Emergency of International Concern (PHEIC) on 1 February 2016. The Director-General endorsed the Committee's advice and issued them as Temporary Recommendations under IHR (2005).

## Emergency Preparedness and Response

### WHO STATEMENT ON ZIKA VIRUS

From the first meeting of the International Health Regulations (2005) (IHR 2005) Emergency Committee

The first [meeting](#) of the Emergency Committee (EC) convened by the Director-General under the International Health Regulations (2005) (IHR 2005) regarding clusters of microcephaly cases and other neurological disorders in some areas affected by Zika virus was held by teleconference on 1 February 2016, from 13:10 to 16:55 Central European Time. The WHO Secretariat briefed the Committee on the clusters of microcephaly and Guillain-Barré Syndrome (GBS) that have been temporally associated with Zika virus

WHO calls on countries to prepare as [Zika virus](#) expected to spread in Europe in late spring and summer



In light of the current widespread outbreak occurring in Latin America and the Caribbean, the risk for Zika virus importation and spread in the European Region should not be underestimated. To support countries in the European Region in targeting preparedness work and to guide prioritization of activities, the risk for a Zika virus disease outbreak was assessed.



A [new WHO report](#) assesses the risk of a Zika virus disease outbreak occurring during late spring and summer in the European Region. While the overall risk is low to moderate, countries where Aedes mosquitoes are present are more likely to experience a Zika virus outbreak. The report contains a series of actions that WHO recommends for countries, according to their likelihood of Zika transmission. WHO urges European countries, especially those with high and moderate likelihood of local Zika virus transmission, to follow these recommendations to prevent or rapidly contain a Zika virus disease outbreak. WHO's support to European countries to prepare for and respond to health risks such as Zika virus disease is a key aspect of the reform of WHO's work in emergencies.

During a health crisis, such as the Zika virus outbreak, the European Commission works closely with the WHO and with EU governments to ensure that their response to cross-border health threats is coherent and well-coordinated, in accordance with Decision 1082/2013/EU on serious cross-border threats to health.

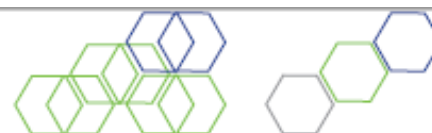
As regards communicable diseases, the European Centre for Disease Prevention and Control (ECDC) is in charge of providing risk assessment. At the request of the Commission the ECDC carried out a [risk assessment on Zika virus disease](#) (latest, sixth update published on 20 May 2016). The risk assessment synthesizes the main scientific developments from the past month, considers the main risks for the EU and its citizens and sets out a range of options for EU/EEA Member States' consideration. The evidence of an association between Zika virus infection during pregnancy and congenital central nervous system malformations, the association between Zika virus infection and Guillain-Barré syndrome and the geographic expansion of the outbreak, mean that the epidemic remains of public health importance. The evolution of the Zika epidemic in the Americas demands close monitoring as it has a direct impact on the risk of importation and possible occurrence of local transmission in the European Union.

ECDC endorses the update in the [WHO recommendations on preventative measures](#) against Zika virus infection for returning travelers. The [ECDC recommendations](#) are changing accordingly.

## INFORMATION FOR TRAVELERS TO AND EU CITIZENS RESIDING IN AREAS WITH ACTIVE TRANSMISSION

- Travelers visiting countries where there is active transmission of Zika virus and EU citizens residing in these countries should:
  - be made aware of the ongoing outbreak of Zika virus infection and the fact that Zika virus is usually transmitted by mosquito vectors but can be also transmitted by sexual intercourse
  - take measures to prevent mosquito bites indoors and outdoors, especially between sunrise and sunset when Aedes mosquito vectors are most active and biting. These measures include:
    - The use of mosquito repellent in accordance with the instructions indicated on the product label
    - Wearing long-sleeved shirts and long trousers, especially during the hours when the type of mosquito that is known to transmit the Zika virus (Aedes) is most active
    - Sleeping or resting in screened or air-conditioned rooms, otherwise use mosquito nets, at night and during the day.
- Pregnant women and women who are planning to become pregnant and planning to travel to areas with widespread transmission should postpone non-essential travel
- Pregnant women and women who are planning to become pregnant and planning to travel to areas with sporadic transmission should consult their physician or a travel clinic and consider postponing non-essential travel
- Pregnant women residing in countries with active transmission (sporadic and widespread) should consult their healthcare providers for advice and follow strict measures to prevent mosquito bites
- Travelers with immune disorders or severe chronic illnesses should consult their doctor or seek advice from a travel clinic - particularly on effective prevention measures - before travelling to countries with active transmission
- Travelers to countries with active Zika transmission and EU citizens residing there should be ad-





vised that using condoms could reduce the risk of sexual transmission through semen.

## INFORMATION FOR TRAVELERS RETURNING FROM AREAS WITH ACTIVE TRANSMISSION OF ZIKA VIRUS

- Pregnant women who have travelled or resided in areas with active transmission should mention their travel during antenatal visits in order to be assessed and monitored appropriately
- In order to protect the foetus, male travelers returning from areas with active transmission should consider using a condom with a pregnant partner until the end of pregnancy
- Travelers returning from areas with ongoing Zika virus transmission should be advised to use a condom for at least 8 weeks after returning, in order to reduce the potential risk of onward sexual transmission. If before or during that period Zika virus symptoms occur, men should use condoms or consider abstinence for at least 6 months.
- Travelers, including those with immune disorders or severe chronic illnesses, showing symptoms compatible with Zika virus disease within two weeks of return from an area with active transmission are advised to contact their healthcare provider and mention their recent travel.

## ACTION FOR PREVENTING COMMUNICABLE DISEASES

Plan needed to prevent infectious disease spread via air travel

In an [article](#) by Rita Rubin published on JAMA the conclusion made within a Government Accountability Office (GAO) report is emphasized. The United States lacks a comprehensive plan to prevent and contain the spread of diseases such as Ebola through air travel. "US airports and airlines are not required to have individual preparedness plans, and no federal agency tracks which airports and airlines have them", stated the [report](#) released by Rep Rick Larsen (D, Wash). The Chicago Convention, an international aviation treaty signed by the United States, requires member countries to develop a national aviation preparedness plan for communicable disease out-

breaks, according to the GAO. While the Department of Transportation and the Centers for Disease Control and Prevention say that parts of a national plan already exist, the Federal Aviation Administration has reported that individual airport plans are not aimed at handling an epidemic, the GAO said. "In a world where nearly 3 billion people board planes each year, the US aviation system must have a clear plan of action to handle infectious disease crises", Larsen, ranking member of the aviation subcommittee, said in a [statement](#). Banning air travel, as some called for during the Ebola outbreak in 2015, "is not a feasible or effective solution to an epidemic", Larsen added.

## IN THE FIELD OF PREPAREDNESS

Millions could die as world unprepared for pandemics, says UN. Panel convened to analyse deadly outbreaks says capacity to respond to communicable diseases remains 'woefully insufficient'

A global epidemic far worse than the [Ebola](#) outbreak is a real possibility and could kill many millions if the world does not become better prepared to deal with the sudden emergence and transmission of disease, the UN has said in a hard-hitting report. The report has emerged in draft form, as experts rally to deal with the rapid spread of the [Zika virus](#) across Latin America, which has been linked to thousands of cases of brain damage in babies. Countries in the region have again been caught off-guard because of the lack of scientific knowledge about the virus and the absence of good data on microcephaly, a condition in which babies' heads fail to grow properly in the womb.

The report comes from the high-level panel on the global response to health crises, set up by the UN secretary general in April 2015, as the Ebola epidemic that killed more than 11,000 people finally waned. [Several other inquiries](#) into what occurred, and the slow and inadequate response by the World Health Organization (WHO), have reported and fed into the UN panel's conclusions. In the UN report it is stated that "the high risk of major health crises is widely underestimated, and ... the world's preparedness and capacity to respond is woefully insufficient. Future epidemics could far exceed the scale and devastation of the West Africa Ebola outbreak", says the panel's chair, Jakaya Mrisho Kikwete from Tanzania, outlining their findings in the preface. "Too often, global panic about epidemics has been followed by complacency and inaction. For example, the 2009 in-



fluenza pandemic prompted a similar review of global preparedness, but most of its recommendations were not addressed. Had they been implemented, thousands of lives could have been saved in West Africa. We owe it to the victims to prevent a recurrence of this tragedy." The report, [which has been posted online in advanced, unedited form in the UN's Daily Journal](#), is not just about the mishandling of Ebola, but about the crucial need for the world to put in place systems to detect and fight new disease threats. "Notwithstanding its devastating impact in West Africa, the Ebola virus is not the most virulent pathogen known to humanity", says the report. "Mathematical modelling by the Bill and Melinda Gates Foundation has shown that a virulent strain of an airborne influenza virus could spread to all major global capitals within 60 days and kill more than 33 million people within 250 days".

Other diseases that have recently caused widespread suffering include four major outbreaks of Middle East Respiratory Syndrome (Mers) in Saudi Arabia and the Republic of Korea, the pandemics of avian and H1N1 and severe acute respiratory syndrome (Sars). "These all serve as stark reminder of the threat to humanity posed by emerging communicable diseases", says the report.

The panel says surveillance and response to outbreaks must be led by the WHO, but the key role should be played by a centre for emergency preparedness and response. The centre "...must have real command and control capacity", says the report, and it should have the best technology available to identify, track and respond to an emerging threat. The report also says countries must report on their state of compliance to WHO every year and must be regularly reviewed. All countries must give the WHO more money, says the report - an increase of at least 10% in their funding. In addition, they must put \$300m for a contingency fund for emergencies, not \$100m as recently set up. A further fund worth \$1bn must be set up for the development of vaccines, drugs and testing equipment. Prof Jeremy Farrar, director of the Wellcome Trust, said: "Epidemic and pandemic diseases are among the greatest of all threats to human health and security, against which we have for too long done too little to prepare. After four inquiries into the preventable tragedy of Ebola, there is now a strong consensus about what must be done. The WHO's leadership and member states must make 2016 the year of decision and act now to build a more resilient global health system. "As the UN panel and the other inquiries recommend, the cornerstones of better health security must be a strong, independent WHO centre

to lead outbreak preparedness and response, new mechanisms and financing for developing vaccines, drugs and diagnostics for potential epidemic threats, strong community engagement and investment in basic health infrastructure in every country, not just those that can afford it."

## Public Health Initiatives

### MANAGING GLOBAL HEALTH ACCORDING THE WORLD HEALTH ORGANIZATION

Assessing challenges for the next 15 years on the basis of global health trends since 2000

In 2015 the Millennium Development Goals (MDGs) come to the end of their term, and a post-2015 agenda, comprising 17 Sustainable Development Goals (SDGs), takes their place.

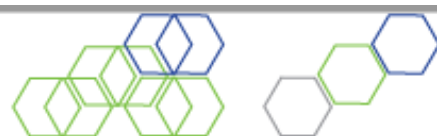
The World Health Organization has released a new comprehensive [report](#) analyzing global health trends since 2000 and carrying out an assessment of the challenges for the next 15 years. Looking back 15 years at the positive forces during the MDG era and assessing main challenges that will affect health in the coming 15 years, "Health in 2015: from MDGs to SDGs" reviews the key drivers of progress in health under the United Nations MDGs and recommends actions for the new Sustainable Development Goals (SDGs), which came into effect 1 January 2016.

"Snapshots" on 34 different health topics outline trends, achievements made, reasons for success, challenges and strategic priorities for improving health in the different areas.

These "snapshots" range from air pollution to hepatitis to road traffic injuries, and can be also consulted and/or downloaded separately.







The [fifth](#) part and SDG Target 3.3 are focused on the major infectious diseases. The SDG target also goes beyond the MDGs in broadening the scope of attention to specifically include ending neglected tropical diseases (NTDs), and combating waterborne diseases, viral hepatitis and other communicable diseases.

Globally, infectious and parasitic diseases are on the decline. The number of deaths due to infectious diseases, including parasitic diseases and respiratory infections, fell from 12.1 million in 2000 to 9.5 million in 2012. The percentage of all deaths due to infectious diseases decreased from 23% to 17%. In the African Region, and to a lesser extent the South-East Asia Region and the Eastern Mediterranean Region, infectious diseases are still a leading cause of death. The three regions account for 81% of all deaths and 89% of all YLL due to infectious and parasitic diseases in the world.

MDG progress has been made because of increased political commitment, strong global partnerships, drastic increases in funding, scaling up of new and existing interventions and better monitoring and use of data. Infectious disease outbreaks remain a concern to all countries, imposing a significant burden on economies and public health.

As we said, several respiratory infectious disease outbreaks have occurred since 2000, including the 2003 severe acute respiratory syndrome (SARS) epidemic and the 2009 A(H1N1) influenza virus epidemic. Cholera is endemic in many countries and the Haiti outbreak of 2010-2011 provided a vivid reminder of its potential to spread. Most recently, the outbreak of Ebola virus disease in West Africa resulted in over 28 000 cases and more than 11 295 deaths (as of 23 September 2015), causing considerable concern across the globe.

The spread of infectious diseases is affected by multiple socioeconomic, environmental and ecological factors as well as rapidly increasing antimicrobial resistance. The SDGs provide a new platform for an integrated approach across the economic, social and environmental pillars of development, which should be used to address all infectious diseases.

As already noted, a significant widening of focus relative to MDG is made with SDG: a shift from control to elimination and specific reference to TB, NTDs, hepatitis and waterborne diseases in addition to HIV/AIDS, malaria and "other diseases".

Infectious disease outbreaks, such as epidemics of influenza, Ebola or cholera, are a global concern with potentially large economic and public health consequences. The most relevant SDG target is Target 3.d "Strengthen the capacity of all countries, in particular

developing countries, for early warning, risk reduction and management of national and global health risks".

While there is no explicit SDG target on antimicrobial resistance, the issue is mentioned in paragraph 26 of the SDG declaration: "We will equally accelerate the pace of progress made in fighting malaria, HIV/AIDS, tuberculosis, hepatitis, Ebola and other communicable diseases and epidemics, including by addressing growing anti-microbial resistance and the problem of unattended diseases affecting developing countries".



## PRIORITY FOR EMERGING DISEASES RESEARCH

**Hemorrhagic fevers lead the list of emerging diseases likely to cause severe outbreaks in the future and are targeted for accelerated research and development**

The WHO has issued an initial [list](#) of diseases needing urgent research attention to prevent severe outbreaks. This list includes Crimean Congo hemorrhagic fever, Ebola and Marburg virus diseases, Lassa fever, Middle East respiratory syndrome and severe acute respiratory syndrome coronavirus diseases, Nipah, and Rift Valley fever. It is expected to be a key element in the WHO Research and Development (R&D) Blueprint for infectious diseases with epidemic potential currently under development for presentation in May 2016 at the 69<sup>th</sup> World Health Assembly in Geneva, Switzerland. Chikungunya, a severe fever with thrombocytopenia syndrome, and Zika were



designated as “serious” problems requiring action by WHO to promote R&D as soon as possible. HIV/AIDS, tuberculosis, malaria, avian influenza, and dengue were not included in the list because these infections are already being addressed via major disease control and research networks.



### Social networks

On its Facebook page the Institute of Science in Society (i-sis) identified two relevant articles

**DENGUE: OVER 30,000 DOCTORS REPORTED PANIC STRATEGY AND REQUIRE THE GOVERNMENT ACTIONS,** an [article](#) (in Spanish language) published on ‘La plataforma’ that associates the current Dengue driven epidemic outbreak in Argentina and social mobilization



[Institute of Science in Society](#) shared a link: [Dengue: Más de 30 mil médicos denuncian “estrategia de pánico” y exigen acciones al gobierno laplatafor-mainfo.com.ar](#)

Más de 30 mil médicos y trabajadores de la salud que integran la Federación Sindical de Profesionales de la Salud de la Argentina (FESPROSA) denunciaron “una estrategia de pánico” por parte de las corporaciones.

More than 30,000 doctors and health professionals who adhere to the Argentinian Federation of health professionals (FESPROSA) denounced the “panic” strategy by governing board of companies and demanded that the governments strengthens the public health system and the state puts at the head of

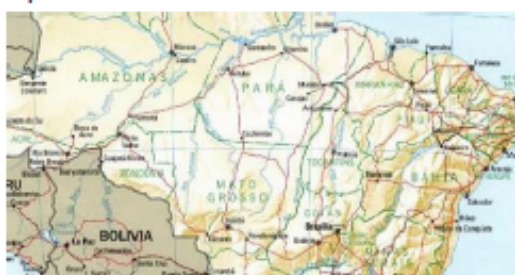
social mobilization to fight the epidemic. The trade union reported a will in the government to intentionally conceal because of economic, social and climate causes of the epidemic, as well as massive and indiscriminate fumigation of toxic chemicals. In this sense, it calls for a not spasmodic strategy led by the State, leading to sanitation in a mobilized and conscious society. In turn, a public health system strengthened and combating poverty, exclusion, the mining model and chaotic urbanization, which are the real roots of the epidemic is needed. Through the document, it is stated that “...the disease is closely linked to the social conditions, and other aspects such as environmental deficits, climate change, flooding, the production of soybeans and the widespread use of herbicides, that are all the consequences of extractive industry. In Argentina and in the rest of America, populations suffering most from the epidemic are those with less access to sanitation and drinking water, who are the poorest. The Aedes control should be achieved with a wide direct social mobilization and supported by the state. Mosquito control cannot be recharged on families and individuals, hiding the State’s obligation to take the lead in strengthening the public health system and promoting integrated urban reform for healthy cities. In their release, FESPROSA claims that health authorities are trying to create panic about Zika when there is still not any conclusive evidence on the relationship between the virus and increasing cases of microcephaly. It is also stated “...this panic strategy was already tested and experienced for influenza A.





## AN [ARTICLE](#) PUBLISHED ON 'THE SCIENTIST' REPORTS BRAZIL'S PRE-ZIKA MICROCEPHALY CASES

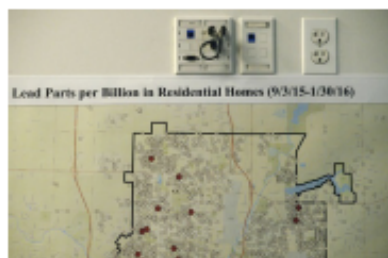
Researchers found that the suspected number of babies affected by microcephaly peaked in 2014, before the Zika virus had been reported in Brazil. A review of four years' worth of medical records finds far greater numbers of microcephaly cases from before the ongoing Zika virus epidemic than had been officially reported.



## AMID WATER CRISIS: IT IS ABOUT WORKING TOGETHER FOR FLINT

The Flint water crisis in an [article](#) by Nicole Lurie, assistant secretary for preparedness and response for the U.S. Department of Health and Human Services

A map (in the figure below) showing lead concentrations in the water in Flint homes hangs in the lobby of the Environmental Protection Agency (EPA) Response Command Post in the city on February 2016, 2. Since the crisis began, the federal government executed a plan, but that is only one part of the effort within the emergency in Flint overall.



Nicole Lurie tells her experience since President Obama asked her to head the federal response to

the water crisis in Flint. She reports to have spent time in the city talking with community members, government officials and technical experts about the situation. Understandably, residents are worried, confused and angry; people want a solution they can count on so they can drink a glass of water without worrying about it. As part of the fix, they also want to be sure that their kids go forward with the best shot they can have at a healthy life. She is used to responding to emergencies, but states this response is particularly challenging because it propelled her into a career in medicine and public health. Since that experience, much is changed. Today, we know that there is no healthy lead level in a child's blood. We also know now that there is a lot we can do to help kids who have been exposed to lead. Quality health care, good parenting, early childhood education and healthy food help counter some of the effects of lead. I'm hopeful that working together, we can put these in place for the people of Flint.

Progress is not only made by federal experts supporting state and local officials in identifying the problem's size and scope, but also helping make and execute a plan to mitigate short- and long-term health effects of lead exposure. To help, EPA is testing water in the distribution system and in homes to determine lead and chlorine levels. Chlorine keeps bacteria from spreading. EPA is making this information available to the public so Flint residents know what is in the water and can see progress. EPA also is testing water before and after it comes through filters to see how well filters are working. Preliminary tests are encouraging and show that filters are working well. To help meet the health needs of people impacted by lead, CDC is working with county and state health departments to determine the number of children exposed to lead in Flint to ensure that children who should be screened are getting screened. The US Drugs and Administration's Food and Nutrition Service is working with families in the Special Supplemental Nutrition Program for Women, Infants, and Children to provide ready-to-feed formula which doesn't need to be mixed with water. US Drugs and Administration is also providing additional grant funding to help affected schools purchase more fresh fruits and vegetables high in calcium, iron and Vitamin C because these foods can help children exposed to lead.

Finding a solution to the water crisis is the first part of rebuilding a healthier, more vibrant community. Doing so requires more than the resources of any single government agency - county, state or federal. Civic and faith-based organizations, businesses and neigh-



bors will need to work together with government agencies and with families toward a common goal: recovering as a stronger community.

Nicole Lurie ends her article saying she imagines there are students in Flint who could benefit from getting out of the classroom and engaged in their community. Drawing on the talent and energy of every member of the community can help end this crisis faster and have a lasting positive effect: building a stronger, more resilient city, not just now but far into the future.

## On the web

### PUBLIC HEALTH EMERGENCY

Preparedness and emergency are the main thematic areas covered by the US Department of health and Human Services

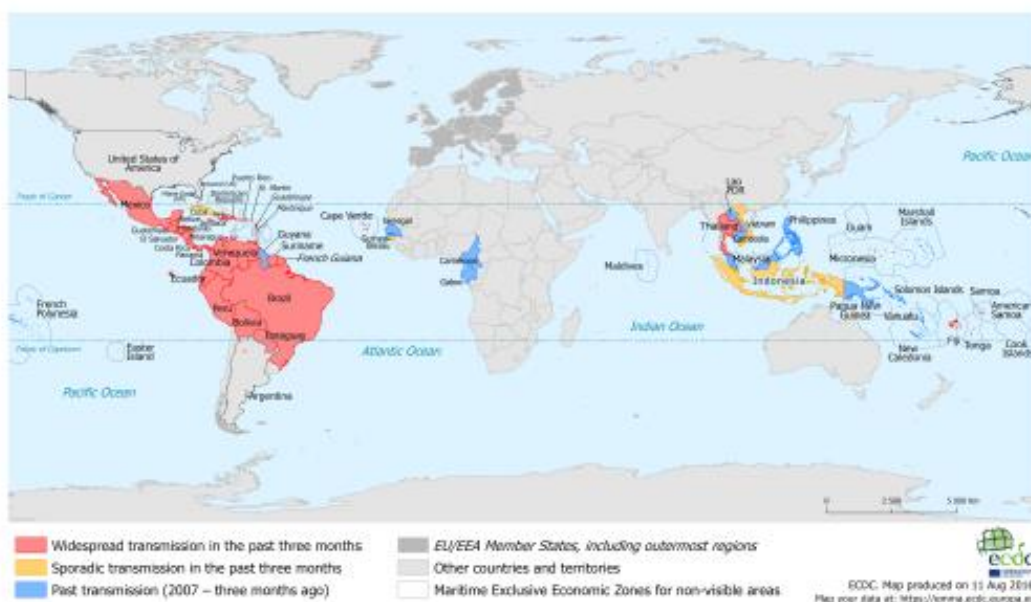


Declared disasters and emergencies, as well as bioterrorism, chemical and radiation emergencies are some of the contents populating the US Public Health Emergency (PHE) [website](#). Beside the pages dedicated to disaster response and to agents, diseases, and other threats, involving the public is a key feature of the portal, either by social media profiles or by constant information and news updating.

The European centre for disease prevention and control (ECDC) is providing latest information about public health threats and changes in the epidemiology of communicable diseases that can potentially affect Europe. All updates are reported weekly in the [Communicable Disease Threats Report](#).

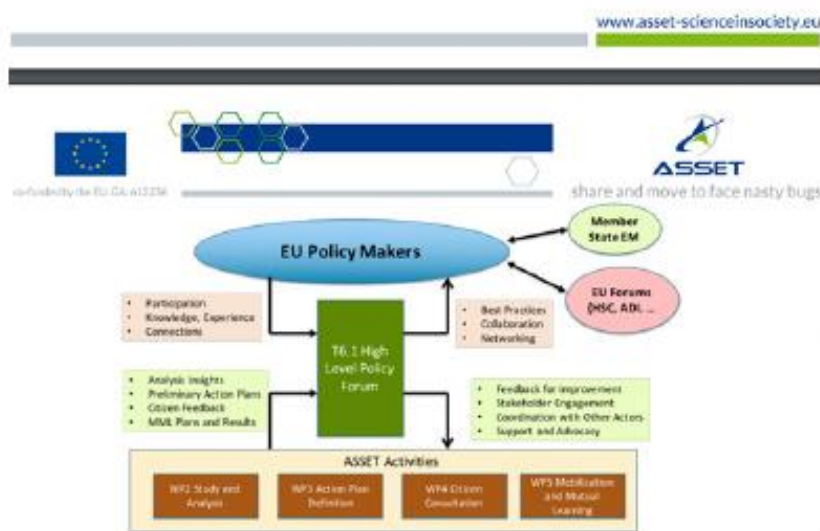
Countries and territories with reported confirmed autochthonous vector-borne transmission of Zika virus infection in the past three months are in the [linked page](#) (Based on data reported by 11 August 2016)





## From the ASSET world

In terms of Policy watch, the ASSET [High Level Policy Forum](#) works in liaison with project [partners](#) and European stakeholders and organizations as well. About Intentionally Caused Outbreaks that were the main focus of the present Pandemic Preparedness and Response Bulletin issue, a great law reinforcement comes from the EU [decision](#) No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health.



Within the work on [Citizen consultation](#), a long propaedeutic work has been run since the autumn 2015. The real action of public consultation will be carried out on September 2016, 24<sup>th</sup>. Citizens living in eight countries will be consulted on relevant issues related to global public health emergencies. Results coming from this exercise will be considered in delivering local initiatives, to carry out in 12 cities, that are encompassed within the work on [mobilization and mutual learning](#).



## In a SnapShot!

### Our guiding principles

#### Evidence-based interventions and innovation

PED ensures the most evidence-based, systemic, and innovative are identified and adapted for disease prevention and control of emerging and re-emerging epidemic diseases.

#### Partnering

PED brings together scientific, technical, and policy expertise, and to share information and resources with a global network of experts in disease prevention and control. PED is a global network of experts in disease prevention and control, working together to address epidemic diseases and control their spread.

#### Solidarity for access

PED ensures that all epidemic diseases have access to the best available evidence, resources, and technology in the face of epidemic threats.



### PED scope of work

#### Antimicrobial resistance

#### Pandemic Influenza Preparedness Framework

#### Epidemic and pandemic diseases

#### Antimicrobial resistance

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#### Pandemic Influenza Preparedness Framework

#### Epidemic and pandemic diseases

#### Antimicrobial resistance

## PED PANDEMIC & EPIDEMIC DISEASES



At global level, the WHO [Department](#) of Pandemic and Epidemic Diseases (PED) develops strategies, initiatives, and mechanisms to address priority emerging and re-emerging epidemic diseases, thereby reducing their impact on affected populations and limiting their international spread. One of the activities on emergencies preparedness and response is the [biorisk](#) reduction.



## Promoting strategies and initiatives for priority emerging and re-emerging epidemic diseases

The Department of Pandemic and Epidemic Diseases (PED) develops mechanisms to address epidemic diseases, thereby reducing their impact on affected populations and limiting their international spread.

### What we do

#### Improve the evidence base for epidemic diseases for policy and international decision-making

PED gathers and disseminates scientific evidence to support the development of evidence-based policies and global standards. The Global Scientific Expert Panel (GSEP), for example, provides expert advice on the development of evidence-based policies and global standards for epidemic diseases.

#### Support countries throughout the epidemic cycle: Preparedness, Response and Resilience to epidemics

PED provides strategic leadership and expertise to epidemic preparedness, response, and resilience efforts in countries and regions. The Global Scientific Expert Panel (GSEP), for example, provides expert advice on the development of evidence-based policies and global standards for epidemic diseases.

#### Protect communities through timely risk assessment, monitoring and field investigation of epidemic diseases of international concern

PED supports national and regional authorities in the development of evidence-based policies and global standards for epidemic diseases.

#### Optimize health care to reduce mortality

Through guidance and technical support, PED helps countries to optimize health care to reduce mortality in epidemic diseases.

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## Disclaimer

The ASSET project was designed to accomplish a European Commission Call (DG Research and Innovation - HEALTH), for developing a Mobilization and Mutual Learning Action Plan in response to epidemics and pandemics with regard to Science in Society related issues.

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The views expressed in the ASSET Pandemic Preparedness and Response Bulletin "Share and move" are those of the authors and may not necessarily comply with European policy.

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In case of conflict of interests, it is declared.

Readers are advised to verify any information they choose to rely on.

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## WEB REFERENCES/RESOURCES

**Australian Response MAE Network (ARM)** <http://www.arm.org.au/>

**Information Centre on Emerging Infectious Diseases in the ASEAN Plus Three Countries**

<http://www.aseanplus3-eid.info/>

**Center for Disease Control and Prevention (CDC)** <http://www.cdc.gov/mmwr/international/world.html>

**European Center for Disease Control and Prevention (ECDC)**

[http://www.ecdc.europa.eu/en/healthtopics/seasonal\\_influenza/epidemiological\\_data/Pages/Weekly\\_Influenza\\_Surveillance\\_Overview.aspx](http://www.ecdc.europa.eu/en/healthtopics/seasonal_influenza/epidemiological_data/Pages/Weekly_Influenza_Surveillance_Overview.aspx)

<http://www.ecdc.europa.eu/en/press/news/Pages/News.aspx>

**Eurosurveillance** <http://www.eurosurveillance.org/public/links/Links.aspx>

**Epinorth** <http://www.epinorth.org>

**Georgia Institute of Technology (GATECH)** [www.emergencypreparedness.gatech.edu](http://www.emergencypreparedness.gatech.edu)

**Health Authority - Abu Dhabi (HAAD)** <https://www.haad.ae/haad/tabid/1177/Default.aspx>

**Hellenic Center for Disease Control and Prevention (HCDCP)**

<http://www2.keelpno.gr/blog/?p=2778&lang=en>

**Maryland State**

<http://preparedness.dhmd.maryland.gov/SitePages/Public%20Health%20And%20Emergency%20Preparedness%20Bulletins.aspx>

**The New England Journal of Medicine (NEJM)**

<http://www.nejm.org/doi/full/10.1056/NEJMra1208802#t=references>

**National Center for Disaster Preparedness – Columbia University (NCDP)** <http://ncdp.columbia.edu/>

**Drexel University (Philadelphia)**

<http://www.drexel.edu/publicsafety/emergencypreparedness/program/bulletin/>

**Vermont State** [http://healthvermont.gov/pubs/disease\\_control/2005/2005-06.aspx](http://healthvermont.gov/pubs/disease_control/2005/2005-06.aspx)

**World Health Organisation (WHO)**

<http://www.who.int/bulletin/volumes/92/12/en/>

<http://ojs.wpro.who.int/ojs/index.php/wpsar/article/view/266/395>

<http://www.afro.who.int/en/mozambique/country-programmes/disease-prevention-and-control/communicable-diseases.html>