



ASSET

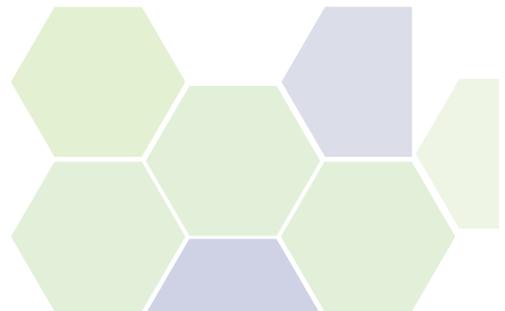
share and move to face nasty bugs

Pandemic Preparedness and Response Bulletin

Issue 7, December 2017



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Share and move

ASSET Pandemic Preparedness and Response Bulletin

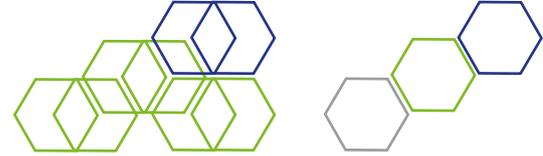
Issue 7, December 2017

ASSET on social networks



You Tube





“Share and Move” is the ASSET Bulletin that intends to highlight strategic priorities and policy-related initiatives on preparedness and response towards Public Health Emergencies of International Concern (PHEIC), as well as to be used by a wide target, ranging from competent institutional actors and public health authorities to decision-makers and influencers, even on social networks.

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Editorial

THE SEVENTH AND LAST PANDEMIC PREPAREDNESS AND RESPONSE BULLETIN, SHARE AND MOVE, LOOKS AT GENDER ISSUES ACCORDING TO AN ASSET PERSPECTIVE

The European cooperative program [ASSET](#) is reaching its end, December 2017. Since January 2014, it has been aiming to address effectively both scientific and societal challenges raised by public health emergencies of international concern (PHEIC), like pandemics, by combining multidisciplinary expertise.

ASSET roots in the Science in Society (SiS) framework that was defined by the European Commission in 2001 to foster public engagement and a sustained two-way dialogue between science and civil society. Six are the fundamental pillars identified: governance, open access, science education, public engagement, ethics and gender equity.

In line with these general SiS key issues for developing a Responsible Research and Innovation (RRI) framework, the editorial line of the ASSET Pandemic Preparedness and Response [Bulletin](#), *Share and move*, has been set accordingly.

Since the second Bulletin, each issue has been concentrated on one specific topic mainly: the [second](#) '*Share and move*' focused on governance of pandemics and epidemics, the [third](#) edition concentrated on unsolved scientific questions, the [fourth](#) periodical was associated to analysing intentionally caused outbreaks, the [fifth](#) publication dealt with crisis participatory governance, ethics are concerned in the [sixth](#) issue, and here we come to highlight how gender pattern impacts on preparedness and response toward public health emergencies in general and specifically per its interconnection with vaccination.

A focus on gender issues Proposing the same structure than the others, the present ASSET Pandemic Preparedness and Response Bulletin, *Share and move*, offers readers an overview on gender issues both affecting preparedness and response in general as well as in particular in association with the vaccination pattern.

Starting from the main results coming out from the initial project "Study and Analysis" phase, relevant studies in the field, such as I-MOVE, SVEVA and PASSI are reported as well as interesting inputs circulating in the international scientific community as well as on the web and the most used social networks.

In this last issue of *Share and move*, a specific PHEIC considered is Zika virus because of its high interconnection with female health and pregnancy condition. In the last few years, in fact, this emerging Flaviviridae virus has spread rapidly and raised concern as it has been associated with foetus microcephaly when pregnant women are infected.

Even basing on relations between Zika and women health, it is noteworthy Interesting open questions which are recalled in the comment '**Risk of Zika-related microcephaly: stable or variable?**' published on The Lancet in August 2017, such as: '*Were the numbers an artifact of over reporting? Were they real, did cofactors modify the risk given Zika virus in pregnancy, or was it due to something else? Could it be because of severity of Zika infection, viral load, or cofactors (the most popular being previous or co-infection with dengue)?*'



Pandemic & Emergency Preparedness and Response

Gender issues in pandemics and epidemics

Dealing with communicable diseases outbreaks (pandemics and epidemics), it is important to look at gender differences affecting exposures as well as access to, knowledge on, and uptake of, vaccinations.

Application of a targeted gender and life course approach in highlighting evidence-based issues of gender in pandemics and epidemics fits in to the activity of investigating the relevant societal challenges that exist in the field.

Definitions first! When sex and gender matter

Gender refers to socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women.

Sex refers to the biological and physiological characteristics that define men and women, boys and girls (WHO 2010b).

Differences based on sex and gender are important for understanding and improving outcomes and uptake rates for vaccination.

For instance, biologically, females and males differ in their immunological responses to seasonal influenza virus vaccines.

Women have higher antibody responses to influenza vaccinations – the antibody response of a woman to half a dose of influenza vaccine is equivalent to the antibody response of a man to the full dose (Klein et al 2010).

Or about underlying medical conditions, women are for example more likely to have diabetes in their lifetime than men but, particularly those in lower socioeconomic groups, receive less adequate diabetes care than men from the same socioeconomic group (WHO 2010a).

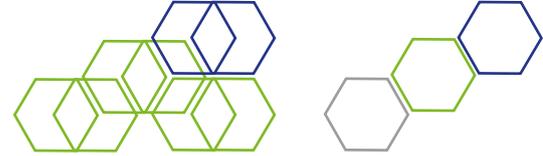
A doubled [research](#) has been carried out in ASSET by looking at what is retrieved within available literature and by asking relevant stakeholders about gender, epidemics and pandemics.

Main results are reported in the following table that sums-up relevant considerations from literature review (left column) and from interviews to stakeholders (right column) per each single issue (centre column).





From Literature	Issue	From Stakeholders
<p>This pattern represents the unique challenges.</p>	<p>Gender</p>	<p>In only one case a specific focus on gender issues has been reported. The prevalent opinion is that influenza does not discriminate by gender.</p>
<p>Pregnant women are at risk due to unique factors connected to pregnancy. In general, vaccination of pregnant women serves to protect both the woman and the foetus (Klein et al 2010).</p>	<p>Pregnancy</p>	<p>High awareness and proactive behaviour apply.</p>
<p>Older women's vaccination behaviour is not fully understood. Also, women in general, and older women in particular, are under-represented in clinical trials and biomedical research, hindering any development of sex-specific treatments or policy guidelines.</p>	<p>Elderly</p>	<p>Identified strategies or targeted messages for older women are quite absent. It is an action area where much more emphasis and is needed.</p>
<p>They tend to be predominantly female, and there is little consensus on how to target the low vaccination rates health professionals, and how to reach out to care givers.</p>	<p>Health care workers and Carers</p>	<p>Very little awareness of the gendered situation in this subpopulation.</p>
<p>Adverse health outcomes may occur, and the complex interplay of gender and social and economic marginalisation makes this a particular issue for women (Davidson et al 2011).</p>	<p>Hard to reach groups</p>	<p>Somehow a recognised problem, possible solution consists in tailored and increased communication.</p>
<p>Consideration of demographic, ethnic and social differences, including gender, allows for a more effective and targeted communications against distrust of vaccination.</p>	<p>Communication</p>	<p>The importance of effective communication is continuously stressed: it becomes the largest issue to be addressed even if it is identified more as a general problem.</p>



PREGNANCY AND VACCINATION

Pregnant women are more likely to have severe disease and hospitalisation with either seasonal or pandemic influenza, compared both to the general population and to peer non-pregnant women. During pandemics, the mortality rate for pregnant women is higher than non-pregnant women but it is not the case with seasonal influenza unless the strain is particularly severe (WHO 2010).

When **pandemics** occur, pregnant women have an increased risk of severity of infection and a disproportionately high risk of mortality from H1N1 (Esteban-Vasallo et al 2011).



In the first two months of the H1N1 flu pandemic in 2009 in the United States, a majority of the cases that were hospitalised were women (n=21/26), and of these women five were pregnant.

During the pandemic, females of childbearing age were much more likely to be hospitalised with critical illness than men in a number of countries (WHO 2010).

FOCUS 1 - Pandemic influenza vaccination (A/H1N1pdm09): evaluation of outcomes in pregnant women and newborns. Massimo Fabiani, Antonino Bella, Maria Cristina Rota, Stefania Giannitelli, Alessia Ranghiasi, Gloria Nacca, Silvia Declich, Elena Clagnan, Tolinda Gallo, Maurizio D'Amato, Enrico Volpe, Patrizio Pezzotti, Lorenza Ferrara, Vittorio Demicheli, Domenico Martinelli, Rosa Prato, Caterina Rizzo and EVIS Working Group 2015, iii, 31 p. Rapporti ISTISAN 15/7 (in Italian) ISSN: 1123-3117 (paper) • 2384-8936 (online)

Keywords: Pandemic vaccination; Influenza; A/H1N1pdm09; Pregnancy

A retrospective cohort study has been conducted to evaluate the effect of the adjuvanted influenza pandemic vaccination A/H1N1pdm09 of pregnant women on maternal and neonatal outcomes. The study has been conducted in four Italian regions (Piedmont, Friuli-Venezia Giulia, Latium, and Apulia) among 100.332 women in their second or third trimester of gestation. Based on data retrieved from the regional administrative databases and registries, the statistical analysis has been conducted using the Cox regression model, controlling for the potential confounding effect due to the socio-demographic characteristics and the clinical and reproductive history of women. We have observed no statistically significant associations between vaccination and maternal or neonatal outcomes. Pre-existing risk conditions have been observed more frequently among vaccinated women, thus suggesting that pregnancy alone is not a sufficient reason for vaccination.



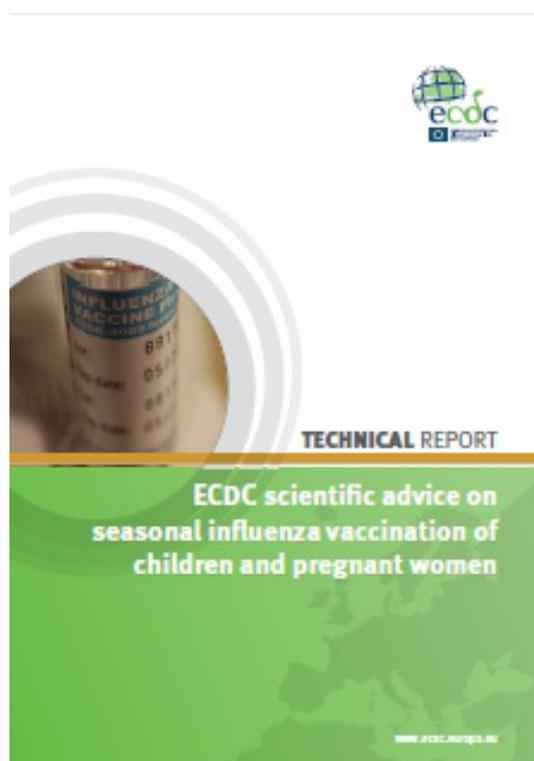
FOCUS 2 - Maternal vaccination against H1N1 influenza and offspring mortality: population based cohort study and sibling design This prospective population based cohort [study](#), published on BMJ in November 2015, answered the question ‘*What is the mortality in offspring of mothers who had influenza A(H1N1)pdm09 vaccination during pregnancy?*’. The study was carried out in seven healthcare regions in Sweden based on vaccinations taking place between 2 October 2009 and 26 November 2010. H1N1 vaccination data were linked with pregnancy and birth characteristics and offspring mortality data in 275,500 births (of which 1203 were stillbirths) from 137,886 mothers. Of these offspring, 41,183 had been exposed to vaccination with Pandemrix, a monovalent AS03 adjuvanted H1N1 influenza vaccine, during fetal life. A primary comparison group consisted of pregnancies of women who were not vaccinated during the same calendar period. In a second comparison, non-exposed siblings of infants prenatally exposed to vaccination were used as controls. Cox regression was used to estimate hazard ratios for stillbirth, early neonatal mortality (days 0-6 after birth), and subsequent mortality (beginning on day 7) in vaccinated versus non-vaccinated women, adjusting for mother’s age at delivery, body mass index, parity, smoking, country of birth, and disposable income and for sex of offspring. The results of this study suggest that AS03 adjuvanted H1N1 vaccination during pregnancy does not affect the risk of stillbirth, early neonatal death, or later mortality in the offspring. During follow-up, 1172 stillbirths, 380 early neonatal deaths, and 706 deaths thereafter occurred. The main study finding is that H1N1 vaccination during pregnancy is not associated with adverse fetal outcome or offspring mortality, including when familial factors are taken into account.

Pregnant women are more at risk of **influenza** because of different reasons: hormonal changes during pregnancy, chiefly oestrogen and progesterone, underlie some of the distinct immunological changes that accompany pregnancy (Klein et al 2010).

The risk of complications from influenza increases in the second and third trimester, when the physiological changes accompanying pregnancy, such as increased demands on cardiovascular output, play a role.

Also, the immune function change that is associated with pregnancy, which serves to prevent the woman’s immune system from rejecting the foetus, reduces the capacity of the pregnant woman to mount the strong antiviral response that is needed to control a viral infection (Jamieson et al 2009).

However, there appears to be very little risk of direct infection of the foetus if the mother contracts influenza, and the effect of fever resulting from the influenza does not appear to lead to foetal abnormalities (WHO 2010).





FOCUS 3 - Influenza A/H1N1 MF59 adjuvanted vaccine in pregnant women and adverse perinatal outcomes: multicentre study The cross sectional multicentre [study](#) on influenza A/H1N1 MF59 adjuvanted vaccine in pregnant women and adverse perinatal outcomes, published on BMJ in February 2013, assessed the risk of adverse perinatal events of vaccination of pregnant women with an MF59 adjuvanted vaccine. The study was carried out in 49 public hospitals in major cities in Argentina, from September 2010 to May 2011 involving 30 448 mothers (7293 vaccinated) and their 30 769 newborns. The main outcome measured were the primary composite outcome of low birth weight, preterm delivery, or fetal or early neonatal death up to seven days postpartum. This large study using primary data collection found that MF59 adjuvanted A/H1N1 influenza vaccine did not result in an increased risk of adverse perinatal events and suggested a lower risk among vaccinated women. These findings should contribute to inform stakeholders and decision makers on the prescription of vaccination against influenza A/H1N1 in pregnant women.

There is limited research done on **vaccine** safety in pregnant women, however studies suggest the vaccine is safe, and there are no indications that vaccination causes harm (ECDC 2012).

In general, vaccination of pregnant women serves to protect both the woman and the foetus (Klein et al 2010).

Existing studies on pregnant women who have taken the influenza vaccine show no adverse risks or side effects on the mother, foetus, or the child once it is born – rather, there is a good record of administering the vaccine, particularly in the second and third trimester (WHO 2010).

The WHO recommends all pregnant women to receive vaccinations during the influenza season, and that they should be given highest priority among all the risk groups (WHO 2012).

Yet, despite recommendations and despite the increased risk of illness and mortality that accompanies pregnant women getting influenza, vaccine covers of pregnant women tend to lag behind those seen in the general population (Klein and Pekosz 2014).

A number of reasons explains this low figure: evidence points to pregnant women not knowing of the increased risks associated with pregnancy and influenza; also, many health care providers do not recommend pregnant women to uptake pandemic or seasonal influenza vaccine due to concerns over giving a vaccine to a pregnant woman (WHO 2010).

Such inconsistent advice from relevant health care providers is an evident obstacle to vaccine uptake for pregnant women (ECDC 2013).

Data on **pregnancy and vaccinations** is scarce, and there is very little data on this from Europe.

In terms of drivers and barriers for pregnant women, there is little evidence-based research resulting in weak information (ECDC 2013).



FOCUS 4 - Feasibility of Text Message Influenza Vaccine Safety Monitoring During Pregnancy

This prospective observational study was conducted during 2013–2014 and analyzed in 2015–2016 on aspects as feasibility and accuracy of text messaging to monitor events after influenza vaccination throughout pregnancy and the neonatal period which were never studied before.

On the contrary, they may be important for seasonal and pandemic influenza vaccines and future maternal vaccines. Enrolled pregnant women receiving inactivated influenza vaccination at a gestational age of 20 weeks were sent text messages intermittently through participant-reported pregnancy end to request fever, health events, and neonatal outcomes.

Women reported via text both pregnancy- and non-pregnancy specific health events, not all associated with medical visits.

Most pregnancy-specific events in the electronic medical record (EMR) were reported via text message.

This study demonstrated the feasibility of text messaging for influenza vaccine safety surveillance sustained throughout pregnancy.

In these women receiving inactivated influenza vaccination during pregnancy, post-vaccination fever was infrequent and a typical pattern of maternal and neonatal health outcomes was observed.

It is not studied enough in human beings because of the risk to the mother and the foetus, but more research could be made on animals (Klein et al 2010).

More research is needed to find the optimum dose of the vaccine, and to provide more data to firmly refute the hesitation towards giving pregnant women influenza vaccinations.

Lastly, very few studies have been done in Europe on influenza **vaccine effectiveness in children** – there is a paucity of research in this area (ECDC 2013).

Children younger than five years old showed the highest hospitalisation rate attributed to influenza; this age group also have the highest incidence of the disease in children under 18 years of age (ECDC 2012).

Influenza vaccination is generally well tolerated in children, and any adverse reactions reported were usually mild or moderate.

Influenza vaccines are not licensed in children younger than six months old – there is therefore a lack of alternatives to treat children in this age group, who are in the risk group for exposure to influenza – nevertheless, recent studies have shown that influenza antibodies from the mother are transferred to the child (ECDC 2012).



FOCUS 5 - Seasonal influenza vaccines in Italy: assessing effectiveness and safety. Season 2015-2016. Stefania Spila Alegiani, Valeria Alfonsi, Antonino Bella, Stefania Giannitelli, Paola Ruggeri, Alessia Ranghiasi, Eva Charlotte Appelgren, Enrica Tavella, Caterina Rizzo and the Working group I-MOVE and SVEVA 2017, iii, 80 p. Rapporti ISTISAN 17/19 (in Italian) ISSN: 1123-3117 (paper) • 2384-8936 (online)

Keywords: Influenza vaccine; Effectiveness; Safety; Pharmacoepidemiology

In Italy, during the 2015/2016 flu season, the National Institute of Health (ISS), with the support of the Italian Drug Agency (AIFA), conducted two studies to estimate vaccine effectiveness (I-MOVE) and evaluate safety (SVEVA) of the flu vaccine. A total of 8 regions, among 21, participated to the study which can correspond to more than 50% of the Italian population in 2015 (not all regions participated to both objectives of the study). For the I-MOVE study, 1094 cases of ILI (506 cases and 498 controls) were recruited by 64 general practitioners and pediatricians. The results indicate that the vaccine gave moderate protection against the virus type A (H1N1) pdm09 and very low protection for A (H3N2) and B due to the antigenic mismatch that was observed, compared to the vaccine strain. For SVEVA study, 3213 vaccinated cases were monitored and 854 (26%) side effects were notified after 7 days of vaccination, the major part were mild. In order to obtain more solid data regarding vaccine effectiveness, and to describe rare adverse events, it is necessary to increase the sample size of both studies.

GENDER AND SCIENTIFIC RESEARCH

In the article '*Editorial policies for sex and gender analysis*' published on [The Lancet](#) in December 2016, basing on the recommendations by the International Committee of Medical Journal Editors (ICMJE) some guidelines on reporting sex and gender in medical journals are proposed

1. Require correct use of the terms sex and gender. Using these terms precisely increases clarity, enables critical review, and facilitates meta-analysis.
2. Require the reporting of the sex, gender, or both of the study participants, and the sex of animals or cells. If males and females were not studied in appropriate proportions, these elements of study design should be justified in the Methods section, and considered in the Discussion section.
3. Consider analysing data by sex, gender, or both where appropriate, or providing the raw data in the main manuscript, supplemental material, or in an accessible data repository. Report on the approach chosen for sex and gender analysis and comment on it in the Discussion section. In studies that are underpowered to detect sex or gender differences, access to data allows for use of those data in meta-analyses and systematic reviews.
4. Analyse the influence (or association) of sex, gender, or both on the results of the study where appropriate, or indicate in the Methods section why such analyses were not performed. Where those analyses were not performed, consider covering this topic in the Discussion section. Readers need to know whether the results generalise to both sexes. Include negative results as well as results that show differences.
5. If sex or gender analyses were performed post hoc, indicate that these analyses should be interpreted cautiously. Negative post-hoc analyses may be underpowered, leading to a false conclusion of no difference. By contrast, if many such analyses were done, the additional comparisons may lead to spurious significance suggesting an erroneous conclusion of a sex-related or gender-related difference where no such difference was in fact present. To minimise this likelihood, authors could consider making a statistical adjustment (such as a Bonferroni correction).



On the same [volume](#) another article **‘Sex-related reporting in randomised controlled trials in medical journals’** recalls the sex and gender issues in clinical trials: *“Journals have ample opportunity and considerable leverage to bolster their requirements. Some major medical journals, including The BMJ and the NEJM, require only that authors report the sex distribution of participants and make no request for sex-specific analyses, prespecified or post-hoc. JAMA instructs authors to “report the sex distribution of study participants or samples in the Methods section”. If only one sex is reported or included in the study, authors are instructed to “explain why the other sex is not reported or included, except for studies of diseases/disorders that only affect males (eg, prostate disease) or females (eg, ovarian disease)”. The Lancet explicitly encourages but does not require researchers to “enrol women and ethnic groups into clinical trials of all phases, and to plan to analyse data by sex and by race”. Journals’ encouragement is a step in the right direction, but, as evidenced by our review, a stronger stance is necessary to push researchers to rigorously consider sex-specific results in the design and interpretation of their trials. [...] Funders and editors must commit to requiring the disaggregation of data by sex, gender, or both, so that researchers, clinicians, and policy makers are better able to understand the sex/gender-specific outcomes of trials of clinical and global health interventions. Mandatory requirements in turn allow meta-analyses to achieve the necessary power to draw statistically meaningful conclusions about sex-specific responses to interventions, allowing the medical community to tailor health care to meet the needs of all people.”*

An article published on [JAMA](#) in November 2016, **‘Reporting Sex, Gender, or Both in Clinical Research?’**, recommends that *‘sex is recognized implicitly as an important factor in clinical research. More work is needed to standardize the way sex and gender are reported and elucidate the way these characteristics function independently and together to influence health and health care. The following recommendations for reporting in research articles may improve understanding and comparability across studies, and help deliver truly personalized medicine: (1) use the terms sex when reporting biological factors and gender when reporting gender identity or psychosocial or cultural factors; (2) disaggregate demographic and all outcome data by sex, gender, or both; (3) report the methods used to obtain information on sex, gender, or both; and (4) note all limitations of these methods.’* A table is also reported as example *‘Suggested Approach for Reporting Demographic Characteristics of Study Participants and Outcome by Sex and Gender (N = 59)’*.

Suggested Approach for Reporting Demographic Characteristics of Participants and Outcome by Sex and Gender (N = 59)

Demographic Characteristics	
No.	59
Age, y	18-90
No. ^a	
Female participant	27
Male participant	32
Race, No. ^b	
White	26
Black	33
Outcome, No. (%) ^c	50 (85)
Female	20 (40)
Male	30 (60)
Outcome, No. (%) ^d	
Female	20 (74)
Male	30 (94)

^aObtained by genotyping of blood sample.

^bObtained by self-report.

^cNumber (%) occurring in males and females of the total outcomes (n = 50).

^dNumber (%) of outcomes occurring within the subgroups of males (20/27) and females (30/32).



CONSIDERATIONS ON IMPLICATIONS OF GENDER ISSUES IN PAN-DEMICS AND EPIDEMICS

ASSET studies show that a lack of awareness on sex and gender issues does exist. There is a need for a more gendered approach to influenza pandemics/epidemics and vaccination, in terms of:

POLICIES

- Provide clear **communication strategies** at the European, national and regional levels on influenza pandemics/epidemics and vaccination. Clear, consistent and targeted communication is essential to successfully provide information.
- Consider **health literacy** in the development of all vaccination promotion initiatives in different settings and levels.

RESEARCH

- Develop research that targets women's attitudes to influenza and vaccinations by adopting a variety of **research methods**, such as psychosocial, ethnographic and phenomenological, to complement biomedical and public health research.
- Make the inclusion of women in **clinical trials** explicit and the numbers included statistically relevant to allow for systematic analysis of sex difference.
- Carry out **stratified analyses** separately for men and women to take into account the fact that a treatment may not only have a different effect in men and women, but that secondary factors may influence efficacy, and side effects may also differ.
- Prioritise the **standardisation** of data collection methods in a sex/gender-disaggregated that can easily be processed and interchanged between local, national and European levels.
- Study further barriers to accessing information on vaccination from a gender perspective. Promote more gendered research into influenza pandemics/epidemics and vaccination to ensure that **policy makers** are better informed.

WORK ON TARGET GROUPS

- Update, clarify and standardise influenza vaccination advice materials for **pregnant women**.
- Include higher emphasis on the needs of **elderly** in national vaccination strategies.
- Pay special attention to **vulnerable and marginalised groups** providing specific communication campaigns targeting hard to reach groups. Information campaigns are even more effective if the target groups are involved both in the information design and delivery.
- Promote increased awareness among **health professionals** on specific problems faced by all-age women in relation to vaccination and the importance of consideration of a life course approach.
- Support more research into the gendered effect of influenza and vaccination on **healthcare workers and carers**; both tend to be predominantly female.



Public Health Initiatives

STRATEGIES FOR THE WOMEN HEALTH IN EUROPE

The [World Health Organization](#) (WHO) Regional Office for Europe edited a report [Women's health and well-being in Europe: beyond the mortality advantage \(2016\)](#) Women's health is at a crossroads. Global efforts to advance women's health have been endorsed by countries through the adoption of the 2030 Agenda for Sustainable Development and are being taken forward through the Sustainable Development Goals and the global strategy for women's, children's and adolescents' health. To strengthen action as part of progressing the Health 2020 agenda, a strategy on women's health and well-being in the WHO European Region 2017–2021 will be considered by the 66th session of the WHO Regional Committee for Europe in September 2016. This report provides background to the strategy. It presents a snapshot of women's health in the Region, discusses the social, economic and environmental factors that determine women's health and well-being, brings into focus the impact of gender-based discrimination and gender stereotypes, considers what the concept of people-centered health systems would need to entail to respond to women's needs, and considers perspectives important for the international and national frameworks that govern women's health and well-being in Europe.



Women health in Italy

In the **Ann Ist Super Sanità 2016 | Vol. 52, No. 2** a whole [monographic](#) section is retrievable dealing with sex and gender-related issues on the population health status in Italy:

- *A sex and gender perspective in medicine: a new mandatory challenge for human health*
- *Why the study of the effects of biological sex is important*
- *Health status of the Italian people: gender inequalities*
- *Sex And Gender Equity in Research (SAGER): reporting guidelines as a framework of innovation for an equitable approach to gender medicine*
- *Gender-related differences in lifestyle may affect health status*
- *Sex-driven vulnerability in stress and drug abuse*
- *Gender disparity in addiction: an Italian epidemiological sketch*
- *Gender differences in pain and its relief*
- *Gender issues on occupational safety and health*
- *The influence of sex and gender on immunity, infection and vaccination*
- *Sex-based differences in autoimmune diseases*
- *The gender perspective in cancer research and therapy: novel insights and on-going hypotheses*
- *Gender differences in cardiac hypertrophic remodeling*
- *Sex-related biomarkers in cardiovascular and neurodegenerative disorders*



Alignment with a SiS perspective Prevention programs, such as vaccination or cancer screening, are proved tools for tackling social inequalities related to accessing healthcare services.

Anyway, in some cases it is not a matter of social inequalities related to access rather than cultural resistance or susceptibility to intervention. These issues imply that it is not enough to offer prevention program proactively in order to reach out all people at major risk, but it is also necessary to remould the intervention to meet the own specific vulnerability.



It occurs that, for instance, within vaccination coverage programs, in spite of active offer, some disadvantaged population groups show a lower compliance. It is the case of rubella immunization rate in immigrant women of childbearing age who report much lower values than Italians. Such these differences are not due to sociodemographic or health risk factors. Social inequalities are then not recalled but a particular resistance to intervention itself is retrievable. In this way, other barriers, being cultural or obstacles to information, can play a determining role in accessing rubella vaccination in some population groups, making them highly vulnerable.



This public health evidence allows to think about the adoption of a culturally-orientteered communication that is able to overcome causes basing the low compliance on one hand and the implementation both of qualitative e quantitative studies on the other, in order to identify obstacles and promote adequately access-enabling strategies for rubella immunization among immigrant women. Further efforts and investigations are then needed both on research level as well as in the framework of public health policies and implementation programs.



From the ASSET World

INITIATIVES, VIEWPOINTS AND PERSPECTIVES ON GENDER-RELATED ISSUES

As indicated in the Editorial, among contents proposed in the last *Share and Move*, it is included an overview on gender issues affecting preparedness and response in general but also specifically associated to vaccination pattern. This last is the main gender-related aspect that has been studied in ASSET. This Bulletin section reports all the gender-driven activities carried out in the project.



- **SCIENTIFIC COMMUNICATION Gender pattern as a SiS factor highlighted by the ASSET scientific events (Summer Schools, final conference)** Specific sessions were dedicated to gender issues in the three Summer School editions (Rome; 2015, 2016, 2017) as well as in the final [conference](#) (Rome; 30-31 October 2017). Within the ASSET Final Event, gender issues were presented ranging from results coming out over the project on connection with vaccination mainly to the female role in health promotion, till a wider overview of to

what extent women are present in scientific researchers community.

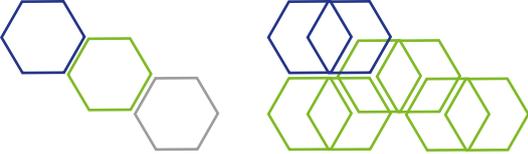
- **MOBILIZATION AND MUTUAL LEARNING Relevant practices and stakeholders in the field** The most gender-based ASSET output is represented by its Sex & Gender & Vaccination [Platform](#) that gathers contents and articles from ASSET experts aimed to disseminate and promote gender-sensitive and women-centered research on pandemics. In particular, it aims to disseminate information on flu pandemics related risks, notably for pregnant women and infants, preventive measures, antiviral drugs, vaccines and vaccination, and make information available to women to enable them to make informed and responsible decisions.



- In ASSET, another structure related to a portal that allows relevant stakeholders discuss is the [Best and Promising Practice Platform](#) gathering significant and appropriate initiatives, experiences, documents, evidence, etc. on Science-In-Society related issues in public health research on epidemics and pandemics.

- **POLICY WATCH Vaccination hesitancy at the third ASSET High Level Policy Forum** One out of the three themes selected for discussion at the third and last High Level Policy Forum ([HLPF](#)) meeting in Brussels on 28th April 2017 was represented by **vaccination hesitancy** standing as one of the most relevant vaccine-related issues in the international public health scenario at the moment.





- MOBILIZATION AND MUTUAL LEARNING** Several targets reached out by local initiatives Local initiatives were carried out in 11 ASSET partner cities (Rome, Milan, Lyon, Dublin, Athens, Brussels, Oslo, Sofia, Bucharest, Geneva, Haifa) during 2017.



The ASSET local initiatives were supposed to be gender-focused at most: women were directly involved in eight initiatives as well as outcome on female health is retrievable in other five MML experiences at local level.

About topics, vaccination represents the core focus of ten local initiatives but is mentioned in the others as well.

- PUBLIC PARTICIPATION** Citizens from 8 partner countries consulted on vaccine uptake-related issues One out of the six concrete policy recommendations which came out from the ASSET citizen consultation meetings relate to specific thematic areas of action about **pregnancy and vaccination**: *'update, clarify and standardize influenza vaccination advice materials for pregnant women'*.

It means that the public recognize to what extent the female population and in particular pregnant women are an attention worthy target group in public health.



They in fact desire clear, and updated information on vaccination and pregnancy, firmly believing that improved communication and dialogue can restore trust and build better relationships between health authorities and publics.

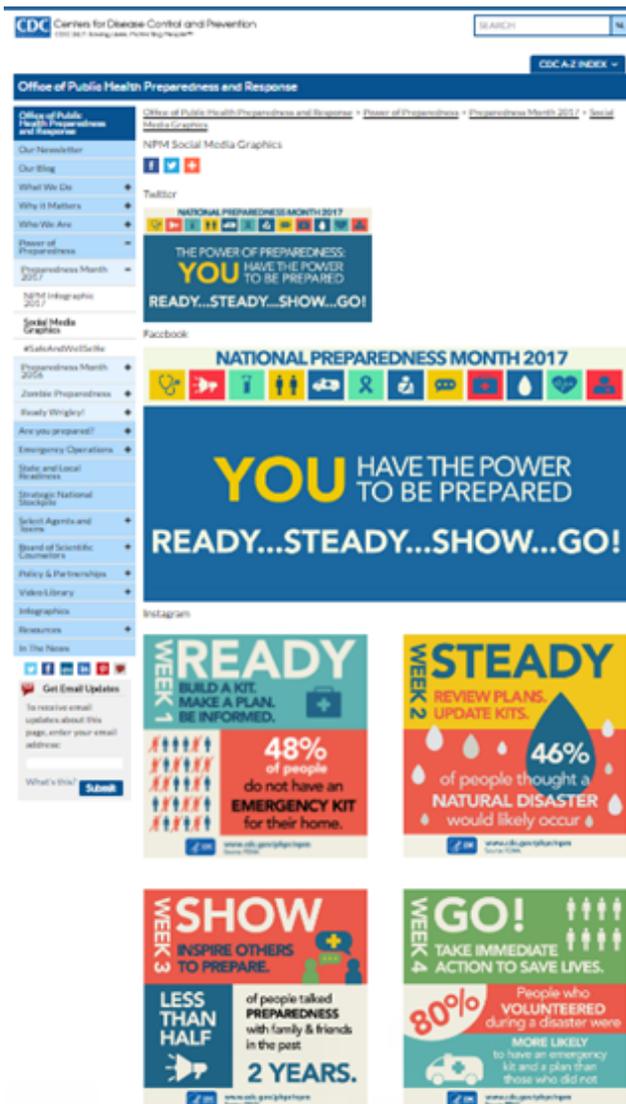
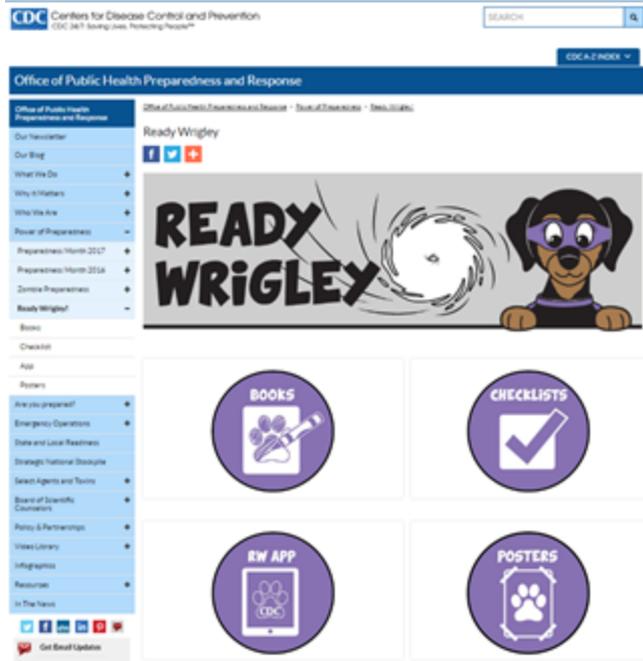


Social Networks

The social media pages from the Office of Public Health Preparedness and Response of the American Centers for Disease Control and Prevention (CDC) offer interesting materials which are addressed both to specific target groups and to the whole population.

>[Power of Preparedness](#)>[Ready Wrigley!](#)

The toolkit 'Ready Wrigley' that is available for children includes: books, checklists, a mobile application for kids, posters. One of the children's books is released by the American Academy of Pediatrics and CDC to build capacity in children's preparedness by inspiring youth readiness and promoting individual resilience.



>[Power of Preparedness](#)>[Preparedness Month 2017](#)>[Social Media Graphics](#)

Browsing the left menu, all the web tools delivered under the topic area of 'Preparedness' are available. Accessing the section on the 2017 edition of 'National Preparedness Month', materials developed for social media pages are also included. The social media graphics concern the communication campaign developed on Twitter, Facebook, Instagram.

Both on Twitter and on Facebook a single image is published with the pay-off:

*YOU HAVE THE POWER TO BE PREPARED
READY...STEADY...SHOW...GO!*

On the contrary, on Instagram more detailed messages are delivered, one per each week of the 'National Preparedness Month 2017':

WEEK 1 READY (Build a kit. Make a plan. Be informed);

WEEK 2 STEADY (Review plans. Update kits);

WEEK 3 SHOW (Inspire others to prepare);

WEEK 4 GO! (Take immediate actions to save lives).



ADDRESSING THE ZIKA OUTBREAK: A CASE FOR LEVERAGING MOMMY BLOGGERS AS PART OF THE INTERNATIONAL RESPONSE



In [January 2017](#) an article published on socialibriumm.tumblr.com recalled the relevance of leveraging the American mom bloggers after the [World Health Organization](#) (WHO) declared the outbreak of the [Zika virus](#) and its suspected link to birth defects an [international public health emergency](#).

This insight is presented as new tools to fight the infection including allowing health agencies to coordinate efforts.

As a supplement to institutional efforts by the health authorities, also more grass-

roots social media channels are recognized to be helpful for sharing valuable information through trusted voices to different important audiences.

One way to effectively do this – especially for reaching pregnant women who are at great risk for negative effects from the Zika virus– is through the online influencers known as “mommy bloggers”. In the United States alone, [3.9 million moms identify as bloggers](#); and they can be quite influential.

According to [one study](#), 14% of American mothers with at least one child in their household report turning to blogs for advice; and some of the most successful mommy bloggers reach millions of readers. These blogs can act as important sources of information, [support and connection](#) for pregnant who are making important decisions to promote the health of their children.

Thus, engaging mommy bloggers to share timely and life-saving information at the right moment can help get the word out to women who need this information the most.

Use of grassroots social media channels in response to crises is not new. In the wake of the Boston Marathon bombings, Google allowed its [Person Finder](#) platform to be used by community members to post places for lodging, food or a hot shower when roads and hotels were closed.

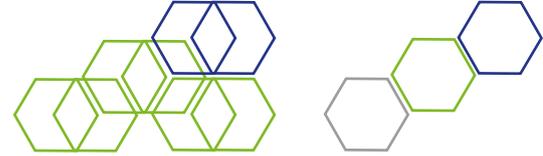
In 2013, Twitter launched Twitter Alerts, which delivers “alert” tweets through the platform’s traditional timeline feed and via text messaging to a user’s cellphone.

The American Red Cross generated more than \$5 million via text message donations in the 48 hours following the Haiti earthquake in 2010.

Moreover, social media are increasingly used communication channels where people are going for information in crises. A [survey](#) conducted by the American Red Cross found that 18% of adults said they would turn to digital or social media in an emergency situation and 69% said emergency response agencies should regularly monitor their Web sites and social media so they can respond promptly to requests for help posted there.

Despite this, there are few examples where mommy bloggers have been engaged as part of a response to an outbreak; yet, these situations are the perfect opportunity to do so.

As Erin Olson, vice president of [The Motherhood](#), a social media marketing agency and blogger network based in the U.S., says, “Misinformation and myths, particularly around complex health issues, can easily proliferate online.



Working with influencers such as mom bloggers, who have a dedicated, nationwide readership on their blogs and social media platforms, can be a valuable and effective method of disseminating important, accurate information online - and beyond.

A recent survey of more than 700 blog readers by The Motherhood indicated that more than 85 percent of readers discuss topics they see on blogs with friends and family offline.

Empowering and educating influencers to share details about the Zika virus and serve as ongoing health ambassadors on the topic can help real moms get the facts and alleviate fears.”

Mommy blogs should not be overlooked by public health officials as important channels for influencing family health decision-making during times of crisis.

Especially for outbreaks, like Zika, where mothers and mothers-to-be are priority audiences, engaging these kinds of online channels to provide accurate and timely information can be a powerful supplement to ongoing emergency response efforts in order to answer burning questions and address the fears of mothers worldwide.

TRAVEL ALERT ON ZIKA BY CDC

Pregnant women should consider postponing travel to 14 countries and territories from Brazil to Mexico where mosquitos are spreading the Zika virus, which is associated with microcephaly in infants

The Centers for Disease Control and Prevention (CDC) announced on 15.1.16 that pregnant women in any trimester should consider postponing travel to 14 countries and territories in South and Central America and the Caribbean where mosquitos are spreading the Zika virus. In its level 2 travel alert, the CDC also advises women who are thinking about becoming pregnant to consult with their physician before traveling to these areas, and if they do, follow strict precautions to avoid mosquito bites. Safeguards include wearing long-sleeve shirts and long pants and using insect repellent.

The 14 countries and territories covered by the travel alert are Brazil, Colombia, El Salvador, French Guiana, Guatemala, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Suriname, Venezuela, and the Commonwealth of Puerto Rico. It is because of growing evidence of a link between Zika and microcephaly. Babies with microcephaly have a smaller-than-expected head and smaller brains as well that may not have developed properly.





On the Web

Zika Virus

Protecting Pregnant Women and Babies



Educate. Ask. Support.

Zika virus infection (Zika) during pregnancy can cause damage to the brain, microcephaly, and congenital Zika syndrome, a pattern of conditions in the baby that includes brain abnormalities, eye defects, hearing loss, and limb defects. Pregnant women can protect their babies from these Zika-related health conditions by not traveling to areas with Zika. Men and women who live in or travel to an area with Zika can prevent infection by avoiding mosquito bites and using condoms during sex.

Key points include:

- **44** states reported cases of pregnant women with evidence of Zika in 2016. Most were travel-associated.
- About **1 in 10** pregnant women with confirmed Zika had a fetus or baby with birth defects.
- Only **1 in 4** babies with possible congenital Zika were reported to have received brain imaging after birth.



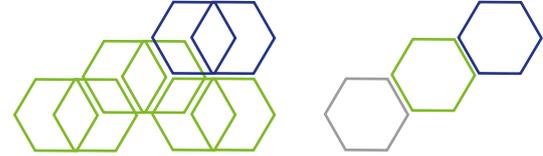
Video: April 2017 Vital Signs -- Zika Virus: Protecting Pregnant Women and Babies

About 1 in 10 pregnant women with confirmed Zika had a fetus or baby with birth defects.

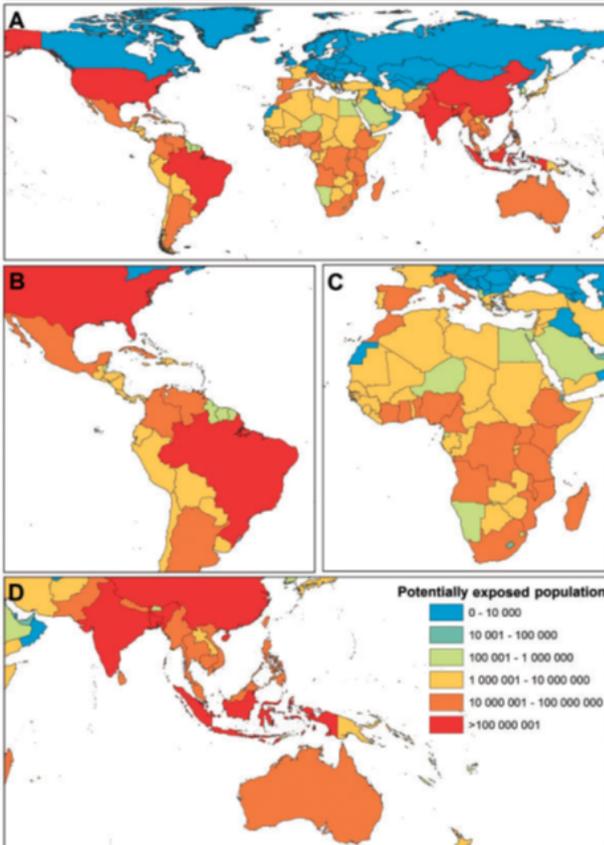
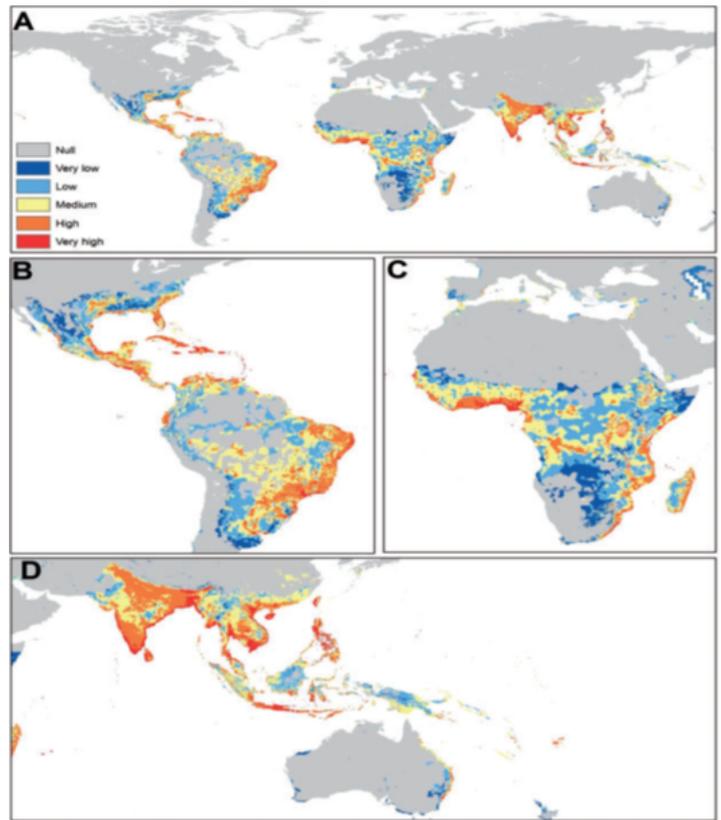
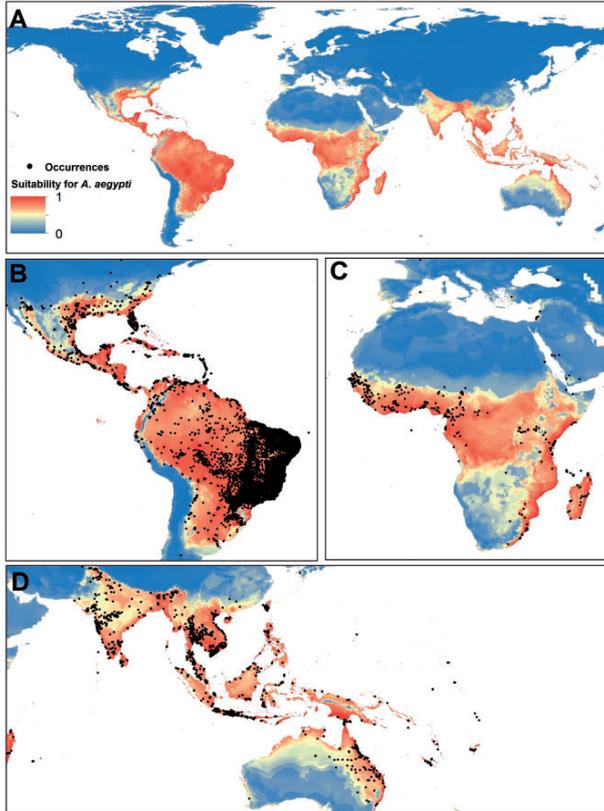


Vital Signs is a monthly report that appears as part of the CDC journal, [Morbidity and Mortality Weekly Report](#).





In a SnapShot!



Alberto J Alaniz, Antonella Bacigalupo and Pedro E Cattán from the Chilean University in Santiago published the [article](#) '*Spatial quantification of the world population potentially exposed to Zika virus*' on International Journal of Epidemiology, in 2017. The authors present niche modelling techniques to estimate the potential distribution area of *Aedes aegypti* mosquito, the main vector for Zika virus (group figures 1A-D). This was overlapped with human population density, determining areas of potential transmission risk worldwide (group figures 2A-D). They quantified the population at risk according to risk level (group figures 3A-D). They found the vector transmission risk mainly distributed in Asia and Oceania on the shores of the Indian Ocean. In America, the risk concentrates in the Atlantic coast of South America and in the Caribbean Sea shores in Central and North America. In Africa, the major risk is concentrated in the Pacific and Atlantic coasts of Central and South Africa. The world population under high and very high risk levels includes 2.261 billion people. These results illustrate Zika virus risk at the

global level and provide maps to target the prevention and control measures especially in areas with higher risk, in countries with less sanitation and poorer resources. Many countries without previous vector reports could become active transmission zones in the future, so vector surveillance should be implemented or reinforced in these areas.



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.

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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.

Suggestions and/or questions are welcomed at valentina.possenti@iss.it

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