

TASW Newsletter

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Towards a Safer World (TASW) is a multi-stakeholder network of practitioners on whole of society preparedness for pandemics and comparable threats, led by the UN System.

Human infections with influenza A(H7N9) virus

As of 13 April 2013

Summary of available information

As of 13 April 2013, a total of 49 confirmed cases of human infection with avian influenza A(H7N9) virus have been reported to WHO by the China National Health and Family Planning Commission. Among these cases, the ages range from 4 to 87; 15 are female. Eleven persons have died, and the majority of the additional cases are considered severe. Of the 49 cases, 6 have been reported today and further investigations are taking place. The cases have been reported from three provinces: Anhui, Jiangsu and Zhejiang, and two municipalities, Beijing and Shanghai. All locations are in Eastern and Northern China.

Two confirmed cases have been associated with possible family clusters, in which one and two additional family members, respectively, developed severe pneumonia. Close contacts of confirmed cases and health care workers caring for cases have been monitored for infection. So far, among the contacts who have been tested by polymerase chain reaction, none has been shown to have infection.

This is the first time human infection with this influenza subtype, avian influenza A(H7N9) virus, has been detected. Previously, sporadic cases of human infection with other influenza A(H7) viruses have been reported. Those cases were associated with outbreaks of infection in poultry in other countries. These earlier influenza A(H7) human infections generally resulted in mild influenza illness with some conjunctivitis.

Genetic and laboratory characterization of the first three of these H7N9 viruses isolated from humans indicates that:

- The virus contains a group of avian influenza virus genes from three different avian influenza viruses;
- To date, genetic analyses of the isolates have shown certain changes, including amino acid substitutions associated with increased affinity to alpha 2-6 receptors, which suggests that the H7N9 virus may have greater ability to infect mammalian species, including humans, than most other avian influenza viruses;
- There are sequence variations among the genes of three isolates that suggest there has been more than one introduction of this virus from animal into humans;
- These viruses are expected to be sensitive to the neuraminidase inhibitor drugs oseltamivir and zanamivir, but resistant to the antiviral drugs amantadine and rimantadine;
- The isolates have a haemagglutinin structure that is associated with low pathogenicity in birds.

There are several gaps in critical information at this time, including the animal reservoir(s) in which this virus is circulating, the main exposures and routes of transmission for how human infections have been acquired, and the current scope of the spread of this virus among animal and human populations. Avian influenza A(H7N9) viruses have now been isolated from poultry (including duck) and pigeon in the live bird markets in some areas of China, but whether other potential reservoirs of this virus may exist, including in other domestic and wild bird species, and mammalian species such as pigs, has not yet been determined clearly.

So far, this virus has not been associated with reports of severe disease in poultry.

WHO RISK ASSESSMENT

Human infections with influenza A(H7N9) virus

Risk assessment

This initial risk assessment, which has been prepared in accordance with WHO's published recommendations for rapid risk assessment of acute public health events¹ will be updated as further information becomes available.

What is the risk of the occurrence of further cases in the affected areas of China and other areas?

The epidemiology of this virus among animals, including the main reservoirs of infection among animals and the extent of geographic spread, is not yet established. However, it is likely that most human H7N9 infections so far are associated with infection among as-of-yet undetermined animals and that further human cases of infection should be expected.

What is the risk of human-to-human transmission?

There is no evidence of sustained human-to-human transmission. However the two possible family clusters suggest that limited human-to-human transmission may occur where there is close contact between cases and other individuals, as occurs in families and, potentially, healthcare settings.

Moreover, the genetic changes seen among these viruses suggesting adaptation to mammals is of concern, and further adaptation may occur.

What is the risk of international spread?

At this time, there is no information to indicate international spread of this virus. However, it is possible that an infected person, who may or may not have symptoms,

could travel to another country. However, if the virus cannot sustain human-to-human transmission, as appears to be the current situation, then extensive community spread is unlikely.

WHO does not advise special screening at points of entry with regard to this event, nor does it recommend that any travel or trade restrictions be applied.

References

Most recent disease outbreak news can be found at:

<http://www.who.int/csr/don/en/index.html>

Background and summary of human infection with influenza A(H7N9) virus (as of 5 April 2013):

http://www.who.int/influenza/human_animal_interface/update_20130405/en/index.html

Frequently Asked Questions on human infection with influenza A(H7N9) virus, China:

http://www.who.int/influenza/human_animal_interface/faq_H7N9/en/index.html

Public health relevant virological features of Influenza A(H7N9) causing human infection in China: <http://www.euro.who.int/en/what-we-do/health-topics/communicable-diseases/influenza/publications/2013/public-health-relevant-virological-features-of-influenza-ah7n9-causing-human-infection-in-china>

¹ Available from

http://www.who.int/csr/resources/publications/HSE_GAR_ARO_2012_1/en/ accessed 10 April 2013

FAO Coordination and Support to H7N9 Global Preparedness and Response

Highly pathogenic avian influenza (HPAI) H5N1 and more recently pandemic influenza H1N1 (2009) have shown the world that multidisciplinary work, joint decision making, transparent sharing of information and coordination are fundamental to effective pandemic preparedness.

As a key member of Towards A Safer World (TASW) network and the lead United Nations (UN) Agency on avian influenza within the UN System, the Food and Agriculture Organization of the United Nations (FAO) has long been at the forefront of animal health coordination. To fight HPAI, FAO joined forces with the larger scientific community, including public health organizations, and embraced the One Health approach. FAO has built its technical and coordination efforts on its vast experience accumulated over more than eight years of helping prevent the global spread of HPAI.

Now with the occurrence of avian influenza A(H7N9) virus, a novel virus affecting humans, FAO and partners are putting this knowledge to work for member countries. FAO is supporting the international community by organizing and coordinating: risk analysis, emergency and contingency planning and the development of targeted surveillance along the production and market chain.

On 31 March the Chinese authorities announced the first ever identification in humans of the avian influenza A(H7N9) virus. In early April H7N9 was identified in small numbers of avian samples. While other H7 viruses have been widely reported around the globe in domestic and wild birds, this marks the first time the avian influenza

A(H7N9) virus has been reported in humans and poultry.

Since the first days of the event, FAO experts have been liaising with the Chinese authorities, the international scientific community and One Health partners like the World Organisation for Animal Health (OIE) and the World Health Organization (WHO).

Thanks to the transparency of the Chinese authorities and the strong communication lines between China and the scientific community, FAO and others analysed the viral genome that China made public. The analysis shows the strain is a triple reassortant H7N9 influenza virus, with components from H7Nx, H11N9, and H9N2 – all of avian origin. FAO also noted that, unlike highly pathogenic avian influenza H5N1, the avian influenza A(H7N9) virus demonstrates low virulence and thus causes little to no signs of disease in infected birds. Low virulence poses challenges to surveillance in animals, because the virus is harder to detect.

Based on this initial assessment, FAO has been focusing efforts on better understanding the virus, how to detect it and the level of risk it poses to animal populations and risk factors to humans. This will help reduce the threat of H7N9 introduction and spread. Key actions taken by FAO include:

- Updating laboratory protocols to help veterinary services better detect the new virus;
- Advising countries on enhanced surveillance methods in light of H7N9's low virulence;
- Raising global awareness of the need for enhanced biosecurity to protect animals and people; and
- Disseminating information to the general

FAO coordination and support to H7N9 global preparedness and response

public on the virus and the animal health situation.

As a next urgent step, FAO organized an emergency risk assessment meeting on 17–18 April 2013. Leading international specialists from multiple disciplines including epidemiology, public health, virology, disease modelling, risk management, biosecurity, food safety, and communication worked with teams of FAO experts over the course of two intensive days.

Focusing their work on science-based information, the experts defined core levels of risk posed by H7N9 to animals and animal-related livelihoods. Key areas of guidance generated by this urgent meeting include new and improved recommendations on surveillance, enhanced biosecurity and food safety considerations.

Converting this latest knowledge into guidance for member countries, FAO produced draft guidelines and living documents on risk assessment, surveillance and risk management for immediate use and future review.

FAO and partners are focusing on a One Health approach to deliver multidisciplinary and practical guidance to member countries in light of H7N9. As the situation evolves, FAO is committed to continuing its key technical and coordination roles in support of pandemic preparedness and to protect vulnerable livelihoods placed at risk by H7N9 and other threats at the animal, human and ecosystem interface.

More information could be found here:

http://www.fao.org/ag/againfo/programmes/en/empres/news_120413b.html

http://www.fao.org/ag/againfo/programmes/en/empres/news_190413.html



Towards A Safer World (TASW) Network Event “Achievements and Future Directions” Geneva, 20th May 2013

We would like to invite you to join us at the Towards A Safer World (TASW) Network event: “Achievements and Future Directions”, that will be held at the 4th Session of the Global Platform for Disaster Risk Reduction in Geneva, Switzerland, on Monday 20th May 2013 from 09.00am to 15.00pm.

The Global Platform for Disaster Risk Reduction (GP-DRR) is a major international forum that takes place every two years. Its goal is for communities and countries to be better able to reduce the risks associated with disasters.

It encourages sharing of knowledge about the latest developments in Disaster Risk Reduction and improved coordination – including the building of partnerships - between stakeholders.

It attracts people who are actively involved in disaster risk reduction (the “practitioners”) from governments (including civil defence and the military), non-governmental organizations, business, academic institutions, and international organizations (including the UN).

Their focus is on the implementation of the Hyogo Framework for Action (HFA) for

Disaster Risk Reduction that was agreed in 2007: they are also considering what needs to be in the renewed framework which is due to be negotiated in 2015.

The next Global Platform will take place between 19 and 23 May 2013 in Geneva, Switzerland.

There will be a workshop at the GP-DRR 2013 for members of the Towards a Safer World (TASW) Network.

Subjects to be covered include tools for planning and coordination, means to improve communication, partnerships and multisectoral working and sustainable financing.

We invite persons from Governments, UN agencies and OIE, the World Bank, Civil Society and private sector - who are able to illustrate how their work contributes to the capacities of the network. Further details on the workshop will be shared in due time.

The main objective of the workshop is to provide TASW members and partners the opportunity to:

- **Take stock of achievements so far and their application to all emerging threats to health;**
- **Consider how to strengthen and sustain commitment among members of the network.**
- **Discuss ways to ensure the incorporation of pandemics and other health threats in the revised Hyogo Framework for Action.**

Looking forward to seeing you soon in Geneva.

David Nabarro, UN System Senior Influenza Coordinator

Chadia Wannous, TASW Network Coordinator

Emergency Management Framework Approved by the United Nations General Assembly

The Organizational Resilience Management System has been approved by the 5th Committee of the General Assembly, which is responsible for administrative and budgetary matters, as the emergency management framework for the United Nations Secretariat. The 5th Committee resolution, adopted on 28 March 2013, mandates the Secretariat to move forward with a comprehensive, risk-based approach to harmonize emergency preparedness and response disciplines of: security, crisis management, business continuity, staff and victim support, mass casualty incident response and IT disaster recovery. The implementation of the

Organizational Resilience Management System will ensure that the Secretariat is better prepared to anticipate, prepare for, respond to and recover from crisis events.

Organizational Resilience Management System, ORMS for short, will ensure that the Secretariat is better prepared to anticipate, prepare for, respond to and recover from crisis events, such as Hurricane Sandy or pandemic influenza. The components of the framework are described in the figure below.

ORMS System Plans and Timeline

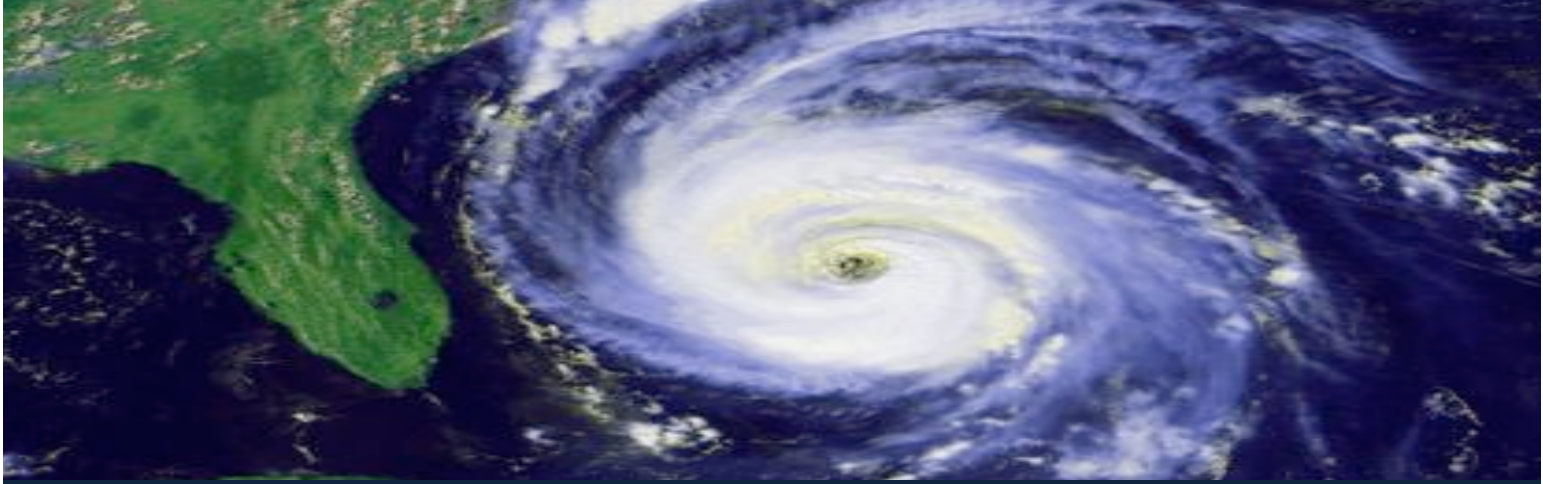
ORMS was proposed by the Secretariat in response to a request from Member States, and in recognition of the need to enhance emergency preparedness and response by

harmonizing policies, planning, and activation and governance structures. Prior to the adoption of ORMS, emergency preparedness efforts in the Secretariat have been comprised of separate preparedness planning initiatives that were led by different departments, under what is known as a programme approach. Although the Secretariat managed to establish a considerable capacity for emergency response this way, the programme approach risks compromising the overall effectiveness and response through duplication and incoherence. From an implementation standpoint, a programme approach can also increase the cost and burden to roll out and maintain different initiatives.

Development of the ORMS programme, which applies to all Secretariat duty stations – including the field missions of the Departments of Peacekeeping Operations, Field Support and Political Affairs – is undertaken by an interdepartmental team at the United Nations Headquarters in New York. You can read the Report of the Secretary-General, entitled Organizational resilience management system: emergency management framework, here.

If you want to learn more, please contact **Brian Gray** at gray5@un.org.





Update on the Work of the IASC Task Team on Funding Preparedness (TTFP)

In 2010 and 2011 the Inter-Agency Standing Committee (IASC) Working Group and Principals identified capacity development for emergency preparedness a priority for the IASC.

This led to the commissioning by the TTFP of a two phased study into preparedness financing, aiming to identify the funding flows and gaps to preparedness at the global, regional and national levels, whilst also exploring policy and impediments to improved financing.

The overall objectives of the study is to articulate the business case for increased engagement and investment in emergency preparedness financing, and to provide recommendations for innovative, practical financing solutions.

The first global phase of the study was completed in 2012, and now the second country focused phase has begun. Commissioned to the Overseas Development Institute (ODI), the study is looking at funding flows and gaps to emergency preparedness at

the national level in five countries - Haiti, Sudan, Niger, The Philippines and Myanmar.

The specific objective of Phase 2 is to field test the global findings of Phase 1, to understand specifically from the 'demand' side what is being financing, where the gaps and barriers lie, and how funding could be better prioritized and mobilized. The last objective of the

Phase Two study is to further elaborate the links between preparedness funding and the broader resilience agenda.

As the study nears completion, a planned series of global level consultations and launch events will take place with donors and humanitarian / development institutions to discuss the pertinent study findings.

This includes with the Good Humanitarian Donorship (NYC, Geneva and Rome), DFID, the UNISDR Global Platform (alongside the World Bank and OECD DAC), a humanitarian / development dialogue, a ministerial level preparedness event in Berlin, and ECOSOC. The final report is expected in July 2013.

A study, commissioned by the TTFP, on preparedness financing enters the second phase. The final report is expected in July 2013.



Public Health and Aviation – How are they connected?

Air travel is likely to be the main mode for transmission of communicable disease in the early stages of a pandemic. It is crucial for delivering specialists and equipment to “at risk” areas, and in transporting biological specimens for analysis.

Furthermore, aviation is the cornerstone of tourism, trade and economy in many countries. Experience shows that air travel is rapidly and severely affected during a public health emergency, such as during SARS in 2003, during the H1N1 pandemic in 2009 and at the time of the Fukushima nuclear powerplant accident in 2011.

Preparedness for public health emergency response in accordance with the World Health Organization’s International Health Regulations (2005) for Points of Entry (including airports) and conveyance operators (including airlines) is an important and sometimes critical component of the response system. When resources are in short supply, managing public health emergencies that impact the aviation sector may not be seen as a high priority for public health, which has many other competing requirements for funding.

Preparedness planning in the aviation sector for public health events calls for multi-sector collaboration.

In aviation, the prevention of aircraft accidents is usually seen as the priority. Preparedness planning in the aviation sector for public health events can therefore fall in a gap.

However, neither sector may fully understand the requirements, or the importance, of the other. Multi-sector collaboration could therefore benefit from further development.

The **International Civil Aviation Organization** (ICAO) is a United Nations specialized agency that promotes multisector collaboration to improve preparedness planning in aviation. It brings together different stakeholders within each sector, both public and private.

Through a global programme of regional seminars and State/airport assistance visits it helps to harmonize preparedness plans in a programme called the **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation** (CAPSCA).

Major partners include the World Health Organization, International Air Transport >>

Public Health and Aviation – How are they connected?

Association and Airports Council International.



Many other agencies and organizations support the aims and have participated in CAPSCA meetings including the World Tourism Organization, World Food Programme and the US Centers for Disease Control and Prevention.

Funding has been provided primarily from the Central Fund for Influenza Action, which has been administered by the UN Development Programme. The fund ended in December

2012, so additional funding sources are being sought.

The next regional events in 2013 are:

- Asia and Pacific: Manila, Philippines, 22-25 April;
- Europe: Bern, Switzerland, 18-21 June.

Regional events will also be arranged during 2013 in Africa, The Americas and the Middle East, at venues and dates yet to be confirmed.

Those interested in helping to promote public health emergency preparedness planning in aviation are welcome to attend a regional event – there is no participant registration fee.

More information on CAPSCA is available from the website at www.capsca.org or from **Dr Anthony Evans, ICAO Chief Aviation Medicine, at aevans@icao.int.**



BioDiaspora

BioDiaspora (www.biodiaspora.com) is a scientific research project dedicated to understanding how emerging infectious diseases can spread internationally through the worldwide movements of travellers.

Led by Dr. Kamran Khan, an Associate Professor of Infectious Diseases at the University of Toronto, BioDiaspora has evolved from a traditional scientific program into an operational web-based GIS system that enables rapid, evidence-based risk assessments of emerging infectious disease epidemics, as well as, comprehensive risk planning for future infectious disease threats.

Through in-depth analysis of the continuously evolving architecture of the global airline transportation network and the origins, travel routes, and destinations of more than two and a half billion passengers who pass through it every year, BioDiaspora is being used to anticipate how infectious diseases are most likely to spread across international borders.

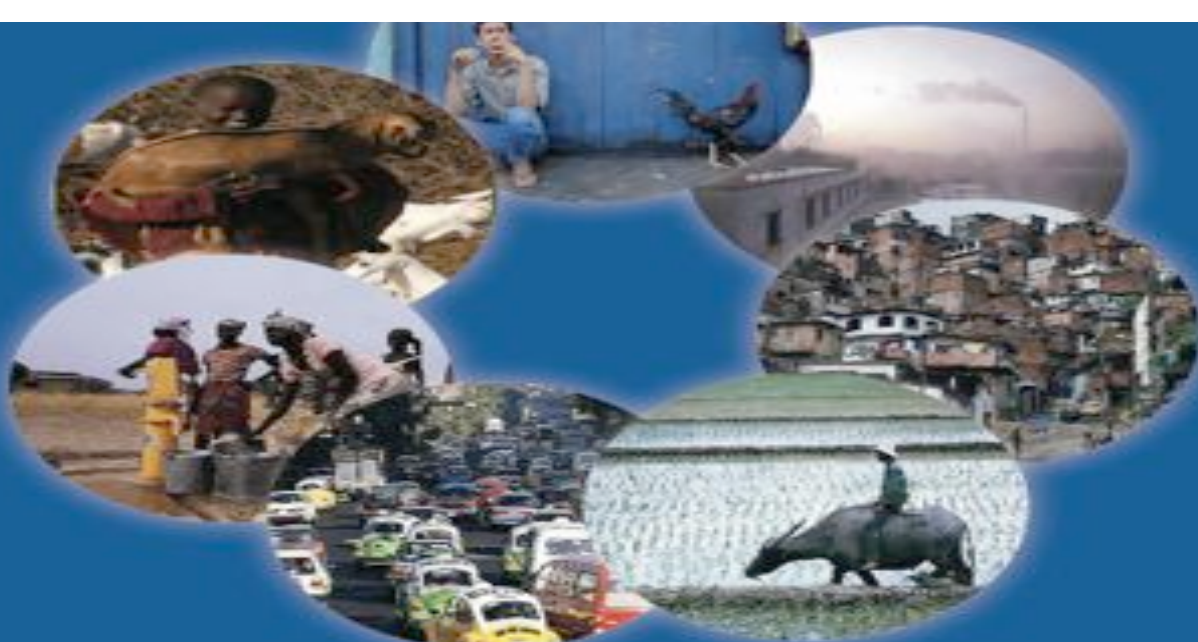
Web-based GIS system enables rapid risk assessment of worldwide infectious disease threats spread by travellers.

Its predictive capabilities were scientifically validated during the 2009 H1N1 influenza pandemic and published in the New England Journal of Medicine.

More recently, BioDiaspora has been used to facilitate risk planning for mass gatherings including the recent 2012 Summer Olympic Games in London.

In addition to its extensive capabilities analyzing the world's travel patterns, BioDiaspora integrates a number of complementary datasets pertaining to human, animal and insect populations, real-time and historic climatic conditions, health care systems, economic conditions, and numerous other factors that help generate actionable public health intelligence through the real time synthesis of information.

For more information about BioDiaspora, please contact Dr. Kamran Khan (khank@smh.ca)



World Bank Report "Connecting Sectors and Systems for Health Results"

During the past year, the World Bank formulated the public health policy note **"Connecting Sectors and Systems for Health Results"** (World Bank, December 2012).

The work engaged not only health, but also agriculture, infrastructure, public finance, energy, education, and other sectors -- as well as external partners.

The note pays attention to the multisectoral risks to public health that, if not addressed, lead to substantial burdens of disability and disease.

A whole-of-society approach is the best one that governments and communities should adopt to reduce these risks and reap benefits for households and communities. This requires working in synergy across different departments and providing adequate managerial and budgetary support to intersectoral cross-support and coordination.

The public health policy note also stresses the

importance of governance and leadership to anticipate, address, and manage public health challenges. Systems (for instance the veterinary and human public health systems) and sectors should be linked where needed to improve public health outcomes.

Moreover, these links that are established in the course of "peace-time" work could serve a dual purpose and

help governments and communities achieve more effective whole-of-society responses to pandemics and other complex emergencies.

Link to report:

<http://documents.worldbank.org/curated/en/2012/12/17429928/connecting-sectors-systems-health-results>

The Report recommends a whole-of-society approach and stresses the importance of governance and leadership.

ABOUT TASW

The TASW Network is a diverse group of energetic and expert practitioners from a variety of sectors, organisations and countries demonstrated how they had initiated whole-of-society preparedness for pandemic and related threats. They also indicated their commitment to maintaining and refining the best practices they have developed. They agreed to communicate it widely, mainstream it within institutions, sustain it, reach out and engage others who might benefit from it, and to continue to learn from each other. They opted to maintain contact through a network that includes a broad range of partners from government, business, civil society, research groups and the military – from five continents.

It builds on the significant investments and broad participation in pandemic preparedness since 2005, which have generated many practical lessons and innovations - relevant not only for improving responses to health crises, but also for strengthening societal resilience in the face of other major threats.

TASW Network promotes key good practices including:

- (i) coordination of multi-actor networks, including professionals from business, Government and civil society,

- (ii) planning for the maintenance of critical services,
- (iii) implementation of communication strategies,
- (iv) simulations to test and validate contingency plans,
- (v) mobilization of funds for preparedness and
- (vi) development of tools for measuring preparedness.

This periodic newsletter provides TASW network members with an opportunity to share recent activities, case studies and developments that may be of wider interest.

Contact Us:

For more information, visit our website at www.towardsa saferworld.org

If you would like to join the TASW network or contribute to the next newsletter, contact

Chadia Wannous

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Appreciation of Contributions

TASW would like to thank the following colleagues and organizations for their valuable contributions to this issue of TASW newsletter:

- Mr. Juan Lubroth, Chief Veterinary Officer, Animal Health Service, FAO
- WHO preparedness and response teams
- Dr. Brian Gray, Chief - Business Continuity Management Unit, UN Secretariat
- Mr. Daniel Longhurst, Humanitarian Officer and Ms. Sandra Aviles, Senior Liaison Officer, FAO Office in Geneva
- Ms. Olga Jonas, Economic Advisor, The World Bank
- Dr Anthony Evans, Chief Aviation Medicine, ICAO
- Dr. Kamran Khan, BioDispora