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The Global Health Security Agenda and the role of the World Organisation for Animal Health

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Summary

The World Organisation for Animal Health (OIE) plays an important leadership role in global efforts to prevent, detect and respond to infectious disease threats. Since 1924, the OIE has helped Member Countries to prevent the spread of animal diseases, while facilitating safe agricultural trade. In recent years, the OIE has also increasingly focused on the biosecurity objectives of preventing unauthorised access to and loss, theft, misuse or diversion of dangerous pathogens, including their intentional release. Preventing the intentional introduction of animal disease is critical not only because of the significant economic impact that animal diseases can have on a nation's economy, but also because a number of animal diseases can affect humans. Over 60% of human diseases are of animal origin. Therefore, the OIE, working in conjunction with its partner organisations, the Food and Agriculture Organization of the United Nations and the World Health Organization, has become a leading international organisation for the control of global infectious disease in humans as well as in animals.

Keywords

Action packages – Biosecurity – Food and Agriculture Organization of the United Nations – Global Health Security Agenda – Global Partnership – Joint external evaluations – World Health Organization – World Organisation for Animal Health.

Introduction

The increase in infectious diseases globally in recent years, combined with the awareness that in 2014 only 30% of countries were compliant with the International Health Regulations (IHR) of the World Health Organization (WHO) (1), were major reasons for the establishment of the Global Health Security Agenda (GHSA) (2). Launched in February 2014, the GHSA was established to provide global leadership on combating the risk of international epidemics such as severe acute respiratory syndrome (SARS), H1N1 influenza, Middle East respiratory syndrome (MERS), and others. Since GHSA's launch, the world has witnessed the devastating effects of both the Ebola and Zika viruses on the global community. These disease outbreaks exposed several weaknesses in the global infrastructure for combating infectious diseases and countering biological threats, and made clear the need for a coordinated and concerted, multisectoral effort to address these and other emerging disease risks.

The global community must adhere to international efforts to ensure that all countries are able to prevent, detect and respond to infectious disease threats. In that respect, adherence to the IHR and the World Organisation for Animal Health (OIE) Performance of Veterinary Services (PVS) Pathway is necessary in order to help to prevent, detect and respond to infectious disease threats. The IHR focus on the prevention of and response to acute public health risks that can cross borders and threaten people's lives, while the PVS Pathway helps to ensure the sustainable improvement of a country's Veterinary Services, which will provide the foundation for improving animal and public health. These two processes, and the GHSA through its engagement with both sectors, help to strengthen a country's overall animal and human health infrastructure.

With so few countries able to reach IHR compliance on their own, in many cases in spite of self-reporting as fully compliant, it became clear that emerging infectious diseases are a growing transnational threat to peace and security. Epidemics not only cause loss of life but can also cause severe economic and political instability; therefore, sustainable measures to prevent, detect and respond to biological threats are increasingly vital. As stated by Secretary Kathleen Sebelius, Secretary John Kerry, and Assistant to the President Lisa Monaco on

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13 February 2014, the date of the launch of the GHSA, 'This is not just a health challenge; it's a security challenge as well. Infectious diseases – whether naturally occurring, deliberate or accidental – have the potential to cause enormous damage in terms of lives lost, economic impact and ability to recover, just as with nuclear, chemical, or cybersecurity attacks' (3).

There is also a strong concern amongst many in the health sector relating to antimicrobial resistance, which needs to be addressed before modern medicine's ability to treat people ceases due to antimicrobial-resistant organisms. In addition, in many parts of the world, interactions between animals and humans are increasing on many levels for a variety of reasons. Combating antibiotic resistance, in both humans and animals, is a global priority. Antibiotic-resistant organisms are currently affecting and will continue to affect both populations as resistance levels increase.

Given the extent and complexity of these challenges to the human, animal and security health sectors, it has become clear that the global community needs to work together to prevent, detect and respond to infectious disease threats. What is needed is buy-in and leadership at the highest levels of government in order to encourage a multisectoral, multidisciplinary approach to addressing these challenges. Together, the global community needs to work to strengthen the resilience and capacity of participating countries health security systems. It also needs to engage those outside government who work in the prevention and detection of, and response to, infectious diseases.

The OIE and the Food and Agriculture Organization of the United Nations (FAO) have been an integral part of the GHSA from its inception. Their participation is a testament to the importance of animal health and the role that animal health professionals play in the prevention and detection of, and response to, infectious, emerging and zoonotic disease threats. Three years after its launch, as the GHSA is now being implemented in many countries throughout the world, the OIE and FAO remain its fundamental partners and are engaged in all aspects of its work.

The goal of the GHSA is to strengthen the capacities of countries to prevent, detect and respond to infectious disease threats. It seeks to strengthen the health security systems of all countries, including the poorest countries and most neglected populations, which are the most reliant on agriculture as a source of gross domestic product and economic growth. Through these efforts, the GHSA is able to ensure health and economic benefits. It strengthens the ability of countries to design and then implement human and animal health programmes more effectively. It creates sustainable systems to increase vaccination coverage and address antimicrobial resistance and strengthens the capacity and resilience of national and local organisations to address any health threat. Finally, the GHSA integrates the concerns of all segments of society by taking a holistic approach to health. Importantly, the 'One Health' concept is an integral part of the GHSA and is to be fully operationalised at the national and international levels, further emphasising the necessity and role of the OIE and FAO as partners in this initiative.

When the GHSA was launched in Washington, DC, in February 2014, Ministers from over 20 countries attended. At the same time, the WHO Director-General, Margaret Chan, hosted several ambassadors in Geneva via video feed, along with the Director General of the OIE, Dr Bernard Vallat. Director-General of FAO, José Graziano da Silva, participated via satellite link from Rome. While the launch predates the identification of Ebola in West Africa in March 2014, the Ebola outbreak served to raise the level of attention and awareness of the issue of infectious disease threats and the need for a strategic, global effort to address them.

Following the February launch, GHSA countries met several times in order to come to an agreement on the specific steps needed to begin to implement the GHSA. Through these discussions, the GHSA participating members decided upon specific targets and actions that all the GHSA members could work on together, which strongly complements the WHO IHR and the OIE PVS Pathway. The OIE, WHO and FAO also joined in these discussions.

Following this series of meetings, GHSA country participants drafted 11 action packages (APs) (4), which include a five-year target, measurements for success, and desired impact. Each action package is assigned leading and contributing countries as well as contributing international organisations. The word 'action' was selected purposefully to highlight the forward-facing, action-oriented nature of the agreed-upon documents. In recognition of the importance of the opinions and the expertise of the animal health and zoonotic disease community, the OIE remained fully engaged throughout the process. This was particularly with respect to any decision on how the GHSA countries would work together to implement the GHSA.

The 11 APs and their associated common targets span the following areas in relation to infectious disease threats: prevent, detect and respond. More specifically, the APs consist of prevent (antimicrobial resistance, zoonotic disease, biosafety and biosecurity, and immunisation); detect (national laboratory system, real-time surveillance, reporting, workforce development), and respond (emergency operations centres, linking public health with law and multisectoral rapid response, and medical countermeasures and personnel deployment).

In light of the close connection between animal health and human infectious disease threats, all of the APs have some connection with animal health issues. For example, the

zoonotic disease AP has as its five-year target for countries: 'adopted measured behaviors, policies and/or practices that minimize the spillover of zoonotic diseases from lower animals into human populations' (5). As another example, the workforce development AP has as its five-year target, 'a workforce including physicians, veterinarians, biostatisticians, laboratory scientists, farming/livestock professionals, and at least 1 trained field epidemiologist per 200,000 population, who can systematically cooperate to meet relevant IHR and PVS core competencies' (6).

Global Health Security Agenda Ministerial and Steering Group

Each year, there is a GHSA high-level meeting bringing together Ministers from GHSA countries to help to ensure that continued high-level attention is paid to the GHSA. United States President Barack Obama hosted the first GHSA ministerial-level meeting, which took place at the White House on 26 September 2014. At that time, the 11 APs were rolled out to the public. During the 2014 White House meeting, 44 countries announced over 100 new commitments to prevent, detect and respond to biological threats worldwide. The Directors General of the OIE, FAO and WHO also attended the ministerial-level meeting and provided remarks. In 2015, the second GHSA ministerial-level meeting was hosted by President Park Geun-hye of the Republic of Korea in Seoul where the Seoul Declaration endorsed the APs that had been rolled out the previous year. The third GHSA ministerial-level meeting was hosted by the Government of the Netherlands in September 2016.

A Steering Group (SG) was established to review the progress of the GHSA. There are 11 GHSA SG country members: Canada, Chile, Finland, Indonesia, India, Italy, Kenya, Saudi Arabia, the Republic of Korea, the United Kingdom and the United States of America (USA). The chairmanship of the SG alternates amongst these 11 countries. Finland served in 2015 as the first Chair of the SG, and was succeeded by Indonesia in 2016 and the Republic of Korea in 2017. The SG meets approximately three times per year. Each year, the 'troika' (the current, past and future Chairs) work together to help to ensure a smooth transition and that progress made during the previous year is passed on to the next Chair.

The SG has arrangements with several entities which serve as advisors to the GHSA. The OIE is one such advisor and, in that role, is invited to attend each SG meeting. Other advisors include FAO, WHO, the World Bank, the International Criminal Police Organisation (Interpol), the European Commission, the African Union, the Economic Community of West African States, and the United Nations Office for Disaster Risk Reduction.

The first meeting of the SG was held at WHO headquarters in Geneva in 2015, and the second was hosted by the OIE at its headquarters in Paris. The latter provided an excellent opportunity to again highlight the important role of the OIE and animal health in the GHSA. Importantly, a significant portion of this meeting was focused on the role of the non-governmental sector in the GHSA. It is the only SG meeting to date where the non-governmental sector had an entire morning to outline its role in the implementation of the GHSA. Following that meeting, for the next three days, the OIE hosted a meeting on biosecurity. More about this important meeting is noted below in the relevant section.

Joint External Evaluations

Currently, at least 50 countries are members of the GHSA (2) (Box 1). Implementing the GHSA within countries requires an understanding of the existing strengths and weaknesses in a country's health security system, including issues related to animal health and zoonotic disease. Over time, it became clear that a method of objectively identifying the gaps across the 11 APs was needed.

Box 1
Global Health Security Agenda countries

Argentina, Australia, Azerbaijan, Bangladesh, Canada, Chile, China, Colombia, Côte d'Ivoire, Denmark, Ethiopia, Finland, France, Georgia, Germany, Ghana, Guinea, Guinea-Bissau, India, Indonesia, Israel, Italy, Japan, Jordan, Kenya, Laos, Liberia, Malaysia, Mexico, Mongolia, the Netherlands, Norway, Pakistan, Peru, Portugal, the Republic of Korea, Saudi Arabia, Senegal, Sierra Leone, Singapore, South Africa, Spain, Sweden, Switzerland, Tanzania, Thailand, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States of America, Vietnam, Yemen and Zimbabwe

Source: Global Health Security Agenda (2)

The GHSA, under the leadership of Finland and the USA, developed a GHSA assessment tool and process that helped countries to assess their current state of health security and to identify existing gaps. A small team of experts from a subset of the GHSA countries and international organisations visited the country to be assessed and asked questions based on the 11 APs. This process had a number of important features:

– Countries volunteered to be part of the assessment.

– It used a completely collaborative approach.

– It was a review of the human health sector.

– It involved a horizontal One Health assessment of collaboration between human health and other sectors such as animal health, wildlife and security.

Following several pilot assessments and one formal assessment, WHO and GHSA partners developed a new joint External Evaluation (JEE) country assessment tool, incorporating the 11 APs from the GHSA tool and adding an additional eight technical areas to fully cover the requirements in the IHR. These eight additional areas of the JEE are:

– national legislation, policy and financing
– IHR coordination, communication and advocacy
– food safety
– preparedness
– risk communication
– points of entry
– chemical events
– radiation emergencies.

Like the previous GHSA assessments, the JEE country assessment is a peer-assessing-peer discussion that involves international experts travelling to the requesting country and meeting with representatives of the various Ministries for a week. The results of the JEE assessments are posted online to ensure transparency. To date, at least 28 countries have undergone a JEE assessment, 32 countries have scheduled assessments and 27 countries have expressed an interest in the JEE process.

Representatives of the OIE have taken part in a number of JEE missions, which are led by WHO regional offices. In addition, the OIE has taken a critical leadership role in educating national veterinary officers around the world about the GHSA and the JEE process; stressing the importance of their full participation. It is therefore important that representatives of national agricultural, animal health and wildlife Ministries continue to be represented at the JEEs so that gaps in animal health capacities can be adequately understood.

As a result of the assessment, capacity in each of the 19 technical areas is reflected on a scale from one to five with corresponding colours: red, yellow and green. Red indicates no capacity; yellow represents limited or developing capacity; and green indicates a well-developed capacity. The goal is for all countries to have a strengthened health security system, which would move them all towards gaining green status (having a well-developed capacity) within a five-year period.

Once the gaps in capacity are recognised, the next step is to determine what actions a country needs to take in order to improve its overall health security stance. In addition, the country should detail what steps will be taken in each of the sectors (human, animal, wildlife, security, etc.) over each of the next five years. This is achieved through the development of a 'five-year roadmap' or national strategic planning document. The roadmap can indicate what the country will do and what resources it will commit within each category where it currently does not have green status. However, it can also detail where specific assistance will be provided and from which entity that assistance will come, be that other countries (to include each relevant national Ministry or department), international organisations, such as the OIE, or from the non-governmental sector.

As a case in point, in the area of zoonotic disease, a country in year one may commit to establishing a One Health task force and identifying five zoonotic diseases and prioritising them in collaboration with their health, agricultural and wildlife Ministries and/or authorities. Assistance in achieving this commitment for the GHSA partner countries of the USA may come from the United States Centers for Disease Control and Prevention, the United States Agency for International Development, and the United States Department of Agriculture. In year two, a country may want to achieve 'diagnostic capacity strengthened' status for a priority disease in both human and animal laboratories. Assistance may come from the Swedish International Development Cooperation Agency and the Norwegian Agency for Development Cooperation. All of these domestic and international entities can work together to strengthen the zoonotic capacity, thereby strengthening animal health.

The GHSA JEE and the OIE PVS tools are complementary. The OIE's PVS and follow-up PVS Gap Analysis missions (the 'diagnosis' and 'treatment') are in-depth reviews of the national Veterinary Services' ability to meet defined core competencies for the functioning of quality Veterinary Services. The JEE uses information gathered via the PVS Tool and/or the PVS Gap Analysis Tool, when available, as the foundation of information on a country's animal health capacity. Where PVS/PVS Gap Analysis mission recommendations have not been implemented, the JEE team recommends their implementation. In addition, the JEE establishes critical linkages between the animal and human health sectors. To complete the JEE self-assessment and the external assessment, the different sectors in each country must confer and collaborate on the responses. Considering/incorporating PVS/PVS Gap Analysis recommendations during the JEE review process helps to ensure that countries under review are changing their mental paradigms and are starting to think in a truly multisectoral One Health way. Similarly, country roadmaps/implementation plans should be developed through a multisectoral process which includes and incorporates both the JEE and PVS/PVS Gap Analysis conclusions and recommendations.

As the number of countries interested in a JEE has increased, it has become clear that a more organised process is needed to provide multisectoral support to the JEE process. An 'Alliance' of interested countries is being established to address this need. The Alliance facilitates

engagement between countries, international organisations, donors, the non-governmental sector, development banks, regional organisations and the technical experts involved in using the JEE tool. The Alliance also promotes transparency in exchanging information on the results of assessments, in particular, with donors interested in funding the development and strengthening of country capacities.

An 'Advisory Group' for the Alliance will be established consisting of representatives of countries drawn from the Alliance members. It will have up to 20 members, four of which will be permanent members from multilateral agencies. The OIE and FAO will be permanent members of the Advisory Group. This will help to ensure that both the OIE and FAO are fully engaged in the JEE process in the future.

The OIE and biosecurity

As noted earlier, an integral part of the success of the GHSA is the multisectoral aspect. In addition to the GHSA effort, the OIE has played an increasing role in global health security through its participation in the Global Partnership against the Spread of Weapons and Materials of Mass Destruction (Global Partnership). In 2012, the OIE began its collaboration with this group. Now, five years later, the OIE remains an integral part of its meetings and discussions.

The Global Partnership, which now includes 30 countries, is a working group of the Group of Seven and was established in 2002 to prevent the acquisition of weapons and materials of mass destruction from non-state actors with the intention of doing no harm. Since 2002, the partners have funded well over US$ 22 billion in the areas of chemical, biological, radiological and nuclear security and have collaborated on such programmes and activities.

Following preliminary discussions of the Global Partnership in 2011 on integrating health and security in order to address biothreats, in 2012, it established the Biological Security Sub-Working Group (BSWG) for more in-depth discussions on biosecurity issues. Another goal of the BSWG was to bring the OIE, WHO and FAO (as well as Interpol and the Biological Weapons Convention's Implementation Support Unit) into the security discussions of the Global Partnership to enable a more integrated and inclusive health and security approach. Engaging WHO, the OIE and FAO has increased the awareness within these organisations of the importance of biosecurity as well as highlighted the value of the health and security sectors working together to tackle biothreats, well before the launch of the GHSA.

Also in 2012, following a series of discussions that included the OIE, the Global Partnership adopted a 'five deliverables' document that lays out five key areas of focus that the BSWG would pursue and that would provide the overall direction of the Global Partnership's biosecurity work (7). One of the five deliverables requires the Global Partnership to 'develop and maintain appropriate and effective measures to prevent, prepare for, and respond to the deliberate misuse of biological agents'. The OIE took part in the discussions leading to this 2012 agreement amongst Global Partnership members and, in that respect, the language in the deliverables applies directly to issues of animal health as well.

The Global Partnership participants valued the input of the OIE and FAO during the discussions on the deliverables document. Since 2012, the OIE, FAO and WHO have helped in expanding the definition of security to include both human and animal health. This engagement at the Global Partnership helped to lay some of the groundwork for the GHSA integration of health and security. This is particularly the case regarding the GHSA action package on biosafety and biosecurity, which has been built on much of the Global Partnership's established work and ongoing relationships.

The integration of health and security in the OIE's mission was formally endorsed in recommendations adopted at its first global conference on biological threat reduction in June 2015. The conference took place at OIE headquarters in Paris on the day after a GHSA SG meeting. This conference, the first of its kind globally, brought together world-leading scientists, educators, and key decision-makers from international organisations, national governments and civil society. The participants represented public, animal and ecosystem health, as well as the security sector, and came from more than 80 countries (8). Hosting the GHSA SG meeting in June, which took place on the margins of the OIE biosecurity event, not only drew attention to the important role of animal health in the GHSA, but also highlighted the OIE's focus on biosecurity, which is a continuing part of the future work of the GHSA and the OIE.

Conclusion

From the inception of the GHSA, the OIE has been an integral partner. The OIE has been engaged in deliberations and meetings before and after the launch of the initiative in 2014. The recognition that the majority of infectious diseases in humans originate in animals makes the role of the OIE and FAO fundamental to the success of the GHSA and to the implementation of the IHR. The ongoing engagement of the OIE and FAO in the JEEs and the roadmaps ensures that issues of animal health and food security remain an integral part of the implementation of the GHSA goals. This engagement has also expanded the reach of the GHSA to

a larger audience in the areas of animal health and food security. The One Health approach is fundamental to the success of the GHSA; and the engagement of WHO, the OIE and FAO helps to ensure that country capacity-building for One Health is strengthened.

The increased engagement of the OIE and FAO in the area of biosecurity has also helped the health and security communities to develop a dialogue that incorporates both views and allows for a better understanding of how the two communities can and need to work together. It is this developing relationship and understanding that will be important in successfully achieving the vision of the GHSA – a world that is safe and secure from the global health threats posed by infectious diseases.

Le Programme d'action pour la sécurité sanitaire mondiale et le rôle de l'Organisation mondiale de la santé animale

B. Jenkins

Résumé
L'Organisation mondiale de la santé animale (OIE) joue un rôle de chef de file dans les efforts mobilisés à l'échelle mondiale pour la prévention des menaces liées aux maladies infectieuses, leur détection et la réponse qui y est apportée. Depuis sa création en 1924, l'OIE aide ses Pays membres à prévenir la propagation des maladies animales tout en facilitant l'accès sans risque de leurs productions agricoles aux marchés internationaux. Depuis quelques années, l'OIE porte une attention accrue aux objectifs de biosûreté, c'est-à-dire l'ensemble des mesures prises pour prévenir l'accès sans autorisation, la perte, le vol, l'utilisation abusive ou l'emploi détourné d'agents pathogènes dangereux ainsi que leur libération délibérée. La prévention de l'introduction intentionnelle de maladies animales est un impératif majeur, non seulement parce que ces maladies ont un impact économique important sur l'économie d'un pays, mais aussi parce qu'un certain nombre d'entre elles affectent également l'être humain. En effet, plus de 60 % des maladies humaines sont d'origine animale. L'OIE, qui œuvre sur ces questions aux côtés de ses organisations partenaires (l'Organisation des Nations Unies pour l'alimentation et l'agriculture et l'Organisation mondiale de la santé), est devenue l'organisation phare dans le domaine de la lutte contre les maladies infectieuses dans le monde, tant humaines qu'animales.

Mots-clés
Biosûreté – Évaluations externes conjointes – Organisation des Nations Unies pour l'alimentation et l'agriculture – Organisation mondiale de la santé – Organisation mondiale de la santé animale – Paquet de mesures – Partenariat mondial – Programme d'action pour la sécurité sanitaire mondiale.

La Agenda de Seguridad Sanitaria Mundial y la función de la Organización Mundial de Sanidad Animal

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Resumen
La Organización Mundial de Sanidad Animal (OIE) cumple una importante función a la cabeza de las actividades mundiales para prevenir y detectar amenazas infecciosas y responder a ellas. Desde 1924, la OIE viene ayudando a sus Países

Miembros a prevenir la propagación de enfermedades animales, facilitando al mismo tiempo un comercio agrícola seguro. De unos años a esta parte, también presta cada vez más atención a los objetivos de seguridad biológica consistentes en impedir el acceso no autorizado a patógenos peligrosos, así como su pérdida, robo, utilización indebida o sustracción, y en particular su liberación intencionada. La prevención de la introducción deliberada de enfermedades animales es fundamental no solo porque las enfermedades animales pueden perjudicar sustancialmente la economía de una nación, sino además porque muchas de esas patologías también pueden afectar al ser humano. Más del 60% de las enfermedades humanas son de origen animal. De ahí que a día de hoy la OIE, trabajando junto con otras organizaciones colaboradoras, a saber, la Organización de las Naciones Unidas para la Alimentación y la Agricultura y la Organización Mundial de la Salud, sea una de las principales instancias que obran por el control de las enfermedades infecciosas de personas y animales a escala planetaria.

Palabras clave
Agenda de Seguridad Sanitaria Mundial – Alianza mundial – Evaluaciones externas conjuntas – Organización de las Naciones Unidas para la Alimentación y la Agricultura – Organización Mundial de la Salud – Organización Mundial de Sanidad Animal – Paquetes de medidas – Seguridad biológica.

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