Health security in a changing world

Introduction

Mongolia’s long-term approach to health security strengthening

Monitoring and assessing health security threats in the Region

Learning for continuous system improvements to manage food safety events in Cambodia

Like this farmer in the Lao People’s Democratic Republic, humans coexist in an interdependent relationship with the animals we depend on for our food, livelihoods and well-being. The interface between humans, animals, and the environments we share can also be a source of diseases. Countries across the Region have continued to strengthen systems for the coordinated, multisectoral management of zoonoses, as guided by the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies.
Introduction

Health security in the Western Pacific Region is continuously threatened by emerging infectious diseases, outbreak-prone diseases, natural disasters and unsafe food. While the Region has made considerable progress in strengthening health security systems, the context in which we manage health security is changing rapidly. The nature and range of threats we face are increasingly complex, and our health security systems must evolve to address new challenges.

Building health security systems to manage these threats takes time. For more than a decade, the *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies* (APSED III) and its earlier versions have driven joint efforts to advance implementation of the International Health Regulations, known as IHR (2005), towards a “region able to prevent, detect and respond to public health emergencies through collective responsibility for public health security”.

Three phases of activity, corresponding to the 2005, 2010 and 2016 versions of APSED, have helped countries move away from one-off health security projects and concentrate on long-term system development, incorporating a continuous improvement approach. In the nearly 15 years since APSED was introduced, Member States have upgraded health security systems by training and deploying rapid response teams, building event-based surveillance systems, educating field epidemiologists, strengthening laboratory networks, reinforcing risk assessments, improving risk communications, establishing emergency operations centres and forming emergency medical teams (EMTs).

Similarly, joint efforts to strengthen systems at the country level to make food safer and save lives during disasters have been guided, respectively, by the *Regional Framework for Action on Food Safety in the Western Pacific* and the *Western Pacific Regional Framework for Action for Disaster Risk Management for Health*.

WHO also has markedly strengthened its emergency capacities over the past decade to better serve Member States. The creation of the Division of Health Security and Emergencies in 2010 drew together units that had been working separately on surveillance and response, humanitarian action and food safety. The new division exemplified the vision of former Regional Director Dr Shin Young-soo to bring together under one team the staff and resources to develop a common generic platform to manage all types of health security threats – foreshadowing the establishment six years later of the global WHO Health Emergencies Programme. In addition, event-based surveillance systems from across the Region were connected for more systematic risk assessment and response decision-making.

The enhanced capacities and systems developed under the guidance of APSED were tested during responses to outbreaks and emergencies including avian and pandemic influenza, dengue, Middle East respiratory syndrome (MERS), typhoons and earthquakes. With each event, lessons learnt helped inform ongoing improvement.

Efforts over the past year have continued to build on the foundation of health security systems established over the previous decade. Now, all 27 countries in the Region have event-based surveillance or syndromic surveillance – sometimes both – capable of providing early warning signals of outbreaks and public health emergencies. All Pacific island countries now participate in the Pacific Syndromic Surveillance System, an early warning disease surveillance system that connects information across countries and areas.
All Asian countries in the Western Pacific Region apply incident management principles in emergency operations management, and nearly all (93%) have rapid response teams and field epidemiology programmes. Member States are increasingly conducting monitoring and evaluation activities to guide continuous improvement of their systems. Eleven countries in the Region have undertaken a Joint External Evaluation of IHR (2005) capacities since 2016, including three countries since July 2018, namely the Federated States of Micronesia, New Zealand and the Philippines. The Joint External Evaluation generated important momentum to advance health security systems in those countries.

The Western Pacific Region is prone to disasters. Seven of the 10 countries most vulnerable to natural

Fijian Prime Minister Josaia Voreqe Bainimarama reviews Fiji’s Emergency Medical Assistance Team (FEMAT), the first such team from the Pacific to be verified by WHO for international deployment.
disasters are located in the Region. To be better placed to respond to these threats, three EMTs have been internationally classified since July 2018: Fiji’s Emergency Medical Assistance Team, and teams from Macao SAR (China) and Tianjin in China. This takes the number of internationally classified EMTs in the Region to 10, which is more than one third of the global total. Though based in the Western Pacific Region, these EMTs can respond to crises anywhere in the world. At the country level, some 23,500 responders from national EMTs across the Region also participated in capacity-building activities.

These systems and tools helped countries and WHO to respond rapidly to outbreaks, emerging diseases and emergencies. From July 2018 to June 2019, there were many such events, from a poliovirus outbreak in Papua New Guinea and flash floods in the Lao People’s Democratic Republic to an imported case of MERS in the Republic of Korea and Typhoon Mangkhut in the Philippines.

Building on Dr Shin’s legacy of focusing on long-term system development, rather than ad hoc project-based activities, Member States and WHO have worked to strengthen health security systems step by step, helping them become better prepared. At the same time, however, the nature and range of health security threats have become increasingly complex. The dramatic growth in international travel and rapid urbanization facilitate the spread of infectious diseases. Climate change not only increases the frequency and impact of natural disasters, but also alters the geographic reach of epidemic-prone diseases such as dengue. Antimicrobial resistance is on the rise. Misinformation and rumours spread faster on social media than viruses in real life, contributing to vaccine hesitancy and complicating emergency response. All of this occurs against a backdrop of uncertainty, not knowing when the next pandemic would strike.

In the Western Pacific Region, the Technical Advisory Group (TAG) on APSED III serves as a mechanism to monitor progress and identify priorities. The vision set out by Regional Director Dr Takeshi Kasai has energized the discussion in the latest TAG meeting held in June 2019. The white paper, *For the Future: Towards the Healthiest and Safest Region*, has also helped build momentum for collaboration of Member States and WHO through identifying health security, including antimicrobial resistance, as one of the thematic priorities in the Region.

The white paper also reinforced approaches embedded in APSED. Managing health security requires systems, and development of systems requires a long-term vision that guides prioritization of actions and a step-by-step approach. This is why APSED has always used the “backcasting” approach, in which a vision is developed first and then – working back from that point – priority actions are identified to achieve that vision.

At the TAG meeting, Member States committed to using pandemic preparedness to drive ongoing advancement of health security systems more broadly because the capacities required to respond to pandemics are also critical in the response to other hazards. Pandemic preparedness connects all the efforts to address health security threats.
Over the past 10 years, Mongolia has used a stepwise approach to build its health security system, developing and implementing several national plans. Mongolia kick-started its efforts in 2009 with the launch of its first national APSED implementation plan. It represented an important move away from ad hoc project-based activities and towards long-term system development. The national plan was updated in 2012 and 2018, guided by the latest versions of APSED and lessons learnt from real events.

As guided by the three phases of the national workplan, Mongolia established its core health security systems step by step, starting with rapid response teams and event-based surveillance. The Mongolia Field Epidemiology Training Programme (FETP) was launched in 2009, initially funded by external partners but since 2014 fully funded by the Government. A public health emergency operations centre was established in 2014, and an incident management system was introduced for emergency operations in 2015.

In June 2019, Mongolia held a forum to review its FETP. Since its inception 10 years ago, 63 field epidemiologists have completed the programme. The graduates have often been requested to support complex investigations and training sessions for public health surveillance and outbreak investigations. The forum participants developed a long-term vision and strategic actions for the FETP for the next decade. Mongolia’s FETP aims to further contribute to workforce development to strengthen resilient health systems and evidence-based decision-making at all levels.

Throughout 2018, Mongolia updated the national pandemic response plan and procedures. In October 2018, Mongolia collaborated with WHO to conduct the PanStop simulation exercise, engaging participants from various sectors, including health, agriculture and disaster management. The participants worked together to practise risk assessment and decision-making, including on whether and how to launch rapid containment measures, based on a scenario in which a new influenza strain was identified in a rural province.

PanStop proved to be an important opportunity to test the national regulations signed by the Deputy Prime Minister in 2017, which define procedures for multisectoral information sharing, risk assessment and response procedures for public health emergencies. The approval and implementation of the regulations was a key recommendation of the Joint External Evaluation mission in 2017. PanStop helped identify progress, as well as areas of further improvement for coordination within the health sector and across the sectors for effective emergency response operations.

Recognizing critical roles that other sectors play in pandemic preparedness and response, the Ministry of Health is now working to align pandemic preparedness planning with disaster management processes and structures, informed by lessons from real events and exercises. Health cluster partners, nongovernmental organizations and other sectors are working with community representatives to address the social, political and economic risk factors identified through pandemic influenza risk assessment. Preparedness planning for influenza epidemics and pandemics continues to drive the advancement of overall health security systems in Mongolia.
Monitoring and assessing health security threats in the Region

Over the past decade, WHO has strengthened its regional event-based surveillance system to monitor signals across the 37 countries and areas of the Region to inform risk assessments and responses by countries. The critical element of this surveillance system is the verification of information, which requires close collaboration between the WHO Secretariat and Member States. This is possible because of the trust developed under the leadership of Dr Shin, who promoted putting countries at the centre.

The WHO Regional Office for the Western Pacific operates this surveillance system around the clock to detect and monitor acute public health events across the Region and beyond. The team based at the Regional Emergency Operations Centre in Manila keeps a constant lookout for any emergency health hazard that threatens the lives and health of people anywhere in the Region. They conduct risk assessments when public health events are identified. Depending on the scale of events, risk assessments engage different levels of the Organization.

Between July 2018 and June 2019, regional surveillance systems screened more than 80 000 information sources and detected 1672 signals of potential emergency health threats, of which 75 were verified as new public health events. Of these, 52 (69%) were attributed to infectious diseases, 14 (19%) to disasters, four (5%) to food safety events and five (7%) to other causes.

During the same period, the WHO Health Emergencies Programme responded to 42 events in the Region. They included two WHO-designated Grade 1 emergencies requiring significant additional in-country support – flash floods in the Lao People’s Democratic Republic and Typhoon Mangkhut in the Philippines – as well as a polio outbreak in Papua New Guinea. The international spread of poliovirus is a Public Health Emergency of International Concern.

Guided by the vision of Regional Director Dr Kasai, WHO is moving to further improve the system by informing risk assessment and decision-making with analyses of information from multiple sources.

During the past year, the Regional Office has worked with Member States to develop guidance to facilitate response decision-making based on multisource epidemiologic information. This approach guides the translation of decision questions into epidemiological questions, and it addresses those questions by synthesizing various sources of information. The annual APSED TAG meeting in June 2019 supported this approach. It has also been tested by WHO to analyse response options during real public health events, such as recent measles outbreaks in the Region.
Cambodia has continuously improved its health security system, learning from its responses to past events. For example, following an outbreak of severe acute respiratory syndrome (SARS) in 2013, Cambodia was one of the first countries to introduce innovative event-based surveillance. This surveillance system was continuously strengthened and has long formed the backbone of the country’s surveillance for avian influenza and other emerging infectious diseases.

This system also plays a critical role in identifying acute events caused by health hazards other than emerging diseases, such as food safety events. This includes a recent spike in poisoning cases from locally produced wine laced with methanol, which has killed 59 people and sickened 555 others since 2014.

Between July 2018 and June 2019, two events associated with methanol poisoning were reported in Kratie Province. This led to over 150 affected cases, including 11 deaths. This situation triggered Cambodia to conduct an after-action review of the response to the methanol poisoning events, aiming to inform system improvements. Such a review approach was originally introduced as part of monitoring and evaluation activities under the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies.

The review identified a gap in the coordination of the response across ministries. As a multisectoral issue, food safety is handled by six government ministries in Cambodia, each responsible for different parts of the food chain. In the past, the six ministries shared information with each other on an ad hoc basis and had individual goals and objectives for food safety. This structure complicated the management of food safety risks, as well as the response to food safety events and emergencies, such as the poisoning incidents.

Under the leadership of the Ministry of Health, the methanol poisoning and other food safety incidents provided an opportunity to bring the six ministries together to establish common goals and objectives. These joint efforts to improve food safety resulted in the National Food Safety Policy in 2019, which follows the approach recommended in the WHO Regional Framework for Action on Food Safety in the Western Pacific.

This new approach is strengthening the overall food safety system by making it more unified and coordinated across sectors. In line with the proposed shifts in the white paper, Cambodia continues to strengthen coordination with partners beyond the health sector, improving overall preparedness for the next public health emergency.