Informal Consultation on Strengthening the Surveillance of Foodborne Diseases in the Western Pacific Region

25–27 February 2014
Manila, Philippines
REPORT

INFORMAL CONSULTATION ON STRENGTHENING THE SURVEILLANCE OF FOODBORNE DISEASES IN THE WESTERN PACIFIC REGION

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NOTE

The views expressed in this report are those of the participants of the Informal Consultation on Strengthening the Surveillance of Foodborne Diseases in the Western Pacific and do not necessarily reflect the policies of the Organization.

This report has been prepared by the WHO Regional Office for the Western Pacific for the Member States in the Region and for those who participated in the Informal Consultation on Strengthening the Surveillance of Foodborne Diseases in the Western Pacific Region, which was held in Manila, Philippines from 25 to 27 February 2014.
The informal consultation on strengthening surveillance for foodborne diseases was held in Manila, Philippines on 25-27 February 2014. Experts in communicable disease surveillance and response, food safety and laboratories from a range of countries in the Western Pacific Region and beyond participated in the consultation.

Globally, there is increasing recognition that foodborne diseases are a priority due to the trade and tourism implications of recent food safety incidents. From a public health perspective, foodborne diseases are preventable and the emergence of antimicrobial resistance has focussed attention on the need for systems that can detect foodborne disease events and monitor trends across the food chain for targeting effective interventions. Under the International Health Regulations (IHR, 2005), countries are required to have the ability to detect, assess, monitor and respond to threats, including foodborne diseases. The Asia Pacific Strategy for Emerging Diseases (APSED) is a bi-regional framework for countries to strengthen capacities to manage emerging disease threats and meet the core capacities required under the IHR (2005).

Countries have surveillance and response systems in place for communicable diseases or syndromes, some of which are foodborne in nature. While there are guides for Event Based Surveillance (EBS) on strengthening surveillance and response for communicable diseases, manuals for investigating outbreaks of foodborne diseases and guidance on developing food safety and monitoring systems, there is no guidance for countries on how to further develop and strengthen their existing surveillance and response systems for foodborne diseases. This informal consultation aimed to produce a basic foundation for a practical guidance document that will allow countries to develop and further strengthen existing surveillance systems to have the capacity to detect foodborne disease events and monitor foodborne diseases. The overall aim of strengthening surveillance and response systems for foodborne diseases is to minimise the burden of these diseases on the community.

The informal consultation defined the purpose, scope and principles for the guidance document. The participants also identified three key stages of development within a surveillance and response system and mapped the objectives and components required in each stage specific to the foodborne disease context.

The main key principles that will underpin the guidance document are: building on existing systems; providing a step-by-step approach to future surveillance system development; providing practical guidance on how to move through the steps; and ensuring that all developments contribute to a functional and sustainable surveillance and response system for foodborne diseases.
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1. INTRODUCTION

1.1 Objectives

The objectives of the informal consultation were to:

1. review the existing diseases and event surveillance systems in the Western Pacific Region;
2. identify challenges, opportunities, synergies and options to strengthen surveillance systems for foodborne diseases; and
3. develop a practical guidance document for strengthening the surveillance of foodborne diseases.

1.2 Organization

The informal consultation was a joint initiative of the WHO Headquarters and the Regional Office for the Western Pacific. The informal consultation was held in Manila, Philippines and extended over three days (see Annex 1 for the programme). Participants from within the Region were invited and experts from France and the Pan American Health Organization (PAHO) also attended (see Annex 2 for the list of participants).

1.3 Opening Remarks

Dr Li Ailan, Director, Health Security and Emergencies, WHO Regional Office for the Western Pacific, provided some context about the diversity of the Western Pacific Region. There are 37 Member States with a range of socio-economic development and population sizes (e.g. ranging from small Pacific islands countries to populous China). Dr Li welcomed the participants with diverse expertise (e.g. food safety, disease surveillance and response and laboratories) and coming from diverse countries within the Region and from around the world.

Member States have the legal requirement under the International Health Regulations (IHR 2005) to meet minimum core capacities. The surveillance of foodborne diseases is covered by the core capacity requirements. There is a solid foundation for surveillance and response already in place and Dr Li looked forward to hearing the opinions from the participants as topics are debated during the three-day consultation. The output from this informal consultation will be a practical guidance document which will provide Member States with a vision for a functional, sustainable system for the surveillance of foodborne diseases.

There is currently reform within WHO to encourage cross-programme collaboration. As Director, Dr Li feels that she can facilitate this collaboration, especially in the area of foodborne disease.

Ms Amy Cawthorne, Epidemiologist, Foodborne and Zoonotic Disease, WHO Headquarters, reiterated that this will not be a formal meeting and that the purpose is to facilitate discussion among the participants as technical experts. Ms Cawthorne presented the objectives of the informal consultation. There will be a practical guidance document developed as a result of the discussions which will contain a clear scope, purpose and objectives. Unlike the early
consultation on event-based surveillance, the development of this guidance document will not be starting from zero. There are many other documents in the area (e.g. publications of the Codex Alimentarius, WHO and FAO) and there will be no duplication of effort. This guidance document will fill the gaps and provide practical steps for Member States to strengthen the surveillance of foodborne diseases.

2. PROCEEDINGS

2.1 Session 1: Setting the scene

2.1.1 Surveillance of Foodborne Diseases: Opportunities for Cross-Programme Collaboration
- Dr Li Ailan, Director, Health Security and Emergencies, WHO Regional Office for the Western Pacific

Dr Li explained that there are many stakeholders in the area of food safety and the interactions between the stakeholders are complex. There is a necessity to move step by step to build collaboration and make it sustainable into the future. Foodborne diseases are an old issue, but the International Health Regulations provide a new context in which to consider these illnesses. All Member States need to have a system in place to manage acute public health events and emergencies which includes food safety incidents. WHO and Member States have a mandate to work on ensuring the minimum core capacity requirements are met. In the Western Pacific Region, there is also the Asian Pacific Strategy for Emerging Diseases (APSED) which is relevant to foodborne diseases and food safety incidents. APSED is a framework in which to strengthen national and regional capacities to manage emerging disease and comply with the minimum core capacity requirements under IHR. There is also the Regional Food Safety Strategy, but there are weaknesses in data availability to inform public health action, especially in the areas of food safety laws and inspection services. There was also a recent review of WHO and one of the weaknesses identified was the vertical structure of programmes. Food safety is an area which requires cross-programme collaboration.

Dr Li presented global data on the number of public health events which have been detected through Event Based Surveillance (EBS) and reported to WHO under the IHR. From 15 June 2007 to 30 June 2013, 267 events have been reported. Most of the events were infectious diseases, but there were also some events on food safety. Each country has its own notifiable diseases and/or syndromic surveillance. APSED has been the framework for the introduction or strengthening of EBS within the Region. The EBS guidance document played a significant role in defining EBS and guiding the development and sustainability of Rapid Response Teams (RRT) within each Member State. The guidance document has also ensured that everyone is using common language and highlighted the importance of risk communication.

APSED advocates the use of a step-by-step approach to developing capacities within the Asia-Pacific. An example of a step-by-step approach has been the introduction of EBS and RRTs. In 2005, the focus was on Avian Influenza (H5N1). In 2010, EBS expanded to cover other events such as anthrax, cholera and dengue, and as the systems became stronger, they are able to detect and respond to food safety, chemical and radionuclear events.

Monitoring the core capacity development under the IHR, 26/27 Member States have submitted their response to the questionnaire: Those who have designated units for surveillance of public health hazards is 96%, those who have designated units for EBS is 92%, and guidelines for EBS are available in 81% of countries. By 2015, countries in the Western Pacific Region
will have strengthened national food control systems and have the ability to collaborate with each other under the Regional Food Safety Strategy. The core capacity score on food safety has improved significantly (from 70% in 2012 to 79% in 2013) but there is a significant gap between developed and developing countries. There are 69% of Member States who have guidelines for the surveillance, assessment and management of priority food safety events implemented, and 92% have risk-based food inspection services in place.

In moving towards a sustainable system, there needs to be synergies between the emerging infectious disease and food safety programmes. Opportunities for cross-sector collaboration include surveillance, risk assessment and response in relation to foodborne disease events, and links between the IHR and the International Food Safety Authorities Network (INFOSAN) requirements.

2.1.2 IHR Requirements and Progress of the Implementation
- Dr Lee Chin-Kei, Team Leader, Emerging Disease Surveillance and Response, WHO Western Pacific Regional Office

Dr Lee highlighted that emerging infectious diseases (EID) are very important in Western Pacific, and over 75% of EID are confirmed zoonoses. Besides the impacts on human health, there are social and economic consequences. For example, the Severe Acute Respiratory Syndrome (SARS) halted travel and slowed economies. A further example is the H7N9 outbreak in China when the Ministry of Agriculture has estimated significant economic losses in the poultry industry.

The IHR is an international agreement between Member States and remains the single most important global legal framework for protecting public health security. APSED is a bi-regional tool to guide Member States in achieving IHR core capacity requirements. More specifically, it assists developing countries in addressing cross-cutting issues like surveillance, laboratory capacity, infection-control and risk communication. There are eight focus areas in the 2010 APSED, and surveillance and response specifically covers EBS, Indicator Based Surveillance (IBS), risk assessment during acute public health events, rapid response capacity, and field epidemiology training.

There is regional surveillance capacity to monitor for acute public health events which have been mainly infectious in nature. However, an all-hazards approach is being utilized and other hazards have also been detected. Dr Lee described the ‘Decision Instrument for the Assessment and Notification of Events that may Constitute a Public Health Emergency of International Concern’ under the IHR. The decision instrument does not specify the nature of the event and the mode of transmission may be unknown at the time of notification to WHO. Since last year, the WHO Regional Office for the Western Pacific IHR Contact Point has received more than 1,200 IHR communication emails from national focal points.

The APSED progress report of 2013 showed that improvements have been made in strengthening surveillance and response in the Western Pacific Region. These systems have been tested with real world-outbreaks and emergencies. However, there are still some challenges. The deadline for meeting the minimum core capacity requirements under IHR was June 2012. Around half of the Member States in the Western Pacific Region (14/27) have requested an extension in time to achieve minimum core capacities.

2.1.3 Existing Disease/Event Surveillance Systems in the Western Pacific Region
- Dr Tomoe Shimada, Medical Officer, Emerging Disease Surveillance and Response, WHO Western Pacific Region
Dr Shimada presented the history of APSED. The strategy was developed to provide a common framework for countries to strengthen their capacity to manage emerging disease threats within the Asia Pacific Region. Surveillance, risk assessment and response is one of the eight focus areas within APSED. Surveillance is defined as the "systematic ongoing collection, collation, and analysis of data, and the timely dissemination of information to those who need to know so that action can be taken." The objectives of surveillance are to detect unusual or unexpected number of cases (e.g. outbreaks) to monitor trends and distribution of disease, to evaluate control strategies, and to provide evidence for policy making.

Event Based Surveillance (EBS) is useful for rapid detection of events of public health concern, but it requires verification. Indicator Based Surveillance (IBS) is the routine collection and reporting of data, usually through notifiable disease surveillance systems, sentinel surveillance, laboratory based surveillance and antimicrobial resistance surveillance. Events can be detected through EBS and IBS, and both require rapid assessment of the risk and a rapid public health response. As part of the IHR monitoring questionnaire, Member States were asked about their core capacities in relation to surveillance and response. Out of the 26 Member States in the Western Pacific Region who submitted their responses, 96% have a surveillance unit and 92% have an EBS system in place.

Dr Shimada presented some examples of event detection using EBS and IBS. In Viet Nam in April 2011, EBS detected an outbreak of a ‘mysterious’ skin disease which was later diagnosed as Inflammatory palmoplantar hyperkeratosis (IPPH). The investigation team consisted of experts in dermatology, epidemiology, microbiology, infectious diseases, environmental and occupational health, food safety, blood safety and toxicology. The team concluded that the IPPH was most likely to be due to intoxication in people with poor nutritional status. Another example was a report from the European Centres for Disease Prevention and Control noting an increased number of cases with paratyphoid who had travelled to Cambodia. The WHO Regional Office for the Western Pacific Region asked Member States if they had noticed a similar trend. In Japan and Australia, IBS indicated increased number of cases with paratyphoid who had travelled to Cambodia. The EBS system in Cambodia did not show any unusual trend, however, researchers in Cambodia noted the increase in cases. An example of how INFOSAN and IHR can work together in the area of surveillance and response was recently displayed with the alert from the United States concerning an outbreak of acute hepatitis related to dietary supplements. The alert was sent from the INFOSAN Secretariat to WHO through the IHR mechanism. WHO posted this event on the Event Information Site recommending that Member States strengthen surveillance of acute hepatitis of unknown aetiology and advise consumers about the potential problem with the dietary supplement.

In summary, IBS and EBS aim to detect public health events, with EBS often having the advantage of earlier detection. For outbreaks of potential foodborne disease, laboratory diagnosis is essential to identify causal hazards. Cross-sectoral information and sharing are important for a timely and effective response.

2.1.4 Surveillance of Foodborne Diseases - Ms Amy Cawthorne, Epidemiologist, Foodborne and Zoonotic Disease, WHO Headquarters

Ms Cawthorne began her presentation stating that surveillance for foodborne diseases is an important part of an effective food safety programme. There are seven components of a functional food safety system, with surveillance and outbreak response being one of the components. Another important component is multi-sectoral collaboration and information sharing.
Globally, WHO is looking to work with FAO to strengthen the whole food safety system, with the aim to reduce the burden of foodborne disease and manage foodborne risks. There are currently opportunities to strengthen food safety systems with free trade agreements, increasing focus on food safety at the global level, recognition of impacts on travel (e.g. paratyphoid in Cambodia) and trade, the high profile of food safety events and strengthening the IHR core capacities. There are also some challenges in moving forward. Foodborne diseases are often seen as a low priority, there are limited resources for foodborne disease surveillance, limited recognition of burden of foodborne disease, and a complex landscape with lots of stakeholder partners and agencies at the national and international levels.

The strengthening of foodborne disease surveillance must be based on the needs of the country. There is no “one size fits all” for the surveillance of foodborne disease and different countries are at different stages of development. There is also the recognition that countries will have different priorities and are struggling to know where to put limited resources. The Global Foodborne Infections Network (GFN) is a WHO network aimed at strengthening surveillance of foodborne infections. The network has been historically focussed on *Salmonella*. However, there has been capacity strengthening through training and projects. GFN has also developed many tools to assist in capacity strengthening (e.g. protocols for laboratory methods to isolate *Salmonella*).

Ms Cawthorne highlighted that there are many documents in both food monitoring and disease surveillance areas (e.g. foodborne response outbreak manuals, manuals from the Advisory Group on Integrated Surveillance for Antimicrobial Resistance [AGISAR] and the GuiaVETA from the Pan American Health Organization). There is no comprehensive guidance that helps countries make decisions about how to strengthen surveillance of foodborne diseases. The purpose of this informal consultation is to examine the different options and starting points for strengthening surveillance for foodborne diseases, link surveillance objectives to different options and encourage countries to build on existing systems.

2.1.5 Plenary discussion

There were some discussions about the focus of the informal consultation and some of the definitions of the terms that will be used. The focus is on foodborne diseases which includes foodborne intoxications and infections. The concept of integrated surveillance was discussed. Dr Enrique Pérez Gutiérrez of the WHO Regional Office for the Americas said that integrated surveillance considers the entire food chain from the primary production of food, processing and distribution, to the consumption of the food. The term ‘integrated surveillance’ means that data come from each step in the food chain and are considered by all of the partners to identify critical control points where meaningful interventions can occur. There was recognition that there might be different considerations among the partners. For example, the health authorities are interested in preventing disease whereas other sectors might be considering the economic, trade and travel implications of public health interventions.

Dr Paul King Tiong Chiew of the Agri-Food and Veterinary Authority of Singapore raised concerns that with all of the activities occurring at national and international levels across many different sectors, that there is potential for duplications, and with finite resources, it is essential that activities are optimized. It was recognized that this is a very important issue. The guiding principle is that different agencies, nationally and internationally, have different mandates and those mandates need to be respected at all levels. Disease surveillance in humans is one part, but it needs to fit into the bigger part of the food safety system. It is essential that there is an interface for all agencies to share information that is within their responsibility. This information is required for robust risk analysis along the food chain.
2.2 Session 2: Surveillance of foodborne diseases - purpose, scope and principles

Open plenary discussion facilitated by Dr Lee Chin-Kei, WHO Regional Office for the Western Pacific, and Ms Amy Cawthorne WHO Headquarters

The guidance document is intended to be used in countries around the world, but will be developed in the WHO Regional Office for the Western Pacific as a joint initiative with WHO Headquarters in view of the Regional Office's considerable experience with emerging infectious diseases which will be useful in developing the guidance document.

The plenary discussions focussed on what the guidance document will contain and how it might be structured.

2.2.1 Purpose of the guide

The participants in the informal consultation discussed the purpose of the guidance document. The agreed purpose includes:

- Provide a stepwise approach and a clear pathway for countries to follow in the strengthening of their existing systems for the surveillance of foodborne diseases. A country should be able to identify where they are in the development of their surveillance system and assess the next steps for creating a sustainable, appropriate system. Implicit in this is technical guidance on how to prioritize, and practical steps to strengthen surveillance.

- Not all countries are in a position to strengthen surveillance for foodborne diseases. The guidance document will not only be for countries that have identified food safety as a priority issue, but will also provide guidance on methods that could help countries identify if foodborne diseases should be a priority.

- Building on what exists. The document should be used as a tool for system and capacity development. The purpose of the guidance document is not to create a new system.

- Provide technical guidance on how to strengthen surveillance and response for foodborne diseases. The document will be a ‘guide to guides,’ and gaps in existing documents would be described and advice offered to counties.

- Facilitate coordination of investment

- Facilitate cross-programme collaboration to achieve systems development

2.2.2 Target audiences for the guide

The main target audiences identified by the participants in the informal consultation were:

- Public Health authorities responsible for the surveillance of foodborne diseases, such as disease surveillance and investigation staff, laboratory staff and food safety staff;

- other competent authorities within a country who have a role in the food safety system e.g. the ministries responsible for health of animals and plants and the ministries with a role in food inspection for trade and commerce purposes; and
- other stakeholders in food safety such as consumer groups, industry, development and technical partners and international agencies, e.g. FAO and the Office International des Epizooties or the World Organisation for Animal Health (OIE).

2.2.3 Scope of the guide

There was considerable discussion amongst the participants about the scope of the guidance document. It was agreed that the scope would consist of:

- An ‘all-hazards’ approach which includes microbial, chemical and radionuclear hazards

- All aspects relating to surveillance, risk assessment of a public health event, investigation and response. There are existing documents on risk assessment of public health events and on outbreak investigations of foodborne diseases. The guidance document should refer to these documents and not seek to duplicate existing advice.

- Given that the guidance document will assist countries in deciding what is appropriate through a prioritization process, the scope will include methods on how to prioritize hazards.

- A framework for countries to determine where they are in systems strengthening. As part of the presentation of the framework, case studies could be used to demonstrate the link between the surveillance system and public health interventions.

- Event-management is included within the scope. There are existing guidance documents from WHO/FAO for food safety emergency response plans. There would be a link to these documents. The WHO Regional Office for the Western Pacific is also working on a guidance document for event management.

- Intersectoral collaboration was identified as a crucial element of the guidance document. Cross-sectoral collaboration during events and for routine surveillance is important and will be addressed.

Areas not in the scope of the guidance document are:

- Drugs and allergens in food. They do not fit within the existing surveillance and response structures in countries. The only time other health issues related to food would be in scope is if they are the cause of an event and would be investigated using the usual processes in place.

- Other surveillance activities along the food chain (e.g. food monitoring) that are not the responsibility of the disease surveillance and investigation staff within a country. Results from foodborne disease investigations can inform directions in food monitoring and the converse is also true. The guidance will not describe how to conduct food monitoring, inspection or environmental investigations to avoid duplication with existing guidance in these areas but a link will be provided.

- Surveillance for chronic diseases. Certain types of food are a significant contributor directly to chronic diseases or the risk factors for chronic disease (e.g. obesity). Surveillance for high levels of salt and saturated fats is not in scope. The causes of chronic diseases are multifactorial. The traditional EBS/IBS systems would not be used to monitor chronic diseases.
Long term exposure to chemicals (e.g. pesticides) in foods. There are other mechanisms (e.g. total diet studies, long term epidemiological studies) that can be used to determine and monitor adverse effects of chemicals on human health. The Codex standards also set limits for pesticides in foods. While not directly in scope for this guidance document, it will be necessary to link to other documents to provide guidance should a country wish to determine the long term effects of exposure to chemicals in foods.

2.2.4 Guiding principles

The participants in the informal consultation agreed that the following guiding principles should be included in the guidance document:

- building on existing surveillance and response systems that are part of the core capacity requirements of the International Health Regulations (2005);

- surveillance is strengthened to guide public health action;

- focus should be on the hazards that have been identified as a priority within the country;

- each Member State is at a different stage of development for the surveillance of foodborne diseases and there are different requirements in each Member State for future development and capacity building;

- countries should be able to assess where they are and determine logical and rational steps forward for developing their surveillance for foodborne diseases;

- recognize that foodborne illnesses are preventable and foodborne disease events can lead to significant economic losses (e.g. impacts on trade, tourism etc.);

- there are motivations beyond the health sector (e.g. free trade agreements) that can also drive the development of food safety systems, of which surveillance of foodborne diseases is one of many areas; and

- acknowledging that there is existing guidance on strengthening surveillance and response systems, disease prioritization, burden of disease studies and developing food safety and monitoring systems. This guidance document does not seek to duplicate this work, but to collate it within a rational framework for enhancing existing surveillance activities for foodborne diseases.

2.3 Session 3: Possible options for sustainable surveillance of foodborne diseases

Open plenary discussion facilitated by Dr Enrique Pérez Gutiérrez, Senior Adviser, Foodborne Diseases and Zoonoses, Communicable Diseases and Health Analysis, Pan American Health Organization, and Ms Amy Cawthorne WHO Headquarters

The participants discussed all of the possible components that could be used for strengthening the surveillance of foodborne diseases. The main mechanisms identified were ad hoc scientific studies, EBS, syndromic surveillance, existing notifiable diseases surveillance, sentinel surveillance, laboratory-based surveillance, antimicrobial resistance (AMR) surveillance and integrated surveillance. Each of these components is discussed in more detail below.
2.3.1 Ad hoc public health studies

Ad hoc public health studies could be used to assist countries to identify priorities for surveillance and to demonstrate that foodborne diseases are an issue in a country with minimal surveillance capacity. Some examples of ad hoc studies include burden of illness studies using either cases of syndromes (e.g. acute water diarrhoea) or they can be pathogen-specific when linked to laboratory testing. Burden of illness studies are particularly useful for identifying vulnerable populations. Convenience sampling of laboratory samples is another possible approach. If clinical specimens have been collected for a specific reason, it may be possible to obtain a subset for foodborne pathogen testing. A systematic review of existing outbreak data may be useful to help identify particular high risk foods associated with syndromes and/or pathogens. Laboratory-based surveys are also useful to determine what proportion of diarrhoea cases have a pathogen identified.

An example of using targeted public health studies to strengthen surveillance was provided by Dr Kiyosu Taniguchi of the Institute for Clinical Research, Japan. For 5-10 years there were outbreaks of foodborne disease detected through EBS, but the aetiological agent remained unknown. After examining the outbreak data and intensive investigations at the laboratory a new parasite was discovered. The public health authorities were then able to identify a type of fish (sole) as the source of the illness. Consideration of this food source and parasite are now part of the investigation whenever an event is detected. The information about the fish as a source of the illness was passed on to food safety authorities.

2.3.2 Awareness raising

It is important to grow public health-minded physicians. Raising awareness of foodborne diseases amongst clinicians may help improve the quality and timeliness of reporting of both cases and events. Clinicians can be specifically targeted by public health authorities to provide feedback for patient management (e.g. antibiotic susceptibility testing). Part of the training for doctors could also include a section on how to ascertain whether a patient may have food poisoning, e.g. asking patients with diarrhoea if they have eaten any suspect foods, whether anyone else is unwell with similar symptoms, etc. Clinicians can also be asked to report to public health authorities if they notice any unusual clustering of cases of the same syndrome/disease. Discussions with clinicians can also encourage the more frequent and rational testing of stool samples.

Public health staff can also be trained in the basic epidemiology of foodborne diseases to facilitate the rapid identification of the mode of transmission during foodborne disease events.

2.3.3 Event Based Surveillance

Surveillance systems are already capable of detecting foodborne disease events and food safety hazards through EBS. The main weaknesses are usually during the assessment and response phase. One of the options to strengthen the assessment and response phase is to build the capacity of the rapid response teams (RRT). Most RRTs are trained in the basics of descriptive epidemiology. But to be able to fully investigate an outbreak of a foodborne diseases, skills in analytical epidemiology are required. As part of the assessment phase of an acute event, food safety staff can be involved, where appropriate. During events, the collection of appropriate clinical specimens and testing by laboratories could identify aetiological agents responsible for events.
2.3.4 Syndromic surveillance

Syndromic surveillance can be useful for monitoring syndromes relevant to foodborne diseases (e.g. watery diarrhoea, bloody diarrhoea, neurological signs). There is some capacity within syndromic surveillance to detect foodborne disease events.

2.3.5 Sentinel surveillance

Sentinel surveillance can often begin at selected sites and be expanded depending on the purpose of the surveillance. Two examples of sentinel surveillance with different objectives were provided by the participants. Dr Bryan In-Ho Kim of the Korea Centers for Disease Control and Prevention spoke about gastrointestinal disease and pathogen identification in Korea, whereby specimens are sent from sentinel sites to the laboratory for pathogen identification and then results are fed back to clinicians. This approach enables the public health authorities to understand what is occurring in the community and also helps improve clinical practice by feeding the results back to the clinicians. Dr Taniguchi provided the second example, where clusters of illness can be identified through sentinel sites at schools. The teachers record student attendance in an electronic database and if there are many students absent, this may indicate an event occurring either in the school or the broader community.

2.3.6 Laboratory-based surveillance

There was an acknowledgement that ongoing laboratory surveillance for foodborne hazards requires considerable resources such as equipment, reagents and well-trained staff. However, strengthening laboratory capacity to identify hazards is vital for the development of a functional surveillance and response system for foodborne diseases. Some of the proposed suggestions for strengthening laboratory-based surveillance include the ongoing ad hoc testing of available samples, detection of aetiological agents during events, encouraging reporting of routine testing of samples and structured laboratory surveillance, e.g. testing every 10th specimen. Once a laboratory has the basic capacity to perform routine testing of microbial foodborne pathogens, it would then be possible to start referring isolates for further characterization and to conduct AMR testing. This information could then be used to identify clusters of genetically similar organisms and investigations could be launched.

Some countries will not have the capacity to conduct their own testing for foodborne hazards, so there needs to be identification of regional and international reference laboratories. Detection of events must still be localized, but it is necessary to have processes in place for referral of specimens. For example, some of the areas to consider are biosecurity compliance when shipping the samples and agreements between countries of when and where to send samples for international testing.

2.3.7 Integrated surveillance

Integrated surveillance is the formal ongoing sharing of data and material from different sectors along the food chain to identify areas where preventative action can occur. Integrated AMR surveillance is being used as a strategy to encourage ongoing sharing of data between sectors in the Pan American Region.

2.3.8 Overall objectives of surveillance for foodborne diseases

The broad objectives for the surveillance of foodborne diseases are:

- early detection of outbreaks of public health importance;
- monitor trends to direct and/or evaluate public health interventions;
- identify vulnerable groups; and
- attribution of food sources to guide prevention.

The participants of the informal consultation suggested having tiered objectives depending on the level of development of the surveillance system for foodborne diseases. The proposed tiers with the corresponding surveillance objectives are:

- In a resource-poor setting, the main objectives are to detect outbreaks through EBS and have basic monitoring of trends through a syndromic IBS system.
- The next stage would be to strengthen IBS with the objective to monitor for trends and start examining attribution of origin in foods.
- More developed setting with laboratory-based IBS can then look at more risk-based control measures. The objective would be to consider data across the food chain to target intervention points which would ultimately lead to a reduction in foodborne illness and greater economic benefit to the community (e.g. safe food for trade).

2.3.9 Perspectives on foodborne disease surveillance in the Pan American Health Organization, Dr Enrique Pérez Gutiérrez, WHO Headquarters

Dr Pérez Gutiérrez started his presentation by explaining that Pan American Health Organization and Western Pacific Region are quite similar. Both Regions include large populous nations and small island states and have a range of development. The Pan American Health Organization has approached strengthening capacities for foodborne diseases by considering four categories of surveillance system development. There is a manual (GuiaVETA) for the surveillance of foodborne diseases that was developed and implemented throughout the Pan American Region.

Category one focused on EBS and an example of this type of event detection was in Haiti following the earthquake where an increase in number of people presenting with acute water diarrhoea was noted and later confirmed as cholera.

Category two adds syndromic surveillance to the EBS component. For syndromic surveillance to work, the syndromes need to have standard case definitions and there needs to be regular collation and reporting. There can be some limited laboratory information, but generally, there is no formal laboratory-based surveillance in this category. Using syndromic surveillance, it is possible to follow trends over time, identify high risk populations and detect outbreaks. Dr Pérez Gutiérrez gave the example of Panama, which is able to regularly chart the rates of diarrhoeal illness and food poisoning. Strategies that can be used for improvement towards laboratory based surveillance include:

- improving communication between partners (clinicians, laboratories, epidemiologists);
- conducting joint outbreak investigations (food safety staff, epidemiologist);
- training and practicing investigation skills;
- prioritization of foodborne hazards and diseases;
- developing the system by adding case definitions and reporting form;
- determining the flow of information through the system;
- building a minimum dataset;
- encouraging clinicians to request stool cultures;
- encouraging laboratories to culture stool samples; and
- considering the use of sentinel sites.

Category three adds formalized laboratory-based surveillance to the capacities that have been built under category two. There should be standardized collection, analysis and interpretation of laboratory data from at least some selected sites. The testing of pathogens in the laboratories also needs to be standardized and the lab should be participating in internationally-recognized quality assurance programmes. Data from the lab should be routinely sent to the public health authorities for collation, analysis and reporting. This type of system can identify and prioritize the hazards, determine the trends of specific hazards, detect outbreaks and identify food sources and can also identify high risk food items and highlight areas for control. The experience in Columbia was used as an example, whereby Dr Pérez Gutiérrez showed information flow charts, case definitions, graphs and reports. Strategies for improvement towards an integrated foodborne disease surveillance include:

- regular and rapid sharing of information between laboratories and public health authorities;
- during an outbreak, it is possible to develop and test hypotheses and use the laboratory data to help identify food sources;
- establishing electronic outbreak/case reporting systems (e.g. SIVIGILA in Colombia: a web-based database of foodborne disease outbreaks with specific risk information such as food items attributed to outbreaks, cross-contamination factors, factors for proliferation and factors for bacterial survival);
- increasing the capacity within the laboratory to conduct antimicrobial susceptibility testing, serotyping and using molecular techniques to determine genetic relatedness;
- developing laboratory quality assurance programmes; and
- strengthening regional and global networks (e.g. GFN was very useful in establishing networks and improving capacity in the Pan American Region).

Category 4 is the integrated food chain surveillance model, which involves the regular collection, analysis and interpretation of data from animals, food and humans. The system should use standard case definitions for classifying diseases and allow the attribution of illness burden in humans to specific food categories through the use of detailed food monitoring and animal health data. There would be staff within each sector that have the formal responsibility for sharing data and making decisions about critical control points along the food chain so preventative actions can be taken. An example was presented from Colombia with a program for Integrated AMR surveillance that is being conducted in the country. The objectives of the program are to determine the prevalence, resistance patterns and risk factors of AMR *Salmonella* sp., generic *Escherichia coli* and *Enterococcus* sp. Isolates from poultry farms, retail poultry
meat and human are compared using pulsed-field gel electrophoresis (PFGE) patterns. The program is able to indicate potential risks for human health in Colombia related to foodborne infections with bacteria of poultry origin, and propose appropriate measures to mitigate the risks.

2.3.10 Foodborne Disease Surveillance System in the Republic of Korea (Enter-Net Korea), joint presentation by Dr Cho Seung-Hak, Staff Scientist, Korea National Institute of Health, Korea Centres for Disease Control and Prevention (KCDC) and Dr Bryan In-Ho Kim, Public Health Officer, KCDC

Dr Cho described the system for the surveillance of foodborne diseases in Korea (Enter-Net Korea). There are 17 local public health laboratories (representing seven major cities and 10 provinces) who receive specimens from the clinics and hospitals. The clinical specimens are tested for genetic similarities (PFGE and MLST) and are entered onto PulseNet, a local database containing laboratory results from within Korea. A wide range of pathogens are tested as part of the routine screening of clinical specimens. Approximately 30,000 specimens per year are tested, out of a population of 50 million people. The data from the surveillance system are uploaded to the internet and the general public can access reports on the number of isolations in the past four weeks compared with previous years. A recent improvement in the system has been the introduction of the “Guideline of Foodborne Diseases Laboratory Diagnosis” in 2013. This guideline includes standardized forms for the collection of detailed clinical information for each specimen. There is also regular reporting of AMR testing results for Salmonella Enteritidis, Salmonella Typhimurium, E.coli and Shigella spp.

Dr Kim discussed the aspects of integrated surveillance for foodborne diseases in the Republic of Korea. For routine surveillance there is little overlap between the KCDC, Korean Food and Drug Administration (KFDA) and the National Veterinary Quarantine Services. However, during outbreaks, the investigation team consists of staff from all three agencies. A recent success was the investigation of an outbreak of enterotoxigenic E.coli O169, where there was strong collaboration between KCDC and KFDA. A total of 572 patients were sick across seven schools and the source was identified as kimchi. Dr Kim also discussed how the sentinel system is quite separate from the laboratory surveillance. There are attempts to improve linkages within the system. Some of the challenges include changes to the staff in charge and differing opinions, but with regular meetings and joint outbreak investigations, it is hoped that the system will become stronger.

2.3.11 Notifiable Disease Surveillance in the Lao People’s Democratic Republic, Ms Bouaphanh Khamphaphongphane, Chief of Epidemiology Division, Ministry of Health

Ms Bouaphanh Khamphaphongphane spoke about her experience in the Lao People’s Democratic Republic where the first step was to ensure common understanding of the terms ‘Event based surveillance’ and ‘Indicator based surveillance’. The IBS system is called LAO EWARN (Early Warning and Response Network), where there are 17 diseases/syndromes under surveillance. The syndromes relevant to foodborne diseases are acute water diarrhoea, food poisoning and typhoid fever. There is sentinel laboratory surveillance for diarrhoea in four central hospitals, three district hospitals and one health centre, all located within Vientiane.

A total of 101 events were reported through the EBS (74 events) and IBS (27 events) system in the Lao People’s Democratic Republic in 2013. Ninety percent of the events were reported to within 24 hours of the initial report. Of all of the events investigated, 57 (56.4%) had laboratory confirmation of the aetiological agent with at least one sample confirmed and 16 (15.8%) had the event laboratory confirmed with five or more specimens collected. Data were also presented on the number of events that had been detected through EBS and IBS from 2011
to 2013. Food and water borne diseases accounted for 17%-22% of the events across the three-year period.

In July to November 2013 there was an outbreak of typhoid in two villages, with 67 cases (fever and abdominal pain) and nine deaths. Six people were confirmed positive with *Salmonella Typhi*. The suspected source was the water in the village.

Results from sentinel laboratory-based surveillance indicated that in 2013, 44% of foodborne bacterial pathogens were identified as *Salmonella* spp and 25% were *Aeromonas* spp. Laboratory results from outbreak investigations indicate that rotavirus is the most common pathogen identified.

During the review of the IHR core capacity requirements conducted in May 2013, surveillance capacity scored 2/3, whereas rapid response capacity, laboratory capacity and food safety capacity all scored 1/3. There are multiple challenges facing the system in the Lao People’s Democratic Republic. There are limited human and financial resources and limited capacity in the laboratories to support surveillance. Coordination with other sectors could be improved through linking surveillance data to food inspection and monitoring. There also needs to be enforcement of laws and regulations, continuation of field epidemiology training, prioritizing potential hazards and strengthening laboratory networks.

### 2.3.12 Survey of Foodborne Diseases in Viet Nam: Situation, Challenges and Solutions - Dr Lam Quoc Hung, Chief of Food Poisoning Surveillance Division, Viet Nam Food Administration

Dr Lam provided some context about the situation in Viet Nam where there are 33 international border crossings which makes it very difficult to monitor food safety. There is a Food Safety Law that was enacted in 2011 which provides the legal responsibility for the Food Safety Management System across the different Ministries. The Ministry of Health has the responsibility for the formulation of national strategies and the Master Plan on food safety, issuance of national technical regulations for setting safety limits for foods, setting regulations for food production and trading, disseminating information and education materials and providing warnings on food safety incidents.

Data were presented from food poisoning outbreaks from 2002 to 2010. There were approximately 195 food poisoning outbreaks each year, with approximately 5,500 cases and 53 deaths per year. Information about the setting of the food poisoning was collected during the investigations and 48.6%-60.6% of outbreaks per year occurred as a result of a family meal. The food sources attributed to the outbreaks between 2007 and 2012 were most commonly ‘complex food’ (40%) where the specific food item was not identified, mushroom toxins (13.2%), meat and meat products (9.3%) and cereal (7.8%). Classifying the outbreaks by the hazards, 27.4% were microbial, 24.8% were natural toxins, 5.1% were chemicals and 42.6% were unknown. The consumption of natural toxins (mushrooms, puffer fish and toads) is the most common reason for death during food poisoning events. Dr Lam provided some examples of food poisoning incidents in Viet Nam. Outbreaks of alcohol poisoning are quite common with an average of 5.5 outbreaks per year. Another frequent cause of outbreaks is mouldy corn cereal. From 2007 to 2012 there were 21 outbreaks, with 105 cases and 44 deaths attributed to mouldy rice cereal.

The Viet Nam Ministry of Health also has a system for the surveillance of food contamination. Monitoring occurs across various sectors including food importers, food producers and manufacturers, food sellers in the markets and restaurants. In 2011, there was a survey on food contamination which focussed on obtaining information about the radioactive risk
of food from Japan following the incident at Fukushima, lead-risk in imported paper cups, risk of bisphenol in milk, bis (2-ethylhexyl) phthalate (DEHP) risk in cloudy additives and drinking products and the risk of *E. coli* in imported fruit and vegetables from Germany and France. A total of 1,711 food samples were collected and 79/436 had been found to be contaminated with *E. coli* and four imported food samples were found to contain DEHP.

The main challenges in Viet Nam are the limited capacity of surveillance for foodborne diseases in humans and for monitoring food. The risk of food contamination exists across the whole food chain. The solution in the future will be to improve the surveillance system and testing of food based on the risk analysis process through Codex.

### 2.3.13 Plenary discussion

There was a brief plenary discussion about the selection of sentinel sites for surveillance and the structure of integrated surveillance. The participants highlighted that it is important that surveillance be part of the laws within the country to give public health authorities the mandate to collect information.

Dr Li stressed the importance of using surveillance data to guide public health action, direct policy change and then monitoring to know whether the intervention has been successful. Ms Cawthorne indicated that countries, even with limited capacity, with a long term vision can map their progress forward. The situation in the Pan American Region is a result of decades of work in strengthening surveillance for foodborne diseases.

### 2.4 Session 4: How to develop and sustain surveillance of foodborne diseases

Based on discussions and information from the presentations, the participants agreed that there appears to be three tiers of development for the surveillance of foodborne diseases:

- Stage 1 would meet the minimum core capacity requirements under the IHR, with focus on EBS;
- Stage 2 would be an intermediary stage between stage 1 and 3 that would involve strengthening IBS mainly through the introduction and maintenance of laboratory-based surveillance; and
- Stage 3 is the model of fully integrated surveillance data to inform risk analysis.

#### 2.4.1 Group work session 1

The participants were divided into two groups and were asked to consider the objectives of surveillance in each stage and what components might be useful for each stage. Group 1 focussed on defining the objectives for stage 1 and stage 2 considering the components that would be important for developing a stronger surveillance system. Group 2 focussed on stage 2 and mapped the objectives and surveillance components necessary in moving towards stage 3.
2.4.2 Plenary session - feedback from group work session 1

The participants first considered the objectives of surveillance for foodborne diseases for each of the stages and then examined the components that could be used to strengthen surveillance.

- Stage 1: The objectives are mandated through the definition of core capacity requirements under the IHR and are to:
  - identify and detect ‘visible’ acute foodborne disease events;
  - respond to events;
  - prevent further cases;
  - monitor trends in relevant syndromes; and
  - establish informal links between surveillance staff and food safety staff.

- Stage 2: There were discussions about whether there are more stages, as there is a big gap between starting out at this level and then being ready for an integrated surveillance system for sharing data across multiple sectors. It was generally agreed among the participants that countries need to have some guidance as to the options that are available and when to implement according to the capacities, resources and priorities. The objectives within stage 2 include all of the objectives from stage one:
  - increasing the specificity and sensitivity in detecting foodborne disease outbreaks;
  - monitoring trends over time;
  - identifying the magnitude of the problem of foodborne diseases;
  - informing clinical management policy;
  - attributing specific food sources for immediate response actions;
  - identifying high risk or vulnerable populations;
  - linking to specific responses along the food chain and prevention measures (epidemiological evidence + trace back + identification of hazard points); and
  - strengthening intersectoral collaborations through regular meetings, conducting joint outbreak investigations and ad hoc risk analyses dependent on need.

- Stage 3: This stage is focused on developing the mechanisms for integrated surveillance of foodborne diseases. All of the objectives from stage 2:
  - establishing formal ongoing mechanisms for sharing data across sectors;
  - integrating all data from across the food chain; and
performing regular risk analyses for specific hazards and food items.

Four key components to strengthen surveillance for foodborne diseases were considered by the groups, based on the discussions earlier in the meeting (see session 2): EBS, outbreak capacity, IBS and intersectoral collaboration. A summary of the discussion points is in Table 1.

For EBS, the minimum requirements would be present at stage one and could develop further according to the existing guidance (‘A Guide to Establishing Event-based Surveillance’). For example, in stage 2 or 3, active searching for events in the media and social networking may be useful. Once an event has been detected, there needs to be a rapid risk assessment and a response mounted by a RRT. To be able to attribute a food vehicle to illness it is necessary for analytical epidemiology skills to develop in stage 2.

Indicator-based surveillance is a large area where there are many different possibilities for development. How the IBS component evolves will depend upon the priorities in the countries, the resources available to them and their human resource capacities. At stage 1, there should be at least one syndrome relevant to foodborne diseases (e.g. acute watery diarrhoea) under surveillance. The system can then develop into areas of sentinel surveillance and laboratory-based surveillance (e.g. AMR surveillance). Laboratory-based surveillance may start out with routine identification of priority hazards, then scale up to further characterisation of microbial pathogens and eventually molecular characterisation would be possible. This would enable the detection of genetically similar organisms and can be useful in food source attribution.

Intersectoral collaboration can be strengthened at each step within the system. At stage 1, it is sufficient for food safety staff to be involved in the rapid risk assessment and, where appropriate, the RRT. Once moving to stage 2, the outbreak investigations of suspected foodborne diseases should always include someone from food safety on the outbreak investigation team. There should also be regular informal sharing of data between the different sectors involved in the food safety system. In stage 3, the data should be formally shared by all parties in the food safety system regularly to inform risk analysis processes.

As part of the plenary session there was discussion that in the early stages of developing surveillance for foodborne diseases, the focus is on reactive work, such as detecting and responding to outbreaks. However, as the surveillance system develops, there is a shift from the reactive work to become more proactive. The idea of integrating surveillance data from multiple sectors is to try and identify and control hazards in food chain that pose a threat to public health.
### Table 1: Options for developing and sustaining surveillance for foodborne diseases

<table>
<thead>
<tr>
<th>Stage of surveillance system development</th>
<th>EBS</th>
<th>Outbreak response capacity</th>
<th>IBS</th>
<th>Intersectoral collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1- meeting minimum core capacity requirements under IHR</td>
<td>Established under IHR</td>
<td>- There is a RRT</td>
<td>- At least one syndrome to capture gastroenteritis is under surveillance (e.g. acute water diarrhoea) either as a notifiable condition or at a sentinel site</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- There is a documented process for investigation (e.g. the Foodborne Disease Outbreak Manual or the truncated Pacific Outbreak Manual)</td>
<td>- A lab focal point is identified either nationally or internationally to be able to send specimens to during an outbreak investigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The team is able to perform descriptive epidemiology (time, place, person)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The team is able to collect appropriate clinical specimens</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Ensure that food safety staff are involved in the rapid risk assessment of suspected foodborne disease events</td>
</tr>
</tbody>
</table>
| Stage 2 - strengthening IBS, especially in areas of laboratory capacity and epidemiological capacity, with a view to conducting food attribution | Expand existing EBS using guide (e.g. consider monitoring electronic media) | - There is analytical epidemiology expertise available or within the RRT to enable food attribution (e.g. the epidemiologists can conduct case control and cohort studies)  
- Appropriate samples can be collected from food and the environment  
- Multi-disciplinary investigation teams  
- Utilization of international networks | - Identify priority hazards  
- Map what exists within the system nationally and at an international level  
- Strengthen lab capacity to routinely identify priority hazards  
- Repeated and/or ad hoc public health studies aimed at food attribution and further articulating the priorities  
- Cluster surveillance  
- If clinicians are routinely requesting laboratory diagnosis:  
  1: see if there are any labs that are already testing for priority hazards. If so, ask them to report to public health authorities  
  2: if the samples are collected but not being analyzed, commence testing for priority hazards. Once this is happening routinely, consider adding further characterization of microbial pathogens (e.g. serotyping, molecular typing, AMR)- targeted surveillance  
- If clinicians are not routinely collecting specimens:  
  1. conduct sentinel surveillance based on syndromes (e.g. every 10th patient has a stool collected; samples are collected from severe cases or those who die; collect samples during obvious clustering of cases with the same syndrome) | - Share outbreak data with sectors along the food chain  
- Informal, ad hoc sharing of information from all of the different sectors  
- Ad hoc risk analysis |
2. regardless of the sampling strategy, specimens should be tested for priority hazards. Once this is happening routinely, consider adding further characterization of microbial pathogens (e.g. serotyping, molecular typing, AMR).

<table>
<thead>
<tr>
<th>Stage 3- integrated surveillance for foodborne diseases</th>
<th>Already at full capacity</th>
<th>Already at full capacity</th>
<th>-Ensure that data are in a format to allow regular sharing with other sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Each person within the responsible sectors has a formal position for sharing data and information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Sharing data and information are conducted on a regular ongoing basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Continual risk analysis for public health interventions</td>
</tr>
</tbody>
</table>
2.4.3 Group work session 2

The participants were divided into their groups again. The groups were asked to consider the specific actions that countries need to consider for strengthening each component and the strategies that could be used to help move countries between each stage of development.

2.4.4 Plenary session- feedback from group work session 2

Both groups identified the need to prioritize the hazards and map what already exists within the surveillance system for foodborne diseases. A logical framework for the development of surveillance for foodborne diseases can then be drafted.

For prioritization, countries could be advised to review available data, look at published data on food monitoring, see if there are comparable data in neighbouring countries, consider cross-sectional surveys and burden of illness studies. Countries could be advised to start in their own sector, but expand to include other sectors to identify what the priorities are. There is existing guidance on how to conduct prioritization exercises, but it will need to be tailored with specific recommendations for foodborne diseases (e.g. when to conduct burden of illness studies and targeted surveillance).

When mapping capacities and resources, it is essential to identify laboratories (public/private, national/local) and know what tests they are performing. There is existing guidance for conducting laboratory assessments (WHO-Lyon) and capacity assessments (Pan American Health Organization). Through the assessment public health authorities could also find out what laboratories might be willing to do in the future. Mapping capacities can also extend to identifying key contacts of expertise. For example, not every RRT needs to have an epidemiologist who can perform analytical studies, but it is good to know which staff have that capacity and whether they can be mobilized during a foodborne disease event. Materials and supplies should also be included in the mapping exercise (e.g. medicines, specimen collection containers). Capacities and resources available within the country should be mapped and regional networks should also be considered.

Once the priorities have been determined and capacities mapped, it is important to have a logical plan for the future development of the surveillance system based on existing plans. Some of the options for planning include stratifying by pathogen (e.g. rare high-impact diseases, frequent illnesses, diseases that can be diagnosed by clinicians, diseases requiring laboratory confirmation). This will require further thinking for inclusion in the guidance document.

Both groups identified some strategies for improving surveillance. Clinician training and awareness raising were seen as essential in both groups. There were also discussions about strengthening human resource capacity in the area of epidemiology. This can be achieved through specific modules on foodborne disease outbreak investigations for RRT training in stage 1 and then expand to the full two year field epidemiology training programmes in stage 2. There was also a suggestion for regular outbreak debriefs to see what is being done well and what aspects require improvement. Joint desk top exercises could be run in countries to foster links between different sectors involved in the surveillance of foodborne diseases.

Some of the suggested strategies for helping countries move between the stages include harnessing existing experiences. For example, the Western Pacific Region has experience with avian influenza and the animal and human health sectors have been working together. The next step might be the inclusion of food safety people. Often large events and mass gatherings are also an opportunity for strengthening surveillance (e.g. Beijing Olympics). There may also be economic drivers for improving surveillance, such as access to markets for exporting food.
Leveraging on significant outbreaks or events can also be used to improve surveillance systems, such as the melamine incident in China and enterohaemorrhagic E.coli in sprouts in Germany. Strengthening AMR surveillance specifically across sectors has been used with some success in countries within the Pan American Region. AMR has been used as the tool to lead to more of an integrated surveillance approach where antimicrobial sensitivity data are shared from sectors across the food chain. The ‘One Health’ initiative may also be another possible strategy for helping countries develop intersectoral collaborations and facilitate the sharing of data and information for risk based decision making.

During the discussions within the groups, some small tasks were allocated to participants. Dr Boris Pavlin of the WHO Country Office in Papua New Guinea agreed to draft a basic guide for investigating outbreaks of foodborne diseases. Dr Pérez Gutiérrez agreed to examine the surveillance components and their advantages and disadvantages. Dr Henriette de Valk of the National Institute for Public Health Surveillance, France, was going to consider approaches to cluster surveillance. Dr Peng Lim Ooi of the Singapore Ministry of Health was considering how the objectives at each stage could be collapsed into broader overarching objectives.

2.5 Session 5: Next steps

Open plenary discussion facilitated by Dr Li Ailan WHO Regional Office for the Western Pacific.

Dr Li began the discussion by confirming that the major goal of this guidance document will be to strengthen the existing surveillance system within countries. The group acknowledged that there is still a lot of thinking to be done in developing the guidance document.

Mr Peter Hoejskov of the WHO Country Office in Fiji remarked that from a food safety perspective, having such a guidance document would be useful to help countries identify where they are and what are the next steps to take. For resource poor setting, such as the Pacific, there is still work that needs to be done for intersectoral collaboration and cross-programme linkages. For example, within food safety, there needs to be a link between inspection data to recall and INFOSAN.

Ms Cawthorne stated that the guidance document can also be useful to demonstrate what not to do. The guidance document will be used to guide activities acknowledging the constraints of limited resources. The guide will articulate the steps a country can take with the resources available.

Dr Chiew said that from a food safety perspective, this informal consultation is a significant positive step forward in having disease surveillance and food safety people working together and then working with the animal health sector. The disease control staff are working to reduce the burden of foodborne illness and the food safety staff want to ensure that food is safe for the consumer. Both areas really are working towards a common goal.

The next steps will involve drafting the guidance document and then sending to the participants of the informal consultation for their comments. Some additional experts will be added to the consultation list and FAO will also be included in the consultation process. There are some key people from the informal consultation who may be approached for specific advice in the writing up stage. Dr Geoff Hogg of the University of Melbourne, Australia, suggested sending a structure for the guidance document to ensure that the layout is logical before drafting the document. Dr Li would like to have a near-final draft for sharing at the Asia Pacific Technical Advisory Group on Emerging Infectious Diseases meeting in July 2014. There is also an INFOSAN meeting later in the year.
2.6 Closing remarks

Dr Li acknowledged that this was a very unique consultation and acknowledged that food safety and disease control people use different language. It is important that the guidance document is clear about the terms used and their context and that there is a common vision for the future development of foodborne diseases. On behalf of the Regional Director for the WHO Western Pacific Regional Office, Dr Shin Young-soo, Dr Li wanted to thank all of the participants for their commitment, time and input into developing the guidance document.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

(1) A guidance document on strengthening surveillance and response for foodborne diseases is important and necessary.

(2) There are existing guidelines for outbreak response, event based surveillance, risk assessment of acute public health events and food safety and monitoring. The guidance document will include links to these guides and provide practical advice for countries about how to develop the surveillance system.

(3) A country can use the guidance document to determine what stage of development their system is at and then create a stepwise path forward for strengthening surveillance based on existing plans.

(4) The purpose, scope and guiding principles for the guidance document have been developed during the informal consultation.

(5) Three stages of development in a surveillance system for foodborne diseases were considered. The first stage encompasses the minimum core capacity requirements under the International Health Regulations and the final stage represents the model of integrated surveillance along the food chain.

(6) The middle stage includes a vast spectrum of surveillance system development. To assist countries in navigating the second stage, the guidance document will include advice on identifying priorities and mapping the capacities and resources necessary for the surveillance of foodborne diseases.

3.2 Recommendations

(1) The guidance document should be drafted with consideration for the conclusions above.

(2) It is recommended that an early draft of the structure of the guidance document and conceptual framework be circulated to key participants for initial feedback.

(3) A draft of the guidance document should be circulated amongst the participants of the informal consultation for feedback.
(4) Consider presenting a late draft of the guidance document to the participants in the Asian Pacific Technical Advisory Group on Emerging Diseases meeting on 15-17 July 2014.

(5) WHO should consider opportunities for the guidance document to be incorporated into existing activities (for example, using a foodborne disease event as part of the desk top exercises for IHR monitoring).

(6) Where appropriate, WHO and other relevant international agencies should provide the necessary support to assist countries in identifying priorities, mapping existing resources and capacities and managing the implementation within existing surveillance and response plans.
ANNEX 1

WORLD HEALTH ORGANIZATION ORGANISATION MONDIALE DE LA SANTE
REGIONAL OFFICE FOR THE WESTERN PACIFIC BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

INFORMAL CONSULTATION
ON STRENGTHENING THE SURVEILLANCE
OF FOODBORNE DISEASES
IN THE WESTERN PACIFIC REGION

Manila, Philippines
25-27 February 2014

ENGLISH ONLY

PROVISIONAL PROGRAMME

Day 1 – Tuesday, 25 February 2014

08:30 – 09:00 Registration

09:00 – 09:30 Opening session

Welcome and opening remarks
- Dr Li Ailan, Director, Health Security and Emergencies (DSE), WHO Regional Office for the Western Pacific (WHO/WPRO)

Self-introductions

Objectives of the meeting
- Dr CK Lee, WHO/WPRO and Amy Cawthorne, WHO/HQ

Administrative announcements

Group photo

09:30 – 10:00 Coffee break

10:00 – 11:00 Session 1: Setting the scene
Facilitator: Dr CK Lee, WHO/WPRO and Amy Cawthorne, WHO/HQ

Surveillance of foodborne diseases (FBD):
Opportunities for cross- programme collaboration
- Dr Li Ailan, WHO/WPRO

IHR requirements and implementation progress
- Dr CK Lee, WHO/WPRO
Existing disease and event surveillance systems in the Western Pacific Region  
- Dr Shimada Tomoe, WHO/WPRO

Surveillance of FBD: Overview  
- Amy Cawthorne, WHO/HQ

Questions and clarifications

11:00 – 12:00  Session 2: Surveillance of FBD: Objectives, scopes and principles  
Facilitator: Dr CK Lee, WHO/WPRO and Amy Cawthorne, WHO/HQ

12:00 – 13:00  Lunch break

13:00 – 14:30  Session 2 (continued)

14:30 – 15:00  Coffee break

15:00 – 17:00  Session 3: Possible options towards sustainable surveillance of FBD  
Facilitator: Dr Enrique Pérez Gutiérrez, WHO/AMRO and  
Amy Cawthorne, WHO/HQ

17:00 – 18:30  Welcome Reception, Al Fresco Lounge

Day 2 – Wednesday, 26 February 2014

08:30 – 09:00  Wrap up of Day 1  
- Dr Megge Miller, Consultant

09:00 – 10:00  Session 3: Possible options (continuation)  
- Dr Enrique Pérez Gutiérrez, WHO/AMRO  
- Dr Seung Hak Cho, KNIH, KCDC  
- Ms Bouaphanh Khampaphongphane, Lao PDR

Questions and clarifications

10:00 – 10:30  Coffee break

10:30 – 12:00  Session 4: How to develop and sustain surveillance for FBD  
Facilitator: Dr CK Lee, WHO/WPRO and Amy Cawthorne, WHO/HQ

12:00 – 13:00  Lunch break

13:00 – 17:00  Session 4 (continued)
Day 3 – Thursday, 27 February 2014

08:30 – 09:00  Wrap up of Day 2  
               - Dr Megge Miller, Consultant

09:00 – 10:00  Session 4 (continued)

10:00 – 10:30  Coffee break

10:30 – 12:30  Session 4 (continued)

12:30 – 14:00  Lunch break

14:00  Session 5: Next steps to move forward  
       - Dr Li Ailan, WHO/WPRO

       Closing remarks
INFORMAL CONSULTATION ON
STRENGTHENING THE SURVEILLANCE OF
FOODBORNE DISEASES IN THE
WESTERN PACIFIC REGION

Manila, Philippines
25-27 February 2014

INFORMATION BULLETIN NO 2

PROVISIONAL LIST OF TEMPORARY ADVISERS,
CONSULTANT AND SECRETARIAT

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