



Food and Agriculture
Organization of the
United Nations



World Health
Organization

MEETING REPORT

The Second Global Meeting of the
FAO/WHO International Food Safety
Authorities Network

(INFOSAN)

9-11 DECEMBER 2019

Abu Dhabi, United Arab Emirates



INTERNATIONAL FOOD
SAFETY AUTHORITIES
NETWORK

Hosted by the Abu Dhabi Agriculture and Food Safety Authority

هيئة أبوظبي للزراعة والسلامة الغذائية
ABU DHABI AGRICULTURE AND FOOD
SAFETY AUTHORITY



The Second Global Meeting of the FAO/WHO International Food Safety Authorities Network (INFOSAN), Abu Dhabi, United Arab Emirates, 9-11 December 2019: meeting report

ISBN 978-92-4-000393-4 (WHO)

© World Health Organization and Food and Agriculture Organization of the United Nations, 2020

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that the World Health Organization (WHO) or the Food and Agriculture Organization of the United Nations (FAO) endorse any specific organization, products or services. The use of the WHO or FAO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: “This translation was not created by the World Health Organization (WHO) or the Food and Agriculture Organization of the United Nations (FAO). WHO and FAO are not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition”.

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules>.

Suggested citation. The Second Global Meeting of the FAO/WHO International Food Safety Authorities Network (INFOSAN), Abu Dhabi, United Arab Emirates, 9-11 December 2019: meeting report. Geneva: World Health Organization and Food and Agriculture Organization of the United Nations; 2020. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

WHO Photographs. WHO photographs are copyrighted and are not to be reproduced in any medium without obtaining prior written permission. Requests for permission to reproduce WHO photographs should be addressed to: http://www.who.int/about/licensing/copyright_form/en/

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO or FAO concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products, whether or not these have been patented, does not imply that they are endorsed or recommended by WHO or FAO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO and FAO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO and FAO be liable for damages arising from its use.



MEETING REPORT

The Second Global Meeting of the
FAO/WHO International Food Safety
Authorities Network

(INFOSAN)

9-11 DECEMBER 2019

Abu Dhabi, United Arab Emirates





CONTENTS

Acknowledgements	3
Acronyms	4
Executive summary	5
Introduction	9
Meeting background	9
Meeting composition	9
Opening remarks	10
Meeting objectives	11
Keynote address	12
 SESSION 1:	
Global overview of INFOSAN	14
Looking back – INFOSAN in Review: 2004-2019	15
Looking forward – INFOSAN Strategic Plan: 2020-2025	17
The updated INFOSAN Members' Guide: reviewing processes and procedures	18
The (new) INFOSAN Community Website	19
 SESSION 2:	
INFOSAN in action: Spotlight on <i>Listeria monocytogenes</i>	21
Introduction to <i>Listeria monocytogenes</i> and listeriosis	22
Outbreak of listeriosis in South Africa, 2017-2018	23
Outbreak of listeriosis in Spain, 2019	24
Outbreak of listeriosis linked to internationally distributed frozen vegetables from Hungary, 2015-2018	25
Lessons learned from listeriosis outbreaks	26
 SESSION 3:	
INFOSAN as a network of networks	28
Introduction and overview	29
European Rapid Alert System for Food and Feed (RASFF)	30
Gulf Cooperation Council (GCC) Rapid Alert System for Food (RASFF)	31
Arab RASFF	32
Association of South-East Asian Nations RASFF	33
European Food Safety Authority's Emerging Risks Exchange Network	34

SESSION 4:

Country showcase: sharing food safety information between sectors and across borders using INFOSAN	36
Canada's food recall notification procedure with INFOSAN	37
Investigation of foodborne diseases and outbreaks in Abu Dhabi, United Arab Emirates (UAE)	38
Australian experience on sharing information on international recalls through INFOSAN	39

SESSION 5:

Regional Focus	40
Introduction and overview of group work	41
Reports from regional break-out groups	41

SESSION 6:

Sharing best practices and lessons learnt related to food safety event alert and response	43
Food safety management in the Republic of Korea	44
Rapid alert system (comprehensive approach) in Abu Dhabi, UAE	45
Lessons learned from a national INFOSAN workshop to strengthen the food safety alert system in Ghana	46

SESSION 7:

Examples of INFOSAN members strengthening the global INFOSAN community	48
How the United States of America (USA) actively participates in INFOSAN	49
How New Zealand is supporting INFOSAN	50

SESSION 8:

Facilitated "Hard Talk" Expert Panel	51
1. Use of whole genome sequencing to revolutionize outbreak investigation and food safety	
2. Food fraud	
3. Artificial intelligence and big data impact on future risk assessment and risk management	
4. Challenges associated with food safety and e-Commerce	
5. Risk analysis	
6. Panel summary	

SESSION 9:

Meeting wrap-up and closing remarks	54
Moving forward together: Next steps	55
Closing remarks	56

Appendix 1 – Meeting agenda	57
Appendix 2 – Reports from regional break-out groups	62
Appendix 3 – Summary of regional side meetings	68
Appendix 4 – Summary of post-meeting evaluation survey	70

ACKNOWLEDGEMENTS

On behalf of the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the Abu Dhabi Agriculture and Food Safety Authority (ADAFSA), the Secretariat of the International Food Safety Authorities Network (INFOSAN) wishes to express its sincere thanks to all those who contributed to the success of this meeting.

In addition, FAO and WHO wish to express our deepest gratitude to His Excellency Sheikh Mansour bin Zayed Al-Nahyan, the Deputy Prime Minister of the United Arab Emirates (UAE), Minister of Presidential Affairs and Chairman of ADAFSA and His Excellency Saeed Albahri Alamri, Director General of ADAFSA, for sponsoring the meeting and for the generous hospitality offered. Our gratitude is extended to the staff at the ADAFSA who worked tirelessly in preparation for the meeting, including the team led by Mouza al Muhairi and supported by Fadi Al Natour. Without their unwavering support, the meeting would not have been a success.

We also wish to acknowledge several other agencies for their financial contributions to the meeting which enabled the participation of so many INFOSAN members from around the world. These agencies include the United States Food and Drug Administration (US FDA), the Canadian Food Inspection Agency (CFIA) and the Ministry of Food and Drug Safety (MFDS).

Finally, we express our thanks to all participants and presenters for their valuable technical input, contributions and collegiality during the meeting.

ACRONYMS

AAC	Administrative Assistance and Coordination system
ADAFSA	Abu Dhabi Agriculture and Food Safety Authority
AIDS	Acquired immune deficiency syndrome
AI	Artificial Intelligence
Arab SAFE	Arab Food Safety Initiatives for Trade Facilitation
ARASFF	ASEAN RASFF
ASEAN	Association of South-East Asian Nations
CCEURO	FAO/WHO Coordinating Committee for Europe
CFIA	Canadian Food Inspection Agency
cgMLST	core genome multilocus sequence typing
CPLP	Community of Portuguese Language Countries
DG SANTE	Directorate-General for Health and Food Safety
ECP	Emergency Contact Point
EFSA	European Food Safety Authority
EREN	Emerging Risks Exchange Network
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EPIS	Epidemic Intelligence Information System
EU	European Union
EWRS	Early Warning and Response System
FAO	Food and Agriculture Organization of the United Nations
FDA (US)	Food and Drug Administration
FDA (Ghana)	Food and Drugs Authority
FP	Focal Point
GCC-RASF	Gulf Cooperation Council Rapid Alert System for Food
GOARN	Global Outbreak Alert and Response Network
HIV	Human immunodeficiency virus
HQ	Headquarters
ICW	INFOSAN Community Website
IHR	International Health Regulations (2005)
IMSOC	Integrated Management System for Official Controls
INFOSAN	International Food Safety Authorities Network
MFDS	Ministry of Food and Drug Safety
MPI	Ministry for Primary Industries
NFP	National Focal Point
NHD	National Health Department
RASFF	Rapid Alert System for Food and Feed
RTE	Ready-to-eat
SCP	Single Contact Point
SFDA	Saudi Food and Drug Administration
UAE	United Arab Emirates
USA	United States of America
US FDA	United States Food and Drug Administration
WGS	Whole Genome Sequencing
WHO	World Health Organization
WHO-CC	World Health Organization Collaborating Centre



EXECUTIVE SUMMARY

The Second Global Meeting of INFOSAN was held from 9-11 December 2019 in Abu Dhabi, UAE and attended by more than 285 participants from 135 countries. His Excellency Dr Thani Ahmed Al Zeyoudi, Minister of Climate Change and Environment, inaugurated the meeting which was organized by FAO, WHO and ADAFSA. The meeting was held at the Abu Dhabi National Exhibition Centre under the patronage of His Excellency Sheikh Mansour bin Zayed Al Nahyan, Deputy Prime Minister of the UAE, Minister of Presidential Affairs and Chairman of ADAFSA. After nearly 10 years since the first global meeting, the purpose of this meeting was to bring members together to discuss recent network developments, reinforce relationships, exchange experiences and inspire actions to strengthen INFOSAN in the future. The meeting agenda is included in Appendix 1.

During the opening session, the keynote address from Steven Jaffee provided an overview of the World Bank's '*Safe Food Imperative*', which suggests that much of the health and economic burden of unsafe food can be avoided through preventive measures, investments, and behavioral changes adopted from farm-to-fork. It also draws attention to policies and approaches that governments can use to invest wisely in food safety, to better leverage private initiatives, and to engage effectively with consumers.

In Session One, the INFOSAN Secretariat provided a global overview of INFOSAN to highlight progress and challenges faced during the past 15 years and to ensure participants had a clear understanding of their roles and responsibilities as INFOSAN members. The new INFOSAN Secretariat Strategic Plan 2020-2025 was presented as well as the new INFOSAN Members' Guide. The session concluded with a description of the INFOSAN Community Website and plans for the launch of an upgraded site in 2020.

During Session Two, the utilization of INFOSAN during international food safety events involving multiple countries around the world was demonstrated, showcasing different response systems and highlighting the usefulness of INFOSAN. As *Listeria monocytogenes* has been responsible for some of the largest and most complex outbreaks communicated through INFOSAN in recent years, the panel was focused on events involving this pathogen. Experts from research institutions and food safety authorities explained how recent listeriosis outbreaks in South Africa, Spain and Hungary have reshaped the regulatory environment and benefitted from the application of whole genome sequencing (WGS) to effectively trace back to the source of this foodborne outbreak. They also showcased the key role that INFOSAN played in helping authorities from affected countries receive relevant information as well as technical support.

In Session Three, speakers illustrated the important links between INFOSAN and other regional networks. They discussed ways to improve collaboration across sectors and between programs to better manage food safety events. The regional networks discussed include the European Rapid Alert System for Food and Feed (RASFF), the Gulf Cooperation Council Rapid Alert System for Food (GCC-RASF), the Arab RASFF, the Association of South-East Asian Nations (ASEAN) RASFF and European Food Safety Authority's (EFSA) Emerging Risks Exchange Network (EREN).

- 1| Meeting participants gather for a group photo.
- 2| Participants listening to plenary discussions during session one.
- 3| In between sessions: Diego Varela, INFOSAN Focal Point, Chile (left) and Clara Ivania Soto, INFOSAN Focal Point, Nicaragua (right).
- 4| Participants listening to opening remarks.



Session Four provided an opportunity for some members to share experiences and tested solutions with respect to information exchange during food safety incidents nationally, between sectors and internationally. INFOSAN members from Canada and Australia explained their national procedures for sharing information about international recalls using INFOSAN. In addition, the process for investigating foodborne diseases and outbreaks in Abu Dhabi, UAE was elaborated.

Session Five provided an opportunity for participants to engage in facilitated discussions to identify regional-specific challenges and solutions for enhancing participation in INFOSAN. Outcomes of these group discussions were presented by members of the INFOSAN Advisory Group and each provided important regional perspectives on how to overcome barriers to active participation in INFOSAN activities. Regional discussions illustrated the differences that exist between regions and justify continuing and increasing regional activities. Complete feedback from group facilitators is included in Appendix 2.

Session Six provided an opportunity for members to share their experiences and tested solutions with respect to food safety event alert and response activities. The INFOSAN Emergency Contact Points from the Republic of Korea explained how the national food safety management system is organized as well as the



3 |



4 |

functioning of their automatic sales blocking system used to prevent the consumers from purchasing recalled food products. The experiences of ADAFSA with respect to the utilization of a risk alert system were shared. The INFOSAN Emergency Contact Point from Ghana detailed the experience of bringing together national stakeholders for a workshop to improve communication and collaboration on matters of food safety.

In Session Seven, INFOSAN members from the USA and New Zealand highlighted their extraordinary past and ongoing efforts to support INFOSAN and provided their perspectives on how other INFOSAN members can become more active supporters and advocates for the network.

In Session Eight, the 'hard talk' delivered a fascinating discussion among experts on a range of emerging and important topics for food safety including whole genome sequencing, food fraud, e-Commerce, artificial intelligence and risk analysis.

In the closing session, the INFOSAN Secretariat presented the meeting outcomes which included a strengthened sense of community and willingness to collaborate and share information during food safety emergencies, among several others. The meeting was closed by Mouza al Muhairi, Policy and Regulation Executive Director, ADAFSA, UAE.

Taking advantage of the occasion to meet in person, two regional side meetings were held for INFOSAN members from the Americas and for Asia after the global meeting concluded. Short summaries of these regional side meetings are included in Appendix 3.

Following the meeting, feedback collected from participants via an online evaluation survey was overwhelmingly positive. Several interesting topics to discuss at future meetings were suggested. A summary of responses is included in Appendix 4.

INTRODUCTION

Meeting background

Ensuring food safety is a shared responsibility that must be addressed through close collaboration across sectors at national level and with the establishment of functional links between food safety authorities globally. This is especially important in our increasingly globalized world, where a local outbreak of foodborne illness can rapidly evolve into a global food safety crisis.

At the request of Member States through various fora, INFOSAN was developed and launched in 2004 by WHO in collaboration with FAO. The purpose of INFOSAN is to ensure rapid sharing of information during food safety emergencies to stop the spread of contaminated food from one country to another or limit the public health impact of outbreaks. In the face of constantly changing global factors affecting food safety, actions taken through INFOSAN reduce the burden of foodborne diseases globally. INFOSAN also facilitates the sharing of experiences and tested solutions in and between countries to optimize future interventions to protect the health of consumers worldwide.

The first global meeting of INFOSAN members was held with great success in 2010 and was attended by 150 participants from 65 countries. The meeting resulted in several important recommendations which have since been implemented to improve the network, including the design and launch of the INFOSAN Community Website and the development and implementation of strategies for strengthening INFOSAN in different regional contexts.

As the network has increased both in membership and in level of activity, and because new challenges and opportunities are facing national food safety authorities, the timing was right to host the second global meeting of INFOSAN members.

Meeting composition

All INFOSAN members were invited to participate in this meeting, including both INFOSAN Emergency Contact Points and INFOSAN Focal Points. These individuals are representatives from their national food safety authorities. The operational definition for food safety authorities includes authorities involved in food legislation, risk assessment, food control and management, food inspection services, foodborne disease surveillance and response, laboratory services for monitoring and surveillance of foods and foodborne diseases, and food safety information, education and communication, across the farm-to-fork continuum. One of the challenges in maintaining a network of food safety authorities lies in the fact that food safety is seldom dealt with by a single agency in any given country. The structure of INFOSAN seeks to reflect this reality by promoting the designation of INFOSAN Focal Points in each of the respective national agencies

involved. The Emergency Contact Point is an individual from the national authority responsible for national food safety emergency response coordination.

Along with Emergency Contact Points and Focal Points, the INFOSAN Advisory Group, as well as WHO Regional Food Safety Advisors participated in the meeting and assisted with the proceedings. They were also supported by several representatives from regional food safety authorities and regional networks. Additional delegates involved in food safety activities from the UAE and the Eastern Mediterranean Region were also in attendance.

Opening remarks

Delegates were welcomed by His Excellency Dr Thani Ahmed Al Zeyoudi, the Minister of Climate Change and Environment of the UAE who delivered opening remarks on behalf of the UAE. This was followed by opening remarks from Bukar Tijani, Assistant Director-General for Agriculture and Consumer Protection Department, FAO. Naoko Yamamoto, Assistant Director-General, Healthier Populations Division, WHO, provided opening remarks by video.



His Excellency Dr Thani Ahmed Al Zeyoudi, Minister of Climate Change and Environment of the United Arab Emirates delivering opening remarks. Participants listening to plenary discussions during session one.



Bukar Tijani, Assistant Director-General, FAO, delivering opening remarks. Participants listening to closing remarks during the final session.

Meeting objectives

Peter Ben Embarek, WHO, on behalf of the INFOSAN Secretariat, reminded participants of the meeting objectives:

- 1| Provide a global overview of INFOSAN to highlight progress and challenges faced during the past 15+ years;
- 2| Ensure participants have a better understanding of their roles and responsibilities as INFOSAN members and their obligations under the International Health Regulations (IHR 2005);
- 3| Illustrate the important links between INFOSAN and other regional networks and discuss ways to improve collaboration across sectors and between programs to strengthen the various initiatives to better manage food safety events;
- 4| Provide opportunities for regional break-out sessions for participants to engage in facilitated discussion to identify regional-specific challenges and solutions for enhancing participation in INFOSAN;
- 5| Provide a forum for members to share their experiences and tested solutions with respect to identifying emerging foodborne hazards and assessing food safety risks, interacting across sectors and between institutions nationally and internationally;
- 6| Deliver a series of high-level technical sessions on new developments and challenges in the area of food safety;
- 7| Provide an opportunity to share initial experiences on current and emerging challenges for food safety managers such as handling food fraud, regulating and tracing back products from online trade, use of whole genome and next generation sequencing data in outbreak investigations, modern risk assessment and risk management, prevention and management of antimicrobial resistance, and others;
- 8| Inspire innovative actions to tackle upcoming food safety challenges which will be faced in the next decade.



Steven Jaffee,

Lecturer in Agricultural and Resource Economics at the University of Maryland, United States of America (USA); formerly at the World Bank and lead author of the Safe Food Imperative: Accelerating Progress in Low- and Middle-Income Countries

Keynote address

Food safety is vital for achieving many of the Sustainable Development Goals, including ending poverty and hunger and promoting health and well-being. Unsafe food can cause illness and death, and it keeps people from working and thriving. It undermines food and nutritional security, imposes costs on the food economy and public health system, and disrupts international trade. The global burden of foodborne disease falls disproportionately on children under age five and on the populations of low- and middle-income countries in Asia and Africa. Low- and middle-income countries are estimated, in aggregate, to experience a productivity loss of some 95 billion United States Dollars per year because of unsafe food. The Safe Food Imperative argues that much of the health and economic burden of unsafe food can be avoided through preventive measures, investments, and behavioral changes adopted from farm-to-fork. To strengthen the economic case for food safety investment three things have been emphasized: 1) the trade angle and the matter of international competitiveness which is well understood and most development assistance on food safety focuses here; 2) how safe food (or unsafe food) affects the growth and dynamics in the domestic food market, how it affects consumer confidence, and its role in the creation and maintenance of jobs and other economic opportunities; and 3) cost avoidance, that is, the avoidance of future public health costs and productivity losses due to preventive measures taken today.

Many countries should adjust the paradigm of food safety governance towards a shared responsibility model. The issue goes well beyond increasing investment and countries need to start with a paradigm shift and to operationalize this. The traditional approach has government setting the rules, pressing business to act differently and having business then deliver safe food to passive consumers. This is not an effective model. Instead we need to see a model of shared responsibility in which government, business, and consumers all have important inter-dependent functions and with support and information flows being multidirectional.

Governments in low and middle-income countries need to invest more in food safety and invest smarter. This means: having a clear purpose and prioritizing investments based upon evidence of problem incidence and severity, costs and potential benefits; investing in the systems to generate food safety evidence and solutions and the cadre of food safety professionals needed to work in industry and government; making sure to balance

attention to the hardware and software of food safety—for example in the professionals and protocols in addition to the laboratory buildings and equipment; aiming to realize synergies in risk management, as with One Health initiatives or those which combine attention to food safety and environmental protection; and carefully monitoring the impacts of investments and regulatory interventions, and making adjustments as needed.

To mainstream food safety in the development agenda, we do not necessarily need individual ‘food safety projects’, but instead to think holistically about the range of areas which can contribute to safer food, to realize synergies among these investments, and to better monitor their impact.

Main Messages:

- 1| Food safety is a core economic development issue but generally has not been recognized as such; when food safety has been on the development agenda this has primarily been in relation to trade. Today, the domestic agenda warrants increased attention.
- 2| Domestic food safety has commonly featured major data and informational gaps, little policy coherence, and significant underinvestment; concerted public action normally has reactive-crisis management more common than risk management.
- 3| The gap between food safety capacity and actual need is especially large for today’s rapidly urbanizing lower middle-income countries; for these countries, a ‘business as usual’ approach will result in very high public health and economic costs in the future.
- 4| Many of these costs are avoidable: through preventive public policy measures, smarter investment, increased information- and experience-sharing, and a paradigm shift in food safety governance and stakeholder engagement.
- 5| Many countries should adjust the paradigm of food safety governance towards a shared responsibility model.
- 6| Governments need to invest more and smarter in domestic food safety.



SESSION ONE:

Global Overview of INFOSAN

The objectives of Session One were to provide a global overview of INFOSAN to highlight progress and challenges faced during the past 15 years and to ensure participants had a clear understanding of their roles and responsibilities as INFOSAN members.



Carmen Joseph Savelli,
INFOSAN Secretariat, WHO

Looking back – INFOSAN in Review: 2004-2019

The stimulus for the creation of a global network of food safety authorities originated directly from Member States' requests articulated at the World Health Assembly and the Codex Alimentarius Commission. In response to a clear need, expressed prominently and repeatedly in multiple global fora, the WHO officially launched INFOSAN in 2004, in cooperation with FAO, at the FAO/WHO Second Global Forum for Food Safety Regulators. After 15 years of growth, INFOSAN operates as a voluntary network of more than 600 members from 190 countries. The work of the INFOSAN Secretariat is supported by an international Advisory Group and many other regional and global partners. INFOSAN has four main objectives: 1) Promote the rapid exchange of information during food safety incidents; 2) Share information and resources on important food safety related issues of global interest; 3) Promote partnerships and collaboration between national agencies, between countries, and between networks; and 4) Help countries strengthen their capacity to manage food safety emergencies.

In January 2019, a study of INFOSAN was launched¹ to explore and describe the experiences of members to better understand the role of the network in improving food safety and mitigating the burden of foodborne illness globally. An online questionnaire was developed and adapted from English into French and Spanish before being disseminated. By email, registered national INFOSAN members (480) were requested to complete the questionnaire and 239 responses were received from INFOSAN members in 130 countries. About 70% agree that because of INFOSAN, illnesses have been prevented; 69% agree that because of INFOSAN, lives have been saved; 63% agree that INFOSAN has improved the safety of the global food supply; 61% agree that INFOSAN has reduced foodborne illness globally; 93% of INFOSAN members say that participating in INFOSAN has been a valuable experience. More than half of respondents agreed that the following barriers limited their participation in INFOSAN: there is a need for a simpler and more standardized way to share information between national authorities within their country (60%); there are challenges in conducting food safety risk assessments within their country (59%); their country has insufficient funds dedicated to monitoring and/or responding to food safety events (55%); their country has limited capacity and/or infrastructure dedicated to addressing food safety events (54%). This study represents the first ever

1. Read more about this study online: <https://bmjopen.bmj.com/content/9/5/e027091.info>

to explore and describe the experiences of INFOSAN members with respect to their participation in network activities to improve global food safety and prevent foodborne illness. Results have already been used by the INFOSAN Secretariat to strengthen the network and support the active participation of members.

Main messages:

- 1| The network has grown significantly in terms of size and activity level in the last 15 years.
- 2| Responsiveness during food safety incidents is high but could be improved.
- 3| Members believe that INFOSAN is making a positive difference in terms of promoting food safety and preventing foodborne illness.
- 4| We have achieved a lot together, but many barriers persist which limit active participation.
- 5| The ongoing study of INFOSAN is providing useful perspectives from members which will help to strengthen network activities in the future.



Peter Ben Embarek,
INFOSAN Secretariat, WHO

Looking forward – INFOSAN Strategic Plan: 2020-2025

A new strategic plan for INFOSAN has been published by the INFOSAN Secretariat and covers the period 2020-2025. The plan was drafted with support from INFOSAN Advisory Group Members and FAO and WHO staff. The vision of INFOSAN is a global community of practice working together for safer food around the world. The mission of INFOSAN is to halt the international spread of contaminated food, prevent foodborne disease outbreaks, and strengthen food safety systems globally to reduce the burden of foodborne diseases. Core values of the INFOSAN Secretariat include reliability, efficiency, confidentiality, flexibility, community, and transparency. The new strategic plan outlines the overall object to strengthen INFOSAN, thereby ensuring that more people have better protection from health emergencies caused by unsafe food and contribute to less foodborne illness. The six strategic objectives include: 1) Strengthen INFOSAN as the global network to detect and respond to international food safety emergencies to reduce their public health and trade impact; 2) Develop INFOSAN as a ‘network of networks’, connecting food safety professionals from across the world; 3) Use INFOSAN to bring together knowledge and experiences to increase food safety response capacity, globally; 4) Facilitate increased information sharing by improving the user experience of members on the INFOSAN Community Website; 5) Boost the visibility of INFOSAN through proactive communications and identify new funding opportunities to not only sustain, but expand INFOSAN activities; and 6) Gain a comprehensive understanding of barriers and facilitators to active participation in INFOSAN to prioritize interventions to increase member engagement.

Main messages:

- 1| A new strategic plan has been developed with support from the INFOSAN Advisory group.
- 2| Six key strategic objectives have been identified with key actions to guide future activities.
- 3| Active support and engagement from members will be required to achieve the targets outlined in the strategic plan.
- 4| The strategic plan will serve as a source of inspiration for discussions that will further inform the strategic thinking process and shape the future direction of INFOSAN.
- 5| The strategic plan should be referred to during the development of specific project proposals that will aim to address actions to achieve the identified objectives.



Adam Bradshaw,
INFOSAN Secretariat, WHO

The updated INFOSAN Members' Guide: reviewing processes and procedures

The new members' guide has been developed taking a participatory approach and includes contributions from the INFOSAN Advisory Group and several members from around the world. Feedback received at the INFOSAN Global Meeting will be incorporated prior to finalization and publication in 2020. The purpose of the INFOSAN Members' Guide is to be functional reference guide for members that includes organizational and practical information. The first part of the guide provides a general overview of the structure and functions of INFOSAN, network organisation, roles and responsibilities of Secretariat, Advisory Group and members as well as information about the INFOSAN Community Website. The second part provides details about the operational aspects around the communication of international food safety incidents. Sources of information are described along with guidance on the process for reporting food safety incidents to the INFOSAN Secretariat. In addition, a template for IHR/INFOSAN communication has been published as an annex to the INFOSAN Members' Guide and serves as a starting point for the development of a national protocol for information sharing among stakeholders involved in food safety emergency response.

Main messages:

- 1| The INFOSAN Members' Guide is intended to be a functional reference guide for INFOSAN Members.
- 2| The INFOSAN Members' Guide was developed through a participatory approach, considering feedback received from INFOSAN members and the Advisory Group.
- 3| INFOSAN members are encouraged to review the guide in detail to become familiar with the operational aspects of the network and their roles and responsibilities.

Raul Garcia,
INFOSAN Secretariat, WHO



The (new) INFOSAN Community Website

In 2012, the INFOSAN Secretariat launched the INFOSAN Community Website (ICW), an online, secure platform for INFOSAN members to connect and engage with one another. The INFOSAN Community Website is more than just a website, it is a knowledge exchange portal meant to assist in knowledge management for evidence-informed decision making on issues related to food safety. The ICW is the primary tool for disseminating food safety information to members during emergency situations and provides a forum for members to discuss topical food safety issues with experts from around the globe. The ICW also serves as a repository of food safety documents of global interest to food safety professionals involved in emergency preparedness and response activities. The recent global survey of INFOSAN members led by Savelli and Mateus¹ revealed that: 94% agree that the INFOSAN Community Website is an important and supportive tool for the network; 88% agree that the INFOSAN Community Website provides a single integrated point of access to a variety of relevant food safety emergency information for INFOSAN members around the world; 87% agree that the INFOSAN Community Website facilitates information sharing and provides collaborative features that help to foster the community of practice among INFOSAN members. In addition, 71% agree that the volume of information posted on the INFOSAN Community Website by the secretariat is sufficient. 47% agree that the volume of information posted on the INFOSAN Community Website by the members is sufficient. 82% agree that a mobile friendly version of the INFOSAN Community Website would improve participation.

Results from the survey and experience over the past seven years has impacted how the new ICW will be designed and how community engagement is conducted. The overall objective is to relaunch the ICW as a state-of-the-art knowledge exchange portal that encourages increased engagement of INFOSAN members and a higher volume of active participants contributing to the ICW on a regular basis. The new ICW will be user friendly and will make it easier to share important information during food safety incidents. By upgrading the ICW, we can contribute to a stronger community of INFOSAN members, who are more connected and capable of leveraging the worldwide knowledge and expertise available to combat global food safety emergencies.

1. Study protocol available online: <https://bmjopen.bmj.com/content/9/5/e027091.info>

Main messages:

- 1| The ICW is an essential communication tool for INFOSAN.
- 2| The ICW is currently underutilized by members; the INFOSAN Secretariat encourages the members to access the site more often to obtain food safety information and to be involved in discussions on food safety events.
- 3| An upgraded ICW could help facilitate more active participation in network activities.
- 4| A user group of interested members will help to ensure the new site reflects members' needs.

A large blue graphic on the left side of the page, composed of various shades of blue triangles and polygons, creating a geometric, low-poly effect.

SESSION TWO:

INFOSAN in action – Spotlight on *Listeria monocytogenes*

The objective of Session Two was to demonstrate the utility of INFOSAN during international food safety events involving multiple countries around the world, showcasing different response systems and highlighting the utility of INFOSAN. As *Listeria monocytogenes* has been responsible for some of the largest and most complex outbreaks communicated through INFOSAN in recent years, the panel was focused on events involving this pathogen.



Alexandre Leclercq,

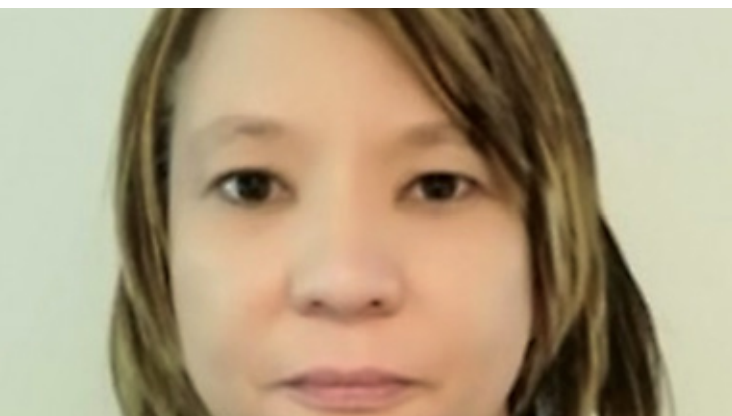
Deputy Head, Institut Pasteur of the Biology of Infection Unit, France; National Reference Center for France and WHO Collaborating Centre for *Listeria*

Introduction to *Listeria monocytogenes* and listeriosis

Listeria monocytogenes (Lm) is a foodborne bacterial pathogen that can cause a severe invasive infection in humans and animals called listeriosis. In high-income countries, it occurs mainly among the elderly, immunocompromised individuals and pregnant women, and is associated with high fatality and hospitalization rates. There is no resistance to reference antimicrobials amoxicillin and gentamicin. Ready-to-eat (RTE) foods are the main sources of contamination, especially dairy and meat products.

Main messages:

- 1| Listeriosis is a serious, but preventable and treatable infectious disease caused by the bacterium *Listeria monocytogenes*.
- 2| Pregnant women, the elderly or individuals with a weakened immune system, such as people with immuno-compromised status due to HIV/AIDS, leukemia, cancer, kidney transplant and steroid therapy, are at greatest risk of severe listeriosis and should avoid high risk foods.
- 3| High risk foods include deli meat and RTE meat products (such as cooked, cured and/or fermented meats and sausages), soft cheeses and cold smoked fishery products.
- 4| *Listeria monocytogenes* are widely distributed in nature; they can be found in soil, water, vegetation and the feces of some animals and can contaminate foods.



Penny Campbell,
Director of Food Control, National Department
of Health, South Africa; INFOSAN Emergency
Contact Point

Outbreak of listeriosis in South Africa, 2017-2018

An outbreak of listeriosis in South Africa began in early 2017. By July 2018, a total of 1060 cases, mostly high-risk patients, had been reported; 42% of these were neonates who were infected during pregnancy or delivery. Of the 806 patients for whom the outcome is known, 27% died. This was the largest outbreak of listeriosis ever recorded worldwide. Whole genome sequencing was used to identify the strain of *L. monocytogenes* involved; 91% of cases were found to be infected with the same strain, which was found in a widely consumed RTE processed meat (polony). The same strain of bacterium was found in the processing environment of the polony manufacturer.

The RTE meat products responsible for most illnesses and deaths had been exported to 15 other countries in the African region so were recalled following communication through INFOSAN. A national multisectoral task force was activated in South Africa to coordinate investigation and response activities, including surveillance, risk communication, and review and reform of food legislation.

The National Health Department (NHD) legislates the food control functions of food safety, food labelling and regulatory nutrition in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972. Owing to this, NHD hosts the INFOSAN Emergency Contact Point and facilitates effective emergency response during food safety emergencies and incidents. It also hosts the IHR Focal Point and the Codex Contact Point.

Main messages:

- 1| This was the largest recorded listeriosis outbreak with very serious public health consequences.
- 2| INFOSAN was instrumental in disseminating information about contaminated products to other countries, allowing for risk management measures to be implemented.
- 3| Codex guidelines for the control *L. monocytogenes* were utilized as part of the response to strengthen the food safety system in South Africa.
- 4| South Africa is committed to implementing the IHR 2005, actively participating in INFOSAN, harmonizing food legislation with the joint Codex Alimentarius Commission and ensuring adherence to the Sanitary and Phytosanitary Measures and Technical Barriers to Trade agreements.

- 5| One of the biggest challenges during the outbreak of listeriosis was the 'fast' information exchange among the involved stakeholders; to address this, South Africa has been strengthening the national food safety system by reviewing and revising collaborative agreements, country regulation, recall procedures and reporting methods; this could be a lesson-learnt for other countries.



Alicia Mazagatos,

Spanish Agency for Consumer Affairs, Food Safety and Nutrition, Spain; INFOSAN Emergency Contact Point

Outbreak of listeriosis in Spain, 2019

In July 2019 an increase in cases of *L. monocytogenes* was detected in a region in the south of Spain (Andalucía) in relation to data from previous years. In addition, several outbreaks were notified in a short period of time. Laboratory data revealed the unfavorable results for *L. monocytogenes* related to a meat product (carne mechada). The outbreak grew very quickly, possibly owing to the high level of contamination found in the product and the local distribution of the product. The product is typical in Andalusian restaurants and in the catering industry and distribution was localized, almost entirely in Andalucía. The competent authorities suspended the production of all oven-cooked products produced in the involved food business operator, investigated the causes and traceability data and withdrew the products from the market. Consumers were advised through the media. Information was shared through RASFF and INFOSAN.

In total, 216 cases were confirmed, three people died, and several miscarriages resulted. Genomic analysis of *L. monocytogenes* strains showed a close genetic relationship between food, surface and clinical isolates. Considering lessons learned from this outbreak, the need to strengthen official controls and improve communication between authorities and the consumer are highlighted.

Main messages:

- 1| This was the largest outbreak of listeriosis ever reported in Spain.
- 2| The national alert system has worked, but improvements can be made to restore consumer confidence.
- 3| Official controls should be strengthened to prevent such an outbreak from occurring in the future.
- 4| RASFF and INFOSAN are important communication tools to keep other countries apprised of developments given the high attention of the media to this outbreak.

Jan Baele,
Head of Sector, Directorate-General for
Health and Food Safety (DG SANTE) RASFF,
European Commission; INFOSAN Advisory
Group Member



Outbreak of listeriosis linked to internationally distributed frozen vegetables from Hungary, 2015 – 2018

An outbreak of invasive listeriosis, caused by the bacteria *L. monocytogenes*, was ongoing in five European countries, resulting in 47 cases over a multi-year period. The issue was triggered at the European Union (EU) level by Finland upon initiation of an urgent inquiry in the Epidemic Intelligence Information System (EPIS) of the European Centre for Disease Prevention and Control (ECDC) in November 2017. It was followed by a RASFF news notification posted by the European Commission. Due to the multi-country nature of the outbreak, a joint ECDC-EFSA Rapid Outbreak Assessment was prepared and published in March 2018. WGS analyses made it possible to link the human cases to mixes of frozen vegetables. In June 2018, 47 cases were identified including nine deaths. Authorities in Hungary identified the freezing establishment as the most likely operator involved in the contamination. Consequently, Hungary decided to stop production in this plant and recall products marketed over a period of nearly two years in more than 120 countries. Information was shared through RASFF and through INFOSAN, with the INFOSAN Secretariat ensuring that information about re-export from recipient countries was acted upon. The outbreak investigation and actions taken to ensure food safety required international cooperation of many authorities, scientific institutions and laboratories making best use of the tools available, including: RASFF, EPIS, Early Warning and Response System (EWRS), and the INFOSAN Community Website.

Main messages:

- 1| The use of WGS linked the consumption of frozen corn, and frozen vegetable mixes containing corn, spinach and green beans, to production at a processing plant in Hungary.
- 2| Despite regular cleaning and disinfection of the manufacturing environment, the implicated strain of *Listeria* was found to have persisted, and in June 2018 the marketing of all frozen vegetable products from the concerned factory was banned, and all frozen vegetable products manufactured since August 2016 were recalled.
- 3| As the products had been exported to over 120 countries, with several countries further distributing or processing them into other products, efforts to trace the implicated foodstuffs were challenging and complex.

- 4| The rapid exchange of information using RASFF, EPIS, EWRS and INFOSAN helps to facilitate local recalls, provide public health advice to consumers and implement other risk management measures to reduce the risk of exposure to the implicated products around the world.



Alexandre Leclercq,

Deputy Head, Institut Pasteur of the Biology of Infection Unit, France; National Reference Center for France and WHO-CC for *Listeria*

Lessons learned from listeriosis outbreaks

While disease surveillance in many high-income countries has enabled a clear picture of listeriosis clinical presentation, at-risk populations and contamination sources, the global burden of listeriosis and the food sources of contamination are not well known, particularly in certain parts of Africa, Asia and South America. The recent large outbreak in South Africa has dramatically illustrated that pregnant women and HIV-infected individuals represent a potentially large reservoir of patients in the absence of *L. monocytogenes* surveillance programs. Studies are now needed to better define the burden, clinical features and prognostic factors of listeriosis at the global level. Molecular typing of *L. monocytogenes* of clinical and food origins is key to identify clusters of cases, and identify food sources, respectively. WGS-based typing methods such as core genome multilocus sequence typing (cgMLST) are the most rapid and precise and have proven critical in microbiological surveillance in some high-income countries and South Africa. Large scale sequencing and typing of *L. monocytogenes* food and clinical isolates are needed to better define the global distribution of strains and assess the relative prevalence of hypervirulent and hypovirulent strains and can help refine surveillance strategies.

The global burden of listeriosis remains unknown but is likely higher than expected as revealed by the recent large outbreak in South Africa. There is a need to better control *L. monocytogenes* worldwide and implement or reinforce *L. monocytogenes* surveillance. It should be based on: 1) the implementation of listeriosis surveillance and food safety programs based on a 'One health approach' allowing real-time typing and genome comparisons of clinical and food isolates; and 2) access to WGS-based typing, an open database and a global nomenclature¹.

1. cgMLST and the BigsDB *Listeria* database offer this opportunity: <https://bigsdb.pasteur.fr/listeria/>

Main messages

- 1| Studies are needed to better define the burden, clinical features and prognostic factors of listeriosis at the global level.
- 2| Information extracted from WGS will contribute to better control *L. monocytogenes* at a global level and reduce the risk of infections.
- 3| The WHO Collaborating Centre for Listeria at the Institut Pasteur in France is available to assist those requiring help or advice regarding sequencing, typing and genome analyses.



SESSION THREE:

INFOSAN as a network of networks

The objective of Session Three was to illustrate the important links between INFOSAN and other regional networks and discuss ways to improve collaboration across sectors and between programs to better manage food safety events.



Peter Ben Embarek,
INFOSAN Secretariat, WHO

Introduction and overview

The INFOSAN Secretariat partners with several regional and global networks and institutions to carry out its work. At the global level, INFOSAN has important partnerships with another global WHO network called the Global Outbreak Alert and Response Network, GOARN. During outbreaks, GOARN ensures that the right technical expertise and skills are on the ground where and when they are needed most. INFOSAN also works with PulseNet International, which is a network that builds capacity for the molecular surveillance of foodborne disease, outbreak detection and response worldwide. Information generated by PulseNet International can be critical in linking international outbreaks of concern to members of INFOSAN and has been the source of information during dozens of food safety events communicated through INFOSAN. At the European level, the INFOSAN Secretariat also works with the ECDC (e.g. Epidemic Intelligence Information System), the European Commission (e.g. Rapid Alert System for Food and Feed) and the European Food Safety Authority (e.g. Emerging Risks Exchange Network). Other collaborations at sub-regional levels exist through partnerships with the African Union, the Arab Food Safety Initiatives for Trade Facilitation (Arab SAFE), the Association of South-East Asian Nations (ASEAN) and the Community of Portuguese Language Countries (CPLP).

Main messages:

- 1| Regional and global networks can serve to strengthen INFOSAN in several ways, including as important sources of food safety intelligence.
- 2| We should work towards complementarity of such systems and avoid the creation of duplication and parallel communication tracks, especially during food safety emergencies.



Jan Baele,

Head of Sector, Directorate-General for Health and Food Safety (DG SANTE) RASFF, European Commission; INFOSAN Advisory Group Member

European Rapid Alert System for Food and Feed (RASFF)

Created in 1979, RASFF enables information to be shared efficiently between its members (EU Member State national food safety authorities, Commission, EFSA, European Free Trade Association Surveillance Authority, Norway, Liechtenstein, Iceland and Switzerland) and provides a continuous service to ensure that urgent notifications are sent, received and responded to collectively and efficiently. RASFF is not the control system but it provides a fast information layer by structuring information exchanged that have identified health risks. RASFF notifications differentiate between a 'non-serious' and 'serious' risk but sometimes when that decision cannot be made an 'undecided' risk decision is made. The strength of RASFF is through the cooperation, visible from the high number of 'follow-ups' in the system, in particular to alert notifications. The European Commission aims to get a similar intense cooperation with non-member countries to better resolve issues and avoid rejections of imports into Europe. The INFOSAN secretariat is copied systematically into all alert and information notifications that identified a health risk and concerned a non-member country. RASFF Single Contact Points (SCP) are also INFOSAN Emergency Contact Points and criteria to inform INFOSAN are enshrined in the RASFF Standard Operating Procedures and recently also in Commission Decision (EU) 2019/300 on food safety incident management. A recent significant evolution for RASFF has been its integration with the Administrative Assistance and Coordination system (AAC) as foreseen in the Integrated Management System for Official Controls (IMSOC Regulation (2019/1715)). Non-compliances with any agri-food chain regulations can be the subject of such AAC notification when no health risk is identified but assistance of another authority is required. In addition, the food fraud notifications, which are a specific implementation of AAC, will soon be integrated in the iRASFF platform. As for enhancing cooperation with non-RASFF member countries through INFOSAN, ideas are to align the non-member country SCP with the INFOSAN Emergency Contact Point as much as possible or at least to link them. In addition, it will be important to find ways to work together with INFOSAN on capacity building efforts and find ways in which IT tools could exchange information in the future.

Main Messages:

- 1| Vital information exchanged through RASFF can lead to products being recalled from the market; it is a robust system, which has matured over the years and continues to show its value to ensure food safety in the EU and beyond.

- 2| Working together with INFOSAN to help non-EU countries build capacity in alert systems and food controls is something that can be focused on in the future.
- 3| Exploring ways to exchange information between RASFF/IMSOC systems and the INFOSAN Community Website is an area for collaboration with INFOSAN.
- 4| Aligning RASFF SCPs for non-member countries with INFOSAN Emergency Contact Points to facilitate training and create synergies will be important common work areas.



Saad Al Onaig,
Head of Rapid Alert and Notifications
Management Division, Saudi Food and
Drug Authority (SFDA), Saudi Arabia

Gulf Cooperation Council RASF

The Gulf Cooperation Council Rapid Alert System for Food (GCC-RASF) is a tool for exchanging information between GCC countries related to a direct or indirect risk to human or animal health derived from food, feed and food contact materials to enable them to take precautionary measures for food and feed safety. GCC countries include the United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar and Kuwait. GCC-RASF also aims to increase the level of collaboration between GCC countries to protect consumer health and safety and coordinate actions taken in case of incidents and emergencies related to food and feed safety. In each country, members in the system may include a Central Contact Point, National Contact Points and Sub-National Contact Points which each have different levels of responsibility. Using a website, members of the GCC-RASF transmit information regarding food and food contact material safety in an efficient and rapid way. In the future, improvements to the system may include the development of more technical features and the possibility for the INFOSAN Secretariat and any country to be third-party members in this system and contribute to the discussion forums.

Main messages:

- 1| The function of the GCC-RASF is to facilitate communication regarding existing direct or indirect risk to consumer health from food or food contact material.
- 2| Information must be submitted through the system to allow the Central Contact Point to transmit the information needed immediately to other members of the network (i.e. National Contact Points).
- 3| Collaboration with INFOSAN and links with third party countries will be explored in the future.



Owaimer Aldossary,

Senior Food Safety Specialist, Saudi Food and Drug Authority (SFDA), Saudi Arabia

Arab RASFF

Arab countries share geographical borders and commercial relations on more than one level, including food products. These countries also import a large proportion of their food from different countries of the world that vary in levels of food safety and quality. It is therefore necessary to have a tool to share information rapidly between Arab countries. The Rapid Alert System for Food and Feed (Arab RASFF) is a new initiative between Arab countries to establish the electronic program to exchange food safety notifications rapidly. It is a fast and effective way to exchange information between authorities in Arab countries when discovering any risks to human or animal health throughout the food chain, which helps to take precautionary and preventive measures. Through the Arab Food Safety Initiative for Trade Facilitation (Arab SAFE), collaboration with INFOSAN has already been initiated and will continue.

Main messages:

- 1| Arab RASFF is a fast and effective way to exchange information between the relevant government agencies in Arab countries, when discovering any possible risks to human or animal health throughout the food chain.
- 2| Using the system helps to take precautionary and preventive measures (such as preventing entry, seizure, recovery, confiscation, or destruction of unsafe food).
- 3| Collaboration with INFOSAN has started and will continue in the future.



Wipada Saengkhum,
ASEAN RASFF coordination, National Bureau of
Agricultural Commodity and Food Standards,
Thailand

Association of South-East Asian Nations (ASEAN) RASFF

The Association of South-East Asian Nations (ASEAN) RASFF (ARASFF) was developed in 2006 under a cooperative project between the Royal Thai Government and the European Union. It is a tool for the rapid exchange of food and feed safety information among competent authorities of the ten network members which are ASEAN Member States. Its objective is to rapidly disseminate information on newly identified risks of unsafe products and actions taken to stop them from entering the food chain and reaching consumers through the established network. ARASFF is a web-based application. The information exchanged among network members is done in real time. Since its inception, there were 188 notifications posted by four Member States (Indonesia, Malaysia, Philippines and Thailand). The four main challenges for increasing the number of notifications and gaining more contributions from Member States are: 1) need for a legal framework to support the operation of the system at national and regional levels; 2) need for political will among ASEAN Member States to support ARASFF operations; 3) need for harmonized food safety standards and food law among ASEAN Member States; and 4) stronger cooperation among ASEAN Member States. In terms of exchange of information with entities outside ASEAN, the creation of public domain for ARASFF will be provided.

Main messages:

- 1| Lack of a legal framework presents challenges and would be needed to support the operation ARASFF at the national and ASEAN level, especially in relation to confidentiality and liability issues.
- 2| Political will of policy makers of all Member States is needed to support ARASFF operations.
- 3| There are no harmonized food safety standards or food laws among ASEAN Member States which presents a challenge for ARASFF.
- 4| There is a need to strengthen cooperation among involved agencies within each Member State.
- 5| Closer collaboration with INFOSAN could be mutually beneficial for both networks and could start with the alignment of membership (a process that has already been initiated).



Caroline Merten,
Scientific Officer, European Food Safety
Authority (EFSA); INFOSAN Advisory Group
Member

European Food Safety Authority's Emerging Risks Exchange Network

The European Food Safety Authority (EFSA) is responsible for the risk assessment of all aspects of food safety as established by Regulation (EC) No 178/2002. According to Article 34 of this regulation, EFSA has the responsibility to establish procedures to systematically search for and evaluate information with a view to identify emerging risks in the field of food safety. To this end, EFSA established an Emerging Risks Exchange Network (EREN) in 2010 to exchange information between EFSA, the EU Member States, other EU sister agencies and international partners such as FAO and WHO on possible emerging risks for food and feed safety. The network meets twice per year and its main roles are: 1) identify and share emerging risks; 2) provide additional data on risks discussed previously by EREN; and 3) share methodologies to

identify emerging issues and risks. Examples involving Azole resistance in *Aspergillus fumigatus*, seaweed consumption and potential health risks, and Shiga toxin-producing *E. coli* 0121 in flour have illustrated the successful collaboration between network members. Broad expertise and networking are vital parts of the emerging risk identification process. Therefore, an even stronger collaboration with INFOSAN in the future is recommended.

Main messages:

- 1| EFSA networks with Member States, EU and international agencies on exchanging data, methodologies and lessons learnt on emerging risks through EREN.
- 2| It has been agreed between the INFOSAN Secretariat and the EREN Secretariat that in the context of non-emergency emerging issues, EREN can serve as an information provider to members of INFOSAN on medium- or longer-term emerging risks.
- 3| Issues raised by INFOSAN members can be channeled to EREN for their consideration to provide perspectives from beyond Europe.
- 4| While creating a trustworthy collaborative environment takes time, it is critical to build a strong community of practice among the members.

A large blue graphic on the left side of the page, composed of several overlapping, semi-transparent geometric shapes (triangles and polygons) in various shades of blue, creating a modern, abstract design.

SESSION FOUR:

Country Showcase: sharing food safety information between sectors and across borders using INFOSAN

The objective of Session Four was to provide an opportunity for members to share their experiences and tested solutions with respect to sharing information during food safety incidents nationally, between sectors and internationally.



Isabelle Laberge,
Canadian Food Inspection Agency, Canada;
INFOSAN Advisory Group Member

Canada's food recall notification procedure with INFOSAN

The CFIA developed a food recall notification procedure to notify proactively INFOSAN members and the INFOSAN Secretariat of recalls in Canada that have international ramifications. The procedure entails the systematic notification to INFOSAN members and INFOSAN Secretariat of food recalls conducted in Canada that have international distributions or international trade components. Since its introduction, the CFIA has made 110 notifications to INFOSAN members, of which 49 were also notified to the INFOSAN Secretariat. The new procedure has proven very useful in prompting and enhancing information exchanges between implicated food safety authorities, contributing to more effective and rapid interventions to prevent illnesses. The value added by the INFOSAN Secretariat in reaching out directly to impacted countries, playing a facilitator role in enhancing communications, and helping identify additional international distributions has also been noted. Other INFOSAN members are encouraged to establish similar processes in their own countries.

Main messages:

- 1| Proactive notification proved useful in prompting and enhancing information exchanges between implicated food safety authorities.
- 2| INFOSAN secretariat adds great value in posting notifications of broader interest.
- 3| A new practice that enhances trust and confidence: as soon as CFIA is aware of international distribution, CFIA works diligently to inform affected countries.
- 4| ECPs should establish clear/rapid national communication channels so that information is relayed without delay and to other national authorities that have a role to play in a rapid and effective response.



Mariam Al Mulla,
Department of Health, Abu Dhabi, UAE

Investigation of foodborne diseases and outbreaks in Abu Dhabi, UAE

The objectives of foodborne illness surveillance are to: 1) determine the magnitude of the public health problem posed by foodborne diseases; 2) identify outbreaks of foodborne disease at an early stage; 3) identify high-risk foods, improper food production and handling practices; 4) determine the risk factors and behaviors for illness in vulnerable populations; 5) assess the effectiveness of programs to improve food safety; and 6) provide information to enable the formulation of health policies regarding foodborne diseases (preventive strategies). Surveillance in Abu Dhabi includes passive surveillance, active surveillance, laboratory surveillance and informal reports from the public. A communicable disease bulletin is produced quarterly and distributed to all health facilities and posted online. To raise awareness about the important of food safety and to prevent outbreaks of foodborne illness, an awareness campaign has been launched which targets schools, colleges, employees, parents and health care professions. The campaign involves press releases, magazines, social media and television. Topics include health habits to prevent the spread of infectious diseases and foodborne illness and its prevention. Alliances have been forged with local authorities, foundations, universities and other partners. The way forward to improve surveillance will include: 1) an integrated electronic surveillance system across the country; and 2) the development of joint guidelines, including laboratory testing protocols and a standard notification form for the reporting of notifiable diseases; and 3) continuing education for healthcare professionals to encourage more complete and timely reporting.

Main messages:

- 1| The burden of foodborne diseases is large and underreported.
- 2| Multiple different methods of surveillance are in place in Abu Dhabi to track foodborne illness and respond to outbreaks in a timely manner.
- 3| Collaboration with multiple partners is important to raise awareness about food safety and prevent foodborne illness.



Patricia Blenman,
Department of Agriculture, Australia;
INFOSAN Focal Point

Australian experience on sharing information on international recalls through INFOSAN

Australia commenced direct notification to INFOSAN Emergency Contact Points of food recalls involving imported or exported food in November 2016. Direct email notification is made when a food recall in Australia involves a food product that has been imported from or manufactured in another country or when a food product manufactured in Australia is subject to recall and has been exported. Since beginning this initiative, Australia has notified over 100 recalls to 28 countries. The food recall notification examples we provide show how information can be shared quickly and confidentially and can facilitate response actions internationally. The INFOSAN network provides various platforms for sharing information. Making direct contact with INFOSAN members can help build our international food safety community.

Main messages:

- 1| Routine email alerts fast-track potential investigations for food products in international trade.
- 2| INFOSAN provides a platform for early and confidential information sharing.
- 3| There are many avenues available to share information.
- 4| INFOSAN membership and participation supports IHR core capacities.



SESSION FIVE:

Regional Focus

The objective of Session Five was to provide opportunities for participants to engage in facilitated discussions to identify regional-specific challenges and solutions for enhancing participation in INFOSAN.

Cornelia Boesch,
INFOSAN Secretariat, FAO



Introduction and overview of group work

The recent global survey of all INFOSAN members provided a ranking of potential barriers that may limit active participation in INFOSAN. Participants were divided into eight groups according to geographic region and language (Americas-English, Americas-Spanish, Europe, Africa-English, Africa-French, Eastern Mediterranean, Asia, and Pacific). Each group was provided with a list of these potential barriers, ranked according to regional responses to the survey. Participants were asked to consider the list of barriers as a starting point for their group discussion. The goal of the group discussion was to identify solutions to overcome some of these barriers and increase active participation in INFOSAN activities. Participants were asked to consider what members can do to overcome the barriers and what the INFOSAN Secretariat can do to help members overcome the barriers. Each group was facilitated by INFOSAN Advisory Group Members and/or WHO Regional Food Safety Advisors and supported by one member of the INFOSAN Secretariat.

Reports from regional break-out groups

Facilitator: Vittorio Fattori,
INFOSAN Secretariat, FAO, Rome, Italy



INFOSAN Advisory Group Members

reporting back to plenary following the break-out group discussions. From left to right: Caroline Merten, Mariam Alsuwaidi, Jorgen Schlundt, Diego Varela, Anne Gravett, Zainab Jallow

Table 1 below outlines some of the key ideas raised by group facilitators during their reports back to plenary. For a full summary of the discussion points from each group, see Appendix 1.

Table 1. Key ideas raised by group facilitators during their reports back to plenary

What members can do to overcome the barriers to active participation in INFOSAN	What the secretariat can do to overcome the barriers to active participation in INFOSAN	Other key points
<ul style="list-style-type: none"> • All members should familiarize themselves with the existing tools and utilize resources available from the INFOSAN Secretariat (e.g. Members' Guide, IHR/INFOSAN communication template, webinars, INFOSAN Community Website etc.). • Advocate for INFOSAN in different settings to raise awareness and understanding (e.g. within and outside of their own organization, at national and international levels, etc.). • Organize national INFOSAN workshops to improve communication and cross-sectoral collaboration including for emergency response with support from the Secretariat. • Develop, test, and utilize national Food Safety Emergency Response Plans. • Participate in a buddy system or twinning initiative that would pair more active INFOSAN members with less active INFOSAN members to develop capacities and improve participation. 	<ul style="list-style-type: none"> • Engage regional authorities for collaboration (e.g. training, communication, member identification, etc.). • Align contact points in other regional networks with INFOSAN to prevent parallel tracks of communication during emergencies. • Clarify processes and protocols for exchange of information between regional networks and INFOSAN. • Expand the availability of technical and training material to include all UN official languages. • Continue organizing global meetings at an increased frequency and regional meetings for all regions. • Continue to organize webinars on a range of technical topics. • Support simulation exercises to test national Food Safety Emergency Response plans. • Facilitate buddy system or twinning initiative to pair more active INFOSAN members with less active INFOSAN members to develop capacities and improve participation. • Ensure new INFOSAN Community Website is more user friendly to encourage increased engagement. 	<ul style="list-style-type: none"> • Training should be considered core business of INFOSAN.

A decorative graphic on the left side of the page, consisting of a blue geometric pattern of overlapping triangles and polygons in various shades of blue, creating a 3D effect.

SESSION SIX:

Sharing best practices and lessons learnt related to food safety event alert and response

The objective of Session Six was to provide an opportunity for members to share their experiences and tested solutions with respect to food safety event alert and response activities.



Sol Kim,
Ministry of Food and Drug Safety, Republic
of Korea; Emergency Contact Point

Food Safety Management in the Republic of Korea

The Ministry of Food and Drug Safety (MFDS) of the Republic of Korea has made much effort to implement a variety of food safety management measures in a manner that is customized to people at different age groups from infants to the elderly. The MFDS also collects and analyzes risk information from overseas daily provides it to the relevant divisions within the MFDS for action as required. The risk information can be open to consumers through the national food safety information portal website called 'Food Safety Korea'. The Republic of Korea has developed an 'Automatic Sales Block System' to prevent non-conforming foods from being sold at points of sale in a programmed way. This system has operated since 2009 and the process of how it works is to transmit information on non-conforming products to the integrated network server of the Korea Chamber of Commerce and Industry, and to notify the information to the retail headquarters' server and further to the counter of the retail store. The risk information can also be shared with the related companies to withdraw the non-conforming product by itself, and the withdraw result should be reported to the MFDS.

Main messages:

- 1| MFDS operates an integrated food safety information network which encourages cooperation across government agencies.
- 2| MFDS is working to develop applications that help people easily check food safety information with smartphones.
- 3| A system to block food products from being sold to consumers by sending product information of non-conforming products to supermarket checkout counters (terminals) is an effective way to prevent consumers from obtaining products subject to recall which have not yet been removed from stores.



Fadi Al Natour,
Risk Analysis Specialist, ADAFSA, UAE

Rapid Alert System (comprehensive approach) in Abu Dhabi, UAE

ADAFSA has a vision to be an internationally recognized food and agriculture organization that contributes to the wellbeing of the community. ADAFSA has adopted a modern rapid alert system that covers food and feed notifications, foodborne disease outbreaks, animal disease outbreaks and agricultural pest outbreaks. Notifications triggered by fit-for-purpose focal points in the inspection units of each field provide information in a previously agreed template using an electronic system that tracks all field information including location, product and case details. All incidents (internal and external) are documented in the electronic system to assist with risk classification by a multidisciplinary risk analysis specialist team. If the risk level is high, then the crisis management team will activate the customized relevant crisis management plan. ADAFSA receives notifications from external sources such as INFOSAN, EU-RASFF, GCC-RASF and is also connected to the national system (i.e. biosecurity alert system that is managed by the Ministry of Climate Change and Environment). In this way, communication is harmonized. The legal bases for the rapid alert system has been developed at the local level of Abu Dhabi emirate, national level of the UAE and on the level of the Gulf countries, making it mandatory to notify other members in the system about food and feed incidents. The legal bases of the Rapid Alert System in Abu Dhabi, the UAE biosecurity system and the GCC-RASF adopted the same food categorization system and the same hazard categorization system.

Main messages:

- 1| A well-established system is in place in Abu Dhabi to manage food incidents, supported by electronic platform to document all information related to food safety incidents.
- 2| Information is collected from multiple sources including INFOSAN, EU-RASFF, GCC-RASF and others.
- 3| A legal basis for the rapid alert system makes reporting into the system mandatory.
- 4| Well trained focal points with clear authority to share information is a key success factor.
- 5| Continuous training for focal points is required on agreed intervals (e.g. annually) and when focal points change.
- 6| Buy-in and proper consultation of all stakeholders must be ensured internally and externally when developing a rapid alert system.



Jocelyn Adeline Egyakwa-Amusah,
Head, Food Safety Management Department,
Food and Drugs Authority, Ghana; INFOSAN
Emergency Contact Point

Lessons learned from a national INFOSAN workshop to strengthen the food safety alert system in Ghana

The Food and Drugs Authority (FDA) is an agency under the Ministry of Health in Ghana and the National Regulatory Authority mandated by the Public Health Act 2012, Act 851 to regulate products (mainly food and drugs). The Food Safety and Inspectorate Divisions are mandated to regulate food through six departments including the Food Safety Management Department which is responsible for foodborne disease surveillance activities amongst others. For effective coordination and monitoring to achieve food safety, there are 18 different legislations related to food safety in Ghana that must work in harmony. A national food safety policy was drafted, accepted by stakeholders and is currently awaiting parliamentary approval for implementation. The first policy objective stresses the importance of strengthening the existing foodborne disease surveillance system by establishing a foodborne disease surveillance network and early warning system which involves population-based active surveillance for laboratory confirmed infections. To implement this, there is the need to kick start the process to develop a national food safety emergency response plan. Currently, for monitoring incidents, INFOSAN is used for international events and alerts while the Integrated Disease Surveillance and Response system is used for local incidents. This system lacks the linkage between cases and the food chain. Thus, a well-established national food safety alert system is also needed to feed into international alert systems like INFOSAN and for the timely detection of food safety events and coordinated response locally. In this regard a workshop that brought stakeholders together and provided an opportunity to identify priorities and actions to strengthen the National Food Safety Alert System and strengthen capacities for enhanced country participation in global and regional INFOSAN activities was organized with support from WHO. At the end of the workshop, an action plan for strengthening collaboration and communication for the food safety alert system in Ghana was agreed on and a drafting committee for the food safety emergency response plan was established.

Main messages:

- 1| Through the national workshop, opportunities and ways to strengthen the National Food Safety Alert System, collaboration, partnership, and information sharing on matters of food safety, including emergencies were identified.
- 2| When and how to issue food safety alerts as part of a National Food Safety Alert System and the role of INFOSAN have been clarified in Ghana.
- 3| The protocol for INFOSAN/IHR communication for effective information sharing during food safety events will be adapted for the national context.
- 4| Next steps include the development of a protocol for a national integrated approach for the management of food safety events.



SESSION SEVEN:

Examples of INFOSAN members strengthening the global INFOSAN community

The objective of Session Seven was to provide an opportunity for members to share their perspectives about supporting the global INFOSAN community.

Camille Brewer,

Director, International Affairs Staff, Centre for
Food Safety and Applied Nutrition, United
States Food and Drug Administration (FDA),
USA; INFOSAN Advisory Group Member

*Ms Camille Brewer was unable to attend the
INFOSAN meeting in person, so a prepared
statement was read on her behalf by a member of
the INFOSAN Secretariat.*



How the USA actively participates in INFOSAN

INFOSAN is a critically important global food safety activity. As a demonstration of its belief in the value of INFOSAN, FDA has been a financial donor to INFOSAN since its earliest days. INFOSAN has a large and diverse membership allowing it to facilitate the dissemination of non-emergency food safety-related information. Mindful of the ability of INFOSAN to reach a broad audience, FDA organized a series of webinars in which new and emerging food safety information was shared through the INFOSAN platform. FDA shared information on its Food Safety Modernization Act, whole genome sequencing as a new tool to both respond to and prevent foodborne illness, and USA perspectives on interagency collaboration during emergencies. The World Health Assembly adopted food safety resolutions in 2000 and 2010. The food safety challenges addressed in those resolutions continue to confront us. Lack of capacity and basic infrastructure at the national level to address foodborne hazards is an ongoing challenge. National food safety systems in Member States are under development, with significant deficiencies in key components such as surveillance, coordinated food safety emergency response, and food safety education. The USA, working with the European Union and other Member States, requested the inclusion of an agenda item on food safety at the next World Health Assembly. The proposal was accepted, and Member States will be working on a new resolution renewing the focus on food safety aimed at encouraging sustained efforts, investment, and additional focus by both Member States and WHO. Amongst other things, the new resolution should call upon Member States and WHO to continue sustainable support for INFOSAN.

Main messages:

- 1| All members should promote and advocate for INFOSAN.
- 2| Maintain communication and foster collaboration with other agencies in your country to make sure that your nation has a strong, coordinated network of support for INFOSAN activities.
- 3| Report and follow-up on outbreak and other food safety information within the network.
- 4| Reach out to the INFOSAN Secretariat and ask questions when needed.

Jenny Bishop,

Team Manager, Liaison and Coordination, Food Compliance Services Group, Ministry for Primary Industries, New Zealand; INFOSAN Emergency Contact Point; INFOSAN Advisory Group Member



How New Zealand is supporting INFOSAN

New Zealand has developed a series of systems to manage food safety events with international implications, leading to active participation in INFOSAN. In the last 16 months, New Zealand has communicated to 28 INFOSAN members concerning 36 events, involving 40 food products. Thirty-three events have involved food safety concerns associated with food imported into New Zealand. These events are identified through daily scanning of recalls undertaken by other countries, media, complaints received and during verification activities undertaken in New Zealand. Communications to other countries include a request for information on the manufacturer's controls, information on similar complaints, request for sharing laboratory results and any information on the scope of products affected. A summary of findings from any investigation in New Zealand is also provided. Four events have involved food safety concerns with food exported from New Zealand. Communication includes product, importer and shipment details. During these events, New Zealand also shares sequence information and outbreak cluster identification information on uncommon serotypes. INFOSAN has also been utilised to access laboratory contacts to assist with laboratory analysis methodology development. More recently, New Zealand has also started to inform INFOSAN members of the re-export of products following failure to meet New Zealand's imported food requirements.

Main messages:

- 1| Initiatives in New Zealand help ensure effective management of food safety events through rapid and effective risk analysis, with global input.
- 2| Sharing information during food safety events means that other countries have examples of how to manage events within INFOSAN.
- 3| Active use of INFOSAN helps work towards creating an environment where sharing information internationally is a norm for all members and it also helps to prepare members for less frequent but more serious food safety events.

A decorative graphic on the left side of the page, consisting of a blue geometric pattern of overlapping triangles and polygons in various shades of blue, creating a 3D effect.

SESSION EIGHT:

Facilitated “Hard Talk” Expert Panel

The purpose of this session was to provide an opportunity to hear from a group of top experts discussing a range of emerging and important technical topics related to food safety.



Panelists from left to right:

Jenny Bishop (facilitator), Annie Locas, Khaled Al Marzooqi, Ray Ellard and Peter Ben Embarek

Annie Locas, National Manager, Food Safety Science Services for Microbiology, Food Safety Science Directorate, CFIA, Canada, discussed the use of whole genome sequencing to revolutionize outbreak investigation and food safety. Ray Ellard, Director, Risk Management and Regulatory Affairs, Food Safety Authority of Ireland discussed food fraud and the implications of e-Commerce on food safety. Peter Ben Embarek, INFOSAN Secretariat, WHO discussed artificial intelligence and big data impact on future risk assessment and risk management. Khaled Al-Marzooqi, Director of the Policy and Risk Analysis Division at ADAFSA, UAE, discussed risk analysis.

The panel discussion was facilitated and summarized by Jenny Bishop, Team Manager, Liaison and Coordination, Food Compliance Services Group, Ministry for Primary Industries, New Zealand; INFOSAN Emergency Contact Point; INFOSAN Advisory Group Member.

Main messages:

- 1| Whole genome sequencing provides the highest possible microbial subtyping resolution available to public health and food safety authorities for the surveillance of and response to foodborne diseases.
- 2| Food fraud is committed when food is deliberately placed on the market, with the intention of deceiving the customer, for financial gain; it is a complex emerging issue for INFOSAN with numerous motivations ranging from monetary to criminal, and various agencies are involved in the detection and response to threats posed by food fraud; each year there are always several incidents responded to through INFOSAN that involve fraud.
- 3| Looking to the future, advanced technology and automated systems using Artificial Intelligence (AI), machine learning and mining data from social media and other sources will play a significant role in the detection of and response to food safety incidents.

- 4| Use of robots and self-learning machines in the food industry could radically reduce the incidence of foodborne disease, through the reduction of the unwitting transfer of diseases through manual food handling by humans; these developments in technology could also potentially contribute to unsafe food if food safety concepts are not built into their operating systems and algorithms.
- 5| Food sold via e-Commerce have become common place and introduce challenges in managing associated food safety incidents; e-Commerce facilitates rapid global trade in food, and in some instances with limited regulatory oversight; this has been exemplified in several incidents communicated through INFOSAN in recent years.
- 6| Risk analysis provides national food safety authorities with a systematic and disciplined approach for making evidence-based food safety decisions; it also provides value in addressing complex, persistent and evolving hazards in different parts of the food supply chain.
- 7| 'Food safety system' concepts are utilised to manage the issues discussed, including multi-sectorial collaboration, addressing the issues along the entire food chain continuum, and ensuring that the primary responsibility for food safety is the food business.
- 8| Engaging on these issues early is critical and capacity development of regulatory bodies is required; working in new ways is required in response to the issues.
- 9| Legislative frameworks at national levels need to develop in response to the issues discussed.
- 10| Sharing information globally on the issues will assist all Member States in managing these complex areas.
- 11| Key groups of information which could be shared include: risks and associated controls, legislation, capacity building and training materials, tools to access and manage data, and guidelines, resources and experiences; this information could be shared via the INFOSAN Community Website.

A decorative graphic on the left side of the page, featuring a blue background with a pattern of overlapping, semi-transparent geometric shapes (triangles and polygons) in various shades of blue, creating a 3D effect.

SESSION NINE:

Meeting wrap-up and
closing remarks



Peter Ben Embarek,
INFOSAN Secretariat, WHO

Moving forward together: Next steps

Meeting Outcomes

- 1| Strengthened the sense of community and willingness to collaborate and share information during food safety emergencies
- 2| Improved members' understanding of roles and responsibilities and interactions with other networks
- 3| Raised awareness about emerging food safety issues of global significance and of new tools/methods to tackle such problems
- 4| Heard new perspectives on communication during food safety event management in an increasingly connected world
- 5| Sharpened understanding of the use of risk assessment and risk management and the potential benefit of big data, AI and WGS data for improved investigation of outbreaks and sporadic cases of foodborne diseases
- 6| Recognition of INFOSAN as the global environment for the management of food emergencies
- 7| Recognition of the INFOSAN Global meetings as a trusted and unique forum for food safety managers for exchanges and decisions
- 8| Important regional perspectives were highlighted:
 - All regions met and discussed the way forward to overcome barriers that limit active participation in INFOSAN.
 - A series of concrete actions were identified for both members and the INFOSAN Secretariat and FAO and WHO.
 - These illustrate the differences that exist between regions and justify continuing and increasing regional activities.

All INFOSAN members were encouraged to:

- Find inspiration in the examples from active members and implement best practices for reporting and sharing information through the network;
- Remember to use existing guidance, templates, mechanisms including the INFOSAN Community Website, to help facilitate communication nationally and internationally when reporting incidents and interacting with the INFOSAN Secretariat;
- Engage with the INFOSAN Secretariat for guidance when questions arise;
- Trust fellow INFOSAN members and the INFOSAN system which now has 15 years of operational experience, effectively managing hundreds of complex international incidents; and
- Help each other (e.g. buddy system, twinning initiatives, etc.).

Mouza al Muhairi,
Policy and Regulation Executive Director, ADAFSA, UAE



Closing remarks

Mouza al Muhairi provided a recap of the discussions during the three-day meeting. It was noted that the technical expertise shared during the meeting provided participants with valuable guidance to address a range of food safety challenges and has also provided an excellent opportunity for all involved in INFOSAN to meet in person and create new connections that will facilitate more efficient collaboration and trusted interactions. Because food is traded globally, and hazards do not stop at borders, there is a need for authorities with a mandate in food safety to join hands to successfully mitigate food safety risks and deal with foodborne disease outbreaks. This meeting has provided the opportunity to network and further strengthen relationships between colleagues from different countries and regions. Building this sense of community is the essence of INFOSAN.

Appendix 1. Meeting agenda¹

DAY 1 9 December 2019

08:30-09:30	REGISTRATION	
	OPENING SESSION (including break and group photo)	
	Welcome and Meeting Objectives	Peter Ben Embarek and Markus Lipp for the FAO/WHO INFOSAN Secretariat
	Keynote Speech	Steven Jaffee, University of Maryland, USA
09:30- 11:45	Opening Ceremony	<p>Welcome remarks by His Excellency the Minister of Climate Change and Environment of the United Arab Emirates</p> <p>Bukar Tijani, Assistant Director-General Agriculture and Consumer Protection Department, FAO HQ</p> <p>Naoko Yamamoto, Assistant Director-General, Healthier Populations Division, WHO HQ (by video)</p>
	SESSION 1 Global Overview of INFOSAN	
	OBJECTIVES: Provide a global overview of INFOSAN to highlight progress and challenges faced during the past 15+ years; Ensure participants have a clear understanding of their roles and responsibilities as INFOSAN Members	
11:45-12:15	Looking back – INFOSAN in Review: 2004-2019	Carmen Jopseph Savelli, INFOSAN Secretariat WHO
12:15-12:45	Looking forward – INFOSAN Strategic Plan: 2020-2025	Peter Ben Embarek, INFOSAN Secretariat WHO
12:45-13:00	Q&A	
13:00-15:00	LUNCH BREAK	
14:00-15:00	Practical drop-in Session with INFOSAN Secretariat (Q&A)	<p>Raul Garcia, INFOSAN Secretariat WHO</p> <p>Kosuke Shiraishi, INFOSAN Secretariat FAO</p>
	OBJECTIVE: Provide an opportunity for INFOSAN members to speak one-on-one with members of the INFOSAN Secretariat from FAO and WHO	
15:00-15:30	The updated INFOSAN Members' Guide: reviewing processes and procedures	Adam Bradshaw, INFOSAN Secretariat WHO
15:30-16:00	The new INFOSAN Community Website	Raul Garcia, INFOSAN Secretariat WHO
16:00-16:15	Q&A	

1. Spanish and French versions available online: <http://www.adafsa.gov.ae/English/Foodcontrol/INFOSAN/Pages/default.aspx>

SESSION 2**INFOSAN in Action**

OBJECTIVES: Demonstrate the utility of INFOSAN during international food safety events involving multiple countries around the world, showcasing different response systems

16:15-17:45	Panel to discuss INFOSAN in Action during recent major food safety events with international implications: Spotlight on <i>Listeria Monocytogenes</i>	Penny Campbell, National Department of Health, South Africa; INFOSAN Emergency Contact Point
		Alicia Mazagatos, Spanish Agency for Consumer Affairs, Food Safety and Nutrition; INFOSAN Emergency Contact Point
	Q&A	Jan Baele, SANTE RASFF, European Commission; INFOSAN Advisory Group Member
		Alexandre Leclercq Institut Pasteur, France; WHO-CC for Listeria
17:45-18:00	Day 1 Wrap-Up	Facilitated by Vittorio Fattori, INFOSAN Secretariat FAO
19:00 – 21:00	GROUP DINNER	Cornelia Boesch, INFOSAN Secretariat FAO

DAY 2 10 December 2019

08:00-09:00	MORNING MIX AND MINGLE (Networking Coffee) OBJECTIVE: Informal networking opportunity to mix and mingle with other delegates over morning coffee at standing tables with different conversation starters
-------------	---

SESSION 3**INFOSAN as a Network of Networks**

OBJECTIVE: Illustrate the important links between INFOSAN and other regional networks and discuss ways to improve collaboration across sectors and between programs to better manage food safety events

09:00-09:10	Introduction and overview	Peter Ben Embarek, INFOSAN Secretariat WHO
09:10-09:30	European Rapid Alert System for Food and Feed (RASFF)	Jan Baele, SANTE RASFF, European Commission; INFOSAN Advisory Group Member
09:30-09:45	GCC RASFF	Saad Al Onaig, Head of Rapid Alert and Notifications Management Division, Saudi Food and Drug Authority (SFDA)
09:45-10:00	Arab RASFF	Owaimer Al Dossary, Senior Food Safety Specialist Saudi Food and Drug Authority (SFDA)
10:00-10:15	ASEAN Rapid Alert System for Food and Feed	Wipada Saengkhum, ARASFF coordination
10:15-10:30	EFSA's Emerging Risks Exchange Network (EREN)	Caroline Merten, European Food Safety Authority (EFSA); INFOSAN Advisory Group Member
10:30-11:00	Q&A	
11:00-11:30	BREAK	

SESSION 4**Country Showcase: sharing food safety information between sectors and across borders using INFOSAN**

OBJECTIVE: Provide an opportunity for members to share their experiences and tested solutions with respect to sharing information during food safety incidents nationally, between sectors and internationally

11:30-11:50	Canada's food recall notification procedure with INFOSAN	Isabelle Laberge, Canadian Food Inspection Agency (CFIA); INFOSAN Advisory Group Member
11:50-12:10	Investigation of foodborne diseases and outbreaks in Abu Dhabi, UAE	Mariam Al Mulla, Department of Health, Abu Dhabi, UAE
12:10-12:30	Australian experience on sharing information on international recalls through INFOSAN	Patricia Blenman, Department of Agriculture, Australia; INFOSAN Focal Point
12:30-12:45	Q&A	

SESSION 5**Regional Focus: Group Work**

OBJECTIVES: Provide opportunities for regional break-out sessions for participants to engage in facilitated discussion to identify regional-specific challenges and solutions for enhancing participation in INFOSAN

12:45-13:00	Introduction and instructions	Cornelia Boesch, INFOSAN Secretariat FAO
13:00-15:00	LUNCH BREAK	
	Practical Drop-in Session with INFOSAN Secretariat (Q&A)	
14:00-15:00	Raul Garcia, INFOSAN Secretariat WHO	
	Kosuke Shiraishi, INFOSAN Secretariat FAO	
	OBJECTIVE: Provide an opportunity for INFOSAN members to speak one-on-one with members of the INFOSAN Secretariat from FAO and WHO	
15:00-17:30	6 regional break-out groups	Facilitated by INFOSAN Advisory Group Members + Regional Food Safety Advisors
17:30-17:45	Day 2 Wrap-Up	Vittorio Fattori, INFOSAN Secretariat FAO

DAY 3 11 December 2019**08:00-09:00 MORNING MIX AND MINGLE (Networking Coffee)**

OBJECTIVE: Informal networking opportunity to mix and mingle with other delegates over morning coffee at standing tables with different conversation starters.

SESSION 5 (continued)**Regional Focus: Feedback from Groups**

09:00-09:10	Introduction	Vittorio Fattori, INFOSAN Secretariat, FAO
-------------	--------------	--

09:10-10:00	Panel discussion with facilitators from each regional group	INFOSAN Advisory Group Members
10:00-10:15	Q&A	

SESSION 6

Sharing best practices and lessons learnt related to food safety event alert and response

OBJECTIVE: Provide an opportunity for members to share their experiences and tested solutions with respect to food safety event alert and response activities

10:15-10:35	Food Safety Management in the Republic of Korea	Sol Kim, Ministry of Food and Drug Safety, Republic of Korea; Emergency Contact Point
10:35-10:55	Rapid Alert System (comprehensive approach) in Abu Dhabi, UAE	Fadi Al Natour, Abu Dhabi Agriculture and Food Safety Authority (ADAFSA), Risk Analysis Specialist
10:55-11:15	Lessons learned from a national INFOSAN workshop to strengthen the food safety alert system in Ghana	Jocelyn Lamptey, Food and Drugs Authority, Ghana; INFOSAN Emergency Contact Point
11:15-11:35	Q&A	
11:35-12:05	BREAK	

SESSION 7

Examples of INFOSAN members strengthening the global INFOSAN community

OBJECTIVE: Provide an opportunity for members to share their perspectives about supporting the global INFOSAN Community

12:05-12:25	How the USA actively participates in INFOSAN	Camille Brewer, United States Food and Drug Administration, INFOSAN Advisory Group Member
12:25-12:45	How New Zealand is supporting INFOSAN	Jenny Bishop, Ministry for Primary Industries (MPI), New Zealand; INFOSAN Emergency Contact Point
12:45-13:00	Q&A	
13:00-15:00	LUNCH BREAK	
14:00-15:00	Speed Networking Event	Practical Drop-in Session with INFOSAN Secretariat (Q&A)
	OBJECTIVE: Provide an opportunity for participants to meet multiple other INFOSAN members in 3-minute meetings	OBJECTIVE: Provide an opportunity for INFOSAN members to speak one-on-one with members of the INFOSAN Secretariat from FAO and WHO

SESSION 8

Facilitated “Hard Talk” Expert Panel

OBJECTIVE: Provide an opportunity to hear from a group of top experts discussing a range of emerging and important technical topics related to food safety

15:00-16:30	1. Use of WGS to revolutionize outbreak investigations and food safety	1. Annie Locas, CFIA, Canada
	2. Food Fraud and challenges associated with food safety and e-Commerce	2. Ray Ellard, Food Safety Authority of Ireland
	3. Artificial Intelligence and big data impact on future risk assessment and risk management	3. Peter Ben Embarek, WHO
	4. 5. Risk Analysis	4. Khaled Al Marzooqi, ADAFSA, UAE
Facilitated by Jenny Bishop, MPI, New Zealand		

SESSION 9

Closing Ceremony

OBJECTIVE: Reflect on the past three days and inspire innovative actions to tackle upcoming food safety challenges which will be faced in the coming decade

16:30-16:45	Moving forward together: Next steps	Peter Ben Embarek for the FAO/WHO INFOSAN Secretariat
16:45-17:00	Closing Remarks	Mouza al Muhairi, Policy and Regulation Executive Director, ADAFSA

Appendix 2. Reports from regional break-out groups

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
Americas; Diego Varela, Chilean Food Quality and Food Safety Agency; INFOSAN Advisory Group	<ul style="list-style-type: none"> • Risk assessment is a 'must have' to be active in INFOSAN. • Effective INFOSAN participation is heavily dependent on a strong and coordinated national food safety control system. • Political will is necessary to strengthen participation in INFOSAN; food safety needs to be prioritized (lack of funding, capacity and data). • Foodborne diseases are underreported. • Some countries have not developed national food safety plans. 	<ul style="list-style-type: none"> • South-South cooperation can enhance knowledge of best practices to participate in INFOSAN (e.g. develop a 'fast decision' risk-based template to report INFOSAN, share national food safety emergency plans). • Request WHO to implement an external evaluation of IHR at the national level. • Break the paradigm that reporting a problem is a problem and work together to generate trust. • Explore new ways to stay connected. • Study and use existing INFOSAN and IHR tools. • Advocate for CARPHA to be included as an INFOSAN member. • Update legislation to ensure foodborne diseases are reportable; include INFOSAN in legislation. • Advocate for food safety to be prioritized to receive more funding. • Share information quicker, even if incomplete (noting the uncertainties). 	<ul style="list-style-type: none"> • Deliver training at the national level, including training on risk assessment. • Host webinars with proven experience/best practices from members. • Assist in identifying fake information (i.e. dispel rumors). • Assist countries in their quest for political support. • Compile a list of resources and trainings available for responding to food safety emergencies. • Support regional information exchange. • Encourage INFOSAN members to share information quicker, even if incomplete (noting the uncertainties). 	<ul style="list-style-type: none"> • Different multilateral organizations exist within the region which could be helpful collaborators, including OIRSA CARPHA, and CAHFSA. • In the Caribbean, food imports are the basis for the food supply, while Latin America is both an importer and an exporter of food. • The INFOSAN Secretariat might consider expanding its core business and incorporate training as a key activity.

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
Europe; Caroline Merten, Scientific Officer, European Food Safety Authority (EFSA); INFOSAN Advisory Group Member	<ul style="list-style-type: none"> For RASFF member countries, avoiding the need for dual reporting is important. Not all RASFF members are familiar with the Standard Operating Procedures (i.e. working instructions) that are in place at the European Commission with respect to information sharing with the INFOSAN Secretariat. Current practices of the INFOSAN Secretariat in relation to information reported through RASFF requires clarification. The criteria and procedures for reporting food safety issues to the INFOSAN Secretariat were not clear to all members. 	<ul style="list-style-type: none"> Consider using one digital platform at the national level for different agencies to exchange information and keep track of contact details; must agree on confidentiality among this group; use check-list to guide information sharing and avoid information sharing overload. Document roles and responsibilities in the country and standardized procedures to request and share information. Improve communication between IHR NFP and INFOSAN ECP at national level. 	<ul style="list-style-type: none"> Include an automatic translation tool on the new INFOSAN Community Website. Include Russian translation and (possibly) create sub-groups within the ICW based on languages). Conduct training in Russian on how to participate in INFOSAN. Include more information (e.g. a section in the INFOSAN Members Guide) for RASFF members to clarify information exchange. Highlight quarterly INFOSAN reports to raise the profile/visibility INFOSAN. Consider what INFOSAN related information could be added to the Codex Online Platform for Information Sharing on Food Safety Control Systems (e.g. INFOSAN Emergency Contact Point and INFOSAN Focal Points). Collaborate with regional authorities like EFSA to deliver training. 	<ul style="list-style-type: none"> INFOSAN Secretariat should continue being a neutral and independent body to facilitate information exchange with countries that are not members of the European RASFF. The global INFOSAN meeting is a great opportunity to collaborate with members from other regions around the globe and it would be helpful to have more regular global meetings (also at regional level). Explore possibilities to have regional INFOSAN meetings for Europe, optimizing other opportunities (e.g. RASFF meetings, CCEURO, etc).
Eastern Mediterranean; Mariam Alsuwaidi, Executive Director, Abu Dhabi Agriculture and Food Safety Authority, UAE; INFOSAN Advisory Group	<ul style="list-style-type: none"> The results of the Arab SAFE project related to risk assessment should be circulated to all regional members to accelerate the work and implementation of the recommendations. The notification forms used by the GCC and Arab RASFF systems should be reviewed and details to 	<ul style="list-style-type: none"> Review what has been achieved within the framework of SAFE project, especially the document “The basic pillar of the credibility and effectiveness of food control systems in the Arab region” and the recommendations of the final report of the Arab Working Group on food safety risk assessment in 	<ul style="list-style-type: none"> Develop a template to clarify the required information to be exchanged between INFOSAN members and the Secretariat. Translate INFOSAN guidelines and publications into Arabic to overcome language barriers with the possibility of assistance of reviewing the translation by the members. 	<ul style="list-style-type: none"> Future work towards improved collaboration with INFOSAN should be considered in the context of the important outcomes of the Arab Food Safety initiative for Trade Facilitation project (SAFE); complementary initiatives with the League of Arab States should be explored including laboratory capacity building, for example.

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
	clarify when to report to INFOSAN should be added.	<p>the Arab countries; to be the basis for moving forward and finding ways to implement what has been achieved.</p> <ul style="list-style-type: none"> Organize national workshops to develop or become familiarized with national protocols and the importance of urgent communication during food safety emergencies; develop national action plans to implement activities with specified timelines and indicators. Organize regional workshop to unify concepts among stakeholders from Arab countries with an aim to achieve a consistent approach by all INFOSAN members. Utilize the INFOSAN Community Website to communicate and exchange information with other members (including by participating in the “group” for members from the Eastern Mediterranean). Increase advocacy efforts related to INFOSAN to raise the level of commitment of Members States to INFOSAN. Exchange experiences between members in areas related to food safety, including information on risk assessment, laboratory development, dealing with food safety emergencies, and benefiting from successful experiences in other countries. 	Support training workshops at the national and regional levels upon the request of members.	

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
Africa; Zainab Jallow, Director General, Food Safety and Quality Authority, Gambia; INFOSAN Advisory Group	<ul style="list-style-type: none"> INFOSAN is an important and supportive tool for countries in the African region, providing assistance for managing food safety alerts and removing unsafe food from the market. INFOSAN supports consumer protection and limits foodborne illness. 	<ul style="list-style-type: none"> Overcome challenges related to conducting food safety risk assessments by: commissioning research bodies/universities to conduct food consumption studies using guidelines of EFSA/Codex/GEMS Food; enlisting the support of national scientific committees; delivering training on risk profiling; seeking funding at national level; using the outcome of the Joint External Evaluations to identify gaps. Share information in a simpler more standardized way by: using a group chat at national level for rapid dissemination of information to all national INFOSAN members; establishing standard operating procedures and protocols; training all members. Prioritize the development of a national food safety emergency response plan. Engage in “twinning” with members from countries with more advanced systems to build capacity related to food safety emergency response. Use Food Safety Day to stress the importance of investing in food safety and for advocacy at the political level; reference the economic argument from the World Bank Report, 2018). 	<ul style="list-style-type: none"> Facilitate the designation of Emergency Contact Point and Focal Points in relevant agencies and support members in establishing national networks. Strengthen regional collaboration to support the rapid exchange of food safety information in Africa. Develop web-based training courses for members. Organize regional meetings for strengthening the African network of INFOSAN members. Provide successful models or case studies to demonstrate INFOSAN best practices for others to learn from. 	<ul style="list-style-type: none"> Lack of basic laboratory capacities in some countries is a major impediment to investigation of foodborne disease outbreaks and food safety incidents.

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
Asia; Joergen Schlundt, Professor, Nanyang Technological University, Singapore; INFOSAN Advisory Group	<ul style="list-style-type: none"> Food safety is not prioritized because of the lack of data and information on the economic impact. Clarification is needed when and how confidential information will be shared with all the INFOSAN members. Role of the INFOSAN Emergency Contact Point is clear but the role of Focal Points needs further elaboration. 	<ul style="list-style-type: none"> Test the effectiveness of national food safety emergency response plans (e.g. by organizing national simulation exercises with all stakeholders). Become familiar with the new INFOSAN Members' Guide once published to better understand roles and responsibilities. Participate in webinars and other training opportunities organized by the INFOSAN Secretariat. Provide national data to illustrate and investigate economic impact of food safety to transmit the information to relevant Ministries for advocacy purposes. 	<ul style="list-style-type: none"> Collect good practices from various countries and share them with the members in addition to circulating templates. Obtain relevant data from countries to illustrate/investigate economic impact of food safety to transmit the information to relevant Ministries for advocacy purposes. Support information/knowledge sharing through INFOSAN on newly identified foodborne diseases and other emerging food safety issues. Provide additional guidance on what information should be shared by members (including for ECPs and FPs) and through what means (e.g. email or in the INFOSAN Community Website); ensure this is reflected in the INFOSAN Members' Guide. Ensure all messages received from members are acknowledged. 	<ul style="list-style-type: none"> The new INFOSAN Community Website should be more user friendly and incorporate an automatic notification system that informs members when new information is posted.
Pacific; Anne Gravett, Head of Stakeholder Engagement, Food Standards Agency, United Kingdom; INFOSAN Advisory Group	<ul style="list-style-type: none"> There are several strengths in the Pacific and recent examples of communications show rapid response and action during food safety incidents. Close relationships between members in the Pacific is a major asset. Information communicated through INFOSAN has been very timely. 	<ul style="list-style-type: none"> Identify INFOSAN members and clarify roles using the template provided by the INFOSAN Secretariat. Increase exposure of INFOSAN activities to assist in succession planning when personnel change; establish and use generic email accounts for communication with the INFOSAN Secretariat. 	<ul style="list-style-type: none"> Encourage and support the designation of INFOSAN members in the Pacific. Assist in the establishment of a group on the INFOSAN Community Website for members from the Pacific to collaborate. Deliver webinar on participating in INFOSAN for countries in the Pacific. 	<ul style="list-style-type: none"> Members outside of the Pacific region can help by sharing information on the INFOSAN Community Website about: recall protocols; rapid risk assessment tools; publications on the use of IHR tool on previous events; examples of INFOSAN communications; example of public health alerts/ media releases.

Region/ Rapporteur	Key Points discussed	What members can do	What the INFOSAN Secretariat can do	Any other points
	<ul style="list-style-type: none"> There are several challenges in the Pacific, including: INFOSAN is person-driven rather than system-driven; disconnect between government agencies; capacities for outbreak identification and management is variable; limited laboratory capability; lack of consistency in practice in managing imported food. 	<ul style="list-style-type: none"> Establish Pacific-specific protocol for engaging with INFOSAN. Liaise regularly with members to discuss when to notify, share assessments etc. 	<ul style="list-style-type: none"> Facilitate a simulation exercise for INFOSAN members in the Pacific. Consider developing specific training on outbreak identification, food investigation during outbreak situations, and rapid risk assessment. 	<ul style="list-style-type: none"> Members outside the Pacific region can also help by participating in 'buddying' initiatives between countries to help exchange experiences and build capacity.

Appendix 3. Summary of Regional Side Meetings



Regional Side Meeting for INFOSAN members from the Americas

12 December 2019, Abu Dhabi, United Arab Emirates

INFOSAN members from 26 countries of the WHO region for the Americas met together for the sixth time on 12 December 2019 in Abu Dhabi, UAE, following the Second Global Meeting of INFOSAN that took place from the 9-11 December 2019.

During the meeting, participants reflected the outcomes of the Second Global Meeting of INFOSAN and the impact of these for the Americas. This discussion allowed INFOSAN members from the region to express their thoughts and to formulate requests to the INFOSAN Secretariat to undertake actions that support trust building and the development of their capacity to assess food safety risks and communicate during food safety emergencies. Participants also discussed some figures of health emergencies in the region and the importance of the utilization of the new IHR/INFOSAN template in the Americas and the collaboration with IHR NFPs. Participants also learned about recent INFOSAN activities at the global and regional levels, including some of the latest food safety emergencies in which Member States from the Americas were involved.

A review of the regional progress in strengthening INFOSAN in the Americas, as per the revised draft of the Regional Strategy to Strengthen INFOSAN in the Americas (2018) was presented. A panel discussion was held with the collaboration of the INFOSAN Emergency Contact Points from Costa Rica, Nicaragua and the INFOSAN Secretariat to discuss the implications at the national and regional levels of the outbreak of methanol poisoning in Costa Rica that happened in 2019.

The progress of the utilization of WGS in the Americas was presented, as well as some examples and plans for using WGS in the food safety emergency context. Country-specific action plans were also reviewed and additional priority activities for strengthening INFOSAN and developing national food safety capacity in the Americas were identified and posted to a thread on the INFOSAN Community Website. Such activities will be reviewed by mid-2020 to assess the progress and support in the implementation of appropriate actions as appropriate.

Annual regional meetings have been instrumental in forging a strong community of INFOSAN members in the Americas. As a result, the region of the Americas is the first out of the six WHO regions to have full coverage of active INFOSAN Emergency Contact Points in all Member States. The expansion of INFOSAN-related activities in the region has continued, and there has been a marked increase in responsiveness to requests for information from the INFOSAN Secretariat during emergencies, as compared to other regions where no such regional meetings are held.



Regional Side Meeting for INFOSAN members from Asia

12 December 2019, Abu Dhabi, United Arab Emirates

INFOSAN members from 15 countries of the WHO region for Asia met together on 12 December 2019 in Abu Dhabi, UAE, following the Second Global Meeting of INFOSAN that took place from the 9-11 December 2019.

During the meeting, participants reflected the outcomes of the Second Global Meeting of INFOSAN and the impact of these for Asia. This discussion allowed INFOSAN members from the region to express their thoughts and to formulate requests to the INFOSAN Secretariat to undertake actions that support trust building and the development of their capacity to assess food safety risks and communicate during food safety emergencies.

Participants also discussed the implementation of WHO regional food safety strategies and frameworks and learned about some of the FAO activities that are ongoing in Asia. The experience of successful regional networking in the Americas was shared as an example for members in Asia and to serve as inspiration and a model to work towards to improve engagement in INFOSAN activities.

Participants also learned about recent INFOSAN activities at the global and regional levels, including some of the latest food safety emergencies in which Member States from Asia were involved. One of these incidents was presented by the INFOSAN Emergency Contact Point from the Republic of Korea and related to an outbreak of hepatitis A infections linked to clams. Members started to work on national action plans to highlight key activities to be undertaken in 2020 to strengthen INFOSAN. These plans are to be posted on the INFOSAN Community Website, reported on by mid-2020 and reviewed at the next regional meeting for INFOSAN members from Asia.

Appendix 4. Summary of post-meeting evaluation survey

A short online survey was circulated to meeting participants following the closing of the global meeting. The aim of the survey was to understand if participants felt the meeting met its objectives and to gather suggestions for topics at future meetings. The survey was completed by 74 respondents and the feedback was overwhelming positive. Several suggestions for topics at future INFOSAN meetings were provided and have been grouped into the following four broad categories:

1| INFOSAN-specific:

- INFOSAN information requests and reasons for non-responsiveness
- INFOSAN Members Guide
- IHR/INFOSAN
- INFOSAN members' practices/initiatives
- Development of INFOSAN protocols
- Foodborne disease outbreaks on ships and the role of INFOSAN
- Role of INFOSAN in capacity building
- INFOSAN procedures and documents
- Simulation exercises
- Foodborne disease outbreaks

2| Targeted training:

- For food safety inspectors
- Risk analysis
- Hands-on training

3| Food safety topics:

- Development of emergency response plans
- Novel scientific methods on food safety management
- Novel food safety laboratory and testing initiatives
- Antimicrobial resistance and food safety
- Collaboration with other international organizations on food safety
- Food safety legislation
- How to establish a rapid alert system for food and feed
- Information management on food poisoning
- Food import control systems
- Surveillance

- Best practices in managing emerging risks
- Risk assessment on food safety issues
- RASFF systems
- Food safety issues relating to pesticides/chemicals
- The role of food manufacturers during food safety emergencies
- Adoption and impact of the use of food safety standards
- Designing a matrix for rapid risk assessment in food safety emergencies
- Estimation of the national burden of foodborne disease

4| Emerging areas:

- Big data
- Food crime
- e-Commerce

