

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
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World Health  
Organization

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Agenda Item 5, 6

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

AD HOC CODEX INTERGOVERNMENTAL TASK FORCE ON ANTIMICROBIAL RESISTANCE

Seventh Session

Comments of Chile

Agenda item 5

Number	Paragraph	Comment	Rationale
6, last bullet	<p>The Principles and guidelines for the conduct of microbiological risk management (CXG 63-2007) contains guidance for developing and implementing risk management measures. Setting priorities and identifying risk management measures should take into account the following:</p> <ul style="list-style-type: none"> <li>National/Regional lists of important antimicrobials for humans and animals where they exist.</li> </ul>	<p>The Principles and guidelines for the conduct of microbiological risk management (CXG 63-2007) contains guidance for developing and implementing risk management measures. Setting priorities and identifying risk management measures should take into account the following:</p> <ul style="list-style-type: none"> <li>National/<del>Regional</del> lists of important antimicrobials for humans and animals where they exist. <b>Regional lists could also be take into consideration when is appropriate to the national situation.</b></li> </ul>	<p><b>A national list will be created by the country, but a regional list could be elaborated by an international organization for a specific region without having all the countries in that region involved in the process</b></p>
Definition Food production enviroment	<p>Food production environment: The immediate vicinity of food to be harvested or processed that has reasonable probability to contribute to foodborne AMR</p>	<p>Food production environment: The immediate vicinity of food to be harvested or processed <del>that has reasonable probability</del> <b>where scientific evidence supports</b> to contribute to foodborne AMR</p>	<p>A reasonable probability is a broad aspect to consider, and actions or measures should be based on science.</p>
Plant/crop health professional / plant pathologist, Definition	<p>[Plant/crop health professional / plant pathologist: An individual <del>professionally trained person</del> with current training, knowledge and experience in plant/crop health and protection practices.]</p>	<p>Plant/crop health professional / plant pathologist: An individual <b>professionally or technically</b> trained person with current training, knowledge and experience in plant/crop health and protection practices</p>	<p>The person in charge of prescription at plant health need more than training and knowledge</p>
Principle 15	<p>On a continuous and progressive implementation of risk management measures along the food chain to minimize the possible risks associated with foodborne AMR, priority should be given to the most relevant elements from a public health perspective</p>	<p>On a continuous and progressive implementation of risk management measures <del>along</del> <b>in</b> the food chain to minimize the possible risks associated with foodborne AMR, priority should be given to the most relevant elements from a public health perspective</p>	
Principle 13	<p>The decision to use antimicrobial agents should be based on sound clinical judgement, experience, and treatment efficacy. Where feasible and appropriate the results of bacterial</p>	<p>The decision to use antimicrobial agents should be based on sound clinical judgement, <b>disease epidemiological information and</b> experience, and treatment efficacy. Where feasible and appropriate the results of bacterial</p>	<p>The epidemiological information is also something to consider by veterinarians and plant health professionals.</p>

	cultures and integrated resistance surveillance and monitoring should also be considered	cultures and integrated resistance surveillance and monitoring should also be considered.	
Principle 6	Medically important antimicrobial agents should only be used for therapeutic purposes (treatment, control/metaphylaxis or prevention/prophylaxis of disease); or in certain circumstances for research and conservation.]	<del>Medically important antimicrobial agents should only be used for therapeutic purposes (treatment, control/metaphylaxis or prevention/prophylaxis of disease); or in certain circumstances for research and conservation.]</del>	Eliminate principle 6 and maintain principle 7, because is clearer about the use of medically important antimicrobials
Principle 7ter:	When used for plant/crop protection, medically important antimicrobial agents should only be used to the extent necessary for a specific disease and follow appropriate professional oversight, dose, and duration.]	When used for plant/crop protection, medically important antimicrobial agents should only be used to the extent necessary for a specific disease and follow appropriate professional oversight, dose, and duration.]	Eliminate principle 7ter, redundant.
33	The relevant authorities <del>should</del> <u>can</u> encourage public and private research to:	The relevant authorities <del>should</del> <del>can</del> <b>could</b> encourage public and private research to:	
52	For food-producing animals, the appropriate use of medically important antimicrobial agents in practice is a clinical decision that should be based on the experience and local expertise of the prescribing veterinarian, and epidemiological and clinical knowledge the accurate diagnosis, based on adequate diagnostic procedures. There will be occasions When a group of food-producing animals, which may have been exposed to pathogens, they may need to be treated without recourse to an accurate laboratory confirmed diagnosis based on and antimicrobial susceptibility testing to prevent the development and spread of clinical disease and for reasons of animal welfare.	For food-producing animals, the appropriate use of medically important antimicrobial agents in practice is a clinical decision that should be based on the experience and local expertise of the prescribing veterinarian, and epidemiological and clinical knowledge the accurate diagnosis, based on adequate diagnostic procedures. There will be occasions When a group of food-producing animals, which may have been exposed to pathogens, they may need to be treated without recourse to an accurate laboratory confirmed diagnosis based on and antimicrobial susceptibility testing to prevent the development and spread of clinical disease <del>and for reasons of animal welfare.</del>	Not under Codex mandate or related to Foodborne AMR.

Number of paragraph	Paragraph	Comment	Rationale
1 (introduction)	World-wide recognition of the importance of antimicrobial resistance (AMR) as a public health threat has led to strong international calls for all countries to develop and implement national strategies and action plans that incorporate an integrated approach to risk analysis. The political declaration adopted during the High-Level Meeting on Antimicrobial Resistance at the General Assembly of the United Nations in 2016 committed Member Countries to developing multi-sectoral national action plans that involve all stakeholders within a “One Health” approach and to improving national systems of monitoring and surveillance of AMR and antimicrobial use (AMU).	World-wide recognition of the importance of antimicrobial resistance (AMR) as a public health threat has led to strong international calls for all countries to develop and implement national strategies and action plans that incorporate an integrated approach to risk analysis <b>of the foodborne AMR</b> . The political declaration adopted during the High-Level Meeting on Antimicrobial Resistance at the General Assembly of the United Nations in 2016 committed Member Countries to developing multi-sectoral national action plans that involve all stakeholders within a “One Health” approach <del>and to improving national systems of monitoring and surveillance of AMR and antimicrobial use (AMU).</del>	To maintain the use of Risk analysis under the scope of this document. Under the declaration of the High Level meeting on AMR at the GA of UN THERE IS NO MENTION or CALL TO IMPROVING NATIONAL SYSTEM ON SURVEILLANCE OF AMR OR AMU. In the text; with respect to the USE of AM said <b>12.c.</b> "To take steps to ensure that national action plans include the development and strengthening, as appropriate, of effective surveillance, monitoring and regulatory frameworks on the preservation, use and sale of antimicrobial medicines for humans and animals that are enforced according to national contexts and consistent with international commitments; and regarding AMR monitoring and surveillance said that the ONE Health Approach: <b>10 e.</b> Will improve surveillance and monitoring of antimicrobial resistance and the use of antimicrobials to inform policies and work with stakeholders from industry, agriculture and aquaculture, local authorities and hospitals to reduce antimicrobial residues in soil, crops and water; and <b>10 f</b> )Will enhance.. ; as international cooperation and funding to support the development and implementation of national action plans, including surveillance and monitoring,
3	An integrated monitoring and surveillance system includes the coordinated and systematic collection of data or samples at appropriated stages throughout the food	An integrated monitoring and surveillance system includes the coordinated and systematic collection of data or samples at appropriated stages throughout the food chain and the	Inclusion as examples for giving flexibility in the implementation. The term issues is not clear to what is referring to, so the epidemiological data on

	chain and the testing, analysis and reporting of AMR and AMU. An integrated system includes the alignment and harmonization of sampling, testing, analysis and reporting methodologies and practices as well as the integrated analysis of relevant epidemiological information from humans, animals, foods, crops and the food production environment. Depending on national priorities, food safety AMR issues, scientific evidence, capabilities and available resources, an integrated surveillance system can be implemented progressively.	testing, analysis and reporting of AMR and AMU. An integrated system includes the alignment and harmonization of sampling, testing, analysis and reporting methodologies and practices as well as the integrated analysis of relevant epidemiological information <del>from</del> <b>(e.g. humans, animals, foods, crops and the food production environment)</b> . Depending on national priorities, food safety AMR <b>epidemiological information issues</b> , scientific evidence, capabilities and available resources, an integrated surveillance system can be implemented progressively.	foodborne AMR is a valid information for the implementation of the surveillance.
4 (introduction)	The data generated by integrated monitoring and surveillance systems provide essential information for the risk analysis of foodborne AMR. These data are also essential for epidemiological studies, food source attribution studies and other operational research. It provides information to risk managers about AMR and AMU trends and for the planning, implementation and evaluation of risk mitigation measures to minimize any foodborne public health risk due to resistant microorganisms and resistance determinants.	The data generated by integrated monitoring and surveillance systems provide essential information for the risk analysis of foodborne AMR. These data are also essential for epidemiological studies, food source attribution studies and other operational research. It provides information to risk managers about AMR and AMU trends and for the planning, implementation and evaluation of <b>evidence based</b> risk mitigation measures to minimize any foodborne public health risk due to resistant microorganisms and resistance determinants	One of the main objectives of implemented a surveillance program is to have evidence to support strategies, policies or measures.
4 bis (introduction)	Reporting of standardized and harmonized data generated through national monitoring and surveillance systems to international organizations and, in return, use of information generated from global monitoring and surveillance databases is highly desired.	<del>Reporting of</del> <b>Sharing</b> standardized and harmonized data generated through national monitoring and surveillance systems <b>of AMR and AMU</b> to international organizations <del>and, in return, use of information generated from global monitoring and surveillance databases is highly</del> desired, <b>whenever is possible</b> .	Specified the information that will be provided. Give flexibility to countries on the decision to inform at international level. The use of global data from international organizations should not be subordinated to the report of data.
6 (introduction)	These Guidelines are intended to assist governments in the design and implementation of monitoring and	These Guidelines are intended to assist governments in the design and implementation of <b>integrated</b> monitoring and surveillance systems for data on AMU and foodborne AMR	To be in concordance with the title of the guideline. Each country regarding their objectives and resources will decide in which steps of the

	<p>surveillance systems for data on AMU and foodborne AMR throughout the food chain. Such systems are a fundamental part of national strategies and plans to minimize foodborne AMR and are an important component of a national food safety system.</p>	<p><del>in throughout</del> the food chain. Such systems are <del>a fundamental</del> part of national strategies and plans to minimize foodborne AMR <del>and are an important component of a national food safety system.</del></p>	<p>food chain samples for monitoring and surveillance need to be collected, the terminology “throughout” implies that the whole food chain will e covered, when due to limited resources or national objectives a country could decide skip some step of the food chain for not being relevant. The surveillance systems are implemented in more of the cases to strength existing programs or policies or to establish evidence based policies, but some countries where no resources for surveillance are available, will just follow on their national action plans, policies or measures developed by relevant international organizations such as Codex Alimentarius and no surveillance for AMR will be needed. Transmission of Foodborne AMR is due to the presence of resistant bacteria or genes in the food, so in terms of food safety measures or strategies aim to avoid the presence of bacteria at the moment of consumption are part of the national food safety system, not the exitance of an integrated AMR monitoring and surveillance. This phrase could have greater implication in food trade where countries that don´t have this surveillance systems could be considered as incomplete on their national food safety systems. ELIMINATED phrase.</p>
<p>8 (introduction)</p>	<p>Each monitoring and surveillance system is designed to ensure that it is appropriate for the national circumstances. The design should be informed by all available knowledge on foodborne risks due to AMR while taking into consideration the international dimension of AMR and the</p>	<p>Each monitoring and surveillance system is designed to ensure that it is appropriate for the national circumstances. The design should be informed by all available knowledge on foodborne risks due to AMR <b>while and whenever is possible</b>, taking into consideration the international dimension of AMR and the need for <b>harmonized</b> data <del>comparability</del> <del>between countries or sectors.</del></p>	<p>If it said on the first line that the surveillance and monitoring system is designed to be appropriate to national circumstances, the second part should be flexible and start.. and whenever is possible taking into account the international dimension, so each country could assess if taking into consideration international situation could or couldn´t</p>

	need for data comparability between countries or sectors		compromise the appropriateness of its national action plan. It's not appropriate in a Codex Document to talk about "comparability between countries"
9 (introduction)	New scientific knowledge should be incorporated into integrated monitoring and surveillance programs as it becomes available to improve the design of the systems and to enhance analysis and utility of existing information and data. Design and implementation of systems should also evolve as AMR policies and priorities change at the national and international level.	New scientific knowledge should <b>be taken into consideration whenever is possible</b> , for be incorporated into integrated monitoring and surveillance programs as it becomes available to <b>strengthen</b> the design of the systems and to enhance analysis and utility of existing information and data. Design and implementation of systems <b>should also be assess on its efficacy</b> , when AMR policies and priorities change at the national and international level.	Change wording for flexibility and to avoid classification of countries due to the extension of its surveillance systems. The use of the term enhance or evolve could imply that a surveillance system is less evolved, when the extension of the surveillance system is fundament on the national level of protection objectives.
10 (introduction)	AMR scenarios are likely to vary between countries and these Guidelines should be used to foster a gradual implementation of monitoring and surveillance systems at the national level. Identification and implementation of priority activities should be followed by enhancements as resources and capacity develop. A gradual approach to monitoring and surveillance should take into account broader capacity issues including the availability of information on AMU in humans, animals and crops, human health care infrastructure, human clinical AMR data and reporting, availability of food consumption and agriculture production data, and cross sector laboratory proficiency and quality assurance.	AMR scenarios are likely to vary between countries and these Guidelines should be used to foster a gradual implementation of monitoring and surveillance systems at the national level. Identification and implementation of priority activities should be <del>followed by enhancements</del> <b>implemented</b> as resources and capacity develop. A gradual approach to monitoring and surveillance should take into account, <b>whenever is possible</b> , broader capacity issues including the availability of information on AMU in humans, animals and crops, human health care infrastructure, human clinical AMR data and reporting, availability of food consumption and agriculture production data, and cross sector laboratory proficiency and quality assurance.	The terminology enhancements could imply that a surveillance system was not good enough prior, so change the wording to implemented.  Give flexibility, because for taking into account all the suggested data, country will have to implement monitoring or studies in all these parameters.
12 (introduction)	These Guidelines should also be used taking into consideration those already developed by other advisory bodies especially the WHO Advisory Group on Integrated Surveillance of AMR (WHO-AGISAR) Integrated Surveillance of	These Guidelines should also be used taking into consideration, <b>where appropriate</b> , those already developed by other advisory bodies especially the WHO Advisory Group on Integrated Surveillance of AMR (WHO-AGISAR) Integrated Surveillance of Antimicrobial	flexibility

	Antimicrobial Resistance in Foodborne Bacteria: Application of a One Health Approach and other international standard setting organizations, specially the standards of the Organization of Animal Health (OIE standards) related to AMR and AMU published in the Terrestrial Animal Health Code and the Aquatic Animal Health Code	Resistance in Foodborne Bacteria: Application of a One Health Approach and other international standard setting organizations, specially the standards of the Organization of Animal Health (OIE standards) related to AMR and AMU published in the Terrestrial Animal Health Code and the Aquatic Animal Health Code	
13 (scope)	These Guidelines cover the design and implementation of an integrated monitoring and surveillance system for foodborne AMR and AMU throughout the food chain, and the production environment	These Guidelines cover the design and implementation of an integrated monitoring and surveillance system for foodborne AMR and AMU throughout the food chain, and the <b>food</b> production environment	According to the scope and terminology agreed on definitions
18 (scope)	Implementation of these Guidelines will facilitate the generation and use of appropriate AMR and AMU data from humans, animals, crops, food and production environment in order to conduct integrated analysis of all these data.	<del>Implementation of these Guidelines will facilitate the generation and use of appropriate AMR and AMU data from humans, animals, crops, food and food production environment in order to conduct integrated analysis of all these data.</del>	Delete from scope and move into introduction, because it doesn't talk about scope, is a benefit from implement integrated surveillance and monitoring system. Add the word food, to be consistent with the terminology of food production environment that was agreed.
Hazard (definitions)	A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect <sup>2</sup> . For the purpose of these Guidelines, the term "hazard" refers to AMR microorganism(s) and /or resistance determinant(s) <sup>3</sup>	<del>A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect<sup>2</sup>. For the purpose of these Guidelines, the term "hazard" refers to AMR microorganism(s) and /or resistance determinant(s)<sup>3</sup></del> <b>A biological, chemical or physical agent in food with the potential to cause an adverse health effect.</b> For the purpose of these Guidelines, the term "hazard" refers to AMR microorganism(s) and /or resistance determinant(s) <sup>3</sup>	For the purpose of this guideline, is better use the definition in the General Principles for Food Hygiene and HACCP codex document, because the current definition includes the condition of, and this has no meaning in terms of foodborne AMR.
Food production environment (definitions)	The vicinity of food, feed, plants/crops, animals to be harvested or processed that could contribute to foodborne AMR.	<b>The immediate</b> vicinity of food, feed, plants/crops, animals to be harvested or processed that could contribute to foodborne AMR <b>based on scientific evidence.</b>	Vicinity is too broad and in terms of management and implementation is better to narrow the scope of this guidelines to what is immediately related to food chain.

<p>Principle 2</p>	<p>Monitoring and surveillance systems for AMR and AMU throughout the food chain are a fundamental part of national strategies and plans to minimize foodborne AMR and an important component of a national food safety program</p>	<p><del>Monitoring and surveillance systems for AMR and AMU throughout the food chain are a fundamental part of national strategies and plans to minimize foodborne AMR and an important component of a national food safety program</del></p>	<p>This principle and its redaction may compromise food trade, since consider the surveillance of AMR an important component of the national food safety System, when the objective of a surveillance program is to strength already existent policies or implement new ones evidence based, but a country could choose to take actions or policies to minimize foodborne AMR just based on the global evidence and no need to perform their own integrated surveillance and will just follow on their national action plans, policies or measures developed by relevant international organizations such as Codex Alimentarius and no surveillance for AMR will be needed. Transmission of Foodborne AMR is due to the presence of resistant bacteria or genes in the food, so in terms of food safety measures or strategies aim to avoid the presence of bacteria at the moment of consumption are part of the national food safety system, not the exitance of an integrated AMR monitoring and surveillance. This principle could have greater implication in food trade where countries that don't have this surveillance systems could be considered as incomplete on their national food safety systems.</p>
<p>Principle 3</p>	<p>A national monitoring and surveillance system should be tailored to the national situation and priorities and may be designed and implemented with the objective of progressive improvement as resources permit; in order to facilitate reporting at the international level ant to ensure that data is comparable international standards should be considered.</p>	<p>A national monitoring and surveillance system should be tailored to the national situation and priorities and may be designed and implemented with the objective of progressive improvement as resources permit; in order to facilitate <del>reporting</del> <b>sharing AMR and AMU surveillance and monitoring data</b> at the international level ant to ensure that data is comparable international standards should be considered.</p>	<p>The verb reporting is mandatory, and each country should decide if they want to share their results at international level.</p>

Principle 4	Monitoring and surveillance systems should include data on occurrence of AMR and patterns of AMU, in all relevant sectors so as to support risk analysis and policy initiatives (e.g. development of mitigation strategies).	Monitoring and surveillance systems should include data on occurrence of AMR and patterns of AMU, in all relevant sectors <del>so as to</del> support risk analysis and <b>evidence based</b> policy initiatives (e.g. development of mitigation strategies).	The surveillance system main objective is to take evidence based policies by the countries.
Principle 5:	Risk analysis should be a guiding principle in the design, implementation and review of a national monitoring and surveillance systems for AMR, with best practice being informed by expected benefits to public health and in terms of preventing or minimizing the burden to human health	Risk analysis should be a guiding principle in the design, implementation and review of a national monitoring and surveillance systems for <b>foodborne</b> AMR, <del>with best practice being informed by expected</del> <b>benefits to public health and in terms of preventing or minimizing the burden to human health.</b>	The title and scope of this document is the foodborne AMR, not all the AMR  The text is confusing and Public Health is already address it in principle 6.
Principle 9	A national monitoring and surveillance system should strive to harmonize laboratory methodology, data collection, analysis and reporting across all sectors according to national priorities and resources as part of an integrated approach. Use of internationally recognized, standardized and validated methods and harmonized interpretative criteria are essential to ensure that data are comparable and to enhance an integrated approach to data management and reporting at the international level.	A national monitoring and surveillance system should strive to harmonize laboratory methodology, data collection, analysis and reporting across all sectors according to national priorities and resources as part of an integrated approach. Use of internationally recognized, standardized and validated methods and harmonized interpretative criteria are essential to ensure that data are comparable and to enhance an integrated approach to data management <del>and reporting at the international level.</del>	Already mentioned in principle 3 the information to international level. The verb reporting is mandatory, and each country should decide if they want to share their results at international level
Principle 10	Data generated from national monitoring and surveillance system of AMR in imported foods should not be used to <del>[inappropriately]</del> generate barriers to trade	Data generated from national monitoring and surveillance system of AMR in imported foods should not be used to <del>[inappropriately]</del> generate barriers to trade	There aren't appropriate barriers to trade
20	For the purpose of these Guidelines, a risk-based approach is the development and implementation of a monitoring and surveillance system throughout the food	For the purpose of these Guidelines, a risk-based approach is the development and implementation of a monitoring and surveillance system <del>throughout</del> <b>in the food chain</b> that is	Each country should take into account their objectives and resources will decide in which steps of the food chain samples for monitoring and surveillance need to be

	chain that is informed by data and scientific knowledge on the likely occurrence of AMR hazards at a step (or steps) in the food chain and their relationship with risks to human health.	informed by data and scientific knowledge on the likely occurrence of AMR hazards at a step (or steps) in the food chain and their relationship with risks to human health.	collected, the terminology “throughout” implies that the whole food chain will be covered, when due to limited resources or national objectives a country could decide skip some step of the food chain for not being relevant.
21	Integrated monitoring and surveillance of AMR and AMU in the food chain, along with data regarding AMR transmission through food handling, environmental spread or other routes of transmission, provides essential information for risk assessment and risk management decision-making on appropriate control measures in human, plant and animal health.	Integrated monitoring and surveillance of AMR and AMU in the food chain <del>data, along with data regarding AMR transmission through food handling, environmental spread</del> <b>along with data from other sources of transmission, when is available, provides information for risk assessment and risk management decision-making on the appropriateness of the control measures of AMR in human, plant and animal health</b> or other routes of transmission <del>on Foodborne AMR in human, plant and animal health.</del>	Flexibility.
22	While an integrated monitoring and surveillance system should ideally be designed according to knowledge of possible food-borne AMR risks to public health in the national situation, such knowledge is very limited in most countries. Consequently, most programs should [initially] be designed according to the knowledge that is available on AMR hazards and their potential to result in public health risks. AMR food safety issues may be identified on the basis of information arising from a variety of sources, as described in paragraph 26 of the Guidelines for Risk Analysis of Foodborne AMR	While an integrated monitoring and surveillance system should ideally be designed according to knowledge of possible food-borne AMR risks to public health in the national situation, such knowledge is very limited in most countries. Consequently, most programs should [initially] be designed according to the <b>sound scientific knowledge evidence</b> that is available on AMR hazards and their potential to result in public health risks. AMR food safety issues may be identified on the basis of information arising from a variety of sources, as described in <del>paragraph 26</del> of the Guidelines for Risk Analysis of Foodborne AMR	Knowledge could be even a news, so Codex text should be scientific evidence based. Paragraph number not needed since the standard could be updates changing the paragraph numbers.
23	Knowledge and information on foodborne AMR hazards, risk factors, etc. should be included on a risk profile as described in the Guidelines for Risk Analysis of Foodborne AMR. Hazard identification should include human microbiological	<b>Scientific Knowledge evidence</b> and information on foodborne AMR hazards, risk factors, etc. should be included on a risk profile as described in the Guidelines for Risk Analysis of Foodborne AMR. Hazard identification should include	Same explanation as above

	pathogens and bacterial commensals that may transmit AMR to humans.	human microbiological pathogens and bacterial commensals that may transmit AMR to humans	
24	As countries improve their AMR systems over time, an approach to the development and implementation of monitoring and surveillance systems should lead to an increased use of generated data for risk assessment.	As countries <b>strenght improve</b> their AMR systems over time, an approach to the development and implementation of monitoring and surveillance systems should lead to an increased use of generated data for risk assessment.	since improve means that you were doing it wrong or worst before and could lead to classification of countries regarding their surveillance system implementation.
27	An integrated monitoring and surveillance system for AMR and AMU requires good governance and coordination by the relevant competent authorities. The competent authorities should develop an overarching policy framework for monitoring and surveillance activities throughout the food chain in collaboration with the human health, animal health, plant health, environmental and other relevant authorities. Other stakeholders in relevant sectors should be included and collaborate in line with the national action plan (NAP) on AMR. Sharing of knowledge and data with international organizations and counterparts can improve the effectiveness of policies taken at local level. Capacity building might help to ensure the implementation of programs for AMR risk management.	An integrated monitoring and surveillance system for AMR and AMU requires good governance and coordination by the relevant competent authorities. The competent authorities should develop an overarching <del>policy</del> framework for <b>integrated</b> monitoring and surveillance activities <del>throughout</del> in the food chain <b>between</b> <del>in collaboration with</del> the human health, animal health, plant health, environmental and other relevant authorities. Other stakeholders in relevant sectors should be included and collaborate in line with the national action plan (NAP) on AMR. Sharing of knowledge and data with international organizations and counterparts <b>could can</b> improve the effectiveness of <del>policies</del> <b>actions</b> taken at local level. <del>Capacity building might help to ensure the implementation of programs for AMR risk management.</del>	
28	Competent authorities should need to have access to all sources of antimicrobial use data. Activities related to monitoring and surveillance of foodborne AMR and AMU should involve not only the relevant competent authorities, but a wider range of stakeholders. The level of engagement of stakeholders, including food industry, feed industry, pharmaceutical industry, veterinarians, animal, plant health and environment professionals, farmers, professional associations, civil society,	Competent authorities should need to have access to <b>and correctly managed</b> all sources of antimicrobial use data. Activities related to monitoring and surveillance of foodborne AMR and AMU should involve not only the relevant competent authorities, but a wider range of stakeholders. The level of engagement of stakeholders, including food industry, feed industry, pharmaceutical industry, veterinarians, animal, plant health and environment professionals, farmers, professional associations, civil society, consumer	It is not correct to relation the level of engagement of stakeholders with the level of development of the surveillance plan. Authorities not only need to have access, they also have to managed in an appropriate way the data.

	<p>consumer organizations, retail and others, will depend on the level of development of the monitoring and surveillance system and the degree of integration.</p> <p>Ideally, all interested parties along the food chain should contribute to the development and implementation of an integrated monitoring and surveillance system.</p>	<p>organizations, retail and others, <del>will depend on the level of development of the monitoring and surveillance system and the degree of integration.</del></p> <p>Ideally, all interested parties along the food chain should contribute to the development and implementation of an integrated monitoring and surveillance system.</p>	
31	<p>A progressive approach for the design and implementation of an integrated monitoring and surveillance system allows countries to develop a strategy as well as implement activities to progress according to country specific scenarios and resources. It is a practical response to inevitable variations in monitoring and surveillance objectives, priorities, infrastructure, technical capability, resources and new scientific information.</p> <p>The implementation of a progressive approach should facilitate the achievement of the country's objectives on AMR and enable continuous improvement and enhancement.</p>	<p>A progressive approach for the design and implementation of an integrated monitoring and surveillance system allows countries to develop a strategy as well as implement activities to progress according to country specific scenarios and resources. It is a practical response to inevitable variations in monitoring and surveillance objectives, priorities, infrastructure, technical capability, resources and new scientific information.</p> <p>The implementation of a progressive approach should facilitate the achievement of the country's objectives on AMR and enable continuous <del>improvement and enhancement</del> <b>strengthening</b>.</p>	<p>Same rationale as before, to avoid categorization of countries based on the extend of their surveillance and monitoring systems.</p>
34	<p>The establishment of monitoring and surveillance objectives is an important initial step in the design and implementation of activities. This should be done in a consultative manner by the competent authorities and stakeholders. It should take into consideration national action plans (NAPs) and knowledge of the AMR and AMU situation, as well as any existing activities to address AMR in the different sectors (animal, plant, environment and human health sectors). Competent authorities should identify the challenges that they currently face during the implementation of these activities.</p>	<p>The establishment of monitoring and surveillance objectives is an important initial step in the design and implementation of activities. This should be done in a consultative manner by the competent authorities and stakeholders. It should take into consideration national action plans (NAPs) and <b>validated scientific or evidence-based</b> knowledge of the AMR and AMU situation, as well as any existing activities to address AMR in the different sectors (animal, plant, environment and human health sectors). Competent authorities should identify the challenges that they currently face during the implementation of these activities.</p>	

36	When establishing monitoring and surveillance priorities, competent authorities should consider the epidemiology and public health implications of foodborne AMR, AMU patterns, information on food production systems, food distribution, food consumption patterns and food exposure pathways.	When establishing monitoring and surveillance priorities, competent authorities should consider the epidemiology and <del>public health implications</del> of foodborne AMR <b>risks to human health</b> , AMU patterns, information on food production systems, food distribution, food consumption patterns and food exposure pathways, <b>sound scientific evidence available and the national resources</b> .	
37	Monitoring and surveillance priorities for microorganisms and resistance determinants, antimicrobials, food commodities and sample sources should be informed by national, regional and international data and knowledge where it exists. Competent authorities should identify existing data sources and gaps (national or regional data as a priority) on AMR and AMU in different sectors. Information from risk profiles and risk assessments, where these exist, should also be used.	<del>Monitoring and surveillance priorities for microorganisms and resistance determinants, antimicrobials, food commodities and sample sources should be informed by national, regional and international data and knowledge where it exists.</del> Competent authorities should identify existing data sources and gaps (national or regional data as a priority) on AMR and AMU in different sectors. Information from risk profiles and risk assessments, where these exist, should also be used.	Repetitive, already in the previous paragraphs
39	The evolution of surveillance and monitoring programs does not need to strictly follow the order described in these Guidelines; these are logical options for expansion, which may require increasing resources. Programs for AMU monitoring can proceed at a different rate than programs for AMR monitoring and surveillance and vice versa. However, as both types of data benefit from a joint analysis, it is useful if the programs are aligned during development to allow for integrated analysis.	The evolution of surveillance and monitoring programs does not need to strictly follow the order described in these Guidelines; these are logical options for expansion, which may require increasing resources. Programs for AMU monitoring <del>can</del> <b>could</b> proceed at a different rate than programs for AMR monitoring and surveillance and vice versa. However, as both types of data benefit from a joint analysis, it is useful if the programs are aligned during development to allow for integrated analysis, <b>whenever is possible</b> .	There several can in the text that need to change to could for flexibility in this and other paragraphs.
43, first bullet	The highest priority microorganisms, panels of antimicrobials and commodities (see section 8) to be targeted based on any existing national data and international recommendations.	The highest priority microorganisms, panels of antimicrobials and commodities (see section 8) to be	The priorities should be always prioritize first based on the existing national data, and only if there is no national data or this is insufficient, other sources should be used.

		targeted based on any existing national data and, <b>when is appropriate other source of data</b> (e.g. international recommendations).	
47	The phases described below are guidelines for development and enhancement of integrated monitoring and surveillance system. These Guidelines are intended to provide a continuum of flexible options for implementation and expansion of the system, considering resources, infrastructure, capacity, and priorities of countries.	The phases described below are guidelines for development and <b>enhancement strengthening</b> of integrated monitoring and surveillance system. These Guidelines are intended to provide a continuum of flexible options for implementation and expansion of the system, considering resources, infrastructure, capacity, and priorities of countries.	The use of the term enhance or evolve could imply that a surveillance system was not good enough before, when the extension of the surveillance system is fundament on the national level of protection objectives.
48	The initial scope and design of the AMR program may be informed by previous surveys and by national and international experience and recommendations. As the AMR program develops, the scope and design may be refined and adapted as appropriate based on the following factors: o Monitoring and surveillance findings. o Epidemiology of antimicrobial-resistant micro-organisms (primarily in humans, but also in the food chain, environment, etc.). o Risk profile and risk assessment findings.	The initial scope and design of <b>the integrated monitoring and surveillance</b> AMR program may be informed by previous surveys and by national and international experience and recommendations. As the AMR program develops, the scope and design may be refined and adapted as appropriate based on the following factors: o Monitoring and surveillance findings. o Epidemiology of antimicrobial-resistant micro-organisms primarily in humans, <b>but also from other sources ( e.g. food chain, enviroment, etc.)</b> o Risk profile and risk assessment findings.	It's is ambiguous what an AMR program is, since a program could be broader than monitoring and surveillance, could include any of the other components of the National Action Plan.  Flexibility
50	When identifying the sampling sources to be included in the AMR monitoring and surveillance program, consideration should be given to the major direct and indirect food exposure pathways throughout the food chain	When identifying the sampling sources to be included in the AMR monitoring and surveillance program, consideration should be given to the major direct <del>and indirect</del> food exposure pathways throughout the food chain. <b>Indirect food exposure pathways to the food chain may also be considered.</b>	Flexibility
52	Additional sampling sources and stages in the food chain can be incorporated progressively according to priorities and resources as implementation advances. For example, the program can expand to include a broader number of	Additional sampling sources and stages in the food chain <del>can</del> <b>could</b> be incorporated progressively according to priorities and resources <del>as implementation advances</del> . For example, the program can expand to include a	eliminate as implementation advance, since could be interpreted as if you don't have all the e.g. on your surveillance program is not implemented yet.

	animal species, crop species and food commodities, and other sources such as feed, water, waste water, reclaimed water, sewage sludge, manure, surface water, etc.	broader number of animal species, crop species and food commodities, and other sources such as feed, water, waste water, reclaimed water, sewage sludge, manure, surface water, etc.	
53	The sampling plan should describe the sampling procedures required to obtain representative samples for collection from the animal/crops/food commodities or production environment, at the specific point in the food chain (e.g. caecal content or carcass swabs from fattening pigs in slaughterhouses).	The sampling plan should describe the sampling procedures required to obtain representative samples, <b>according to the surveillance objectives</b> , for collection from the <b>sources (e.g animals, crops, food commodities or food production environment)</b> , at the specific point in the food chain ( <del>e.g. caecal content or carcass swabs from fattening pigs in slaughterhouses</del> ).	Flexibility. No need for examples in the food chain.
55	The initial program may be based on phenotypic susceptibility testing for resistance of representative zoonotic/pathogens (e.g., Salmonella spp. and Campylobacter spp.) and indicator bacteria (e.g., Escherichia coli). The program may be expanded by including a broader range of foodborne pathogens (e.g. methicillinresistant Staphylococcus aureus (MRSA)) and indicator bacteria (e.g. Enterococcus spp).	The initial program may be based on phenotypic susceptibility testing for resistance of representative zoonotic/pathogens (e.g., Salmonella spp. and Campylobacter spp.) and <b>/or</b> indicator bacteria (e.g., Escherichia coli). The program may be expanded, <b>where scientific evidence support</b> by including a broader range of foodborne pathogens (e.g. methicillinresistant Staphylococcus aureus (MRSA)) and <b>/or</b> indicator bacteria (e.g. Enterococcus spp).	flexibility
58	Antimicrobials to be tested should be prioritized based on antimicrobials that have been ranked as highest priority for human health (e.g. as defined by WHO in the List of Critically Important Antimicrobials for Human Medicine) and other relevant antimicrobials that have an influence on the selection or co-selection of resistance. Additional antimicrobials specified in national risk prioritization exercises may also be considered for inclusion in the susceptibility testing panels.	Antimicrobials to be tested should be prioritized based on antimicrobials that have been ranked as highest priority for human health (e.g. as defined by WHO in the List of Critically Important Antimicrobials for Human Medicine <b>specifically the Annex with the complete list of antimicrobials for human use, categorized as critically important, highly important and important;</b> ) and, <b>whenever is possible</b> , other relevant antimicrobials that have an influence on the selection or co-selection of resistance. Additional antimicrobials specified in national risk prioritization exercises may also be considered for inclusion in the susceptibility testing panels.	More accurate reference. And flexibility

65	The integrated analysis and reporting may start by including a sector-specific descriptive analysis and reporting of AMR data from the food chain and analysis and reporting of quantities of antimicrobials intended for use in animals and crops.	The integrated analysis and reporting may <del>start</del> <b>by including include</b> a sector-specific descriptive analysis and reporting of AMR data from the food chain and analysis and reporting of quantities of antimicrobials intended for use in animals and crops.	Avoid categorization
66	As the program develops:	As the program <del>develops</del> <b>expand</b> :	
68	Subsequent advancement could include integration of information and statistical or epidemiological modelling across the sectors (e.g. humans, animal species, food, plants/crops, food production environment), across bacterial species, across regions (geographical information systems) or time (trend analysis), or between use and resistance. Integration could include graphical display of harmonized data. Graphical charts could illustrate and compare multiple surveillance components at the same time (e.g., bacterial resistance in samples collected from several points along the food-chain up to humans, alignment with findings from whole genome sequencing, and relevant AMU practices).	Subsequent <del>advancement</del> <b>expansion</b> could include integration of information and statistical or epidemiological modelling across the sectors (e.g. humans, animal species, food, plants/crops, food production environment), across bacterial species, across regions (geographical information systems) or time (trend analysis), or between use and resistance. Integration could include graphical display of harmonized data. Graphical charts could illustrate and compare multiple surveillance components at the same time (e.g., bacterial resistance in samples collected from several points along the food-chain up to humans, alignment with findings from whole genome sequencing, and relevant AMU practices).	
70, last bullet	Commissioning of ad hoc research projects for targeted data collection and for risk assessment and surveillance methodological improvement	Commissioning of ad hoc research projects for targeted data collection and for risk assessment and surveillance methodological <del>improvement</del> <b>strengthening</b>	Avoid categorization
76 and 4 <sup>th</sup> bullet	To ensure that the monitoring and surveillance objectives are met, whatever the stage of implementation, an integrated program for monitoring and surveillance of foodborne AMR should include and systematically	To ensure that the monitoring and surveillance objectives are met, <del>whatever the stage of implementation</del> , an integrated program for monitoring and surveillance of foodborne AMR should include <del>and systematically</del> <b>review</b> the following design elements and technical characteristics:	flexibility

	<p>review the following design elements and technical characteristics:</p> <ul style="list-style-type: none"> <li>Antimicrobials to be tested and genes to be detected</li> </ul>	<ul style="list-style-type: none"> <li>Antimicrobials to be tested and genes to be detected, <b>whenever is possible</b></li> </ul>	
79	Sources of samples for AMR testing will depend on the objectives and the design of the monitoring and surveillance program, as well as the stage of implementation. Available resources and the national infrastructure may also impact decisions regarding the source and collection of samples.	Sources of samples for AMR testing will depend on the objectives and the design of the monitoring and surveillance program, <del>as well as the stage of implementation.</del> Available resources and the national infrastructure may also impact decisions regarding the source and collection of samples.	Avoid categorization
80	An integrated program should reflect the food production in the country and cover samples from all stages of the different food chains. In an integrated program, samples collected from production and retail should be from the same species, e.g. samples from food-producing animals should be taken from the same animal species as retail meat samples	An integrated program should <del>reflect the food production in the country and cover samples from all stages of the different</del> <b>in the</b> food chains. In an integrated program, samples collected from production and retail should be from the same species, e.g. samples from food-producing animals should be taken from the same animal species as retail meat samples	Align with the scope
82, third bullet	At farm level, samples could include a variety of samples in the food-producing environment: faeces, feed, litter (bedding), dust, fluff, water, soil, sewage, sludge, manure, etc.	At farm level, samples could include <b>one or more type</b> <del>variety</del> of samples in the food-producing environment ( <b>e.g</b> faeces, feed, litter (bedding), dust, fluff, water, soil, sewage, sludge, manure, etc.)	Flexibility. No need to affirm variety of samples, since a country could just use one, because the sample type selection should be in accordance to the risk of foodborne AMR.
82, food section	<p>Food sampling at processing/packing, wholesale or point-of-sale (retail) should be considered as part of the integrated monitoring and surveillance system and include both domestically produced and imported food sources.</p> <p>The place where the food samples are collected should reflect the production system in the country and the purchasing habits of the consumer (e.g. in open markets or chain stores).</p> <p>At retail level, the types of food samples could include raw meat (beef, chicken,</p>	<p>Food sampling at processing/packing, wholesale or point-of-sale (retail) <del>should</del> could be considered as part of the integrated monitoring and surveillance system <del>and include both domestically produced and imported food sources</del></p> <p>The place where the food samples are collected should reflect <del>the production system in the country and</del> the purchasing habits of the consumer (e.g. in open markets or chain stores). <del>At retail level, the types of food samples could include raw meat (beef, chicken, turkey, pork, etc.), fish or seafood, dairy products, or other</del></p>	<p>What I include will depend on my national objectives</p> <p>In paragraph 83 said that once sampling structure is established consistency and methodology should be achieved for a long term, so switching sample source periodically will affect the interpretations of results</p>

	<p>turkey, pork, etc.), fish or seafood, dairy products, or other edible tissues (liver, kidney, muscle, fat, lung, etc.), raw produce (fruits, vegetables, nuts, etc.) and other minimally processed food. The selection of foods for surveillance should reflect production and consumption patterns in the population and the likely prevalence of AMR but may be modified periodically in order to capture multiple commodities, seasonality, or where products have been identified as high risk.</p>	<p><del>edible tissues (liver, kidney, muscle, fat, lung, etc.), raw produce (fruits, vegetables, nuts, etc.) and other minimally processed food.</del> The selection of foods for surveillance <b>should be in accordance with the national surveillance objectives</b> <del>reflect production and consumption patterns in the population and the likely prevalence of AMR but may be modified periodically in order to capture multiple commodities, seasonality, or</del> where <b>other</b> products have been identified as high risk.</p>	
82, environment section	<p>Sampling of the food production environment along the food chain (environment of animals and crops, processing, wholesale facilities and retail outlets) could be considered as part of the integrated monitoring and surveillance system and may include: faecal samples from wildlife and other animals in vicinity of cropping areas, dust, water, bedding, etc.</p>	<p>Sampling of the food production environment along the food chain (environment of animals and crops, processing, wholesale facilities and retail outlets) could be considered as part of the integrated monitoring and surveillance system and may include: <del>faecal samples from wildlife and other animals in vicinity of cropping areas, dust, water, bedding, etc.</del></p>	<p>The management measure if you found AMR bacterias or determinants in this sample is the first good agriculture practice, don't allow animals near to the crops. No point of use this example, that could end in a wasteful of resources and a very difficult result to be integrated in my monitoring surveillance program</p>
89	<p>Target microorganisms for aquatic animals and food of non-animal origin should be determined based on available evidence and risk</p>	<p>Target microorganisms for aquatic animals and food of <del>non-animal</del> <b>plant</b> origin should be determined based on available evidence and risk</p>	<p>Food of plant origin is a term already used by JEMRA in the expert report, no need to invent a new one.</p>
93	<p>Laboratories participating in the monitoring and surveillance program should</p>	<p>Laboratories participating in the monitoring and surveillance program should, <b>to the extend of possible</b></p>	<p>flexibility required, since more than one laboratory could participate in a national integrated surveillance program, but not necessarily perform all the activities.</p>
109	<p>Molecular characterization such as WGS is also an important tool for use in the rapid identification of clusters, outbreak investigations, determination of epidemic source and transmission chains, detection of emergence and investigation of the spread of new resistant strains or resistance</p>	<p>Molecular characterization <del>such as WGS is also an important tool for use</del> <b>could also be useful</b> in the rapid identification of clusters, outbreak investigations, determination of epidemic source and transmission chains, detection of emergence and investigation of the spread of new resistant strains or resistance determinants; and source attribution by linking to</p>	<p>flexibility</p>

	determinants; and source attribution by linking to molecular monitoring of pathogens or resistant microorganisms or resistance determinants in humans, animals, food and environmental reservoirs.	molecular monitoring of pathogens or resistant microorganisms or resistance determinants in humans, animals, food and environmental reservoirs.	
110	The use of molecular testing may be useful for the enhanced surveillance and early warning of resistant microorganisms of high public health impact such as ESBL/AmpC/carbapenemase-producing Enterobacteriaceae.	The use of molecular testing <b>may also</b> be useful for the <del>enhanced</del> surveillance and early warning of resistant microorganisms of high public health impact such as <del>ESBL/AmpC/carbapenemase-producing Enterobacteriaceae</del> .	No need of examples, new ones or other could be identified over time and also been targeted based on their own public health situations by countries.
121	When results of PFGE, MLST, WGS or other DNA analysis for an individual isolate are available, tests for genetic linkage and homogeneity can be carried out between the isolate and bacteria isolated from humans, food, agricultural, livestock and aquatic products and environment.	When results of <del>PFGE, MLST, WGS or other</del> DNA analysis <b>test</b> for an individual isolate are available, tests for genetic linkage and homogeneity <del>can</del> <b>could</b> be carried out between the isolate and bacteria isolated from humans, food, agricultural, livestock and aquatic products and <b>food production</b> environment.	No need to mention any technique.
122	The WHO-AGISAR Guidelines for Integrated Surveillance of AMR in Foodborne Bacteria: Application of a One Health Approach provides detailed information about interpretation of antimicrobial susceptibility results, data analysis and reporting.	The WHO-AGISAR Guidelines for Integrated Surveillance of AMR in Foodborne Bacteria: Application of a One Health Approach provides <b>more</b> detailed information about interpretation of antimicrobial susceptibility results, data analysis and reporting.	
139	The database should allow the appropriate and easy extraction of data when required and for expansion as the integrated monitoring and surveillance program improves.	The database should allow the appropriate and easy extraction of data when required and for expansion <del>as</del> of the integrated monitoring and surveillance program <del>improves</del> .	The system could expand, but improves imply that there are stages where is not good enough or well implemented.
141	A description of sampling designs, stratification and randomization procedures per animal populations and crop/plant, environmental or food categories should be provided with the data.	A description of sampling designs, stratification and randomization procedures per animal populations and crop/plant, <del>environmental</del> <b>food production environment</b> or food categories should be provided with the data.	

144	Results of AMR and AMU monitoring and surveillance should be published annually where resources allow. When available, summary reports about AMR in humans, agricultural, livestock and aquatic products and environment can be published	Results of AMR and AMU monitoring and surveillance should be published annually where resources allow. When available, summary reports about AMR in humans, agricultural, livestock and aquatic products and <b>food production</b> environment <del>can</del> <b>should be</b> published	Align with the scope.
146	Combined analysis of results and data of a program of integrated monitoring and surveillance of AMR in foodborne bacteria comprises the comparison and synthesis of AMU in humans, animals and crops and AMR data across all sectors including humans, food-producing animals, plants/crops, retail foods, and the environment.	Combined analysis of results and data of a program of integrated monitoring and surveillance of AMR in foodborne bacteria comprises the comparison and synthesis of AMU in humans, animals and crops and AMR data across all sectors including humans, food-producing animals, plants/crops, retail foods, and <b>the food production</b> environment.	Align with the scope
152	Other targeted investigation which is not included in the routine AMR monitoring and surveillance program may be needed at national or local level as risk management response to surveillance activities and actions, e.g. incorporating real-time “Critical Resistance” Alert Systems.	Other targeted investigation which is not included in the routine AMR monitoring and surveillance program may be needed at national or local level as risk management response to surveillance activities and actions, <del>e.g. incorporating real-time “Critical Resistance” Alert Systems.</del>	Not good example, delete
159	A tiered approach to the implementation of this guidance at the national level is recommended. Programs should aspire to use effectively available resources, technical capability and take advantage of potential for cross-sector integration while seeking continuous improvement	A tiered approach to the implementation of this guidance at the national level is recommended. Programs should aspire to use effectively available resources, technical capability and take advantage of potential for cross-sector integration <del>while seeking continuous improvement</del> <b>while evaluating possible expansion</b>	
160	Training programs such as capacity development programs carried out by FAO/WHO/OIE should include capacity to train the personnel of the relevant competent authorities in different aspects of the monitoring and surveillance system. This should include the capacity to train personnel in the collection, analysis and	Training programs <del>such as capacity development programs carried out by FAO/WHO/OIE</del> should include capacity to train the personnel of the relevant competent authorities in different aspects of the monitoring and surveillance system. This should include the capacity to train personnel in the collection,	No need for reference

	reporting of the monitoring and surveillance data	analysis and reporting of the monitoring and surveillance data	
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