

**2025 Seminar on Safety Governance
of Agricultural-Livestock and Fishery Products for Asian Countries**

2025년 한-아세안 위생협력 ODA 세미나

Strategies to contain Foodborne AMR in Republic of Korea

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2025 Seminar on Safety Governance of Agricultural-Livestock and Fishery Products for Asian Countries

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01 Introduction

02 National Action

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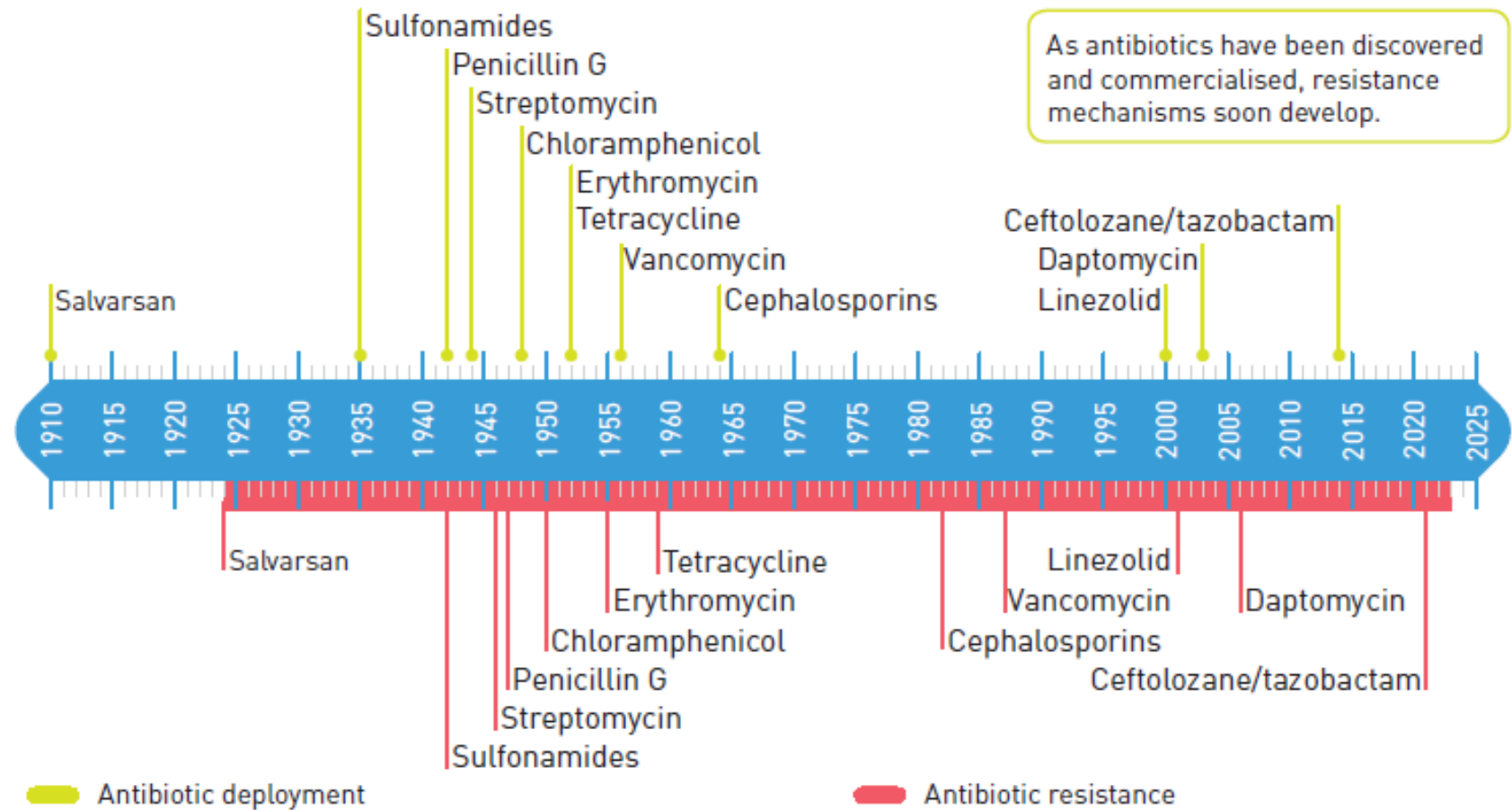
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01 Introduction

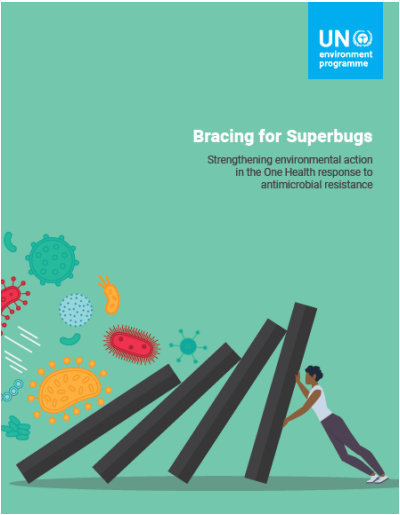
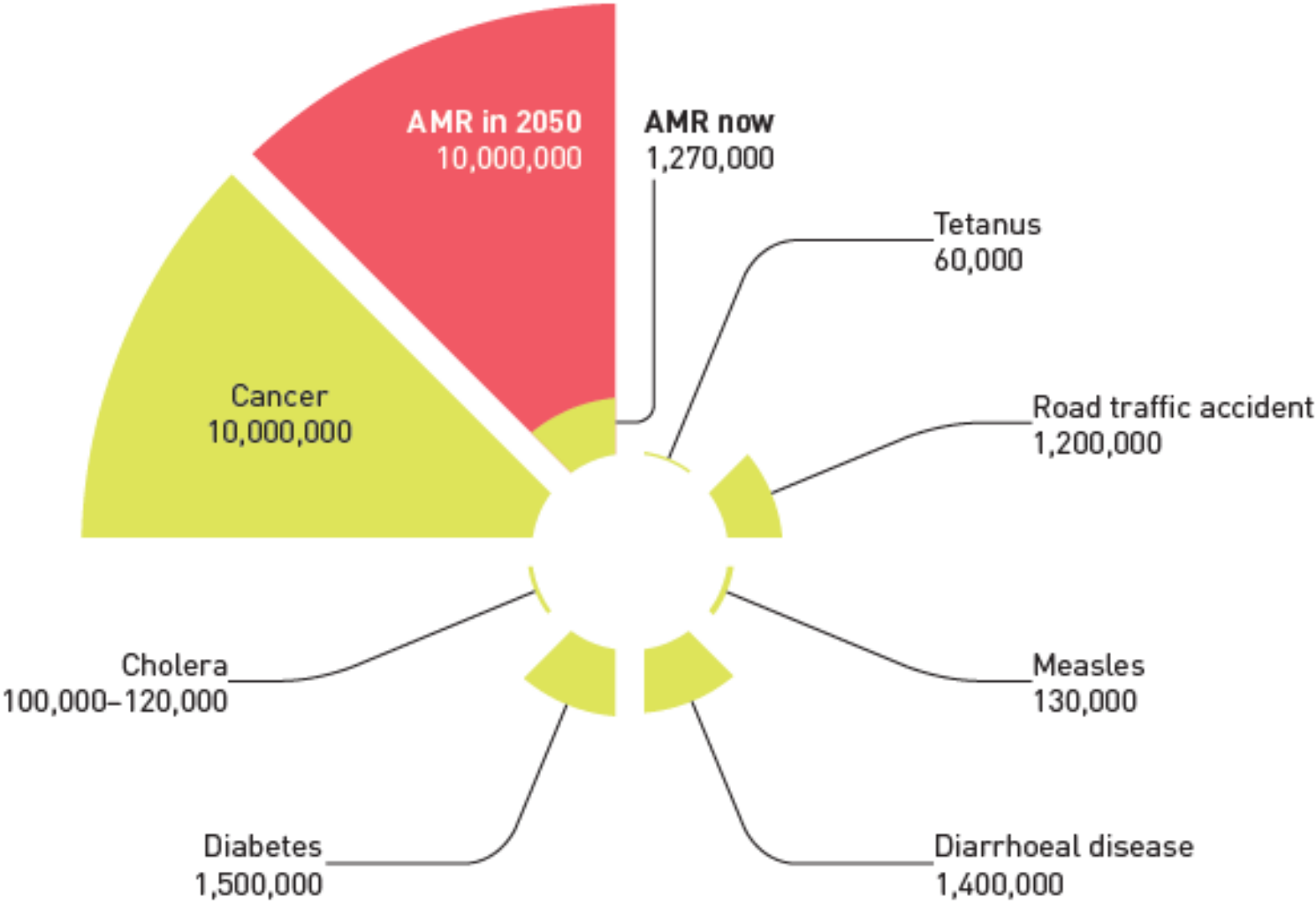
Antimicrobials & Antimicrobial Resistance

01
Introduction



(UNEP, 2023)

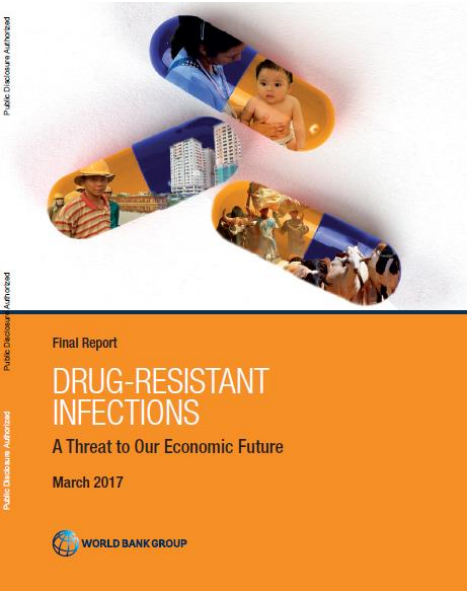
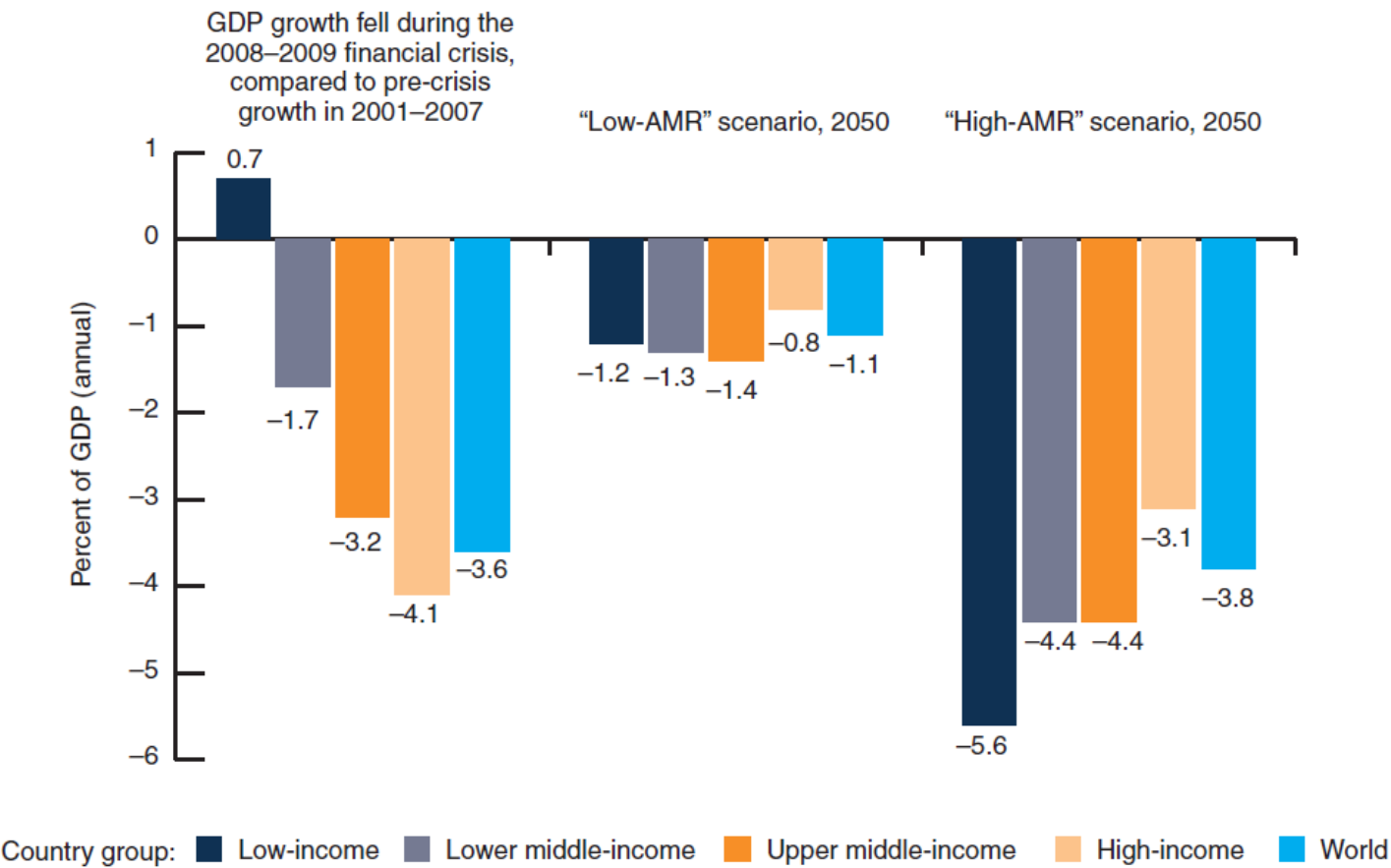
Predicted Mortality from AMR



(UNEP, 2023)

Financial Burden of AMR

FIGURE ES2. Economic Costs of AMR May Be as Severe as During the Financial Crisis
AMR could reduce GDP substantially—but unlike in the recent financial crisis, the damage could last longer and affect low-income countries the most
(annual costs as % of GDP)

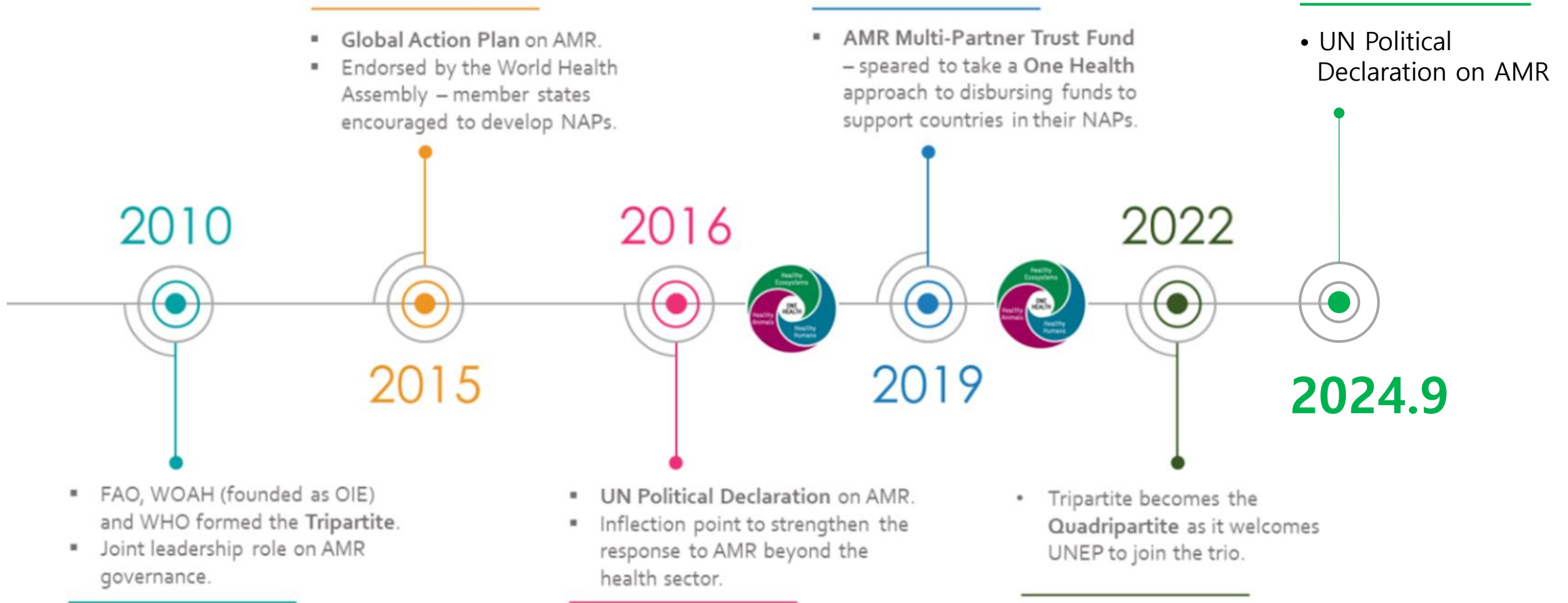


(World Bank, 2017)

Global AMR Response

01
Introduction

© Rupal Shah-Rohifs | One Health icon credit @GIZ



Historical timeline of some aspects of the AMR response at the global level.

About Korea : Population



Source: Statistics Korea(KOSTAT)

Age-wise AMR Mortality

01
Introduction

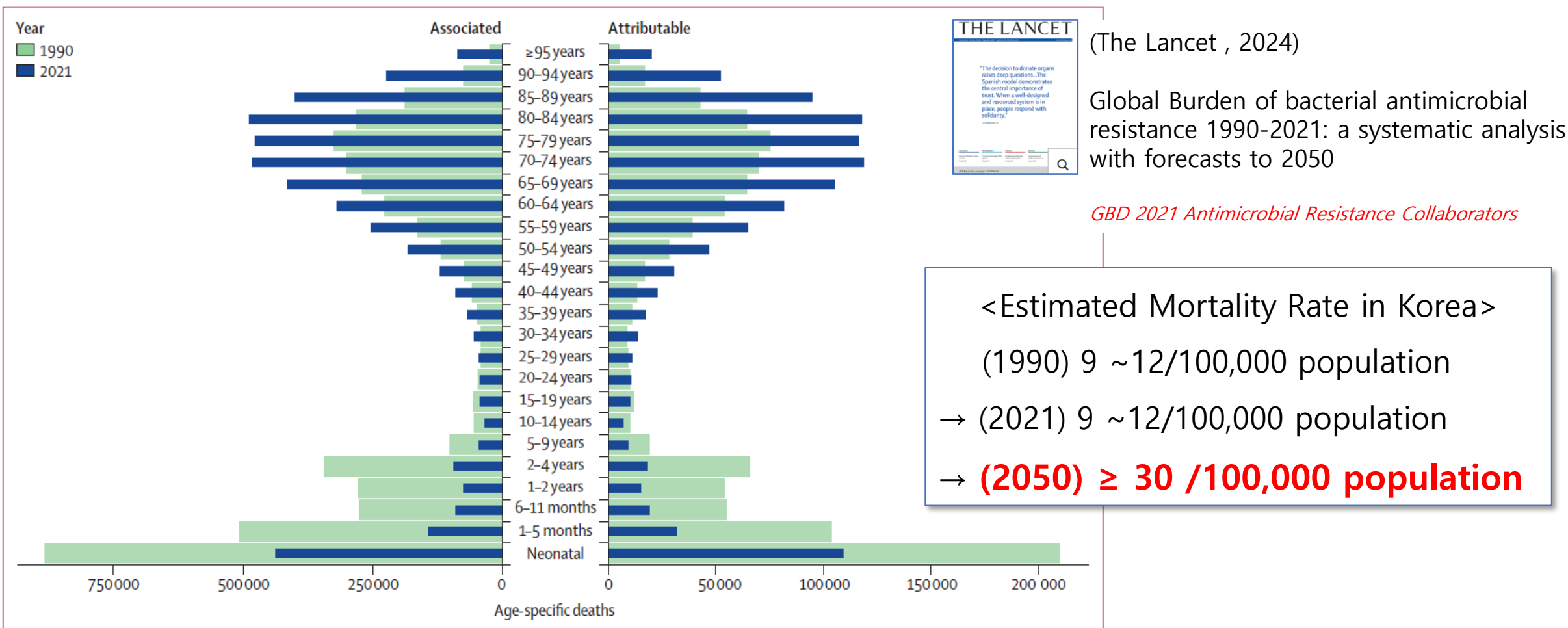
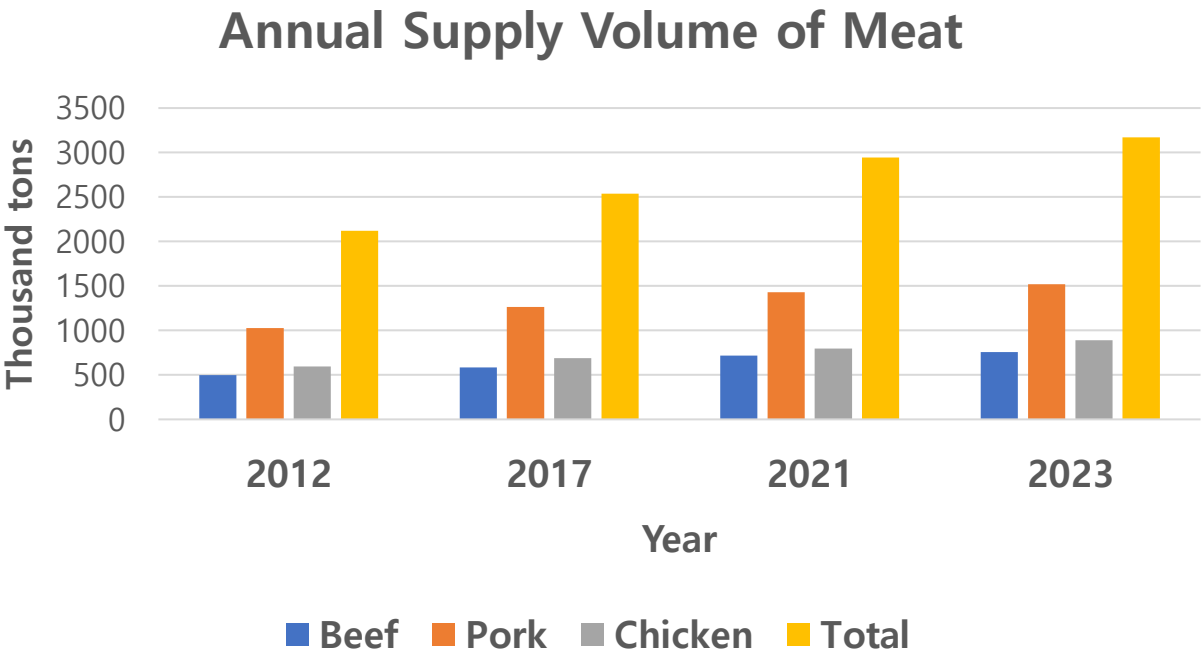
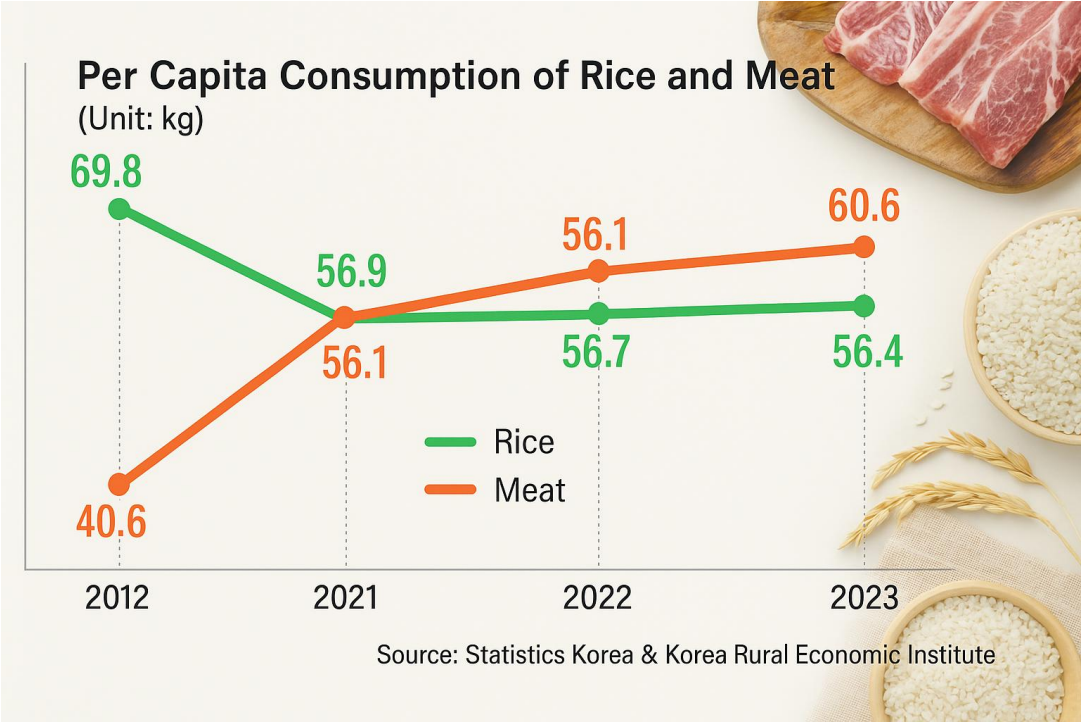


Figure 2: Deaths attributable and associated with antimicrobial resistance, by detailed age group, for 1990 and 2021

Counterfactuals have distinct x-axes.

About Korea : Dietary Habits



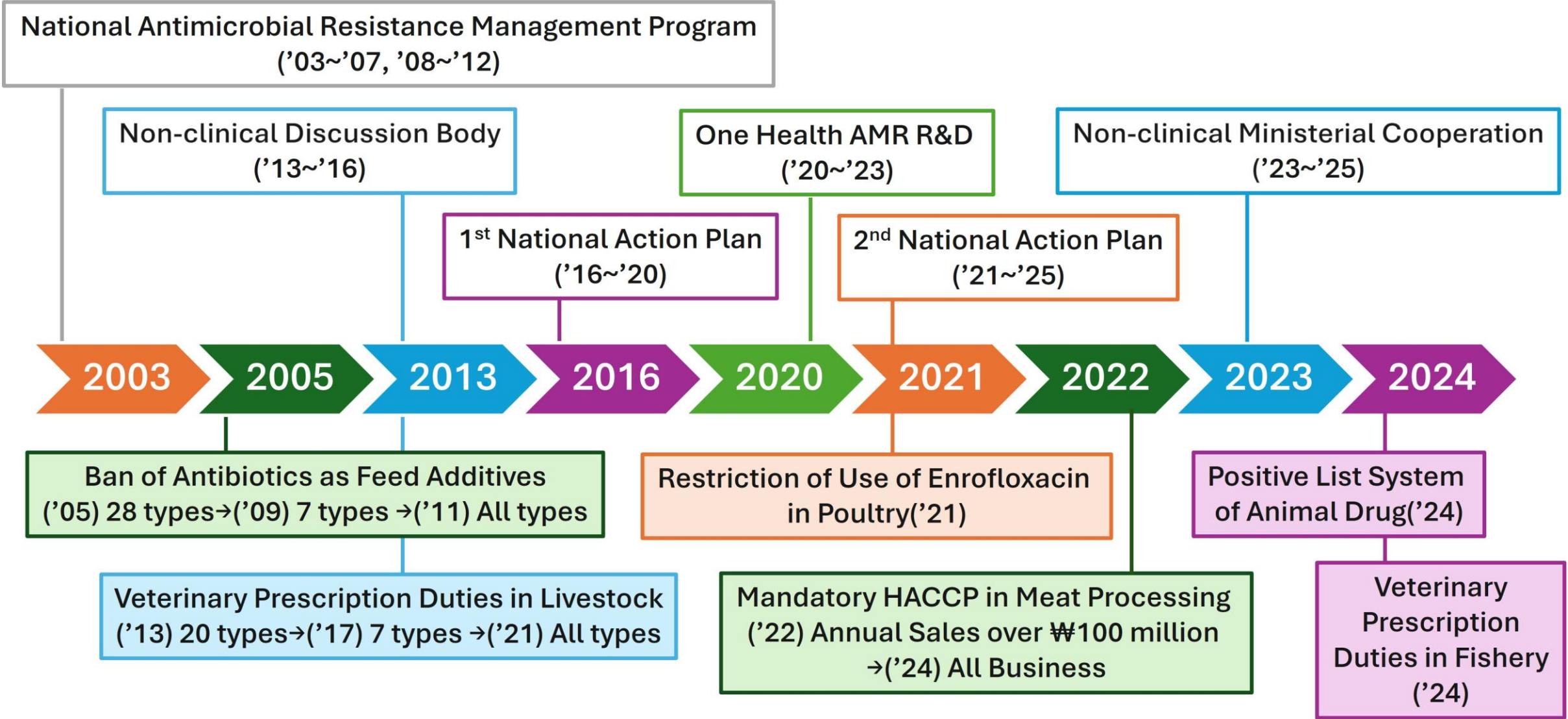
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02 National Action

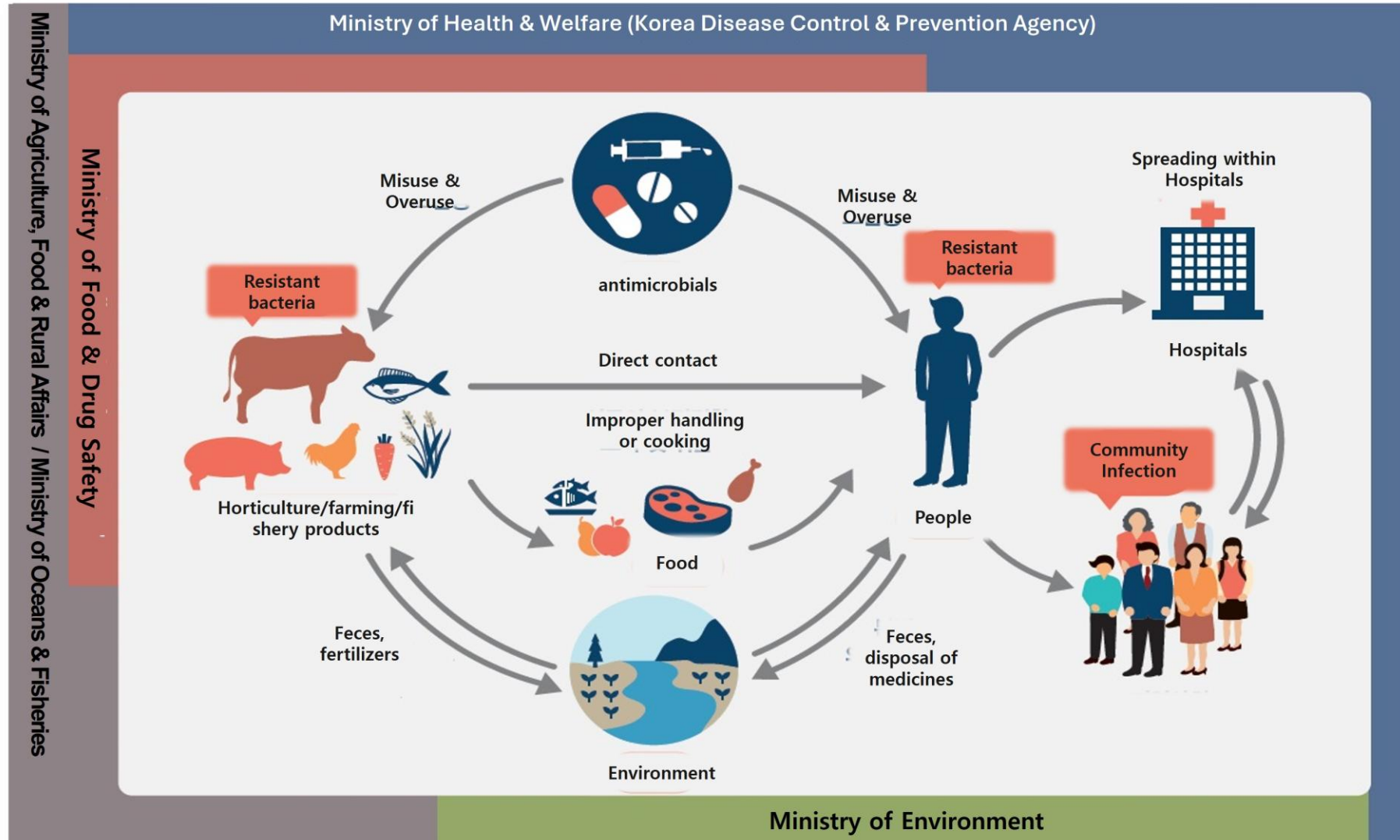
Journey to Contain Foodborne AMR

02
National Action



One Health Framework and involved Ministries

02
National Action



The 2nd National Action Plan(MFDS-Focused)

02
National Action

Vision

Achieving Sustainable Public Health through AMR Management
in Humans, Animals, and the Environment

Use Antibiotics appropriately

- Raising Awareness
- Professional Training

Prevent Spread of AMR

- Expansion of mandatory HACCP Implementation for livestock products

Enhance Surveillance

- Implementing PLS
- National Residue Program
- AMR Monitoring

Strengthen R&D

- Association between AMR and Antimicrobial Residue

Enhance Collaboration

- Non-Clinical Sector collaboration
- International Cooperation

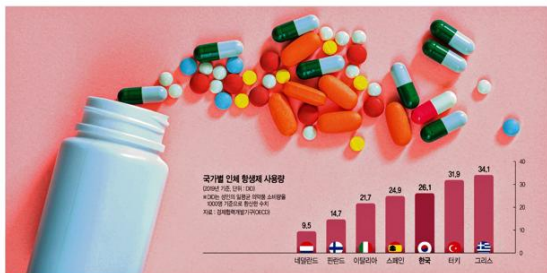
Performing 9 Tasks in 5 Fields in MFDS

문화일보 2024년 10월 15일 화요일 025면 기획

감기엔 항생제?… 남용땀 1000만명 사망 ‘조용한 팬데믹’ 올수도

안전한 食·醫·藥, 국민건강 일군다

식약처, 항생제 내성 관리 국제협력 강화

[illegible]

▶ **항생제 내성은 세균이 항생제에 영향을 받지 않고 생존·증식하는 특성을 일컫는다. 세계보건기구(WHO)는 항생제 내성을 인류 생존을 위협하는 10가지 위험 중 하나로 경고하고 '조용한 팬**

속하며 주요 항생제인 반코마이신, 카바페넴 내성들은 지속해서 증가 추세다. 축·수산 분야도 항생제 내성률이 선진국에 비해 높다. 특히 항생제 과다 사용 가속된 돼지, 닭 등에서 높은 편이다.

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한국일보

2023년 04월 25일 화요일
가판 020면 전체

알기 쉬운

식품·의료계를 이야기

항생제 내성 위험 안전 123 수칙으로 건강생활 실천하자

조용한 판매처라고 불리는 항생제 내성이 세계 공중 보건계의 주요한 문제로 떠오르고 있다. 항생제의 부적절한 처방과 오남용이 내성률을 증가시켜 인류 생존을 위협하는 것이다. 세계보건기구(WHO)는 항생제 내성 문제가 코로나 이후 최대 보건 문제가 될 것이라고 경고하고 있다.

최근 유엔환경경제회의(UNEP)의 '슈퍼박테리아 대파' 보고서에 따르면 항생제 내성균 감염으로 인한 사망자가 500만 명에 이르고, 2050년에는 1,000만 명으로 급증해 당뇨병과 함께 의한 사망자보다 많을 것으로 예상된다. 이에 항생제 사용으로 인한 내성균 발생과 확산 저감을 위해 모든 분야에서의 적극적인 협력을 촉구했다.

인체 치료와 축수산물을 생산에 항생제가 사용되고 있고 그 과정에서 발생된 내성균이 농·수산물, 식품, 물, 토양 등을 통해 사람에게 전파될 수 있기 때문이다.

정부는 인체 분야와 비인체 분야를 포괄해 '국가 항생제 내성 관리 대책'을 추진 중이다. 특히 식품과 축산안전처는 항생제 내성에 대비하기 위해 지난해부터 농·수산물·환경

부·해수부 등과 공동으로 '비인체 분야 항생제내성 위험지킴이'를 구축해 내성균의 인체 전파를 차단하는데 노력하고 있다.

항생제를 적절히 사용하는 의사나 축수산 농가의 노력 외에도 우리 국민이 일상생활에서 항생제 내성을 줄이기 위해 실천 가능한 방법은 무엇일까.

우선 최근 식약처가 마련한 '생활 속 항생제 내성인전 123수칙'을 지키는 것이다. △백신 접종, 규칙적 운동으로 면역력 강화, 항생제 내성균에 속적접촉 갖기 등 항생제인전 3는 항생제 조심하기 △미다 남은 항생제를 약국에 반납해 폐기물 내성을 막고 지 않고 전문가 처방대로 복용하기 △깨끗하게 씻고 기침예절 지키기 △식재료 세척 및 안전한 조리하기 등 감염없는 건강생활 실천하기다.

신약개발 의료계가 자정 노력으로 항생제를 신중히 사용하고, 우리도 항생제 내성에 관심을 갖고 꾸준한 노력한다면 말미암은 장래에 근심적인 해결책을 찾을 수 있을 것이다.

다만 일은 간과한다면 우리 국민들은 가까운 질병에도 항생제 약을 처방 없이 심각한 문제가 발생할 수 있다.

오늘 우리의 작은 실천이 미래 세대 건강을 지키는 가장 효과적 해결책이 아닐까.

김성일 식품의약품안전처장
축산안전정책관



식품의약품안전처

국민 안전이 기준입니다
YOUR SAFETY IS OUR STANDARD



항생제 내성 예방 우리 모두 함께해요!



항생제 내성 안전 123!



1. 면역력을 강화

① 손씻기

② 기침 예절 지키기

③ 백신 접종하기

④ 주기적으로 운동하기

2. 안전하게 식품을 섭취

① 식품을 충분히 씹어먹기

② 조리/비조리 식품 잘 구분하기

③ 완전히 익혀먹기

④ 안전하게 보관하기

3. 의사의 처방대로 항생제 복용

질병에 감염되면 의의로
판단하지 말고 의사의 처방에
따라 항생제 복용하기

**식약처는 국민의 안전하고 건강한 삶을 위해
관계부처와 함께 식품유래 항생제 내성을
줄이기 위해 노력하고 있습니다.**

Preventing the Spread of AMR

02
National Action

✓ Mandatory HACCP Implementation for Livestock Product Businesses

- Stepwise Expansion of HACCP implementation in Meat Processing/Packing Businesses

* Implemented in 2,400 Meat Processing and in 3,900 Meat Packing Facilities

Year	Implementation
2021	Revision of Enforcement Rule, LIVESTOCK PRODUCTS SANITARY CONTROL ACT
2022	Mandatory for Meat Processing Business(>100 Million Won/year)
2023	Mandatory for Meat Packing Business(>2 Billion Won/year)
2024	Mandatory for Meat Processing Business(<100 Million Won/year)
2025	Mandatory for Meat Packing Business(>500 Million Won/year)



- Customized Technical Support & Funding Support for Sanitation Improvement

* Technical Support(2,010) and Funding Support(220)

Enhancing Surveillance: PLS

Revision of Korean Food Code

02
National Action



Prevention of veterinary drugs misuse/abuse

➤ Misuse and abuse of veterinary drugs can be prevented by scientifically setting and managing the MRLs

Domestic Livestock and Fishery Products

From production to serving at home, healthier and safer food can be provided

Imported Livestock and Fishery Products

➤ Prevention import in cases where the safety of veterinary drugs has not been proven

➤ Prevention of import and domestic distribution of unqualified livestock/fishery products from abroad






It is a system introduced to facilitate safety management for veterinary drugs. Under the Positive List System(PLS), the “uniform limit(0.01 mg/kg)” applies to livestock and fishery products for which Maximum Residue Limits (MRLs) are not set in Korea.

PLS applies equally to domestic and imported products.

The “uniform limit(0.01 mg/kg)” is equivalent to the amount of 1 gram of ink in a 100-ton swimming pool! It’s a very small amount!



From January 1, 2024, PLS applies only on the major livestock/fishery products of “cattle, pigs, chickens, milk, eggs, fish”

	Cattle		Pigs
	Chickens		Milk
	Eggs		Fish

Enhancing Surveillance: Residue Control

02
National Action

✓ Residue Control Program

- Randomized Surveillance and Risk-based Control

- Livestock Products(at Production Site & from Market)



- Meat Products: 185 Substances

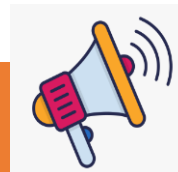
- Egg Products: 81 Substances

- Seafood(at Production Site & from Market)

- 144 Substances



If non-Compliant, Notification and Recall



Enhancing Surveillance: AMR Monitoring

02
National Action

✓ AMR Monitoring System

Retail Foods

Livestock



Aquatic animals



+

Crops



Livestock Products :

E. coli, *Salmonella* spp., *E. faecalis/feacium*
S. aureus , *C. jejuni/coli*



Seafood :

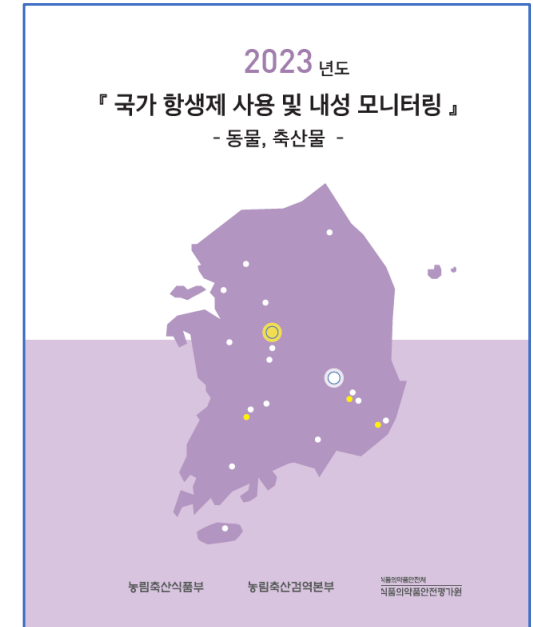
E. coli, *Salmonella* spp., *E. faecalis/feacium*
S. aureus , *V. parahaemolyticus*



Fresh Produce:

E. coli, *Salmonella* spp., *E. faecalis/feacium*
S. aureus

Annual Report
(Livestock+ Meat)

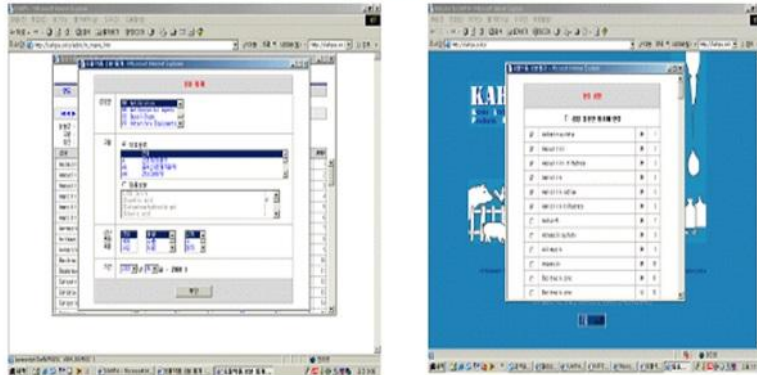


Enhancing Surveillance: Antimicrobial Use Data

02
National Action

Pharmaceutical companies

Input the AI (Active Ingredient)



Korea Animal Health Products Association (KAHPA) report data annually by Handling Rules of Animal Medicines and Others

Animal and Plant Quarantine Agency (APQA)

Report to WOAAH

(Global database on AMs intended for use in animals)

ANIMUSE

The World Organisation for Animal Health (WOAH) has been collecting data on the amounts and reasons for antimicrobial use in animals since 2015. This information is an essential tool to reduce the misuse and overuse of medicines and to curb the spread of antimicrobial resistance (AMR). ANIMUSE, the global database on AMR and antimicrobial use, facilitates access to the crucial and growing set of information.



Report to KVARMS



Animal and Plant
Quarantine Agency



(Sukgyung Lim, 2024)

Strengthening R&D

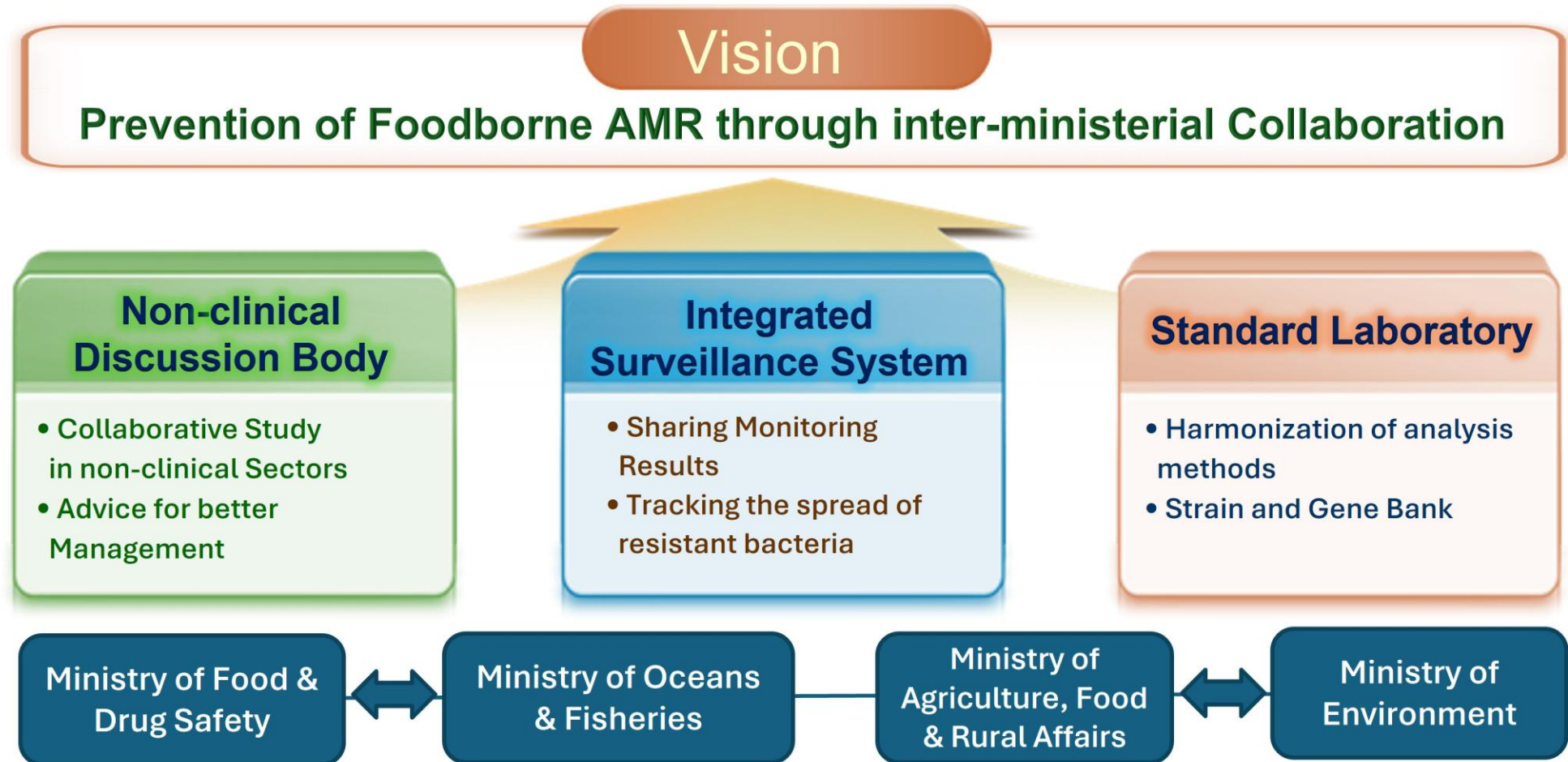
02
National Action

Duration	Research Title	Funding Amount (USD)
2023~2025	Distribution status of antimicrobial resistant bacteria and analysis of resistance gene association in retail food	2,200 thousand
2020~2022	Monitoring and characterization of antimicrobial resistant bacteria isolated from retail food	660 thousand
2020~2022	Development of Rapid Detection Kit for Major Anti-Microbial Resistance Genes	625 thousand
2020~2022	Development of Rapid Detection Kit for Major Anti-Microbial Resistance Genes	880 thousand
2019~2021	Exploration of antimicrobial resistant mechanism with outer membrane vesicles (OMVs) of multi drug resistant bacteria (MDR) and study of its reduction	440 thousand

Enhancing Inter-Ministerial Collaboration

02
National Action

✓ Inter-ministerial Personnel Exchange



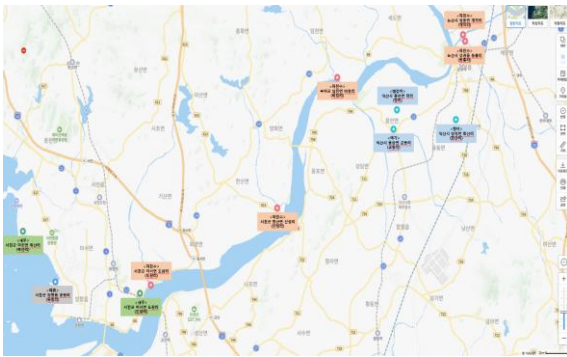
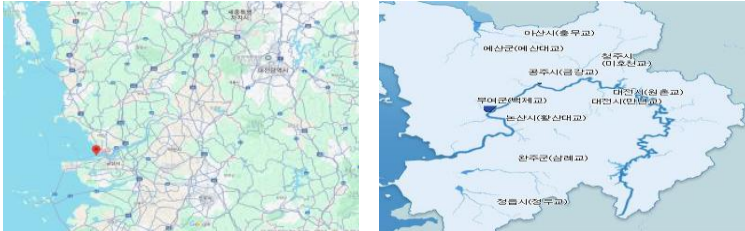
Enhancing Inter-Ministerial Collaboration

✓ Inter-ministerial Personnel Exchange

02
National Action

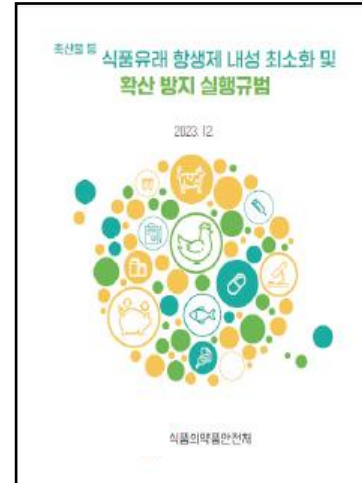
Integrated Surveillance

✓ Integrated Monitoring



Discussion Body

✓ Performance Report, Guidelines



Standard Lab.

✓ Harmonizing testing methods



2023년 비인체 분야 항생제 감수성 검사 시험법
4차년도 개정본 (2023. 12. 28. 제정)

1 비인체 항생제 감수성 검사 시료채취 및 대상 미생물

> 채취시료 및 대상 미생물 분석하는 각 기관 담당자별

기관	채취 대상	대상 미생물
농림축산검역본부		대장균, 장염균, 살모넬라균, 황색포도상구균, 균열제균
국립환경과학원		대장균, 장염균, 황색포도상구균
국립수산업연구원		장염균, 대장균
식물위생안전평가원		대장균, 장염균, 살모넬라균, 황색포도상구균, 균열제균, 장염균

Key Outcomes of the National Strategy

02
National Action

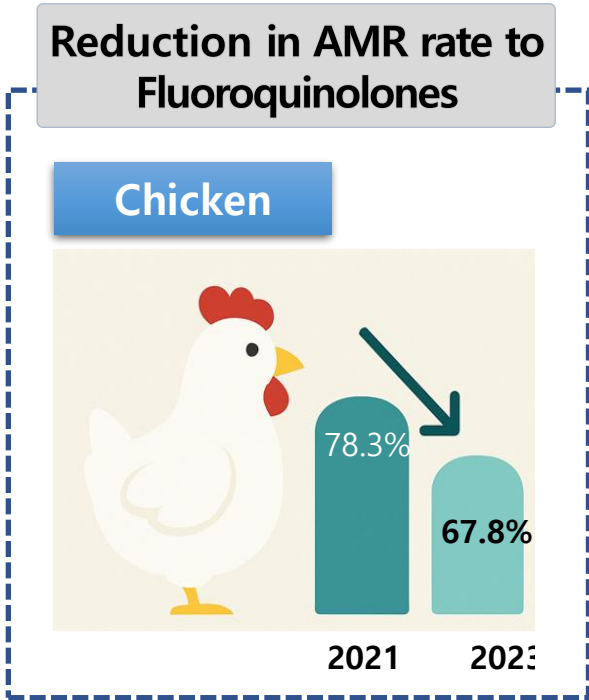
✓ 2nd National AMR Action Plan(2021~2025)

Indicator	2021	→	2025
Resistance Rate of E.coli isolated from chicken to Fluoroquinolone	78.3%	(Reduction by 10%)	70.5%

By implementing various strategies



this target was already achieved
ahead of schedule in 2023



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03 International Collaboration

Codex TFAMR(Host Country: Korea)

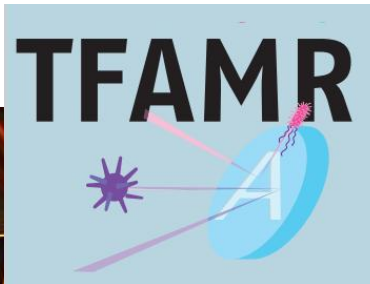
03

International Collaboration

✓ 1st Phase(2007-2010)



GUIDELINES
FOR RISK ANALYSIS
OF FOODBORNE
ANTIMICROBIAL
RESISTANCE



✓ 2nd Phase(2017-2021)



GUIDELINES
ON INTEGRATED
MONITORING AND
SURVEILLANCE
OF FOODBORNE
ANTIMICROBIAL
RESISTANCE



CODE OF PRACTICE
TO MINIMIZE AND
CONTAIN FOODBORNE
ANTIMICROBIAL
RESISTANCE



Capacity Building Support(MFDS-FAO)

03

International Collaboration

✓ (Project) **Action** to support the implementation

of **Codex AMR Texts**(ACT Project)

✓ (Period) 2021~ 2026

✓ (Budget) 9.5 million US\$

✓(Beneficiaries) Mongolia, Nepal,

Cambodia, Pakistan, Bolivia, Colombia



English Français Español

Antimicrobial Resistance



Capacity Building Support(MFDS-FAO)

03
International Collaboration

Foodborne AMR Surveillance



InFARM System and 1st Data Call



Proficiency Test and Pilot monitoring



Provision of Equipment and Training Staff

Action Plan

Act Tool

Institutional Monitoring
Authentication
Safe
Traceability
Product use
Packaging/labelling
Quality control
Disposal
Advertising
Animal/plant production
Food chain

Focus areas

Institutional Coordination
Integrated surveillance
Access
Product use and AGPs

To monitor implementation of Codex texts



Committee against AMR(Bolivia) High-Level Meeting (Colombia)

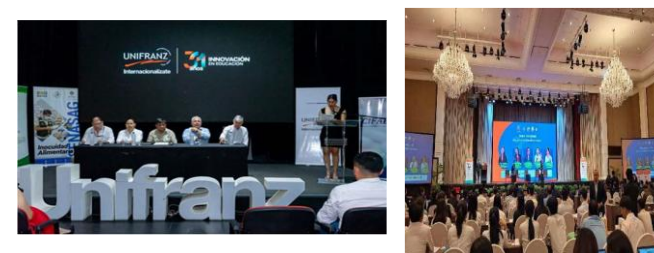
New Provisions in the Law (Mongolia) Labelling Requirement (Bolivia)



Raising Awareness



Communication Activities



Conference and Seminar



Brochures and Videos

MFDS Global Conference on Foodborne AMR(GCFA)('21~)

03

International Collaboration



- ✓ 1st Foodborne AMR beyond COVID-19
- ✓ 2nd International Endeavour to Reduce Foodborne AMR
- ✓ 3rd One Health Approach and Efforts to tackle AMR
- ✓ 4th Global Cooperation and Solidarity to Combat Foodborne AMR

The 5th MFDS GCFA

03

International Collaboration

"Sustainable Development in Food Safety: Beyond AMR"

5th GCFA

5th Global Conference on Foodborne Antimicrobial Resistance

September 16 (Tue) – 17 (Wed), 2025 (2 days, Seoul)

Theme of the Year

Beyond Antimicrobial Resistance:
Sustainable Development of Food Safety



- Session I Introduction of Policy Trends on AMR Management for Food Safety Assurance
- Session II Introduction of Policies on Prudent Use of Antimicrobials in the Food Supply Chain
- Session III Presentation of the Latest Technologies for AMR Monitoring and Alternatives Based on Genomic
- Session IV Methods



Ministry of Food and Drug Safety



2025 Seminar on Safety Governance of Agricultural-Livestock and Fishery Products for Asian Countries

2025년 한-아세안 위생협력 ODA 세미나

THANK YOU.

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국민 안전이 기준입니다
YOUR SAFETY IS OUR STANDARD



Ministry of Food and
Drug Safety