

Speech at “Evidence for Action(E4A) Dialogue on Antimicrobial Resistance”

February 6th, 2024, Valletta Campus, University of Malta

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First of all, I would like to thank Sally, Kevin, Damiano and all those who organized this very important meeting on AMR in such a beautiful country like Malta. I am especially happy to be here when we have had terrible snow storm in Tokyo after I safely left Haneda Airport where people are now in a mess struggling with 10 centimeter of snow in Tokyo.

Today, we all gathered here to discuss for only one goal: how we can successfully increase the momentum of our fight against antimicrobial resistance to its highest level.

We all know that it is the political decision that ultimately decides the degree of our commitment. We can only change our policy on AMR either by changing the allocation of present budget or finding new ways to finance a new policy. Those must be ultimately decided only by politicians. And it is crucially important to create strategic evidences for action that politicians can perceive as their own critical issues.

To have a better dialogue among us, this meeting advices us not to use power point materials. I asked Damiano to supply my material on your request that includes three charts I used in 2016, the year of Ise-Shima G7 Summit and the last UN High Level Meeting on AMR. I succeeded to persuade Prime Minister Abe to include AMR as one of the three pillars of agenda on global health at the Leaders’ Meeting. These charts are on ① a composition of total antimicrobial consumption in Japan which told us that human use was only about 30% and 70% was consumed in agriculture and fishery. ② Country by country statistics of use of antimicrobials on livestock, that told us Japan has only 1.7% share whereas China and US has 23%,12% share respectively meaning AMR was nothing but a global health issue. ③ Country by country comparison of the antimicrobial use in health-care sector telling us that,

although Japan consumed relatively few antimicrobials, we used too much amount of three kinds of wide-spectrum antimicrobials that could have strong impact on AMR.

Although, with those charts, we were successful to convince then prime minister and the general public in Japan and the world at that time, as we are becoming more aware of the complex and serious global implication of the AMR, it is obvious that we need a paradigm shift in our way of thinking towards AMR.

The concerns of political leaders are not just the number of deaths by specific disease , but the impact on the sustainability of society itself and human being, from the point of view of the “security” and “political, economic, and social stability” of their own countries. We have to link the evidence we create with these concerns of political leaders.

Antimicrobial resistant bacteria invade the global environment and consequently undermine people's well-being. The UNEP's report last year, “Bracing for Superbugs”, points to this problem. This argument must be far deepened.

Thus, I would like to propose to view antimicrobial resistance as a “sustainability issue” for the “planetary environment” and for “human survival”. To this end, it is necessary to show more scientifically the impact and the transmission mechanism of antimicrobial resistance on the global environment and, in turn, on human health. Obviously, we don't have sufficient enough data and evidence yet.

The issue of “global environmental sustainability” appeals to all generations, including younger generations, and inspires people to take action. The result would be a whole-of-government initiative, not only in the medical sphere, but also in the agricultural, fisheries and environmental spheres and, consequently, involving the government's finance ministry which influences the prime ministers most.

From this perspective, I believe it is important to construct evidence on the following:

- Firstly, the irreversible effects of antimicrobial agents globally leaked into the environment through many channels such as ① the waste from antimicrobial manufacturing plants, ② leakage of antimicrobials via hospital drainage, ③ effect of self-medication with antimicrobials sold without a prescription or ④ leftover antimicrobials, and ⑤ from agricultural and fishery settings.
- Secondly, the risk of outbreaks of antimicrobial resistant pathogens destabilizing social and economic stability, given the fact that bacterial infections such as anthrax and plague caused major social unrest in the past.

Now I would like to ask Dr. Ohmagari from Japan, as our leader in the clinical and research fields of AMR, to add more information about how Japan is struggling to build up such evidences.

Thank you very much.

Antimicrobial Resistance (AMR): Current Status and Efforts for the Future

(2017)

Concerns about AMR

- With the widespread use of antimicrobial agents, pathogens mutate in various ways, **acquiring resistance to antimicrobials (AMR: Antimicrobial Resistance)**, and **spreading**. It was suggested that if no action is taken, the number of deaths worldwide will reach 10 million by 2050, **exceeding the number of deaths from cancer**. (the review committee on antimicrobial resistance (AMR) in United Kingdom (O'Neill Commission)), First Report (December 2014))
- Research and development of antimicrobials has been stagnant due to low profitability, and **the international community has expressed concern** that the further spread of drug-resistant bacteria will lead to a return to the "**World Without Antimicrobials**" that existed before the development of penicillin.

Trends in the international society

World Health Assembly: adoption of the Global Action Plan on AMR (May 2015)

- A resolution was passed "**for all countries to develop and act on National Action Plans within two years of the adoption of the Global Action Plan.**" *In WHO, **Assistant Director-General, Special Representative of the Director-General for AMR, Dr. Hajime Inoue** (from the Ministry of Health, Labour and Welfare) was responsible for AMR measures since November 2016.

G7 Elmau Summit Leaders' Declaration (June 8, 2015)

- The policy to tackle drug-resistant bacteria was included in the Statement on the Health Sector and **AMR measures were addressed in Berlin Health Ministers' Communique (October 8, 2015).**

Tokyo Meeting of Health Ministers on AMR in Asia (April 16, 2016)

- **The First Ministerial-Level Meeting held in Asia** to share experiences of Asian countries' efforts and discuss **future AMR countermeasures.**

G7 Ise-Shima Summit (May 26-27, 2016)

- **G7 Ise-Shima Vision for Global Health** included **strengthening the response to AMR** and **promoting research and development.** **Kobe Health Ministers Meeting (September 11-12, 2016)** further elaborated on the discussion of **strengthening the AMR response and promoting R&D**, and adopted the Kobe Communique.

High-level meeting on AMR in the 71st United Nations General Assembly (September 21, 2016)

- **A political declaration on AMR** was adopted; **an Interagency Coordination Group (IACG) on AMR was established** and its first meeting was scheduled for May 2017.

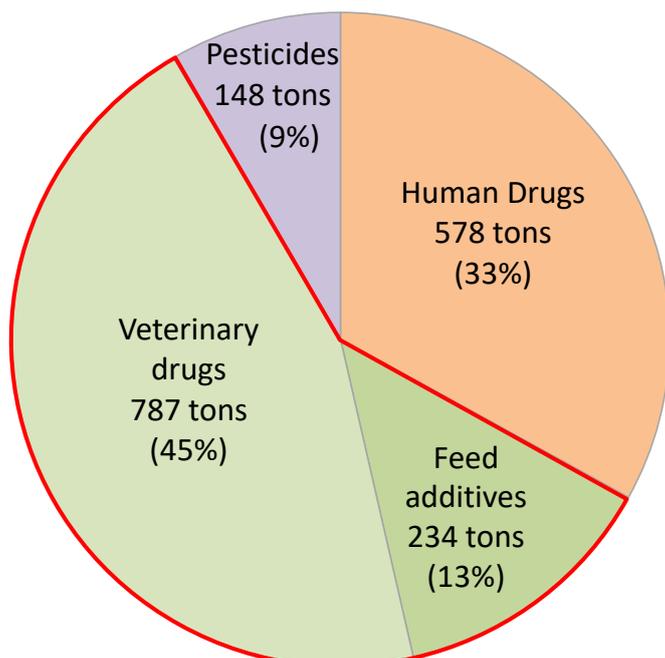
World Economic Forum (Davos) (January 19, 2017)

- **Coalition for Epidemic Preparedness Innovations (CEPI)** was launched to promote the development of vaccines for infectious diseases with significant global impact such as Ebola.

(Ministry of Health, Labour and Welfare of Japan) 1

Antimicrobial use in Japan and other countries of the world

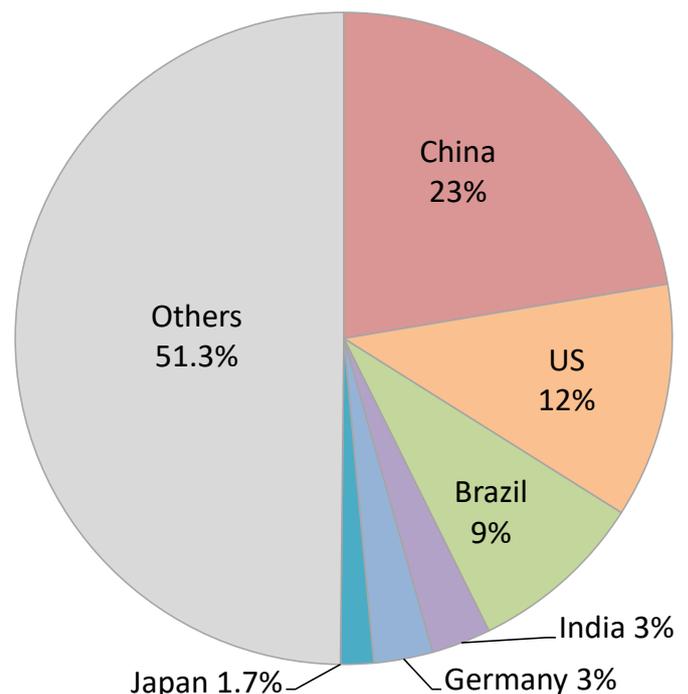
Antimicrobial use in Japan by intended use (2011)



Use for animals accounts for 58 % of the total.

Source: Agriculture, Forestry and Fisheries Statistics, Pesticide Handbook, IMS Pharmaceutical Sales Statistics

Antimicrobial use in livestock (cattle, swine and poultry) by country (2010)



Source: Van Boeckel TP, *Proc. Natl Acad Sci* . 2015; 112: 5649–5654.

* For Japan, estimates were based on 2011 data from the Ministry of Agriculture, Forestry and Fisheries statistics, which does not mean that the amount used is the sixth largest.

Key points of Japan's National Action Plan on AMR (April 5, 2016)

Current situation and challenges

- Difficulty in analysis due to **Lack of surveillance data** on animal and non-human factors (food, environment, etc.) or **lack of coordination**.
- **No data available on the incidence of resistant bacteria** in humans and **the relationship with the amount of antimicrobials used**.
- In the case of aquatic animals with small production volume, **even if the development of vaccines is desired, the development is not promoted due to the small market size, etc.**
- **No other G7 Action Plan sets numerical targets for both human and animal sectors.**
- **Lack of surveillance and other systems** for AMR control in Asia.

Japan's unique and advanced approaches

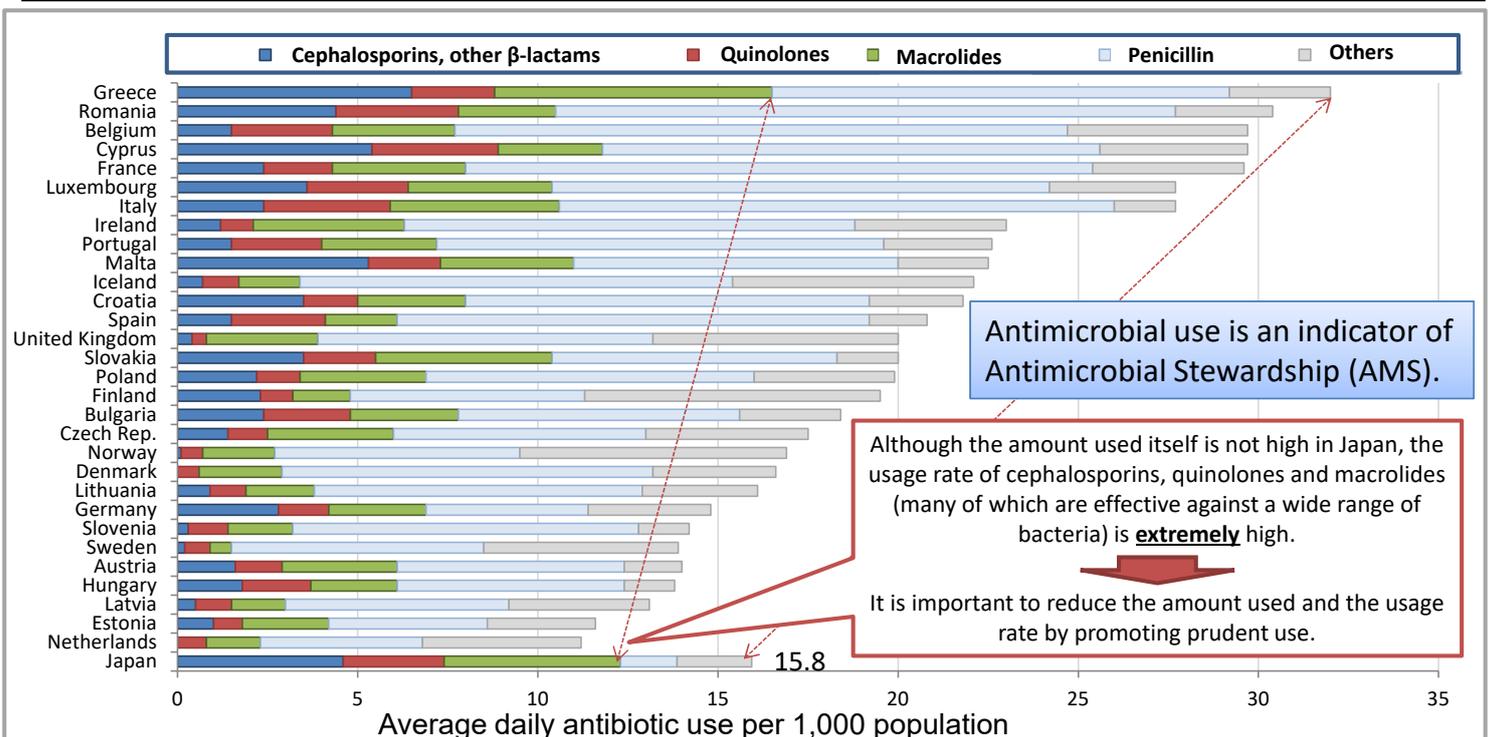
- Establishment of a **One Health Surveillance Network** that integrates AMR information from multiple field including humans, animals, and the environment.
- **Understanding nationwide trends in antimicrobial use** and promoting prudent use of antimicrobials by utilizing the National Database of Health Insurance Claims.
- Ensure prudent use of antimicrobial agents for veterinary use and **promote development of vaccines for animals (including fisheries)**.
- Set **numerical targets** for both humans and animals. → Numerical targets for the use of antimicrobials for animals are set in the future, along with specific action plans.
- Promote **international cooperation** with a focus on Asia through Tokyo Meeting of Health Ministers on AMR in Asia, etc.

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Numerical Targets in Japan's National Action Plan on AMR

Reduce the use of oral cephalosporins, fluoroquinolones and macrolides **by half**, with reducing overall use **by 33%**.

Antimicrobial use in the health-care sector by country



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