

JOINT PRESS RELEASE

LAUNCH OF NATIONAL STRATEGIC ACTION PLAN ON ANTIMICROBIAL RESISTANCE

Singapore supports global call for action against antimicrobial resistance

The One Health Antimicrobial Resistance Workgroup, comprising the Ministry of Health (MOH), Agri-Food and Veterinary Authority (AVA), National Environment Agency (NEA) and PUB, Singapore's National Water Agency, has developed a National Strategic Action Plan on Antimicrobial Resistance (AMR). The plan provides a framework to strengthen and enhance activities to combat AMR, addresses identified gaps and prioritises future interventions. Using a One Health approach¹, it builds on many years of work to combat AMR in Singapore, and unifies existing initiatives mounted across the human, animal, food, and environment sectors.

2. AMR is a serious threat to public health globally. It occurs when a microorganism (e.g. bacteria, virus) undergoes changes following exposure to an antimicrobial (e.g. antibiotics, antivirals) to protect its own survival. The antimicrobial hence becomes ineffective against the microorganism. AMR may compromise the ability to treat common infections, and infections arising from complications of medical procedures (e.g. surgery, chemotherapy). While the emergence of AMR is a natural occurrence among microorganisms, the misuse and overuse of antimicrobials have accelerated the development of resistance among disease causing microorganisms. If left unchecked, we will see an increased number of pathogens developing resistance and an increased number of infected patients, animals and livestock faced with limited treatment options.

3. The National Strategic Action Plan sets the framework for the national response to AMR, especially bacterial resistance to antibiotics. It is aligned with the World Health Organization's (WHO) Global Action Plan on AMR, and the standards and guidelines established by inter-governmental bodies such as the Food and Agriculture Organisation of the United Nations (FAO) and the World Organisation for Animal Health (OIE).

4. The Plan aims to reduce the emergence and prevent the spread of drug-resistant microorganisms through the five core strategies of:

- Education;
- Surveillance and Risk Assessment;
- Research;
- Prevention and Control of Infection; and
- Optimisation of Antimicrobial Use.

¹ "One Health" is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors (e.g. human health, animal health and the environment) communicate and work together to achieve better public health outcomes.

5. To effectively combat AMR, the implementation of the core strategies requires coordinated action from a wide range of stakeholders, including the community.

Education

6. Education is important to generate awareness of and action against AMR. Educational efforts will be tailored to the public, healthcare and veterinary professionals, agriculture and industry stakeholders, to equip them with the necessary knowledge and tools to combat AMR.

7. Local research has shown that the general community has many misperceptions about antibiotic use^[1]. One common misperception among patients seeking primary healthcare is that antibiotics are effective against viruses. The agencies will work to raise public understanding of AMR, with an emphasis on appropriate use of antibiotics. In particular, unnecessary use of antibiotics for viral infections may cause the emergence of bacteria which are resistant to antibiotic treatment. One should always consult a healthcare or veterinary professional on the need for antibiotics during an infection.

Surveillance and Risk Assessment

8. Surveillance of AMR in the human, animal, food and environment sectors is currently ongoing. Under the national framework, the relevant agencies will coordinate surveillance activities to improve our understanding of how resistance develops and spreads, and enable timely implementation of control measures.

Research

9. New solutions to address AMR are necessary, and should be informed by evidence derived from research. Priority areas for cross-sectorial research collaboration that can be translated into practice have been identified, and collaborations between researchers from various disciplines will be encouraged and facilitated. These areas include how AMR is transmitted between humans, animals, food, and the environment, as well as attitudes, practices and knowledge of AMR among various stakeholders such as the public and professionals.

Prevention and Control of Infection

10. Every infection prevented means one less opportunity for antimicrobial use and for organisms to develop resistance towards antimicrobials. Vaccines prevent humans and animals from getting infected and thus reduce the use of antibiotics. In Singapore, the vaccination coverage for recommended vaccines under the National Childhood Immunisation Schedule (NCIS) remains high at 95 percent. To facilitate adult vaccine

^[1] Pan *et al.* (2016) Knowledge, attitudes and practices towards antibiotic use in upper respiratory tract infections among patients seeking primary health care in Singapore. *BMC Family Practice* 17:148

uptake, MOH has established a National Adult Immunisation Schedule (NAIS), and extended use of Medisave for all recommended vaccines under the NAIS from 1 November 2017. In the animal sector, it is mandatory for dogs and cats that are imported or sold at pet shops to be vaccinated.

11. Equally important are infection prevention and control measures in hospitals, as well as in the animal health, food and environment sectors. The agencies will work on the strengthening of such measures to minimise the risk of infection and limit the emergence and spread of drug-resistant organisms among humans and animals.

Optimisation of Antimicrobial Use

12. Judicious use of antimicrobials only when necessary is essential in preventing the emergence of AMR. Guidelines on the appropriate use of antimicrobials, based on best practices, will be developed to improve prescribing practices and guide antimicrobial use in both the human and veterinary sectors.

13. The full National Strategic Action Plan on Antimicrobial Resistance can be found at <https://goo.gl/ZvFjst>.

MINISTRY OF HEALTH, AGRI-FOOD & VETERINARY AUTHORITY OF SINGAPORE, NATIONAL ENVIRONMENTAL AGENCY, AND PUB, SINGAPORE'S NATIONAL WATER AGENCY

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