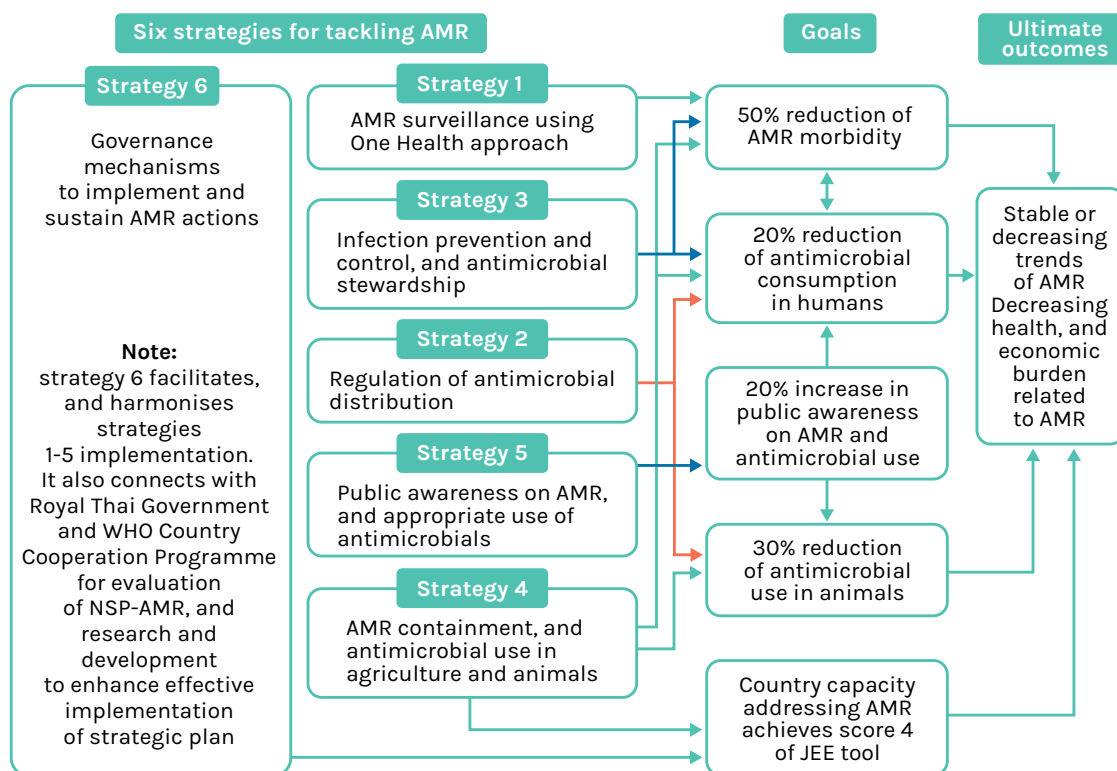


# Addressing Antimicrobial Resistance in Thailand: A Policy overview

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Antimicrobial Resistance (AMR) occurs when pathogens (bacteria, viruses, fungi, and parasites) develop a resistance or tolerance to the medicines that are used to combat these microorganisms, such that these treatments are no longer effective. AMR has been increasing in low-, middle- and high-income countries around the world in recent years, including in Thailand where a 2011 study estimated that there were 87,000 new AMR infections, an additional 3 million days of hospital stay, and 38,000 deaths of patients with AMR infections per year.<sup>15, 16</sup>

Thailand produced its first national strategic plan on AMR (NSP-AMR) which was the product of The Coordination and Integration Committee on Antimicrobial Resistance, set-up in May 2015, with 5 sub-committees dealing with different components aligned with the One Health approach<sup>1</sup> and a working group to coordinate the progress. Figure 1 shows the framework guiding the implementation of the NSP-AMR.



**Figure 1.** Six Strategies to Tackle AMR and achieve NSP goals – from Sumpradit N, Wongkongkathep S, Poonpolsup S, et al. New chapter in tackling antimicrobial resistance in Thailand. BMJ.

## 1 What is One Health?

**'One Health'** is an approach from the collaboration between multiple health science to obtain optimal health of human, animals, plants, and the shared environment. The main causes of AMR can be attributed to antimicrobial overuse and misuse in human, animal, and environmental sectors. A One Health approach is crucial for tackling AMR as it captures the interconnectedness across these sectors and uses a holistic framework for addressing this problem.

## • Steps taken to tackle AMR in Thailand so far

**Goals 1, 2 and 3:** 50% reduction in AMR morbidity, 20% reduction in antimicrobial consumption in humans and 30% reduction in antimicrobial use in animals <sup>18-23</sup>

Surveillance is vital for evidence-informed decision making and developing comprehensive awareness of AMR. Information sources include the National Integrated AMR Surveillance System (Thai-SAC) which provides data on antimicrobial consumption, and Thailand's Food and Drug Administration (Thai-FDA) annually reports on the value and volume of all pharmaceutical products (including antimicrobials) used in humans and animals. Thailand has also set up a National Antimicrobial Surveillance Research Center (NARST) for monitoring AMR infections which helps differentiate between AMR rates and patterns across individual health districts.

### Surveillance

## • Infection prevention and control (IPC)

As per the World Health Organization (WHO), IPCs are made up of 6 core components - programmes, guidelines, education and training, surveillance, multimodal strategies and monitoring and feedback of IPC practices. Thailand has incorporated many of these components but the approach remains fragmented since it only involves successful local or sub-national and facility-level interventions and lacks a comprehensive national program on hospital-acquired infections.

## • Antimicrobial Stewardship Programmes (ASPs)

ASPs are coordinated activities to measure and improve optimal antimicrobial use (AMU). Some examples of these are outlined below:

### 20% reduction in antimicrobial consumption in humans

- The Antibiotic Smart Use Program to encourage the rational use of medicines found that community pharmacists are the most important stakeholders as they dispense medications and are the first points of contact in the health system for people seeking care.

### 30% reduction in antimicrobial use in animals

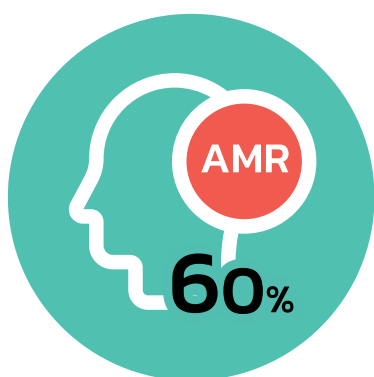
- Research on AMU trends in companion animals in 2021 as the first step in launching a routine monitoring mechanism for these animals in 2022.
- Progress towards controlling distribution of antimicrobials, with a drive for reclassification of drugs.
- Regulations to ban the use of antimicrobials as growth promoters in the animal husbandry sector.
- Advocacy to improve awareness, establish standards and provide recommendations to all stakeholders across the continuum of antimicrobial consumption in animals, especially noting the role of veterinarians.

## Goal 4: 20% increase in public knowledge of AMR and awareness of appropriate use of antimicrobials

Thai Health was mandated to partner with civil society organisations and the media to create public awareness campaigns on the appropriate use of antibiotics. Furthermore, Thailand has encouraged researchers to generate and disseminate evidence on AMR through academic channels, to improve the public's understanding.

To evaluate this goal, an AMR module was added to the Health and Welfare Survey (HWS) that is carried out in Thailand every 2 years; results of the 2017 HWS AMR module were used as the baseline for monitoring progress of Goal 4, with subsequent updates every two years.

### Comparing the result of HWS between 2017 and 2019 by indicators



#### Needs improvement

The percentage of Thai adults who provided correct answers about appropriate antibiotic use and AMR more than 60.0%



#### Let's see! <sup>1</sup>

The mean score of the awareness of the importance of appropriate antibiotic use and awareness of AMR



#### Success

Information on AMR and appropriate antibiotic use reached people sufficiently.

<sup>1</sup> This dimension wasn't recorded in 2017, hence there is no baseline

**Goal 5:** An increase in the capacity of the national AMR management system to level 4, as measured by the WHO's Joint External Evaluation Tool (JEE) for International Health Regulations (2005)

The JEE Tool for the International Health Regulations serves as an implementation guide to address AMR in both humans and animals, including in the agricultural sector. The tool employs four indicators (each indicator has five scores or levels)

In recognition of Thailand's progress, in the 2019 Global Health Security Index Report, Thailand was ranked 22nd out of 195 countries in the world for prevention of AMR, which explicitly considered the capacity of countries to conduct effective AMR surveillance, detection, reporting and control.

Indicators	Thailand's Score
Detection of antimicrobial resistant bacteria by designated laboratories	4
Surveillance of infections caused by AMR pathogens at designated sentinel sites	3
Healthcare associated infection prevention and control programs at designated facilities	2
Antimicrobial stewardship activities at designated centers	2

## • Conclusion

Thailand's commitment to the issue of AMR as evidenced by the NSP-AMR goals and strategies offers promise as a good blueprint for other low- and middle-income countries navigating the challenges of AMR. However, like many others, this plan too will need to ensure that the most significant challenges of implementation and multi-stakeholder collaboration are addressed. As has been documented, the One Health approach will require technical capacities to be strengthened across these sectors and their efforts united, towards combating the burdens of AMR in Thailand.

## Recommendations

- **Develop a comprehensive National Action Plan for AMR:** The WHO recommends establishment of a national action plan for AMR and offers support on how to build out its components including implementation and monitoring and evaluation
- **Follow a One Health approach:** Recognise the interdisciplinary, multi-sectoral nature of AMR and ensure that human, animal and environmental sectors work together. Also unite a multitude of stakeholders from different government, non-government and civil society sectors such as finance, and infectious diseases to work together
- **Human resources for AMR:** Provide additional routine training on AMR for healthcare professionals, pharmacists and community health workers to increase awareness, improve prescribing practices, and optimise antimicrobial use. Introduce measures to improve hygiene and sanitation procedures within healthcare settings to reduce avoidable infections
- **Implement or adjust regulations to restrict availability of antimicrobials without a prescription,** particularly antibiotics of strategic importance
- **Conduct public information campaigns to improve the understanding of AMR in the general population**

### References

References for this policy brief are in the full report, please [click here](#).

### Authors

- Aparna Ananthakrishnan, Project Associate<sup>1</sup>
- Chris Painter, Project Associate<sup>1</sup>

### Reviewer

- Dr. Nithima Sumpradit, Senior Pharmacist<sup>2</sup>

<sup>1</sup> Health Intervention and Technology Assessment Program (HITAP)  
<sup>2</sup> Food and Drug Administration (FDA Thailand)

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Contact: [hiu@hitap.net](mailto:hiu@hitap.net)

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