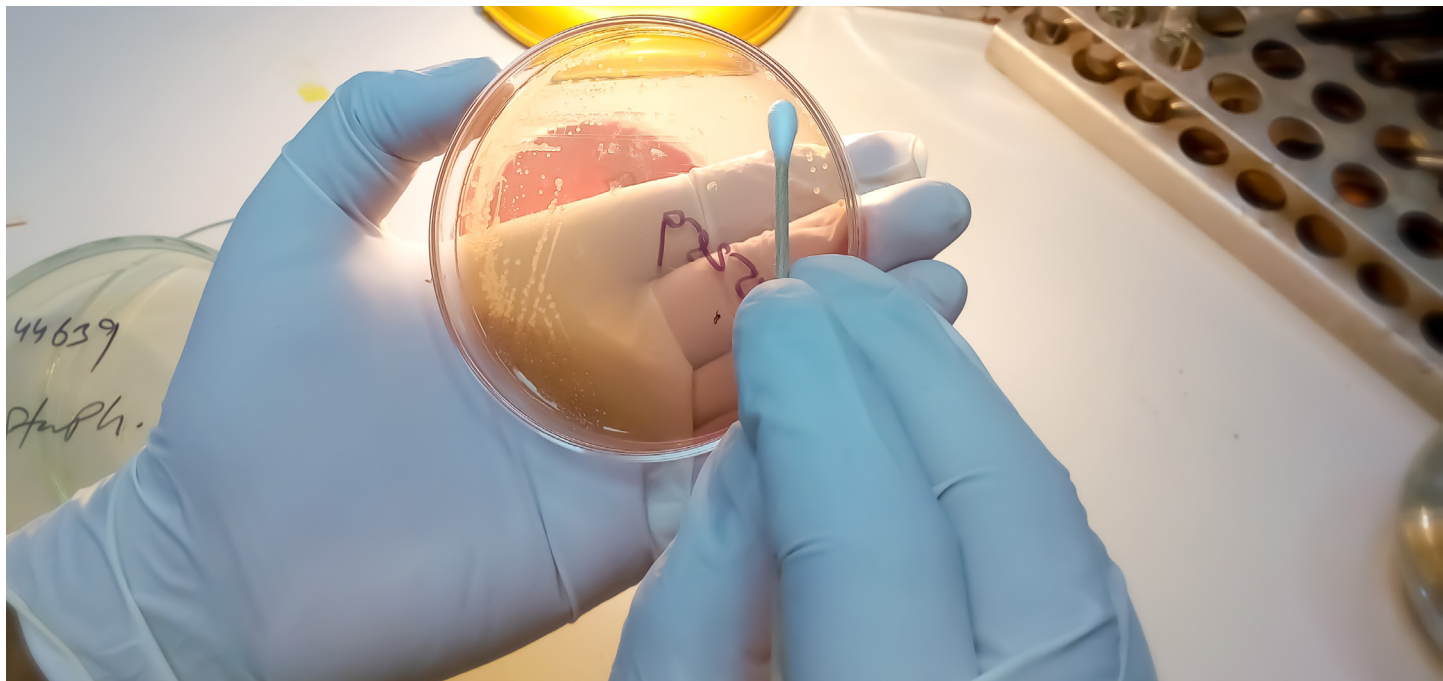


ENHANCING **AMR NATIONAL ACTION PLANS**: INSIGHTS FROM **ITALY, SPAIN & THE NETHERLANDS**



BACKGROUND

Antimicrobial resistance (AMR) occurs when microorganisms, including bacteria, viruses, fungi and parasites, adapt and multiply in the presence of medications that once impacted them.¹ The European Centre for Disease Prevention and Control (ECDC) reported that resistant bacteria infect almost two million people in the European Union (EU) yearly, leading to 30,000 annual deaths.² AMR rates continue to increase. The World Health Organization (WHO) developed a Global Action Plan (GAP) on AMR.³ However, recent reviews highlight that the majority of national AMR strategies are underfinanced and/or are insufficiently aligned with the GAP goals and guidelines.^{4,5}

This policy brief reviews the National Action Plans (NAPs) of Italy, the Netherlands and Spain to identify gaps and provide recommendations for future adaptations.

OBJECTIVE

Conduct a comparative analysis of Italy, the Netherlands, and Spain's NAPs to enhance their effectiveness in addressing AMR epidemiology and to formulate recommendations for NAP improvement to combat AMR more efficiently.

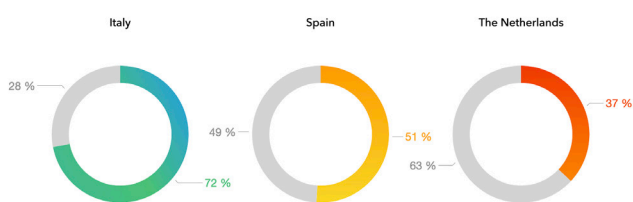
METHODS

To assess the NAPs, a modified assessment tool developed by the European Commission in the Overview report: Member States' One Health National Action Plans against Antimicrobial Resistance was used.⁶ Using the tool, a qualitative analysis was carried out in which the presence or absence of indicators was determined. If indicators were present, the quality of the measures was assessed using the SMART (specific, measurable, achievable, relevant, time-bound) criteria.⁷

FINDINGS

Italy, Spain, and the Netherlands were evaluated using the EU tool⁶, revealing varying compliance levels: Italy (72%), Spain (51%), and the Netherlands (37%). All three countries have National NAPs in place. Italy and Spain recently updated their plans in 2022, whereas the Netherlands last published theirs for the 2015-2019 period.

Figure 1. NAPs compliance level



The NAP structures also vary considerably. Italy employs a comprehensive structure, incorporating both horizontal and vertical elements. Spain categorises its NAP into six primary sections, centring on human and animal health. Conversely, the Dutch NAP is presented in the form of a parliamentary letter, emphasising human health.

Common areas of improvement

The NAPs are approached from a “One Health” perspective; however, they predominantly emphasise human and animal health, giving minimal attention to the environment and overlooking plant health. Additionally, the three NAPs lack adequate data and monitoring for antibiotic resistance in plant production. Furthermore, infection prevention and control in animal health receive insufficient attention, with primary efforts focused on reducing antibiotic use rather than proactively preventing diseases, which could ultimately reduce the need for antibiotics. Nevertheless, greater emphasis should also be placed on the responsible use of antibiotics in animals, as all countries currently exhibit suboptimal performance in this regard.

The final critical aspect lacking in most NAPs is ensuring the availability of both new and existing antibiotic agents, with limited information on this crucial aspect included in their plans.

Italy

Overall, the Italian national strategy and action plan is strong but could focus more on the preparedness and response planning for AMR. This goes along with the availability of new and old antimicrobials, in which their performance could still improve.

Figure 2. National Action Plans general structure



Spain

Spain's national strategy and action plan suffer from poor monitoring and evaluation. While they provide an overview of past NAP performance, they lack clear indicators, targets, timelines, and periodic reviews. Additionally, there is a need to expand training and professional education on AMR beyond the health and veterinary sectors to encompass other sectors like farming, food safety, and the environment. These shortcomings compound the deficiencies found in the other NAPs, with Spain exhibiting more substantial issues than Italy, resulting in a lower overall score.

The Netherlands

The Netherlands fundamental issue is the structure of its NAP, lacking essential information required for accurate application of the assessment tool. As a consequence, despite performing relatively well combatting antimicrobial resistance, its plan yields a lower score in the assessment tool. Key areas that need improvement in the plan include the establishment of an intersectoral coordination mechanism, addressing training and professional education on AMR, and providing more comprehensive information.

Furthermore, the Netherlands must enhance its focus on a national monitoring system for antimicrobial use in animals, given the availability of such data. The current plan inadequately addresses this aspect, with minimal mention of animal-related information compared to human data.

Finally, the Netherlands' NAP exhibits similar issues to those found in the other plans. These cumulative shortcomings underscore the considerable gap between the Netherlands' plan and those of its counterparts.

TIP:

For more resources and information, scan the QR code to visit the HAI AMR Toolkit.



RECOMMENDATIONS

Enhancing NAP Structure and One Health Approach

1. Establish a standardised structure for NAPs across EU countries, emphasising the One Health approach to enable benchmarking and sharing best practices.
2. Conduct a thorough situational analysis in each country to identify specific strengths, weaknesses, and contextual factors influencing AMR, ensuring justifiable actions in the NAP.
3. Prioritise a comprehensive One Health approach by actively involving sectors beyond human and animal health, including food safety, environment, and agriculture, to address all AMR drivers effectively.

Improving Data and Surveillance

4. Develop concrete targets and indicators for antibiotic consumption, AMR rates, and other relevant metrics to facilitate objective evaluation and comparison across countries.
5. Transition to real-time or near-real-time surveillance systems to promptly detect and respond to emerging AMR threats, enabling swift control measures and ensuring access to appropriate treatment.
6. Establish and expand AMR surveillance networks, such as EARS-Vet, to monitor AMR in different animal species and production types, incorporating companion animals for a more comprehensive assessment.

7. Strengthen environmental surveillance networks, including wastewater monitoring, to understand the prevalence of AMR in the environment and identify potential sources of resistance.

Effective Implementation and Awareness

8. Clearly define and allocate responsibilities for AMR policy implementation within the intersectoral coordination mechanism to enhance transparency, accountability, and effective collaboration.

9. Expand awareness campaigns and training programs to encompass not only human and animal health but also food safety, environment, and related sectors to promote a holistic understanding of AMR.

10. Implement measures to restrict and discourage the use of antimicrobials crucial to human medicine in animal health, emphasising prudent use in both human and veterinary sectors.

Research, Innovation, and Antibiotic Availability

11. Encourage public investment and research initiatives in AMR, focusing not only on drug innovation but also exploring relationships between environmental AMR and its impact on human and animal health.

12. Address antibiotic shortages and improve access to existing and new antibiotics by promoting transparency in the supply chain and enhancing procurement strategies.

By integrating these recommendations into their respective national strategies, Italy, Spain, and the Netherlands can significantly bolster their efforts to combat antimicrobial resistance effectively.

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