# TURNING PLANS INTO ACTION FOR ANTIMICROBIAL RESISTANCE (AMR)

Working Paper 2.0: Implementation
and coordination

**World Health Organization**

# TURNING PLANS INTO ACTION FOR ANTIMICROBIAL RESISTANCE (AMR)

Working Paper 2.0: Implementation and coordination

World Health Organization

# Contents

# Acknowledgements

# Abbreviations

| | |
|---|---|
| AMR | antimicrobial resistance |
| CCM | country coordination mechanism |
| EPI | Expanded Programme of Immunization |
| FAO | Food and Agriculture Organization of the United Nations |
| FBO | faith-based organization |
| GAP | global action plan |
| GFATM | Global Fund to fight AIDS, TB and malaria |
| HIV | human immunodeficiency virus |
| IHR | International Health Regulations (2005) |
| IMCI | integrated management of childhood illness |
| IPC | infection prevention and control |
| LMIC | low- and middle-income country |
| LRTI | lower respiratory tract infection |
| MCH | maternal and child health |
| MDR-TB | multidrug-resistant TB |
| NAP | national action plan |
| NGO | nongovernment organization |
| OIE | World Organisation for Animal Health |
| R&D | research and development |
| SDG | Sustainable Development Goal |
| TB | tuberculosis |
| UHC | universal health coverage |
| WASH | water, sanitation and hygiene |
| XDR-TB | extensively drug-resistant TB |

# Executive summary

Since the Global Action Plan on Antimicrobial Resistance (AMR) was adopted in 2015, more than half the world's countries have developed their own national action plan (NAP) to tackle AMR, establishing AMR coordination committees or equivalent to deliver them. But implementing NAPs at scale is proving a difficult task, especially in the resource-constrained settings of low- and middle-income countries (LMICs).

AMR coordination committees must play an enabling part, but they cannot be expected to carry out each and every activity listed in the NAP. Rather, they must develop and execute a strong implementation plan that embeds NAP activities in the national development agenda and sectoral strategies and budgets; and that coordinates a joined-up approach to delivering the NAP across sectors and stakeholders. Such a plan must be both realistic and comprehensive, identifying and building on the strengths and activities of existing initiatives while simultaneously securing interest and investment for new activities as and where they are needed.

To fulfil this task, the AMR coordination committee needs a clearly defined role and remit, coupled with strong political backing and a thorough understanding of:

▶      which AMR activities to focus on (both new and existing);

▶      which development and sector plans and budgets to target; and

▶      which stakeholders are or should be involved.

Armed with this authority and knowledge, the AMR coordination committee can develop a compelling narrative and build a strong case for investment that secures the political will and resources required at all levels, across all sectors, to deliver the implementation plan (see Figure 1 overleaf).

This paper was developed to support AMR coordination committees and others tasked with addressing AMR at country level to do just that. Drawing on the published literature and the operational experience and expertise of different LMICs, the paper points to six key strategies for success and offers a series of practical tips and suggestions on how to implement each one.

## The six strategies for success

1. **Establish AMR coordination committee roles and responsibilities.** While the AMR coordinating committee's specific responsibilities will vary from country to country, they will typically include: leadership and coordination, momentum building, advocacy, communication, evidence building and monitoring. To be effective, AMR committees must also be given high-level political support, authority and resources to act, and clear lines of accountability.

2. **Prioritize AMR activities.** In resource-constrained settings, it may not be possible to carry out all the NAP activities at once; AMR committees will need to decide where to focus their efforts. To do that they will need to identify which activities really require new resources, and which could be achieved by adapting or scaling up existing AMR-relevant projects and programmes.

3. **Get AMR into plans.** If AMR action is to be sustained and properly resourced, it has to be part of the national development agenda. That means AMR concepts and activities must be embedded in government planning and budgeting processes at all levels: national, sectoral and departmental.

4. **Engage stakeholders.** Implementing NAPs requires action across multiple sectors, from health, food safety and agriculture to environment, education and trade. That means diverse stakeholders (including government,

politicians, academics, professionals, donors and civil society) have to take responsibility for AMR action within their own spheres of influence.

5. **Make the case for investment.** Convincing politicians and donors of the need for investment is important to drive the AMR agenda forward at a high level. But to implement the NAP on the ground, budget managers, departmental decision-makers and potential partners will also need to be persuaded to invest additional resources into tackling AMR, or to realign existing programming to better address it.

6. **Tailor the message.** If people are to invest in new activities or change existing ones to help implement the NAP, they must be able to see that AMR is relevant to their own goals and objectives. Effectively tailoring the message to enable that requires focusing on different risks, opportunities and potential impacts, depending on the audience at hand.

Each of these strategies is important in its own right. But to support NAP implementation effectively they must be done together, in a purposeful and coordinated way. They are not intended to be sequential. Nor are they fixed in time or space. Rather, they occur simultaneously in a continuous, iterative process that secures and sustains multisectoral AMR action at all levels.

**Figure 1. Turning plans into action: an overview**
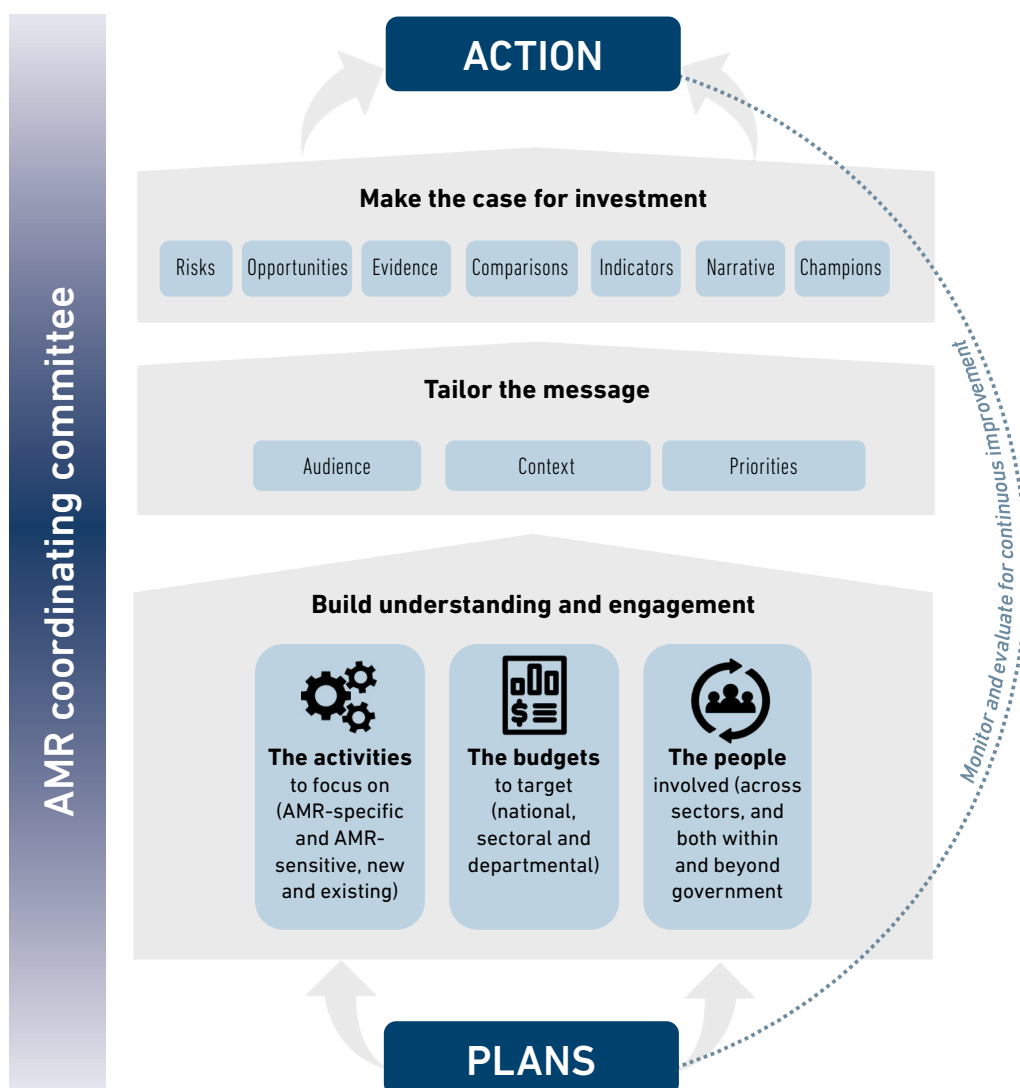
# 1. Introduction

In May 2015, in recognition of the global threat posed by antimicrobial resistance (AMR), the World Health Assembly adopted the Global Action Plan on AMR (GAP). Now, more than 115 countries have developed their own national action plans (NAPs) on AMR that are aligned with the GAP objectives. But many are now struggling to find the funds, or develop the right systems, to implement their plans at scale.

The problem is two-fold. First, AMR must compete for resources against other global health priorities that are seen as more pressing, such as universal health coverage (UHC) or health security. Of course, in truth these initiatives are not in competition: addressing AMR is a prerequisite to building stronger and more resilient health systems, which in turn are fundamental to maintaining health security. But in practice, relatively little money is made available for tackling AMR, and much of this is going to funding research and development (R&D) for new drugs or to strengthening laboratory and surveillance systems, rather than, for example, supporting medicines regulators, updating treatment guidelines for doctors or veterinarians or strengthening systems for preventing infection.

Second, unlike 'traditional' health issues, AMR is not restricted to one pathogen or set of symptoms, and the activities required to address it do not fit into a well-demarcated programme. Some AMR activities – such as infection prevention and control (IPC) and medicines management – are already happening in both human and animal health; but they may exist in isolation of each other, and may not even be reflected in the NAP at all. Tackling AMR requires sustained and coordinated action at scale across a range of institutions and sectors, including human and animal health, food production, environment, water and sanitation, education and trade. Many different stakeholders, with different ways of working, need to be brought together to coordinate and scale up their efforts in a way that maximizes their impact on AMR.

That is easy to say, but difficult to achieve. People are used to working in silos with discrete plans and activities. Often those staff responsible for implementing AMR action come from a technical background, such as the laboratory or pharmacy, and have little experience of the partnership working, resource mobilization and logistical strategies required for successful multisectoral collaboration.

In the sections that follow, we draw on country and international experience and expertise to offer practical tips on how to break through the NAP implementation impasse and turn plans into action. Written for AMR coordination committees and others working at country level, our guidance focuses on six essential strategies to enable implementation and coordination. Approaches to implementation will be context specific and not all suggestions will be applicable in any particular context. This guidance therefore suggests a different approach, rather than a blueprint for action.

This working paper is the latest to emerge from ongoing work by WHO, FAO and OIE to build a better global evidence base for implementing NAPs. Those published in 2018 include a paper on multisectoral working for effective AMR action,[1] and another on enhancing the focus on gender and equity to inform the implementation of strategies in AMR national action plans.[2]

---

[1]  www.who.int/antimicrobial-resistance/publications/workingpaper1multisectoralcoordinationAMR
[2]  https://www.who.int/antimicrobial-resistance/national-action-plans/workingpaper5enhancingthefocusongenderandequity/en/

# 2. Establishing committee roles and responsibilities

NAPs are complex and very often ambitious. The AMR coordinating committee charged with delivering them plays a critical part in ensuring that the plan's activities are resourced and implemented but is not expected to carry out the activities themselves.

WHO guidance suggests that the overall role of the AMR committee is to "oversee and, when necessary, to coordinate AMR-related activities in all sectors to ensure a systematic, comprehensive approach".[3] To work effectively across all areas of the NAP, the committee should be multisectoral and include representatives from all the relevant sectors, including human health, animal health, food production and environment.

While the committee's specific responsibilities will vary from country to country, they will typically include leadership and coordination, momentum building, advocacy, communication, evidence building and monitoring (see Figure 2).

**Figure 2. Typical responsibilities of an AMR coordinating committee**

**Advocacy**
Lobby for investment in, or realignment of, new and existing programmes to deliver AMR results.

**Communication**
Engage senior ministers and strengthen understanding of AMR's impacts and the risks it poses to development.

**Momentum building**
Raise awareness among senior politicians and keep AMR high on the political agenda.

**Evidence building**
Promote or facilitate a stronger local evidence base on AMR.

**Leadership & coordination**
Lead and coordinate action on AMR across departments and sectors.

**Monitoring**
Monitor and report on progress.

3   4   5   2   1   6

Political support   Authority to act   Lines of accountability

Among the AMR coordinating committee's main concerns is the need to come up with an implementation plan that sets out when and how priority NAP actions are to be delivered. This plan needs to be realistic, which means prioritizing activities based on both their importance or potential for impact as well as their potential for scaling up and maintaining momentum.

To work, each activity in the implementation plan must be adequately resourced. Identifying and mobilizing resources (both money and people) should form one of the AMR committee's core activities. This includes clarifying whether

---

3   WHO. Sample terms of reference for a national multisectoral coordinating group, for a national focal point and for a technical working group. Geneva: World Health Organization (**https://www.who.int/antimicrobial-resistance/national-action-plans/TOR.pdf?ua=1**, accessed 5 February 2019)

**BOX 1. FUNDING TIMEFRAMES**

Resources for AMR activities can come from a range of sources, including the national treasury and government ministries, as well as external donors and development partners, such as countries, foundations, private donors and others. Being explicit about the funding timeframe will help potential funders assess their willingness and ability to invest in the activity.

Short-term funding can support specific studies to, for example, strengthen the local AMR situation analysis or establish the need for action. It may also be required for training, or to kick-start and maintain activities until they get into established long-term budgets. WHO country studies suggest that donors and development partners play a key role in catalyzing action on AMR in LMICs and supporting activities that are excluded from government plans.

In the medium to long term, governments will have to resource the implementation of their NAPs by building it into national and local budgets and planning cycles to ensure it is sustainable (see Section 4 below).

short- or long-term funding is required (see Box 1) and spotting opportunities through existing budget lines or funded staff, for example by writing AMR activity into relevant staff job descriptions or introducing formalized secondments.

The AMR committee should also regularly review the resource status of its implementation plan and highlight any remaining resource gaps, identify the risks of inactivity and articulate the need to find solutions.

## 2.1    Ensuring effectiveness

Regardless of their specific responsibilities, all AMR coordinating committees are more likely to be effective if they have political support and authority to act, and if they are accountable.

Experiences in countries across the world including the U.K., Netherlands, Kenya, the Philippines and Thailand show that political commitment and backing are critical to drive the AMR agenda forward and mobilize and allocate resources appropriately.[4] AMR groups in these countries have used a range of tools and tactics to develop political support, for example:

▶    aligning AMR interests with those of the key political leaders;

▶    using government platforms to share and promote AMR action;

▶    leveraging national and global crises, events and political forums to raise the profile of AMR; or

▶    publishing local data on AMR to illustrate likely local and national impacts and convince politicians of the need for action.

Sustaining political interest and support can be a challenge; providing regular updates or technical briefings on emerging threats can help keep politicians interested and engaged. They are particularly useful for navigating political and personnel changes, which can impact coordinating structures and slow down implementation.

---

[4]    WHO. Tackling Antimicrobial Resistance Together. Working paper 1.0: Multisectoral collaboration. Geneva: World Health Organization; 2018 (**www.who.int/antimicrobial-resistance/publications/workingpaper1multisectoralcoordinationAMR**, accessed 6 February 2019).

As well as political support, AMR committees must be given enough authority to be able to act and ensure its recommendations and plans are carried out. They should also have a clear line of accountability to a high-level body. Ideally, this will be a multisectoral ministerial group, although it may also be a single lead minister or other senior executive function in the government.

The AMR committee is responsible for monitoring implementation of the NAP and should report on progress and bottlenecks regularly, explicitly flagging any areas where a lack of resources is constraining action.

## Practical tips

✓ Define clear roles and responsibilities for the AMR coordinating committee.

✓ Make sure the committee explicitly identifies and mobilizes resources for each activity in the NAP implementation plan.

✓ Review resource status of activities regularly to identify critical gaps and bottlenecks.

✓ Establish clear and transparent lines of accountability and reporting to a high-level ministerial group or executive function in the government.

# 3. Prioritizing AMR activities

Because AMR is a multisectoral issue, the activities needed to address it are linked to many other national projects and programmes, including those for IPC, surveillance, and medicines. In many cases, countries have adopted an embedded approach to developing their AMR NAP,

anchoring planned activities in various strategic plans across different sectors in human, animal and plant health and establishing, in effect, a 'plan of plans' (see Figure 3).

**Figure 3. With links to many different national plans and strategies, NAPs are often a 'plan of plans'**
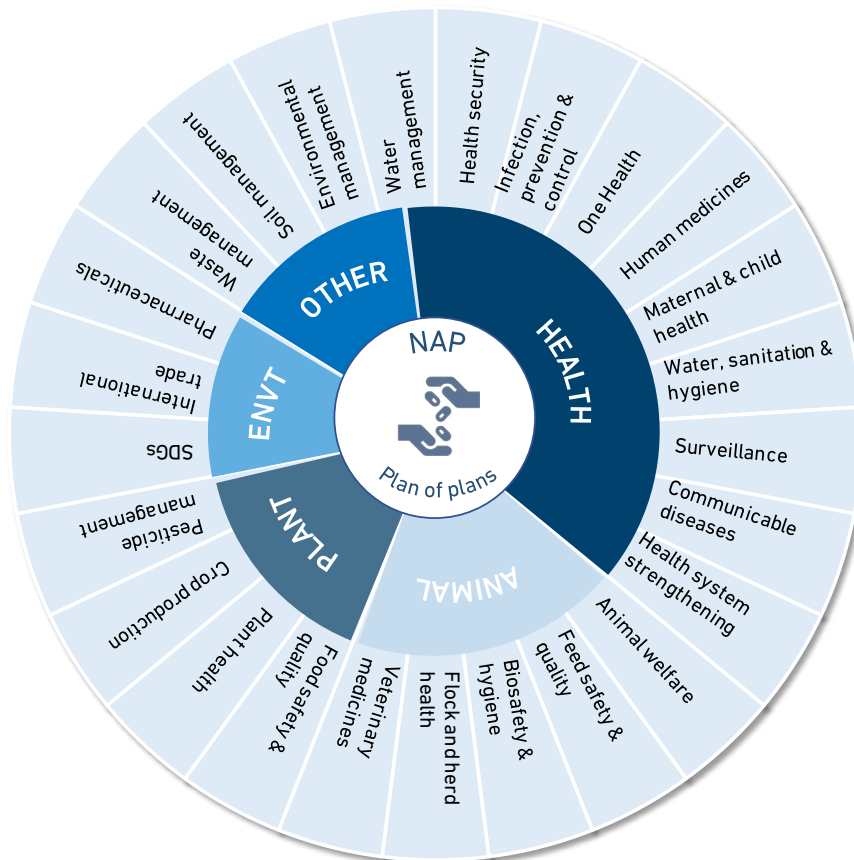


Some of the activities in the plan of plans will be new and specific to AMR[5]. But many more will be existing 'AMR-sensitive' activities that are primarily undertaken for other objectives but that also indirectly help to contain AMR. This means that implementing the plan of plans will require clear structures and systems that can resource and coordinate NAP activities across departments and sectors.

---

[5] AMR-specific actions are those whose primary purpose is combating AMR (though they may bring other benefits, too). AMR-sensitive measures are those whose main purpose is not actually AMR-related, but which can be designed and implemented in such a way that they contribute indirectly to AMR containment. Expanding access to clean water and sanitation, thus reducing the incidence of infections, is an example. Source: World Bank *Drug-resistant infections. A threat to our economic future*, World Bank Group, March 2017.
http://www.worldbank.org/en/topic/health/publication/drug-resistant-infections-a-threat-to-our-economic-future

In resource-constrained settings, it may not be possible to carry out all the NAP activities at once, and AMR committees will need to decide where to focus their efforts. Committees should develop an implementation plan which sets out what can be done over the next two or three years. This will probably be a combination of those things that are going to have the greatest impact, those that are easiest to get done, and those things which are a necessary first step to other important components of the plan and may take time (such as regulatory issues). Unfortunately, there is not yet hard evidence on what are the most cost-effective interventions in different contexts and building this evidence base is a top priority. While this is being developed at global and regional levels, the committee will have to use expert judgement, basing their decisions on where the risks are likely to be highest in different sectors, and where change is likely to be achievable.

When prioritizing, it may be helpful to break down activities into what is really new, and what is already happening (giving consideration to the appetite for and extent of existing activities and how these may be adapted or scaled up to better address AMR).

The sections below summarize some of the typical new and existing activities found in LMICs.

## 3.1    New activities

One of the first new, AMR-specific activities that all countries will need to do is to resource AMR governance and monitoring. An AMR Coordinating Committee (or equivalent) may be clearly charged with coordinating and implementing the NAP, but building consensus around a high-quality, realistic plan, sorting out how much the key elements will cost, and monitoring progress all take time and money. Having access to some level of dedicated funds will increase the committee's operational effectiveness. So too will having some form of secretariat that can support administrative activities and coordinate regular meetings across departments and sectors. Seed funds from external sources may be needed to start with, although government funds should be secured as early as possible to ensure the committee's sustainability.

Resourcing governance isn't just about money: the most important resource to start with is people and often it is easier to get staff seconded or deputed in to a function than finding new funds for personnel. Sometimes resources can be shared with programmes working on broader One Health coordination, for example, health security or zoonoses. In practice, however, different people, with slightly different functions, tend to be involved. (Health security will focus on outbreaks, laboratories and epidemiology, etc – whilst AMR will be involved in this, but will require additional collaboration with medicines and regulators etc.)

Beyond governance and monitoring, the list of new and AMR-specific activities may include:

▶    **Raising awareness** through targeted communications and campaigns aimed at the general public, policy-makers, farmers and food producers.

▶    **Developing and distributing educational materials** for in-service and pre-service training; and building AMR into national curricula.

▶    **Integrated laboratory and surveillance capacity building** for antibiotic sensitivity testing and reporting across human health, animal health, food production and environment.

▶    **Conducting studies** of the consumption of antibiotics in the human and animal sectors.

▶    **Establishing or improving antibiotic stewardship** programmes in healthcare facilities.

▶    **Strengthening antibiotic regulation** for humans and animals.

The responsibility for carrying out these activities will fall to a range of different stakeholders and although the list is long, different groups of people will be responsible for doing it. The AMR committee can provide support by identifying opportunities, coordinating action and lobbying for resources.

Some activities, such as strengthening laboratory systems and surveillance, are already attracting investment and activity through health security and disease specific programmes. In these cases, it may be easier to mobilize resources: for example, adding in antibiotic sensitivity testing and AMR surveillance to broader laboratory capacity building initiatives will result in significant efficiencies and potential savings, with greater chances of long term sustainability.
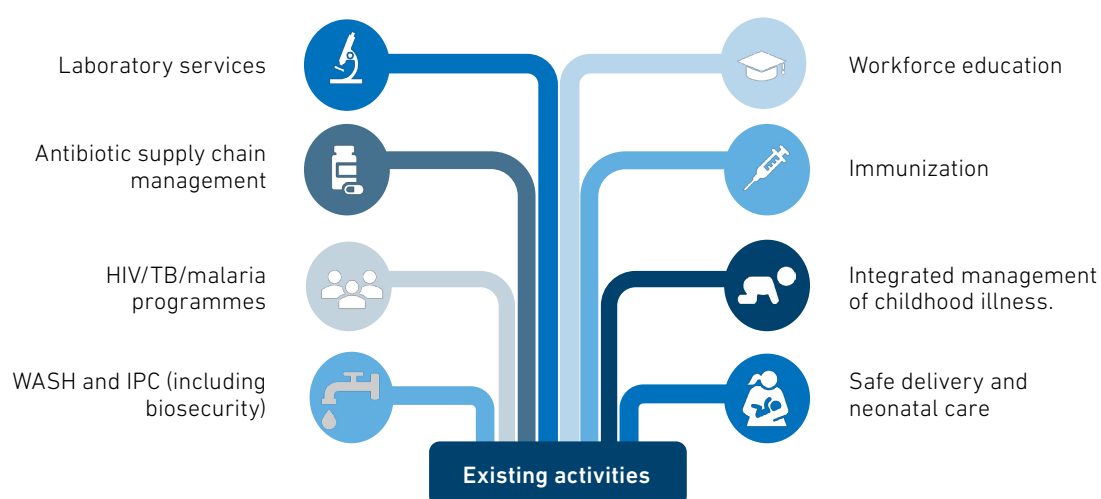
In some cases, new activities can even reduce costs: there is some evidence to suggest, for example, that stewardship programmes can actually save money, (by reducing prescribing costs and lengths of stay,) or at least be self-financing in the medium to long term.[6]

## 3.2   Existing activities

Most countries will have a significant number of existing activities  The list may include both AMR-specific and AMR-sensitive activities, some of which will already be articulated in the NAP while others may not. Many existing activities have huge potential to reduce the spread of AMR if they are more broadly implemented. Hand hygiene, for example, is among the most cost-effective interventions for tackling AMR, in high- and low-income settings alike.

Almost all existing activities that are relevant to AMR are about controlling infection and optimizing drug use. They fall into a range of categories, ranging from water, sanitation and hygiene (WASH) and infection prevention and control (IPC) to immunization, laboratory services and workforce education (see Figure 4). And they can be found in a wide range of programmes across both human and animal health, including patient safety programmes, animal husbandry and biosecurity initiatives, food safety programmes, livelihood and nutrition projects, regulation of pharmaceutical imports and local manufacturing and disease-specific programmes. For example, the rising resistance to first-line treatments poses a major risk to the success of HIV, TB and malaria programmes, so preventing AMR is already one of their key objectives. There are lessons to be learnt from and scope to build on the practical experiences of these programmes. Integrating approaches with existing programmes may result in efficiencies and more sustainable systems.

**Figure 4. Many existing activities support AMR action**



Laboratory services — Workforce education
Antibiotic supply chain management — Immunization
HIV/TB/malaria programmes — Integrated management of childhood illness.
WASH and IPC (including biosecurity) — Safe delivery and neonatal care

Existing activities

---

[6]   Karanika S, Paudel S, Grigoras C, Kalbasi A, Mylonakis E. Systematic Review and Meta-analysis of Clinical and Economic Outcomes from the Implementation of Hospital-Based Antimicrobial Stewardship Programs. Antimicrob Agents Chemother. 2016; 60(8):4840-52. doi: 10.1128/AAC.00825-16.

Table 1 overleaf lists some of the specific activities associated with each category of AMR action, and gives examples of the type of projects and programmes in human and animal health, agriculture and the environment, where they may be found. [7] It shows that much of what can be done about AMR is already familiar and fits into existing programmes.

The table does not say anything different from the GAP; it simply offers an alternative way of presenting basic strategies to show the many points of intersection with existing efforts. Each category of AMR action listed in the table can be mapped to a GAP objective and, assuming alignment between national and global plans, to a NAP objective too.

Before prioritizing activities for NAP implementation, it is worth systematically identifying the main AMR-relevant activities that are already being done, even if some are not explicitly listed in the NAP. To ensure full participation, transparency and legitimacy, such mapping should cover both government and nongovernment programmes and projects.

Effectively documenting these activities is just as important, not least to:

▶ establish a baseline level of activity that can be updated over time to show progress;

▶ support monitoring and evaluation of NAP implementation;

▶ identify gaps in coverage (both gaps in type of activity and geographical gaps);

▶ highlight critical activities (in terms of scale, support or impact);

▶ gather information and evidence for local situation analyses;

▶ help keep AMR in the political spotlight; and

▶ build momentum, confidence and collaboration of different stakeholder groups.

Documenting existing activities also serves to show that action is possible and is already underway. But a careful balance must be struck between giving this positive message and sending clear signals that a lot more still needs to be done to combat AMR effectively.

To that end, it is important to document existing activities without taking credit for them (that is, to acknowledge that their primary objective is not to address AMR) and without suggesting that they are financed with "AMR funds". It is also important to review the list of AMR-relevant activities regularly and track progress, advocating for further support or scale up if this is sub-optimal.

---

[7] The phrase "projects or programmes" is used in a general sense, acknowledging that different governments and other development partners organize their programmes of work in different ways.

**Table 1. Examples of AMR–relevant activities, where to find them, and how they fit into the GAP.**

| Type of AMR action | Specific activities | Example of projects and programmes | | GAP objective[a] |
| --- | --- | --- | --- | --- |
| | | Human health | Animal health (& aquaculture) | |
| **WASH and IPC** | Ensuring clean, safe health facilities<br><br>Animal health | • Construction, renovation of health facilities<br>• Primary care/UHC<br>• MCH<br>• Communicable disease control<br>• Global Health Security<br>• Water and sanitation<br>• Quality of care | • Animal husbandry, hygiene and biosecurity<br>• Practices in slaughterhouses and food processing<br>• Livelihood and nutrition programmes<br>• Management of slurry and manure | 3<br><br>Reduce infection |
| **Immunization** | Choice of vaccines and level of coverage.<br><br>Animal health: commercial case for vaccination | • EPI<br>• MCH<br>• Global Health Security<br>• Communicable disease control | • Animal health programmes<br>• National vaccination programmes<br>• Farmer education<br>• Availability and financing of animal vaccines | 3<br><br>Reduce infection |
| **Antibiotic supply chain management** | From manufacturing, through selection and procurement to distribution, use and disposal | • Pharmaceutical programme<br>• Regulatory agencies<br>• Health systems strengthening<br>• Primary care including access<br>• Disease-specific programmes, (e.g. HIV, TB and malaria) | • Veterinary medicines regulation; imports, local manufacturing, authorisations, distribution and sale<br>• Medicated feed regulation | 4<br><br>Optimize use |
| **Laboratory services** | Clinical laboratories doing culture and sensitivity<br><br>Quality assurance<br><br>Identification and monitoring of resistance in TB and HIV | • Lab system strengthening<br>• Health security programmes<br>• Disease specific programmes<br>• Clinical care/ hospitals<br>• Health systems strengthening | • Disease specific programmes<br>• National disease investigation services<br>• Food safety labs<br>• Environmental monitoring | 2<br><br>Strengthen knowledge |

| | | | | Gap objective[a] |
|---|---|---|---|---|
| **Workforce education** | Pre- and in-service staff training | • Training events for relevant staff in human health<br>• Professional organisations<br>• Continuing professional development programmes | • Training events for relevant staff in animal health<br>• Continuing professional development programmes<br>• Professional organisations<br>• Curriculae content for undergraduates | **1**<br>Improve awareness |
| **Health promotion** | Infection prevention and WASH<br><br>Antibiotic awareness and stewardship<br><br>Health promotion in schools and work places<br><br>Zoonotic disease management<br><br>Biosecurity<br><br>Animal husbandry<br><br>Hand hygiene and cough etiquette | • MCH<br>• Communicable disease control<br>• Water and sanitation<br>• School health | • Animal health and production programmes<br>• Farmer education<br>• Extension worker education<br>• Food safety programmes | **1**<br>Improve awareness |
| **Childhood illness** | Management of common childhood infections (e.g. pneumonia, diarrhoea etc.)<br><br>Prevention and appropriate use of antibiotics | • MCH<br>• Primary care/UHC<br>• IMCI<br>• Clinical care/ hospitals<br>• Health systems strengthening | N/A | **3**<br>Reduce infection |
| **Safe delivery and neonatal care** | Clean and safe deliveries, breastfeeding, neonatal infection prevention and management, prevention of surgical site infections | • MCH<br>• Midwifery programmes<br>• Primary care/UHC<br>• Clinical care/ hospitals | N/A | **4**<br>Optimize use |
| **HIV/TB/ malaria** | Initial diagnosis and pre-emptive treatment of patients with potential TB/ Malaria<br><br>Diagnostic algorithms for exclusion of other infectious disease | • Onsite rapid testing and treatment<br>• Empiric treatment of LRTI before TB diagnosis made<br>• Treatment of opportunistic infections | N/A | **4**<br>Optimize use |

[a] Gap objectives: 1: improve awareness and understanding; 2: strengthen knowledge through surveillance and research; 3: reduce incidence of infection; 4: optimize use of antimicrobials; 5: develop economic case

## 3.3   Entry points for greater impact

While identifying and documenting existing efforts is important, it is not necessarily enough to effect a change in the impact on AMR. To do that, countries need to scale up and build on their existing base of AMR-relevant activities, sharpening the focus on appropriate antibiotic use.

In many cases, AMR can offer an additional, very compelling reason to enhance the quantity and quality of existing activities. Adapting basic projects and programmes to reinforce the basic AMR-related messages can achieve a lot at little extra cost. For example, maternal and child health programmes deal with infection, and sharpening the focus on hand hygiene, and when antibiotics are and are not indicated would have impact at scale on the possible development and transmission of resistance as well as improving health outcomes. Public health campaigns on influenza prevention could also include messaging that antibiotics don't help, and so reduce inappropriate consumption.

It is important to carefully assess existing projects and programmes and identify all potential 'entry points' for deeper impact. An entry point is that part of the existing work that overlaps with priority NAP activities and so serves as an opportunity for increasing the level or scope of effort to better address AMR.

Many entry points will centre around the AMR-sensitive capacity highlighted in Table 1 and will focus on scaling up infection prevention measures, for example by improving WASH practices, extending vaccination programmes or increasing food and water safety. But some entry points may also reflect opportunities to strengthen existing AMR-specific components of health, agricultural and environmental management systems, such as tightening existing legislation on sewage and wastewater treatment (see Table 2).

**Table 2. Examples of entry points to deepen impact on AMR.**

| Example entry point | How it can be used to deepen impact on AMR |
| --- | --- |
| Health security plan is under development | Include AMR as a core component of the new plan and ensure any systems that are being built to strengthen laboratory and surveillance also encompass antibiotic sensitivity testing. |
| The number of community health workers is increasing and a new training course is being developed | Ensure the training includes a focus on infection prevention and appropriate use of antimicrobials. |
| **A Farmer Field** school programme is created to support sustainable development of poultry production | Ensure the programme encompasses appropriate use of antimicrobials |
| New health facilities are being developed as part of UHC or health system strengthening programmes | Build in minimum standards of WASH provision and cleanliness |
| Intensification programme planned to increase animal production to meet consumer demand | Build in systems that improve hygiene, biosecurity and husbandry as production is scaled up, to minimise the need for use of antibiotics |

Once relevant entry points have been mapped, the NAP should establish links to each and assign clear roles and responsibilities for actions that are also aligned with the core mandate of the "host" institution. Leveraging entry points to build on existing programmes and deliver better AMR results may take negotiation and a lot of work initially, but once it happens the subsequent scale up is likely to be quicker and more sustainable than developing a stand-alone programme.

It is unlikely that all activities will be included in the NAP implementation programme. Where resources are constrained, and the secretariat supporting the AMR committee is small, activities will need to be prioritized. In

addition, there will be some AMR-sensitive areas, like immunization and WASH provision that should be tracked, using whatever monitoring system is already established to track progress, and can be incorporated into the NAP monitoring framework.

### Practical tips

✓ Identify priority new, AMR-specific activities that need resourcing.

✓ Identify and document all existing activities (AMR-specific and AMR-sensitive).

✓ Review existing activities and identify potential entry points for deeper impact.

✓ Gather information on what indicators are being used and build these into the NAP monitoring framework.

✓ In all cases, work across sectors (particularly human and animal health, food and agriculture and environment).

# 4. Getting AMR into plans

If action on AMR is to be sustained, and properly resourced, it needs to be a part of the national development agenda. That means embedding AMR concepts and activities into national, sectoral and departmental plans, strategies and budgets (see Figure 5).

**Figure 5. Three levels of plans, strategies and budgets in which to embed AMR concepts and activities**
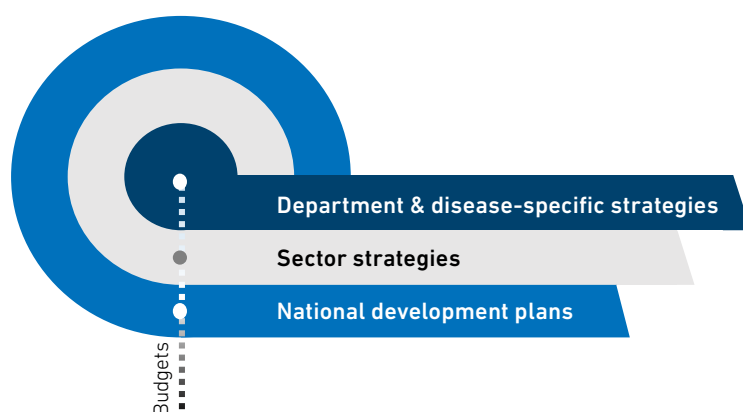


These sorts of documents often operate on a multi-year basis, and so timing is crucial. Many countries have developed plans up to 2020 and are in the process of refreshing them; now is a good time to get AMR into them if it isn't already there. Development plans and strategies can take a long time to develop, and it helps to get the idea of AMR action, and some appropriate language about it, into plans as early as possible.

## 4.1   National development plans

Governments draw up their national development plans based on their country's specific needs and priorities. Many are rooted in the 2030 Sustainable Development Goals (SDGs) that were adopted by all UN Member States in 2015.

National development plans are often produced by the central ministry of finance and/or development, but they are multisectoral by nature, defining the role and contribution of different sectors to development outcomes. They provide the basic strategic framework for budgeting and resourcing for in-country programmes and projects. External development partners and donors use them in selecting projects to support. Even the private sector often looks to a national development plan to align business interests with country priorities and inform investment.

Getting AMR into these high-level plans is therefore critical. Even if the reference is relatively brief, it can make a big difference when advocating for resources and action from national governments and development partners in the medium to long term. It is also the most secure route to getting the finance ministry involved and engaged in backing and resourcing action to tackle AMR.

How to get AMR into national development plans? Emphasizing the links between AMR and SDGs is a good place to start: AMR poses a risk to the achievement of many individual SDGs; and it is also a good example of the joined-up working and global solidarity that underpins the SDGs.

Highlighting the multisectoral nature of AMR is also important. Unchecked, its impacts will be wide-ranging and extremely costly, not only in financial terms but also in terms of health, food security and environmental wellbeing.

It will hamper national economies and could hinder trade (for example, when exporting to regions with high food standards such as the European Union).

The UN agencies should be encouraged to have AMR in the UN development assistance framework (UNDAF) – this is the agreement between the government and the United Nations agencies. Incorporation of AMR will not only facilitate engagement by WHO and FAO and other UN organizations, but also the inclusion of AMR in the broader development narrative.

## 4.2   Sector strategies

Sector strategies complement national development plans by specifying high-level goals and objectives for individual sectors. Some of these are particularly relevant to AMR, including health strategies, food and agriculture strategies, livestock and fisheries strategies, environmental protection plans and humanitarian aid priorities.

Typically covering a five-year period, sector strategies are drawn up by individual ministries although they often include broad consultation and are agreed with central government and other key stakeholders such as development partners.

Getting explicit mention of AMR in these documents – including the risk of AMR to health and livelihood outcomes, and the need to include and scale up key AMR-sensitive and AMR-specific activities – is important to mobilize resources for implementing the NAP. Understanding planning cycles and engaging in the process is the first step to ensuring this can happen.

## 4.3   Departmental plans and disease-specific strategies

Within each sector, using the high-level plans and strategies to guide them, each department, agency and public body will draw up its own plan and strategy outlining what it wants to achieve and how, including the specific activities that will be required. If AMR is not present in the plans at this level, it will be more difficult to make any progress in implementing the NAP.

Coordinating efforts across multiple plans – including human health, agriculture, livestock and fisheries – the AMR committee must work with stakeholders to include all priority NAP activities into departmental plans. As highlighted in Section 3 earlier, this includes both building on existing activities to strengthen their AMR component and, in some areas, introducing a new activity with a new AMR-specific deliverable.

In addition to departmental plans, many countries have disease-specific plans or strategies that span multiple departments and agencies within a single sector (or across multiple sectors). These include, for example, national HIV or tuberculosis strategies, Ebola response plans, pandemic influenza preparedness plans, and responses to other zoonotic diseases. Getting NAP activities into these can also be extremely important. AMR is a major threat to TB, HIV and malaria control programmes, and there are often substantial activities to address it. These activities should be incorporated into the wider AMR control programme, and there may be scope to scale up antibiotic resistance activities within these broader control efforts.

## 4.4   Budgets

Budgeting occurs at all levels and AMR should be embedded in all of them. Understanding the budgeting process is a crucial first step. Usually the budget will be built up for each ministry, or geographical area, on the basis of last year's budget and expenditure. For this reason, it is often easier to build AMR activities into existing budget lines rather than trying to create new ones.

Budget planning and development takes time: it is good practice to involve relevant line ministries and the central finance ministry as much as possible, and as early as possible in the process. Engaging political stakeholders is just as important, as budgets are often scrutinized in parliament; if parliamentarians have already been briefed on the need and required levels of funding for AMR action, they can help ensure finance is allocated appropriately.

While the AMR secretariat may have some dedicated funds for specific actions that they can allocate directly it will, however, be important that they lobby and try to leverage larger amounts of funds for AMR sensitive activities that are incorporated into existing department budgets.

## Practical tips

✓ Make sure you understand all the relevant planning and budgeting processes and cycles at all levels.

✓ Use the links between AMR and SDGs to ensure AMR gets visibility in high-level development plans.

✓ Involve the Ministry of Finance in planning and budgeting as early as possible.

✓ Coordinate efforts to get AMR into plans across sectors and stakeholders.

# 5. Engaging stakeholders

In many countries, the health ministry leads the development of a NAP, and hosts the secretariat for the AMR Coordinating Committee (or equivalent). But implementing the plan is different: for NAP activities to be implemented at scale a range of stakeholders both within and beyond the health ministry have to take responsibility for AMR action within their own spheres of influence.

Different stakeholders have different interests and different contributions to make in supporting NAP implementation. The AMR committee and its secretariat will need to engage with all of them to coordinate efforts, define roles and responsibilities, track progress and share information between teams. Diverse mechanisms – from meetings to online forums – may be needed to enable such engagement, all of which require resourcing (see Figure 6).

The sections that follow point to some of the main stakeholders that will likely need to be involved, and their potential contributions to NAP implementation.

**Figure 6. Engaging stakeholders: examples of who to engage, for what purpose, and how**
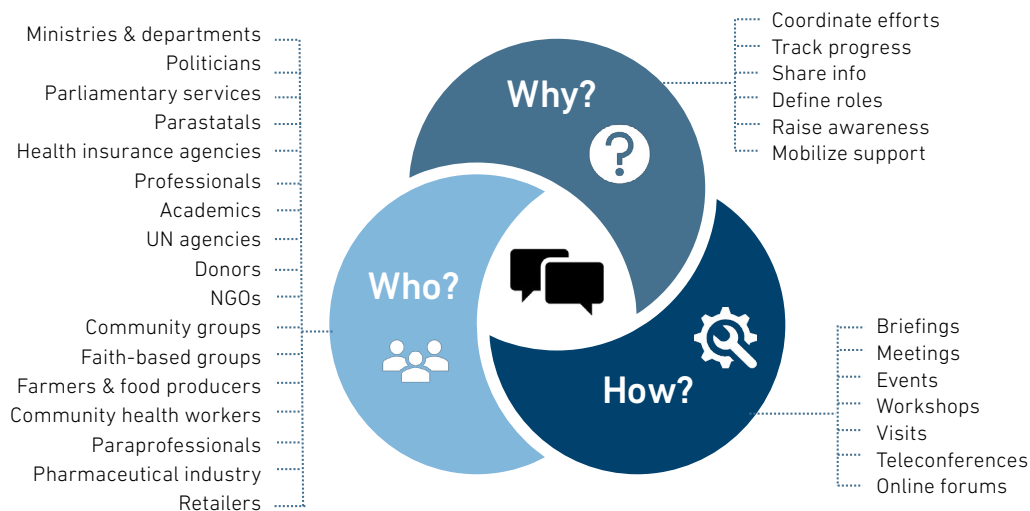


## 5.1   Government

From health and agriculture to environment and trade, many government ministries and departments have a direct role in NAP implementation by carrying out some of the plan's specific elements (including both new and existing activities). Some, such as the ministry of finance, make a broader contribution by enabling appropriate funding across all elements of the plan. The finance ministry may also know about alternative mechanisms for supporting multisectoral issues like AMR – for example, funds in the Office of the Prime Minister.

The form of decentralization in a country will dictate which levels of government to engage. In federal countries, officials from both central and state levels will need to be involved. For example, Kenya uses a tiered approach to implementing AMR action that includes coordinating committees and technical working groups at both national and county levels.[8]

---

[8]   WHO. Tackling Antimicrobial Resistance Together. Working paper 1.0: Multisectoral collaboration. Geneva: World Health Organization; 2018 (**www.who.int/antimicrobial–resistance/publications/workingpaper1multisectoralcoordinationAMR**, accessed 6 February 2019)

## 5.2   Parastatals

Every nation will have parastatal organizations – such as a medicines regulatory authority, food standards authority and professional regulatory councils – that can help implement specific activities within the NAP.

## 5.3   Politicians

Politicians are often great communicators, and so can become good advocates for AMR. By championing AMR, they can help sustain political interest and call for more investment in key areas.

The biggest hurdle to getting them involved is finding a compelling narrative (see Section 7 later); politicians are more likely to engage with AMR if they can see AMR as a people's problem rooted in their daily lives and threatening their socio-economic wellbeing, rather than simply as a 'bugs and drugs' problem.

Parliamentary services have a triple role in supporting NAP implementation. Clerks and researchers can be knowledge guardians, helping to ensure knowledge can outlive electoral cycles by briefing incoming parliamentarians on AMR. They are impartial advisers, trusted with providing credible, factual and impartial advice on AMR. And they can be agenda setters, ensuring that AMR is considered by the parliamentary committees they support.

## 5.4   Health insurance agencies

Health insurance agencies will be hard hit by unchecked AMR, which will increase treatment costs and may make treatments less effective. Pro-actively addressing AMR can make financial sense to insurance companies: activities to promote good drug stewardship and IPC can pay for themselves. AMR Committee members can suggest spend-to-save activities to insurance companies, which can be incorporated into standards for suppliers.

## 5.5   Professional organizations

Professional associations and councils for health workers often already work to reduce AMR, and including them in NAP implementation will bring professional credibility to the effort. These organizations also have the potential to reach huge numbers of frontline workers – doctors, nurses, pharmacists, veterinarians – and influence their behaviours to better address AMR. For example, by disseminating educational resources or encouraging members to access AMR training as part of their continuing professional development. Many professional organizations are often part of global networks, which increases their sphere of influence even further.

Although less likely to have organized professional bodies, and so be more difficult to engage with at a national level, paraprofessionals (nursing and veterinary assistants) and community health workers have an important role in ensuring basic standards of hygiene and infection prevention, and just as importantly engaging with and informing the wider community on the risks of excess antibiotics and the importance of preventing infections.

## 5.6   Academics

Just as professional organizations can help promote in-service training in AMR, universities and public health institutes can help deliver pre-service training. Although many curricula include some elements of AMR, few do enough; for example, most studies of graduating doctors suggest they do not feel adequately trained on the use of antibiotics. Obviously, AMR is an issue that all health workers need to be aware of and getting better incorporation into pre-service training is an important step.

Researchers at universities and public health institutes can also prove great champions for AMR, with strong potential for influencing political and professional thinking. Some may already be investigating aspects of AMR or related topics that can inform and support NAP implementation. Given the growing global interest in AMR, particularly in LMICs, these researchers may be persuaded to do more. In many cases there are research funds available for the job, especially among universities in high-income countries, who may be looking for research partners in LMICs.

## 5.7    Farmers and food producers

Farmers, farmer associations, producer organizations, and major food producers have a direct role in implementing NAP activities. They may be particularly interested in improving biosecurity, husbandry and hygiene to minimize the costs of disease and disease treatment, and amending antimicrobial use practices to ensure eligibility for export markets. In some countries harnessing local consumer power will encourage food producers to implement changes in their production practices; certification schemes can be used to recognize producers that comply with improved standards – allowing them to access premium markets. It is essential to engage farmers in the process from the start; using participatory processes to design initiatives aimed at these stakeholder groups will increase the likelihood of sustainable change. Many farmers and producers face significant challenges in moving to improved practices, not least the high cost of upgrading facilities and implementing appropriate biosecurity, but in many cases also, lack of access to quality feed, vaccines, professional animal health expertise, and diagnostic services. These wider factors mean it is imperative to view the AMR agenda as part of the wider development programme. AMR should be fully embedded throughout other animal health and production programmes aimed at improving food security and safety and supporting livelihoods.

## 5.8    UN organizations

The tripartite UN organizations (FAO, OIE and WHO) work together to support countries develop and implement their NAPs. They can provide governments with impartial advice on policy and technical issues. In many cases, they also actively support the convening of other development partners.

These organizations can also provide guidance to support the annual AMR data and progress reporting that countries are expected to make to the UN.

## 5.9    Donors and development agencies

From global partnerships to regional development banks to national development agencies, there are many different potential external donors that can support NAP implementation. In-country experience suggests that these stakeholders can play an important part in implementing NAPs, especially in LMICs.[9] For example, by:

▶    **Providing catalytic funding.** External donors can help get AMR action off the ground by commissioning specific studies to inform the local situation analysis, funding projects to pilot approaches and supporting activities not yet anticipated or included in government plans and budgets.

▶    **Leveraging existing programmes.** Many donors already fund AMR-sensitive initiatives, such as health system strengthening, disease-specific programmes, or agricultural or environmental projects. If they can be persuaded that scaling up these activities or adding in an AMR focus can improve their value for money, they may be prepared to invest more, or give greater emphasis to activities for preventing disease, managing

---

[9]    WHO. Tackling Antimicrobial Resistance Together. Working paper 1.0: Multisectoral collaboration. Geneva: World Health Organization; 2018
       (**www.who.int/antimicrobial–resistance/publications/workingpaper1multisectoralcoordinationAMR**, accessed 6 February 2019)

infection and ensuring appropriate use of antimicrobials. The same is true of AMR-specific activities funded by external donors, including monitoring and surveillance, which are already generating useful data and could be leveraged to do more. For example, health facility surveys already monitor antibiotic use for common conditions, WASH provision and antibiotic availability. Donors might be encouraged to use their data collection systems to provide useful information to update the AMR situation analysis which can be used by the AMR committee to make a case for additional funds in the future.

▶ **Building AMR into new programmes.** Engaging with donors as they develop new programmes or strategies can encourage them to invest much more in AMR-specific and AMR-sensitive actions.

▶ **Influencing decision-makers.** Some external donors and development agencies are influential with government and other stakeholders involved in NAP implementation. By using dialogue to raise awareness of AMR and the need to address it, they can be powerful stimulants for action.

Donors and development agencies do not just provide money; some provide substantial technical assistance, while others support research or data generation. Each one will have its own ways of working. While a few may welcome unsolicited requests for funding, most will have their own established funding priorities and programmes and will be much more receptive to requests that align with these.

Awareness of the importance of AMR and the need to tackle it is increasing among many of these agencies, bringing with it an opportunity for more involvement. In many countries development agencies come together periodically and there may be scope to engage them as a group to present AMR challenges and NAP priorities, and discuss options for their support.

## BOX 2. GLOBAL HEALTH PARTNERSHIPS

Global health partnerships – notably the Global Fund to fight AIDS, TB and Malaria and GAVI, the Vaccine Alliance – work by funding proposals from countries. Both offer good opportunities to include activities to support NAP implementation, including laboratory strengthening, infection prevention and control, education and training and medicines management.

Both GAVI and the Global Fund only accept proposals that come from the country's coordination mechanism (CCM – a multi-stakeholder group), so the case for including AMR activities in proposals should first be made to this group.  The focus of the Global Fund is on TB, HIV and malaria, and there will definitely be scope to address resistance in these diseases, but also potentially systems to address wider systemic issues such as laboratories and supply chain management. This will be easier to achieve if the NAP implementation plan includes explicit links to, and involvement of, relevant sectors and stakeholders (HIV, TB and malaria for the Global Fund; immunization for Gavi). It may be helpful to establish links between the AMR coordination committee and the CCM for the Global Fund.

## 5.10 Civil society

Civil society is a broad term, used here to cover national and international nongovernmental organizations (NGOs) and faith-based organizations (FBOs) as well as local community groups. Like donors and development agencies, each of these will have their own objectives and priorities and will be much more receptive to engagement that reflects these.

Together, they can support NAP implementation through three key types of activity:

▶ **Service provision.** FBOs are major service providers in some countries; NGOs may also be providing services, particularly in conflict-affected areas. As such they necessarily have an active role in implementing NAP activities. These groups may be able to pioneer key approaches such as IPC and stewardship or provide good laboratories for surveillance. They should be involved in planning and reporting and encouraged to scale up AMR-related action.

▶ **Advocacy, communication and community engagement.** With their workers and volunteers firmly rooted in local communities, many civil society groups are ideally placed to engage the public and influence behaviours to tackle AMR. Some are already expert campaigners and educators, with extensive spheres of influence. Examples such as HIV show how effective civil society advocates can be at getting governments to scale up resources and action. Some groups may be keen to work on AMR in general; others may prefer to contribute in specific areas where they are already active, for example water and sanitation, hand hygiene or food safety.

▶ **Accountability.** Civil society has an important role in holding governments to account and ensuring that commitments made are delivered. This can prove useful in monitoring progress in implementing the NAP, and in mobilizing support for any areas that lag behind.

## 5.11  Pharmaceutical sector

The pharmaceutical sector, from manufacturers and importers through wholesalers to formal and informal pharmacies and shops for veterinary medicines, is an important stakeholder.  Pharmaceutical manufacturing may be an important part of the national economic development strategy, and the pharmaceutical distribution chain is vital for ensuring access to antibiotics for humans and animals. Many practitioners acquire most of their ongoing professional updates from pharmaceutical representatives. Packaging and pricing can have a major influence on patient and practitioners behaviours. The relationship with the private pharmaceutical sector needs to be handled with care, as although many of the leading companies are supporting AMR control, in general the private sector will want to maximize the volumes and values of drugs sold.

# 6. Making the case for investment and inclusion

Armed with an understanding of what it is that needs to be done (the activities), the people that need to be involved (the stakeholders), and where the resources should come from (the plans), the case for investment and inclusion can be made.

Implementing the NAP requires this case to be made at multiple levels, on multiple fronts. Studies show that political commitment and leadership are crucial to driving the AMR agenda forward. So, the case for investing in AMR needs to be made to politicians and donors at every opportunity. This includes briefing parliamentary committees (in agriculture, health, food, environment and rural development), presenting at donor meetings and convening high-level events tied to local AMR news or global campaigns. From leveraging World Health Day to presenting compelling data to the President in the Philippines to demonstrating the link to established priorities such as the International Health Regulations in Kenya, experience shows there are many possible routes to raise the profile of AMR and galvanize action at a high level.[10]

But to implement the NAP on the ground, budget managers, departmental decision-makers and potential partners will also need to be persuaded to invest additional resources into tackling AMR, or to realign existing programming to better address it. It is important to find opportunities to speak to these stakeholders; and to tailor the message to their interests and priorities. The impact of information about AMR can be cumulative: one presentation may not result in much action, but a repeated message over time can have more effect.

In making the case for investment and inclusion, experience suggests seven key ingredients for success, as outlined below.

## 6.1   Risks

Decision-makers want to know the cost of doing nothing (i.e. failing to address AMR) and they want to know about any risks that threaten the achievement of results they are accountable for. Setting out the risks of AMR to the outcomes that really matter to them – be that better health, lower costs, more trade or economic development – is a good way of convincing decision-makers to act.

Getting AMR into a national risk register of civil emergencies (as the United Kingdom has done) can also prove effective in sustaining high-level interest, even across political cycles as key individuals come and go.

## 6.2   Opportunities

Any presentation of risks should be balanced with a clear message of opportunity, outlining what needs to be done to tackle AMR and how the stakeholder group in question can make a difference. Very often it will be possible to show that the group is already doing relevant work, and how this could be expanded or adapted for deeper impact.

---

[10]   WHO. Tackling Antimicrobial Resistance Together. Working paper 1.0: Multisectoral collaboration. Geneva: World Health Organization; 2018 (**www.who.int/antimicrobial-resistance/publications/workingpaper1multisectoralcoordinationAMR**, accessed 6 February 2019)

## 6.3   Evidence

Robust local data can provide the evidence required to persuade decision-makers to act. They are important for understanding local contexts, including individual sectors' contributions to the problem. They are also essential for designing and prioritizing interventions on the basis of their proven impact.

In theory, a strong case for investment may draw on many different types of evidence (see Box 3). In practice, however, local evidence on the extent and impacts of AMR is often lacking, especially in LMICs. Still, very often some can be found within the NAP's situation analysis or gathered from researchers or clinicians. In some cases, neighbouring countries or regions may have comparable data that can be used to demonstrate the scale of the problem or to showcase effective interventions. In all cases, qualitative evidence – for example, a human-interest story from a clinician or patient – can illustrate the very real impact of AMR and can be extremely powerful in mobilizing action.

---

**BOX 3. DATA NEEDS**

**The evidence required to implement NAPs, and which can prove useful in making the case for investment, include reliable data on:**

- **the local burden of AMR (including levels of resistance, morbidity, mortality and financial costs);**

- **access to antibiotics;**

- **the prevalence of health care–associated infections;**

- **the sale and use of antimicrobials for humans, animals and plants;**

- **monitoring of AMR at environmental risk points, such as effluent flows from health facilities, food production sites and pharmaceutical manufacturing sites, or in urban sewage; and**

- **the probable impact and cost–effectiveness of interventions in specific settings.**

---

## 6.4   Comparisons

The tripartite organizations collect information on country progress in addressing AMR through an annual self-assessment questionnaire.[11] This includes assessing progress in both developing and implementing NAPs. The results are publicly available and can provide a useful complement to the situation analysis presented in a case for investment to compare progress against regional neighbours or other LMICs, which can help persuade decision-makers where they could be doing more.

## 6.5   Indicators

Every case for investment should include an argument to incorporate AMR-related indicators into existing monitoring schedules. Embedding a robust set of process and output indicators into proposals can assure decision-makers of their

---

[11]   For results of these see: WHO, FAO and OIE. Global database for antimicrobial resistance: Country self-assessment. WHO: Geneva; 2018 (**https://amrcountryprogress.org/**, accessed 8 February 2019).

ability to track progress and demonstrate impact. These indicators can then provide an effective way of sustaining interest and encouraging scale up.  Very often donors will invest substantially in monitoring their programmes, and so be able to provide good quality data. Even proxy measures can be useful to track progress and sustain interest.

## 6.6    Narrative

If decision-makers are to invest in new activities, or change their existing ones, they must be convinced that AMR is relevant to their own goals and objectives. They need a compelling narrative that clearly links the threat of AMR to fundamental national interests, including health care, food security, environmental sustainability and economic development. They need to be persuaded that investing in NAP activities is essential not only to tackle AMR but also to address other development priorities.

And yet, when talking about AMR, it is very easy to get stuck in a complex narrative dominated by a long list of bugs and drugs with difficult names that mean little to non-technical decision-makers. In many LMICs, AMR remains an abstract concept, a complex technical issue that is far removed from most people's day-to-day concerns.

A clear simple narrative that relates to people and programmes is likely to have much more traction. See the last chapter, and associated resources, for examples of this.

## 6.7    Champions

Building the case for investment is much easier if AMR is championed by individuals or organizations who command respect and have the authority to work across sectors and disciplines and can influence changes. Effective champions can be politicians, technical professionals, celebrities in popular culture, or people who have been directly affected by AMR. Different champions can be used to influence different audiences. People with a strong standing within the sector or programme of interest are much more likely to mobilize support than an outsider.

Once engaged, all champions should be kept up-to-date with relevant data on AMR, as well as case studies and anecdotes.

### Practical tips

✓    Find out when donors or parliamentary committees meet and ask to make a presentation.

✓    Strike a balance between warning about the risks of ignoring AMR and highlighting the opportunities to make a difference.

✓    Wherever possible, use reliable local data and evidence to support your case.

✓    Compare progress in key activities against neighbouring nations and other countries.

✓    Build in process and output indicators to every proposal.

✓    Tailor your narrative to match your audience's interests and priorities.

✓    Identify potential champions and the type of audiences they can influence.

# 7. Practical tools for tailoring the message

As emphasized in Section 6.6 above, making the case for new investment, or a realignment of existing programming, requires a compelling narrative that addresses the specific audience's needs and priorities.

That means tailoring the message to focus on local and targeted risks, opportunities and potential impacts of AMR. For example, for those involved in child health, the message could include potential impacts on childhood pneumonia or neonatal sepsis and SDGs; for those involved in health service management, the message might focus on the potential efficiencies of a more integrated laboratory system; and for those working on agricultural production, the message could emphasize potential new markets for meat or fish that is produced with antibiotic restrictions.

Effectively tailoring the message also requires a good understanding of the audience's level of influence and depth of awareness. For example, high-level politicians, donors and policy-makers often have to deal with many different topics and are unlikely to have detailed knowledge about all of them: they may not be familiar with AMR jargon or appreciate technical analyses. They want clear, simple messaging in terms that they can understand.

Of course, they still want to know that the information they are receiving is accurate and rooted in evidence. In the sections that follow, we highlight some robust resources that can be used to shape narratives for some of the most likely scenarios facing AMR committees and other AMR advocates.

## 7.1    Making the economic case for addressing AMR

### Stemming the Superbug Tide: Just A Few Dollars More. OECD; 2018.

www.oecd.org/health/stemming-the-superbug-tide-9789264307599-en.htm

With AMR forecast to produce a significant health and economic burden in OECD and EU28 countries, this report reviews existing policies in high-income countries and identifies a set of 'best buy' interventions that, if scaled up at the national level, would provide affordable and cost-effective weapons in the fight against AMR. It estimates that with no AMR action, around 2.4 million people could die from resistant infections in Australia, Europe and North America between 2015–2050. But three out of four deaths could be averted, claims the report, by spending just US$2 per person per year on simple measures such as hand hygiene and the prudent use of antimicrobials.

The report recommends five main strategies: promoting better hygiene, ending over-prescription, rapid diagnostic testing, delaying prescriptions and mass media campaigns. While the analysis is limited to high-income countries, its conclusions are likely to be relevant in LMICs too.

### Drug-Resistant Infections: A Threat to Our Economic Future. World Bank; 2017.

www.worldbank.org/en/topic/health/publication/drug-resistant-infections-a-threat-to-our-economic-future

This report provides insights into the extent and broad patterns of the economic impacts of AMR and their implications for poverty. Using economic simulation tools, it estimates the likely cost of AMR on the global economy from 2017–2050 under different scenarios, predicting that annual global GDP will likely reduce by 1.1–3.8%, with LMICs experiencing the largest shortfalls.

The report highlights actions that LMICs and their development partners can take to counter AMR, and estimates the investment required. Containing AMR in LMICs will cost an estimated US$9 billion every year until 2050, says the report. But the annual rate of return on this investment could reach 88% per year, effectively showing that putting resources into AMR containment now is one of the highest-yield investments countries can make.

Tackling Drug-Resistant Infections Globally: final report and recommendations. The O'Neill Review on AMR; 2016.

https://amr-review.org/

This report, developed by an independent review led by economist Jim O'Neill, provides a set of recommendations for tackling the global rise of AMR. It first discusses the mounting problem of resistance and why action is needed to combat it and then provides an overview of how the problem can be solved.

Proposed solutions focus on curtailing unnecessary use and increasing the supply of new antimicrobials through nine groups of interventions: public awareness campaigns, better sanitation and hygiene, reduced use in agriculture and pollution of the environment, stronger global surveillance, new rapid diagnostics and vaccines, more human resources and potential use of market entry rewards and an innovation fund. The report also considers how these solutions can be funded and looks at ways to build political consensus around them.

## 7.2    Linking AMR to broader health agendas

### AMR and Universal Health Coverage (UHC). WHO; In press.

**Forthcoming**

This paper, which will be published in 2019, examines the links between AMR and UHC, which aims to ensure access to health services and limit financial hardship. It underscores the high priority given to UHC, which is a specific target within the SDG framework (SDG 3.8), by many countries.

It also points to the different elements of a UHC strategy that can incorporate a concern for AMR, which include: leadership in managing infection and infectious diseases; public health and infection prevention; the health workforce; access to medicines; health financing, monitoring and surveillance; and regulation.

### AMR and primary health care. WHO; 2018.

www.who.int/docs/default-source/primary-health-care-conference/amr.pdf?sfvrsn=8817d5ba_2

This paper explores links between primary health care and AMR, and examines how primary health care planners, managers and providers can help increase access, especially for poor and vulnerable people, while simultaneously driving down resistance.

It argues that many of the driving forces behind the declining effectiveness of antibiotics can be addressed through well-functioning primary health care. It suggests 18 ways that primary health care can support an effective AMR response, grouped into four broad categories: community-based engagement and empowerment; equitable access to good quality primary care services; policies, regulation, monitoring and oversight; and intersectoral action, including at the local level.

### AMR and health security: Joint External Evaluation (JEE). WHO

https://extranet.who.int/sph/ihr-monitoring-evaluation

This online platform includes a database of all completed JEEs – a voluntary, multisectoral process to assess country capacity to prevent, detect, and rapidly respond to public health risks. The JEE evaluates a country's capacities for health security across all relevant sectors in 19 technical areas, one of which is AMR and covers capacities for detecting AMR, surveying resistant infections, preventing and controlling infection, and providing antimicrobial stewardship.

As the JEE forms the basis for national health security plans, it is an excellent opportunity to raise the profile of AMR on the political agenda.

## 7.3    Linking AMR to specific sectors

### AMR and HIV, TB and malaria. WHO; In development

This paper provides the latest facts and figures for AMR and HIV, TB and malaria. It shows that resistance is on the rise in all three priority diseases. Extensively drug-resistant TB (XDR-TB), a form of the disease that is resistant to at least four of the core anti-TB drugs, has been identified in 121 countries. Resistance to the first-line treatment for malaria has also now been confirmed in five countries.

The paper shows how the rise in resistance is complicating the fight against each disease, with treatment courses for resistant strains being much longer and less effective than those for non-resistant ones.

### AMR and agriculture. FAO; 2019.

http://www.fao.org/antimicrobial-resistance/en/

The FAO online platform for AMR is updated regularly and covers various aspects of AMR and agriculture including animal health and production, food safety, aquaculture, legislation, animal feed and plant production. Featuring a range of infographics, fact sheets, reports and multimedia, as well as links to relevant standards and instruments, the platform presents a broad range of information on the scale of the AMR problem and what can be done to address it.

### AMR and animal health. OIE; 2019.

www.oie.int/en/for-the-media/amr

The OIE site for AMR is a relatively small, technical website, listing OIE international standards and guidelines for the use of antimicrobials and summarizing OIE's strategy to combat AMR. It includes a small selection of multimedia resources, including factsheets and infographics on responsible and prudent use of antibiotics in animals.

### AMR and the environment. UNEP; 2017

http://wedocs.unep.org/handle/20.500.11822/22263

In this chapter of its 2017 annual report, UNEP explores the environmental dimensions of AMR, including the many different ways in which resistance can develop and spread in the environment.

The report points to some existing strategies for mitigating the discharge of antimicrobials into the environment, including regulation, wastewater treatment, UV disinfection and filtration. But it ultimately concludes that more research is needed to better understand the risks posed by AMR in the environment and to develop sustainable mitigation technologies. To this end, it underscores the role that civil society can have in addressing data gaps, for example by getting school students to collect soil and water samples or getting farmers and consumers to submit data on how they dispose of expired drugs.

# 8. Further reading

Jasovský D, Littmann J, Zorzet A, Cars O. Antimicrobial Resistance: A threat to the world's sustainable development. Dag Hammarskjöld Foundation: Uppsala; 2016.
**www.reactgroup.org/wp-content/uploads/2016/10/development-dialogue-paper-sdg-fullref.pdf**

FAO, OIE, WHO. World Antibiotic Awareness Week Toolkit.
**https://trello.com/b/tBoXeVae/world-antibiotic-awareness-week-toolkit-fao-oie-who**

ReAct. National action plans. ReAct: Uppsala; 2019.
**https://www.reactgroup.org/national-action-plans/**

Resolution A/RES/71/3 adopted by the United Nations General Assembly. Political declaration of the high-level meeting of the General Assembly on antimicrobial resistance. New York City (NY): United Nations; 2016.
**https://digitallibrary.un.org/record/842813/files/A_71_L-2-EN.pdf**

WHO. Assessing entry points and options for increasing investments in AMR in low- and middle-income countries. WHO: Geneva; 2018.
**www.who.int/antimicrobial-resistance/national-action-plans/**
**countrycasestudiesinvestmentsinAMRincountries**

WHO. National action plans (NAP): Supporting documents and tools. WHO: Geneva; 2019.
**www.who.int/antimicrobial-resistance/national-action-plans/supporting-documents-tools**
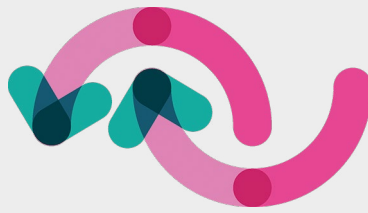
WHO. Global action plan on antimicrobial resistance. WHO: Geneva; 2015.
**www.who.int/antimicrobial-resistance/publications/global-action-plan**

WHO. Tackling Antimicrobial Resistance Together. Working paper 1.0: Multisectoral collaboration. Geneva: World Health Organization; 2018.
**www.who.int/antimicrobial-resistance/publications/workingpaper1multisectoralcoordinationAMR**

**World Health Organization**