

SAMPLE TEMPLATE

**National action plan
on antimicrobial resistance**

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Glossary

(if necessary)

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Abbreviations and acronyms

Use as few abbreviations and acronyms as possible, as they make the text more difficult to read and understand.

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Foreword

Text giving a broad outline of the reason for the plan, signed by the relevant ministries and other contributing authorities

Throughout the plan, use plain language so that it will be understandable to everyone involved. Avoid multiple repetitions of words like “develop” and “implement”; use a more precise, simpler term instead, such as “establish”, “prepare”, “write”, “set up” or “do”.

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Executive summary

An abstract of the main aspects of the document

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Background

Introduction

May be based on introductory texts of the global action plan or a regional action plan. Gives the background of AMR and current global initiatives, the decision of the World Health Assembly in 2015, the “one health” approach, WHO regional initiative and action plan, country initiatives

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Situational analyses and assessment

Analysis of the situation of AMR in the country, what remains to be done, aspects for further assessment, regional factors in AMR and existing national AMR facilities, structures, policies, legal frameworks, surveillance activities, laboratory capacity, standards. Overview and analysis of data from surveillance, including the incidence and prevalence of AMR in different sub-groups of the population, morbidity, mortality and other health outcomes in relation to AMR, economic impact of AMR at both micro- and macroeconomic levels, awareness and knowledge, data from behavioural studies in different social and professional groups and any other evidence-based information on antimicrobial use and resistance in human health, animal health, agriculture and the environment.

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Country response

Governance

The country’s multisectoral coordinating group or another formal mechanism to ensure a “one health” approach to AMR and to oversee strategic interventions

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Strategic plan, operational plan, budget, M&E plan

Country priorities in an integrated approach for addressing the use of and resistance to antimicrobial agents in human health, animal health, agriculture, food products and the environment. The five strategic objectives of the global action plan may be used as a starting point for discussions to determine the country’s priorities. A step-wise approach to achieving objectives may be necessary, the details of which should be agreed in participative dialogue during preparation of the national action plan.

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Strategic plan: sample format with examples of planning elements

Global action plan strategic objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education and training.

Awareness-raising and risk communication

| Objective 1 | Increase national awareness of AMR | |
|-------------|--|--|
| | Strategic interventions | Activities |
| | 1.1. Establish an evidence-based public communications programme targeting audiences in human health practice. <i>Milestone:</i> January 2017 | 1.1.1. Estimate awareness and knowledge through behavioural studies in different social and professional groups. 1.1.2. ... 1.1.3. ... |
| | 1.2. ... | 1.2.1. ... |

Education

| Objective 2 | Improve knowledge of AMR and related topics | |
|-------------|--|--|
| | Strategic interventions | Activities |
| | 2.1. Include AMR and related topics as a core component of professional education, training, certification and development <i>Milestone:</i> The educational programmes revised and approved by June 2017 | 2.1.1. Include AMR and related topics in undergraduate curricula for human health professionals, animal health professionals and food industry and agriculture professionals 2.1.2. ... 2.1.3. ... |
| | 2.2. ... | 2.2.1. ... |

Objective 3 ...

Global action plan strategic objective 2: Strengthen the knowledge and evidence base through surveillance and research.

Surveillance

Objective 4 Set up a national surveillance system for antimicrobial resistance

| Strategic interventions | Activities |
|---|---|
| 4.1. Establish a national coordination structure for surveillance of AMR. <i>Milestone:</i> National coordinating committee with appropriate mandate and terms of reference and a focal point designated by January 2016 | 4.1.1. Write and approve terms of reference for a national coordinating centre for AMR surveillance with the mandate to oversee the AMR surveillance programme, including collecting, aggregating and sharing data. 4.1.2. ... 4.1.3. ... |
| 4.2. ... | 4.2.1. ... |

Objective 5 ...

Laboratory capacity

Objective 6 Build laboratory capacity to produce high-quality microbiological data for patient management and support surveillance activities in both human and animal sectors.

| Strategic interventions | Activities |
|--|--|
| 6.1. Designate a national reference laboratory for AMR surveillance. <i>Milestone:</i> January 2016 | 6.1.1. Write and approve terms of reference for a national reference laboratory with expertise in methods for confirming and characterizing specific pathogens and organizing quality assurance schemes. 6.1.2. ... 6.1.3. ... |
| 6.2. ... | 6.2.1. ... |

Objective 7 ...

Research and development

| | | |
|---|---|--|
| Objective 8 | Identify operational research priorities for responsible use of antimicrobial agents and better practice in infection prevention in human and animal health | |
| | Strategic interventions | Activities |
| | 8.1. Prepare a national operational research agenda. <i>Milestone:</i> September 2016 | 8.1.1. Engage relevant experts to identify current gaps in knowledge and potential research topics. 8.1.2. ... 8.1.3. ... |
| | 8.2. ... | 8.2.1. ... |
| Objective 9 | ... | |
| Global action plan strategic objective 3: Reduce the incidence of infection through effective sanitation, hygiene and prevention measures. | | |
| Infection prevention and control in health care | | |
| Objective 10 | Establish a national infection prevention and control programme | |
| | Strategic interventions | Activities |
| | 10.1. Create a formal organizational structure to ensure proper development and use of infection prevention and control policies and strategies. <i>Milestone:</i> June 2016 | 10.1.1. Write and approve terms of reference for a national infection prevention and control coordinating unit with authority delegated by a relevant administrative or political jurisdiction and an identified budget. 10.1.2. ... 10.1.3. ... |
| | 10.2. ... | 10.2.1. ... |
| Objective 11 | ... | |
| Infection prevention in animal health | | |
| Objective 12 | Introduce infection prevention and control programmes in veterinary settings and animal husbandry. | |

| Strategic interventions | | Activities |
|--|---|---|
| 12.1. Include hygiene and infection prevention and control as core (mandatory) content in training and education of veterinary professionals. Milestone: June 2017 | | 12.1.1. Include hygiene and infection prevention and control in undergraduate curricula for animal health professionals. 12.1.2. ... 12.1.3. ... |
| 12.2. ... | | 12.2.1. ... |
| Objective 13 | ... | |
| Hygiene and sanitation at community level | | |
| Objective 14 | Limit the development and spread of AMR outside health settings by infection prevention and control. | |
| Strategic interventions | | Activities |
| 14.1. Promote personal hygiene by social mobilization and behavioural change activities. Milestone: March 2017 | | 14.1.1. Estimate knowledge of personal hygiene in different social groups as a basis for the social mobilization campaigns. 14.1.2. ... 14.1.3. ... |
| 14.2. ... | | 14.2.1. ... |
| Objective 15 | ... | |
| Global action plan strategic objective 4: Optimize the use of antimicrobial medicines in human and animal health. | | |
| Regulated access to high-quality antimicrobial medicines | | |
| Objective 16 | Ensure uninterrupted access to high-quality antimicrobial medicines. | |
| Strategic interventions | | Activities |
| 16.1. Strengthen the pharmaceutical supply chain, including the procurement, supply and management system. Milestone: A quality management system introduced in all links of the supply chain by December 2017 | | 16.1.1. Establish a quality management system for the supply of medicines, covering storage, transport, expiry date, etc. 16.1.2. ... 16.1.3. ... |

| | | |
|---|---|--|
| | 16.2. ... | 16.2.1. ... |
| Objective 17 | ... | |
| Antimicrobial stewardship | | |
| Objective 18 | Improve and measure appropriate use of antimicrobial agents in health care. | |
| | Strategic interventions | Activities |
| | 18.1. Create formal antimicrobial stewardship programmes in health care facilities. <i>Milestone:</i> Antimicrobial stewardship programmes established in 80% of acute care facilities by January 2018 | 18.1.1. Write generic terms of reference for antimicrobial stewardship multidisciplinary committees and teams. 18.1.2. ... 18.1.3. ... |
| | 18.2. ... | 18.2.1. ... |
| Objective 19 | ... | |
| Use of antimicrobial agents in animal health and agriculture | | |
| Objective 20 | Ensure prudent use of antimicrobial agents in terrestrial and aquatic animals and agriculture. | |
| | Strategic interventions | Activities |
| | 20.1. Establish national policies on use of antimicrobial agents in terrestrial and aquatic animals and agriculture. <i>Milestone:</i> December 2017 | 20.1.1. Establish policies on the use of critically important antibiotics. 20.1.2. ... 20.1.3. ... |
| | 20.2. ... | 20.2.1. ... |
| Objective 21 | ... | |
| Global action plan strategic objective 5: Prepare the economic case for sustainable investment, ... and increase investment in new medicines, diagnostic tools, vaccines and other interventions. | | |
| Objective 22 | Prepare the economic case for sustainable investment in new medicines, diagnostic tools, vaccines and other interventions. | |

| Strategic interventions | Activities |
|---|---|
| 22.1. Prepare a plan to secure and use financing for implementation of the AMR NAP. <i>Milestone:</i> Assessment results available by May 2016 | 22.1.1. Assess investment requirements for implementation of the NAP. 22.1.2. ... 22.1.3. ... |
| 22.2. ... | 22.2.1. ... |

Objective 23 ...

Operational plan and budget

Sample format with examples of planning elements (linked to the strategic plan)

| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|

Strategic intervention 1.1. Prepare an evidence-based public communication programme for people in human health practice.

Activity 1.1.1. Estimate awareness and knowledge through behavioural studies of different social and professional groups.

| | | | | | | | | |
|---|------------------|-----|--------------------------|------------|--|--------|--------------------|---|
| Sub-activity 1.1.1.1 Measure AMR awareness in health care workers in the public sector. | Awareness survey | 2 | March 2016 March 2018 | Nationwide | Department of behavioural and social sciences, national public health school | 50 000 | Ministry of health | Baseline awareness Post-intervention awareness |
| Sub-activity 1.1.1.2 | ... | ... | ... | ... | ... | ... | ... | ... |

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| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|

Strategic intervention 2.1. Include AMR and related topics as core components of professional education, training, certification and development.

Activity 2.1.1. Include AMR and related topics in undergraduate curricula for human health professionals, animal health professionals and food industry and agriculture professionals.

| | | | | | | | | |
|---|--------------------|-----|-----------|---------|--|------|--------------------|-------------------------------|
| Sub-activity 2.1.1.1 Revise undergraduate curriculum for medical doctors to incorporate AMR and related issues. | Revised curriculum | 1 | June 2016 | Capital | Strategic objective 1 sub-working group, MCG technical advisory group, ministries of health and of the environment | 5000 | Ministry of health | Revised curriculum introduced |
| Sub-activity 2.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 4.1. Establish a national coordination structure for surveillance of AMR.

Activity 4.1.1. Write and approve terms of reference for a national coordinating centre for AMR surveillance with the mandate to oversee the AMR surveillance programme, including collecting, aggregating and sharing data.

| | | | | | | | | |
|---|---|---|--------------|---------|---|------|--------------------|--|
| Sub-activity 4.1.1.1. Prepare terms of reference for a national coordinating centre for AMR surveillance. | National coordinating centre terms of reference | 1 | January 2016 | Capital | Strategic objective 2 sub-working group, MCG technical advisory group, national | 5000 | Ministry of health | National coordinating centre terms of reference ready for approval |
|---|---|---|--------------|---------|---|------|--------------------|--|

| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|------------------------------|------|----------|------|----------|-------------------------|-----------------|-------------------|-----------|
| | | | | | public health institute | | | |
| Sub-activity 4.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 6.1. Designate a national reference laboratory for AMR surveillance.

Activity 6.1.1. Write and approve terms of reference for a national reference laboratory with expertise in methods for confirming and characterizing specific pathogens and organizing quality assurance schemes.

| | | | | | | | | |
|---|--|-----|--------------|---------|--|------|---|---|
| Sub-activity 6.1.1.1. Develop terms of reference for a national reference laboratory. | National reference laboratory terms of reference | 1 | January 2016 | Capital | Strategic objective 2 sub-working group, MCG technical advisory group, national public health laboratory | 6000 | Ministries of health and of agriculture | National reference laboratory terms of reference ready for approval |
| Sub-activity 6.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 8.1. Prepare a national operational research agenda.

Activity 8.1.1. Engage relevant stakeholders to identify the current gaps in knowledge and potential research topics.

| | | | | | | | | |
|---|----------------|---|----------|---------|------------------------------|--------|------------------------------------|---------------------------------|
| Sub-activity 8.1.1.1. Convene relevant experts to identify gaps in knowledge and potential research topics. | Expert meeting | 1 | May 2016 | Capital | MCG technical advisory group | 60 000 | Ministry of health, public-private | Draft research agenda developed |
|---|----------------|---|----------|---------|------------------------------|--------|------------------------------------|---------------------------------|

| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|------------------------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|
| | | | | | | | partnership | |
| Sub-activity 8.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 10.1. Create a formal organizational structure at national level to ensure proper development and management of infection prevention and control policies and strategies.

Activity 10.1.1. Write and approve terms of reference for a national infection prevention and control coordinating unit with authority delegated by a relevant administrative or political jurisdiction and an identified budget.

| | | | | | | | | |
|--|---|-----|----------|---------|---|------|--------------------|---|
| Sub-activity 10.1.1.1. Prepare terms of reference for a national infection prevention and control coordinating unit. | Terms of reference for an infection prevention and control unit | 1 | May 2016 | Capital | Strategic objective 3 sub-working group, MCG technical advisory group, ministry of health, national infection control society | 5000 | Ministry of health | Infection prevention and control unit terms of reference ready for approval |
| Sub-activity 10.1.1.2 | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 12.1. Include hygiene and infection prevention and control unit as core (mandatory) content in training and education of veterinary professionals.

Activity 12.1.1. Include hygiene and infection prevention and control in undergraduate curricula for animal health professionals

| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|--|--------------------|----------|----------|----------|---|-----------------|-------------------------|-------------------------------|
| Sub-activity 12.1.1.1. Revise undergraduate curriculum for veterinary professionals to incorporate hygiene and infection prevention and control. | Revised curriculum | 1 | May 2017 | Capital | Office of chief veterinary officer, ministries of agriculture and the environment | 5000 | Ministry of agriculture | Revised curriculum introduced |
| Sub-activity 12.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 14.1. Promote personal hygiene by social mobilization and behavioural change activities.

Activity 14.1.1. Estimate knowledge of personal hygiene in different social groups as a basis for social mobilization campaigns.

| | | | | | | | | |
|---|------------------|-----|-----------------------------|------------|--|--------|-----------------------------|---|
| Sub-activity 14.1.1.1. Estimate knowledge of schoolchildren about personal hygiene. | Knowledge survey | 2 | January 2017 August 2017 | Nationwide | Department of behavioural and social sciences, ministry of the environment | 50 000 | Ministry of the environment | Baseline data Post-intervention data |
| Sub-activity 14.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 16.1. Strengthen the pharmaceutical supply chain, including procurement, supply and management system.

Activity 16.1.1. Establish a quality management system for the medicines supply chain, covering storage, transport, expiry date, etc.

| | | | | | | | | |
|--|--------------------|---|------------|------------|-----------------|--------|--------------------|-----------------------|
| Sub-activity 16.1.1.1. Map the major elements of | Formal description | 1 | March 2016 | Nationwide | Drug regulation | 12 000 | Ministry of health | Critical processes in |
|--|--------------------|---|------------|------------|-----------------|--------|--------------------|-----------------------|

| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|--|-------------------------------|----------|------|----------|----------------------------|-----------------|-------------------|-----------------------------|
| the supply chain, with their inputs, activities and outputs. | of how the supply chain works | | | | agency, ministry of health | | | the supply chain documented |
| Sub-activity 16.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 18.1. Create formal antimicrobial stewardship programmes in health care facilities.

Activity 18.1.1. Prepare generic terms of reference for multidisciplinary antimicrobial stewardship committees and teams

| | | | | | | | | |
|---|--------------------|-----|---------------|---------|---|------|--------------------|---------------------------------------|
| Sub-activity 18.1.1.1. Prepare generic terms of reference for multidisciplinary antimicrobial stewardship committees. | Terms of reference | 1 | December 2016 | Capital | Ministry of health, national pharmacists' association | 5000 | Ministry of health | Terms of reference ready for approval |
| Sub-activity 18.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Strategic intervention 20.1. Prepare national policies on use of antimicrobials in terrestrial and aquatic animals and agriculture.

Activity 20.1.1. Prepare policies on the use of critically important antibiotics.

| | | | | | | | | |
|---|--|-----|-----------|---------|--|------|-------------------------|---|
| Sub-activity 20.1.1.1. Make a list of critically important antibiotics based on WHO list. | List of critically important antibiotics | 1 | June 2017 | Capital | Drug regulation agency, ministries of health and agriculture | 4000 | Ministry of agriculture | List of critically important antibiotics ready for approval |
| Sub-activity 20.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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| Sub-activity | Unit | Quantity | Date | Location | Responsible entity | Cost (currency) | Source of funding | Indicator |
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|
|--------------|------|----------|------|----------|--------------------|-----------------|-------------------|-----------|

Strategic intervention 22.1. Prepare a plan to secure and use financing for implementation of the AMR NAP.

Activity 22.1.1. Assess investment required for implementation of the national action plan.

| | | | | | | | | |
|---|-------------------|-----|----------|---------|---|--------|---------------------|-----------------------------|
| Sub-activity 22.1.1.1. Assess the investment required, and identify gaps for implementation of the NAP. | Assessment report | 1 | May 2016 | Capital | MCG technical advisory group, ministry of finance | 25 000 | Ministry of finance | Assessment report available |
| Sub-activity 22.1.1.2. | ... | ... | ... | ... | ... | ... | ... | ... |

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Monitoring and evaluation plan

Sample format with examples of indicators

| Planning element (activity linked to the strategic plan) | Indicator | Type and purpose | Value (calculation) | Frequency of data collection | Data source | Method | Baseline |
|---|------------------------------------|---|---|---|--|------------------|-----------------------------|
| 1.1.1. Measure awareness and knowledge in different social and professional groups. | Level of awareness by target group | Assessment, baseline survey, monitoring and evaluation of outcome | Awareness scores stratified by target group (composite indicator) | Baseline, according to schedule of awareness-raising campaigns (biannual) | Baseline survey report, post-intervention survey reports | Awareness survey | Measured in baseline survey |

| Planning element (activity linked to the strategic plan) | Indicator | Type and purpose | Value (calculation) | Frequency of data collection | Data source | Method | Baseline |
|---|---|------------------|---|------------------------------|--|--|---|
| 2.1.1. Include AMR and related topics in undergraduate curricula for professionals in human and animal health, the food industry and agriculture. | Revised curricula available for target professional groups | M&E of input | Yes/No No. of curricula / No. of professional groups to target | Annually | Key informant at ministry of the environment | Key informant interview | No curricula with AMR and related topics |
| 4.1.1. Write and approve terms of reference for a national coordinating centre for AMR surveillance. | National coordinating centre terms of reference written and approved | M&E of input | Yes/No | Annually | Key informant at ministry of health | AMR surveillance programme implementation report | No terms of reference for national coordinating centre |
| 6.1.1. Write and approve terms of reference for a national reference laboratory. | National reference laboratory terms of reference written and approved | M&E of input | Yes/No | Annually | Key informant at ministry of health | AMR surveillance programme implementation report | No terms of reference for national reference laboratory |
| 8.1.1. Engage relevant experts to identify current gaps in knowledge and potential research topics. | Draft research agenda prepared | M&E of input | Yes/No | Annually | Key informant at ministry of health | Key informant interview | No research agenda |

| Planning element (activity linked to the strategic plan) | Indicator | Type and purpose | Value (calculation) | Frequency of data collection | Data source | Method | Baseline |
|--|---|---|--|------------------------------|--|--|---|
| 10.1.1. Write and approve terms of reference for a national infection prevention and control coordinating unit. | Infection prevention and control unit terms of reference written and approved | M&E of input | Yes/No | Annually | Key informant at ministry of health | Infection prevention and control programme implementation report | No terms of reference for infection prevention and control unit |
| 12.1.1. Include hygiene and infection prevention and control in undergraduate curricula for animal health professionals. | Revised curricula available for target professional groups | M&E of input | Yes/No No. of curricula / No. of professional groups targeted | Annually | Key informant at ministry of agriculture | Key informant interview | No curricula with hygiene and infection prevention and control |
| 14.1.1. Estimate knowledge of personal hygiene in different social groups. | Level of knowledge of target groups | Assessment, baseline survey M&E of outcome | Knowledge scores stratified by target groups (composite indicator) | Baseline Biannually | Baseline survey report Post-intervention survey reports | Knowledge survey | Measured by baseline survey |
| 16.1.1. Establish a quality management system for the medicines supply chain. | Quality management system established and introduced | M&E of input | Yes/No | Annually | Key informant at drug regulation agency | Key informant interview | No quality management system |
| 18.1.1. Write generic terms of reference for | Antimicrobial stewardship | M&E of input | Yes/No | Annually | Key informant at | Key informant | No terms of reference for |

| Planning element (activity linked to the strategic plan) | Indicator | Type and purpose | Value (calculation) | Frequency of data collection | Data source | Method | Baseline |
|--|--|------------------|---------------------|------------------------------|--|------------------------------------|--------------------------------------|
| multidisciplinary antimicrobial stewardship committees and teams. | committees terms of reference written and approved | | | | ministry of health | interview | antimicrobial stewardship committees |
| 20.1.1. Prepare policies on use of critically important antibiotics. | Policies prepared and introduced | M&E of input | Yes/No | Annually | Key informant at ministry of agriculture | Key informant interview | No policies |
| 22.1.1. Assess investment required for implementation of the NAP. | Investment assessment available | M&E of input | Yes/No | Annually | Key informant at ministry of finance | Investment needs assessment report | No assessment |

References

List of publications cited in the document

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