

# HANDBOOK FOR COMMUNICATION ON THE RATIONAL USE OF ANTIMICROBIALS FOR THE CONTAINMENT OF RESISTANCE

**PAHO**



Pan American  
Health  
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Americas



# **HANDBOOK FOR COMMUNICATION ON THE RATIONAL USE OF ANTIMICROBIALS FOR THE CONTAINMENT OF RESISTANCE**

Washington, D.C., 2021

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## PREFACE

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Antimicrobial resistance (AMR) is recognized as one of the greatest threats to global public health, affecting human health, livestock and agricultural production, and the environment.<sup>1</sup> Antimicrobials are medicines used to treat infections caused by bacteria, parasites, viruses, and fungi. AMR occurs when these microorganisms change (mutate) as a result of exposure to antimicrobials (including antibiotics, antifungals, antivirals, antimalarials, or anthelmintics) and become resistant to them.<sup>2</sup> In this way, antimicrobials lose their effectiveness, and infections become increasingly difficult to treat and last longer in the body, increasing the risk of being transmitted to others.

The causes of this public health problem include the misuse of antimicrobials (especially antibiotics), self-medication, overuse without the supervision of a qualified professional, improper prescription practices by health professionals, improper and excessive use in agriculture and livestock, the acquisition of antimicrobials without a prescription from a qualified and authorized professional, inadequate or non-existent programs for infection prevention and control, poor-quality medicines, poor laboratory capacity, inadequate surveillance, and insufficient enforcement or lack of regulations on the use of antimicrobials.<sup>1,3,4,5</sup>

The lack of awareness about antimicrobial resistance also poses a threat to public health and requires urgent action at the national and regional levels.<sup>4</sup> In this context, the objective of this handbook is to help health communication professionals and health program officials develop strategies to raise public awareness about the importance of using antimicrobials appropriately. It will also be useful to health professionals and different stakeholders such as public officials, professional societies, medical organizations, the private sector, local leaders, and health influencers, among others.

The reader will find tools for developing communication strategies based on the social-ecological model for behavior change. Detailed information is provided on the factors involved in the

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<sup>1</sup> World Health Organization. Antimicrobial resistance. Key facts [Internet]. [Accessed 14 September 2017]. Available from: <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>.

<sup>2</sup> Pan American Health Organization. Antimicrobial resistance [Internet]. Washington, D.C.: PAHO. [Accessed 10 November 2020]. Available from: <https://www.paho.org/en/topics/antimicrobial-resistance>.

<sup>3</sup> Pan American Health Organization. Plan of Action on Antimicrobial Resistance: 54th Directing Council, 67th Session of the Regional Committee of WHO for the Americas 2015 Sept 28-Oct 2; Washington, D.C.: PAHO; 2015. (Resolution CD54/R15). [Accessed 14 December 2017]. Available from: <https://www.paho.org/hq/dmdocuments/2013/CD52-17-e.pdf>.

<sup>4</sup> World Health Organization. Worldwide country situation analysis: response to antimicrobial resistance. Geneva: WHO; 2015. [Accessed 14 December 2017]. Available from: [http://apps.who.int/iris/bitstream/handle/10665/163468/9789241564946\\_eng.pdf](http://apps.who.int/iris/bitstream/handle/10665/163468/9789241564946_eng.pdf).

<sup>5</sup> World Health Organization. Global action plan on antimicrobial resistance. Geneva: WHO; 2015. [Accessed 14 December 2017]. Available from: <https://www.who.int/antimicrobial-resistance/publications/global-action-plan/en/>.

decision to prescribe, dispense, and use antimicrobials; target audiences are analyzed, including what is expected of them; and several key messages are shared that are tailored to each audience.

This handbook also proposes four strategic lines of action to consider when implementing a communication strategy: 1) health education; 2) dissemination through mass media; 3) community activities and events; and 4) advocacy. In addition, each line of action lists different interventions and activities to be implemented at different levels of the social-ecological model to increase public awareness about the problem of antimicrobial resistance and motivate behavior change. It also describes possible communication channels for disseminating key messages to target audiences and provides a plan to monitor and evaluate the implemented actions.

Finally, several templates, examples of public campaigns on the subject, and communication materials and tools are provided to support the development of communication strategies and plans that will help make the problem of AMR more visible and raise awareness about the rational use and acquisition of antimicrobials.

## ACKNOWLEDGMENTS

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María Senés (Consultant) wrote the manuscript in coordination with José Luis Castro (Advisor, Rational Use of Medicines) and Pilar Ramón-Pardo (Advisor, Antimicrobial Resistance), who provided the objectives and guided the technical content of the publication. Analía Porrás (Head of the Medicines and Health Technologies Unit) supported coordination and supervision and provided guidelines and comments for preparation of the document. Edgar Robin Rojas (Technical Officer for the Safe Use of Medicines) and Leticia Linn (Media Relations and Public Information Advisor with PAHO's Communication Department) also offered key comments and guidance for the manuscript. The contributions of Cristina Mañá and América Valdés (Knowledge Management and Communication specialists) are appreciated.

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Food and Agriculture  
Organization of the  
United Nations



WORLD ORGANISATION FOR ANIMAL HEALTH  
*Protecting animals, preserving our future*



European Union



## BACKGROUND

This Handbook on the Rational Use of Antimicrobials for the Containment of Resistance is consistent with the Global Action Plan on Antimicrobial Resistance adopted by the World Health Assembly in May 2015 (1), the Plan of Action of the Pan American Health Organization (PAHO), adopted in 2015 by the countries of the Region of the Americas (2), and the policy paper *Access and Rational Use of Strategic and High-cost Medicines and Other Health Technologies* approved by PAHO's Governing Bodies in September 2016 (3).

The goal of the global action plan is to ensure continuity, whenever possible, of the successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them (1). PAHO's Plan of Action urges countries to design and implement concrete actions to contain antimicrobial resistance and take urgent action to promote the appropriate use of antimicrobials, considering a comprehensive approach to using education and communication to promote the responsible use of antimicrobials by individuals and consumers (2). Both documents reflect international consensus that antimicrobial resistance poses a major health threat that requires a multisectoral response.

Substantial evidence shows that antimicrobial resistance is a consequence of the sheer volume of antimicrobial drugs being used (1-6). In 1999, the Pan American Network for Drug Regulatory Harmonization (PANDRH) was created to promote the harmonization of drug regulation in the Americas, while strengthening the capacities of national regulatory authorities (NRAs) in the Region (7-9). One of PANDRH's projects provides support for efforts related to

the regulations contained in countries' national plans for antimicrobial resistance containment.

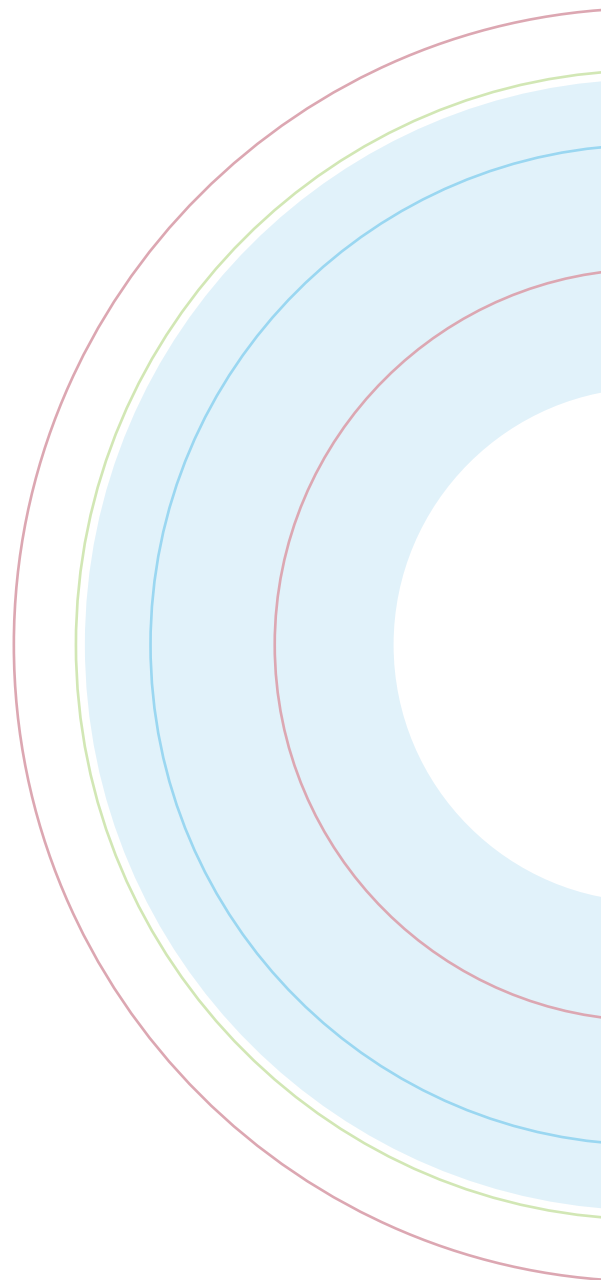
Over the past 15 years, the priority of the countries of the Americas has been to develop the capacity to regulate medicines and other health technologies (9). National regulatory authorities in the countries have played a key role in ensuring the quality of these products. Actions carried out by NRAs include pre- and post-marketing safety assessments, effectiveness assessments (and, in some cases, comparative effectiveness assessments), development of national policies for technological innovation, and implementation of strategies to promote competition in pharmaceutical markets (9).

The acquisition of antimicrobials without a prescription is a global concern, particularly in countries that lack the appropriate legislation or where regulations are not properly enforced. Although the Region of the Americas has made general progress in terms of its ability to regulate medicines and develop regulatory systems, much remains to be done in this regard. In 2011, reports on the acquisition of antimicrobials indicated that more than 70% of the drugs sold were used in animals, primarily those intended for human consumption. PAHO organized a consultation in 2015–2016 that showed that 20 of the 23 countries surveyed said antimicrobials could be acquired without a prescription, despite existing legislation and regulation of these products (internal data based on PAHO consultations). In addition, self-medication and the possibility of acquiring antimicrobials on the Internet or over the counter entail an increased risk of unnecessary use (1, 6).

In this context, behavior must change in terms of how antimicrobials are used and obtained worldwide.

National approaches are required that will address the indiscriminate use of antimicrobials, overprescription, and the enforcement of regulations on prescription and dispensation.

This handbook provides a number of practical tools to support those responsible for advocacy and communication on the proper use of antimicrobials to combat AMR by formulating communication plans and strategies to be implemented in different contexts.





# OBJECTIVES

## GENERAL OBJECTIVE

The objective of this handbook is to help health communication professionals and health program officials develop strategies to raise the awareness of the general public, health professionals, and different stakeholders (government officials, professional societies, medical organizations, the private sector, local leaders, health sector influencers, etc.) about the importance of the appropriate use of antimicrobials.

## SPECIFIC OBJECTIVES

1. Raise public awareness about the importance of obtaining properly prescribed antimicrobials and achieving multisectoral collaboration to ensure compliance with legal provisions and regulations related to the prescription and dispensation of antimicrobials.
2. Promote behavior change among all parties involved regarding the rational use of antimicrobials.

## SOCIAL-ECOLOGICAL MODEL FOR BEHAVIOR CHANGE

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Changing people's behavior is a complex process (2). Providing information and evidence on a health issue is an important step in achieving change, but it is not enough. Communication plays an essential role in the field of public health because it not only provides tools to inform and educate, but also to persuade and motivate people to change their behavior (10, 11).

The social-ecological model (Figure 1) introduced by Urie Bronfenbrenner in the 1970s is a framework created to analyze a number of factors—ranging from the individual to the environment—that determine the health and health behaviors of a population (11-13). The model shows four levels that are interconnected and reinforce each other: 1) individual; 2) interpersonal; 3) community; and 4) social (political-environmental).

The **individual level** includes a person's attitudes, knowledge, and beliefs. These factors are influenced by an individual's environment and experiences. The **interpersonal level** examines a person's family, friends, and social network. These relationships help shape individual behavior and actions. The **community level** includes the school, workplace, neighborhood, and

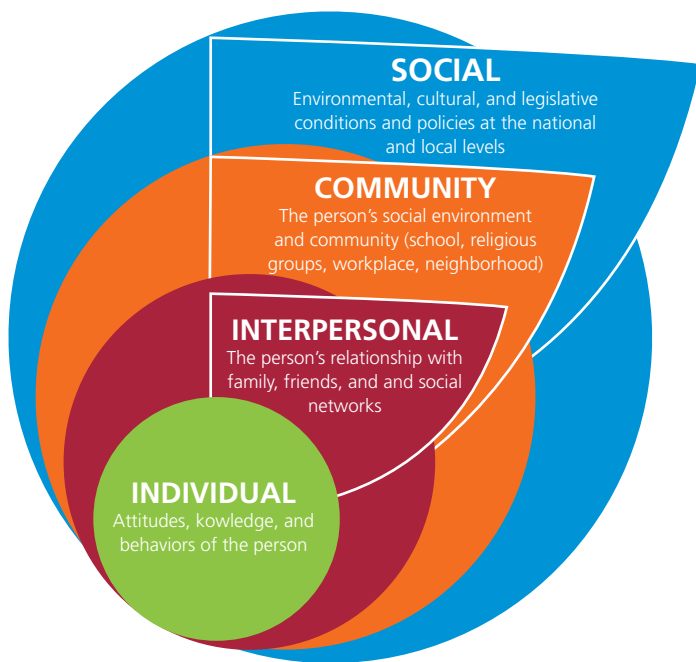
religious groups in an individual's community and social environment. Lastly, the **social level** includes the strong influence of the environment, laws, and national culture (11, 13).

The effectiveness of health communication increases when the communication strategy addresses different levels (13). According to the WHO report Human Papillomavirus (HPV) Vaccine Communication (10), for a person to change their behavior or decide to act differently, they must go through a process that usually begins with being completely unaware of the issue or health behavior. Through communication activities, the person becomes aware, considers the intervention or behavior change, adopts it, repeats and demands it, and promotes this behavior in their community (10, 11, 14).

Accordingly, modifying an individual's behavior will have an effect on relationships, community, and society. An intervention at any of these levels impacts the others. For example, a girl's mother, father, or caregiver may know nothing about the HPV vaccine. After learning about the vaccine through communication activities, they consider whether or not to accept it based on the information

they received from several sources. The parent takes action to get his or her daughter vaccinated and then proactively takes a second daughter in for vaccination. Finally, the girl's mother, father, or caregiver may promote the HPV vaccine with other mothers and fathers in the community (10, 14).

**FIGURE 1. Social-ecological model**



Source: Adapted from Parvanta CF, Nelson DE, Harner RN. Public Health Communication. Burlington: Jones & Bartlett Learning; 2017.

As an example, the United States Centers for Disease Control and Prevention (CDC) uses the social-ecological model as a framework for preventing all forms of violence (15), such as child abuse, youth violence, intimate partner violence, and elder abuse. At the individual level, biological factors and personal backgrounds are identified that increase the likelihood of someone becoming a

victim or perpetrator of violence (e.g., age, education, income, substance use, or history of abuse). At the interpersonal level, people's close relationships (partners, peers, family members) are analyzed to determine whether they could increase the risk of experiencing violence as a victim or perpetrator. The third level explores community environments, such as schools, workplaces, and the neighborhood where social relationships develop, and seeks to identify which characteristics of these environments are associated with becoming victims or perpetrators of violence. Finally, the social level involves social factors that help create a climate in which violence is encouraged or inhibited, including social and cultural norms that support violence as an acceptable way to resolve conflicts.

The CDC also uses the social-ecological model as a framework for preventing obesity and other chronic diseases (16).

## ANALYSIS OF PUBLIC CAMPAIGNS

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Lack of awareness of antimicrobial resistance poses a threat to public health (6). There is growing evidence showing the association between the implementation of public campaigns that promote responsible use of antimicrobials and an overall reduction in their use (17-27).

The WHO Collaborating Centre at the University Hospital of Geneva (17) organized an international consultation on awareness-raising campaigns addressing the global use of antimicrobials since 2010 in order to discuss certain features of these campaigns. A total of 60 campaigns were examined, 16 of which were conducted in low-to-middle-income countries and 31 in high-income countries. Key findings revealed that most of them simultaneously targeted the general public and doctors (17) and used similar key messages. The most common messages were: "If we use antibiotics incorrectly, they will no longer produce benefits or will become ineffective," and "Misuse/overuse of antibiotics causes resistance."

According to the findings of the consultations, the most common intervention in public awareness campaigns was the distribution or dissemination of educational or communication materials (online or face-to-face). Other types of interventions included public relations activities, press conferences, training for prescribers, and the promotion or distribution of prescription and dispensation guidelines (17). At the same time, the researchers concluded that messages targeting different audiences must have a scientific basis and a call to action in order to motivate a change in behavior.

The evidence indicates that the following factors, among others, affect the success of awareness-raising campaigns: key messages should be simple and carefully crafted and should target a broad audience (such as patients, their families, and health workers); physicians and other health professionals should be involved from the start of the campaign and key messages should be designed in conjunction with them; campaigns should use mass media and social media; and key messages should be continuously repeated throughout the year in different channels of communication (17-27).

A systematic review (2016) of public communication interventions (mainly in Europe and the United States of America) to improve the use of antimicrobials revealed that multifaceted interventions (for the general public and doctors, in different formats and channels) may be effective in reducing the prescription of antimicrobials if local barriers to behavior change are also addressed (19). This study concluded that interventions at the national, community, and household level may successfully reduce the prescription of antimicrobials, at least in the short term. In addition, the experiences of public health campaigns show that those repeated over extended periods of time have a strong effect (19-21, 25, 26).

**Appendix A** provides an example of a timeline for a public campaign and communication strategy on antimicrobial resistance.

## BOX 1. Example of a public campaign in France, “Antibiotics are not automatic”

In 2002, the French National Health Insurance Fund launched a national public campaign entitled *Les antibiotiques c’est pas automatique* (“Antibiotics are not automatic”) to promote their best use in the country. This long-running campaign, which was repeated each year during the period of highest antibiotic use (October to March) sought to reduce the prescription of antimicrobials to the general public, mainly children.<sup>1</sup>

The initiative included an education campaign for health workers (54,000 general practitioners, 2,700 community practice pediatricians, and daycare workers) and consisted of in-person education and the dissemination of guidelines on prescription and dispensation.<sup>2,3</sup> The campaign also promoted the use of rapid diagnostic tests (RDTs) for group A strep throat. Some interventions included national training on the use of RDTs, face-to-face visits by physicians to other physicians to provide educational sessions, and the distribution of prescription and dispensation guidelines to health professionals.

The public campaign targeted the parents of children, with messages focused on the rational use of antimicrobials. The campaign used the national mass media to disseminate messages, with prime-time

radio and television announcements, and publicity in newspapers and websites. The campaign also distributed printed materials (such as brochures, flyers, and posters) for use in waiting rooms in medical offices and hospitals.

Approximately 8 million RDTs were distributed to physicians, and 45,000 primary care doctors received at least one visit from a national health insurance program physician. The estimated cost of the campaign during the period from 2002 to 2008 was EUR 500 million, and the estimated direct savings associated with the decrease in antibiotic use was EUR 850,000 million during the period from 2002 to 2007.<sup>4</sup> Evidence showed that antibiotic use by outpatients during the winter decreased 26.5% by year 2007, and that the campaign was associated with a significant reduction in unnecessary antibiotic prescriptions, particularly in children.<sup>2,5</sup>

The campaign’s multifaceted approach—which simultaneously targeted the general public and physicians, together with the implementation of different interventions with different approaches such face-to-face peer education and mass media public campaigns—resulted in doctors prescribing less and patients not requesting antibiotics or pressuring doctors to prescribe them.<sup>2</sup>

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### Sources:

<sup>1</sup> World Health Organization. *Les antibiotiques sont-ils encore “automatiques” en France?* Bulletin de l’Organisation mondiale de la Santé. 89: 2011.

<sup>2</sup> Huttner B, Harbarth S. “Antibiotics Are Not Automatic Anymore”—The French National Campaign To Cut Antibiotic Overuse. *PLoS Med.* 2009; 6(6):e100080. doi:10.1371/journal.pmed.100080.

<sup>3</sup> Bernier A, Delarocque-Astagneau E, Ligier C, Vibet MA, Guillemot D, Watier L. Outpatient antibiotic use in France between 2000 and 2010: after the nationwide campaign, it is time to focus on the elderly. *Antimicrobial Agents and Chemotherapy.* 2014. Jan 1;58(1):71-7.

<sup>4</sup> Sabuncu E, David J, Bernede-Bauduin C, Pépin S, Leroy M, et al. Significant Reduction of Antibiotic Use in the Community after a Nationwide Campaign in France, 2002–2007. *PLoS Med.* 2009;14(4):e1002283. doi:10.1371/journal.pmed.1000084.

<sup>5</sup> Finch RG, Metlay JP, Davey PG, Baker LJ. Educational interventions to improve antibiotic use in the community: report from the International Forum on Antibiotic Resistance (IFAR) colloquium, 2002. *Lancet Infectious Diseases.* 2004;4(1):44-53. [Accessed 20 September 2017] Available from: <https://www.ncbi.nlm.nih.gov/pubmed/14720568>.

# UNDERSTANDING PEOPLE'S BEHAVIOR WHEN ACQUIRING ANTIMICROBIALS

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Antimicrobials are often overused without the supervision of a qualified professional (28). There are many diverse factors involved in a person's decision to prescribe, dispense, use, or purchase antimicrobials. Understanding and analyzing the determinants of behavior and the key factors that restrict or facilitate change are important for developing strategies and interventions that motivate the respective behavior change (10, 11, 13, 29). Some of these factors are specific to the individual (knowledge, attitudes, beliefs, etc.), while others are external (access to and distance from services, quality of care, policies, etc.).

The following factors summarize the findings of several studies that analyzed the misuse of antimicrobials and the public's knowledge, attitudes, and practices (KAPs) regarding the use of antimicrobials (14, 30-32).

## PREDISPOSING FACTORS

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Predisposing factors are the individual's knowledge, attitudes, behaviors, beliefs, and values that affect their willingness to change their behavior.

1. Knowledge about AMR.
2. Misconceptions about the use of antimicrobials:
  - a. Belief that antimicrobials can treat viruses and bacteria alike.
  - b. Belief that antimicrobials are used to treat common colds or headaches.
  - c. Perception that antimicrobials are not harmful to health.
  - d. Use of antimicrobials to treat symptoms.
3. Patient expectation is a crucial factor in the prescription of antimicrobials.
4. Antimicrobials are more likely to be prescribed as a result of patient pressure.
5. The patient's knowledge of the treatment of symptoms is the basis for self-medication.
6. Family members share antimicrobials when they develop similar symptoms.
7. Patients believe that it is not necessary to consult the doctor for a diagnosis and prescription when they recognize the symptoms and have previously responded favorably to an antibiotic.
8. The knowledge and experiences of prescribers.
9. Insufficient patient education by doctors.



## ENABLING FACTORS

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Enabling factors are the structural factors of an individual's environment or community that facilitate or hinder change (for example, availability of resources, time, or ability to develop a behavior).

1. Problems accessing antimicrobials.
  - a. Obtaining antimicrobials from pharmacies without a prescription (in the pharmacist-customer relationship, providing the needed medicine is a sign of friendship).
  - b. Obtaining antimicrobials from friends.
  - c. Having leftover antimicrobials from previous uses.
2. People who do not have health insurance.
3. Expense or cost of doctor's visit.
4. Lack of time to go to the doctor (waiting at the clinic or hospital to see a healthcare professional may be a significant deterrent).
5. Prescriber's uncertainty about the patient's diagnosis.
6. Lack of prescription and dispensation guidelines in health facilities.
7. Liberal or restrictive culture regarding the prescription of medicines.
8. Lack of regulation.

## REINFORCING FACTORS

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Reinforcing factors are the positive or negative effects of adopting a behavior that influence its continuity (rewards or punishments as a result of a given behavior).

1. An individual's main sources of information (doctors, family, and friends) may act as reinforcing factors.
2. When the patient successfully relieves symptoms after self-prescription, the practice is reinforced and repeated with each episode.
3. Receiving positive feedback from other persons or patients about a new treatment they were prescribed.



# AUDIENCES

---

When identifying the audiences of a communication strategy, it is important to know who the planned messages, materials, and activities are for. According to the PAHO handbook COVID-19: Risk Communication and Community Engagement (RCCE): “It is important to keep in mind that for communication purposes, the general public does not exist as a unit, but rather a combination of sub-groups” (33). To have a greater impact on communication, it is very important to identify and segment the target population and address the sub-groups (33).

In a communication plan, the primary audience is comprised of the group of people that are most affected by the health problem and whose behaviors you want to change. The secondary audience is the group of people who are also affected by the health problem, perhaps to a lesser extent, and who have an influence on the behavior of the primary audience by reinforcing or facilitating changes. The third audience is the group of people who can educate, persuade, and support the other audiences.

To identify the audiences of a communication strategy, the following questions from COVID-19: Risk Communication and Community Engagement (RCCE) may be useful and could also be appropriate for addressing the issue of AMR (33):

- What groups are the most affected by AMR?
- What other groups (which may not be at risk) have played a role in or been indirectly impacted by AMR?
- Who are the leaders and influencers in the different communities or groups that could educate, convince, and support the other identified groups?

The understanding, commitment, and support of audiences are key to the success of a communication strategy. The local context in which a communication strategy or plan is to be implemented must be analyzed, taking into consideration whether or not other audiences not specified in this handbook should also be included. In addition, within each group there are different socioeconomic contexts and different cultural and educational variables that are specific to each country, as well as knowledge and previous experiences.

## THIS HANDBOOK PROPOSES THE FOLLOWING AUDIENCES:



## BOX 2. What do we want the audiences to do as a result of implementing a communication strategy?

### The general public should:

- Understand the importance of acquiring antimicrobials by prescription only, from a qualified professional who is authorized to prescribe them.
- Understand that antimicrobials are not for treating headaches or viral infections (such as colds or common flus), which account for a large percentage of community infections.
- Understand the importance of the proper use and acquisition of antimicrobials.
- Refrain from sharing antimicrobials with others.
- Understand that they should not pressure healthcare professionals to prescribe antimicrobials when told they do not need them.
- Refrain from self-medicating to treat symptoms they recognize from previous experience. A healthcare provider should always be consulted before purchasing antimicrobials.
- Know that antimicrobials can be harmful when not used properly.
- Understand that self-medication is dangerous to health.

### Caregivers or parents:

Same as above. Also, they should:

- Understand that they can harm their children if they purchase or give them antimicrobials without a prescription from a qualified professional who is authorized to prescribe.

### Health professionals should:

- Support and provide the means for patients to always acquire properly prescribed medicines from known and reliable sources.
- Be prepared to educate their patients when asked to prescribe antimicrobials they do not consider necessary.
- Educate their patients on how to use antimicrobials.
- Have access to materials they can learn from and use to teach others, such as brochures, a list of FAQs, and posters with simple, clear images and messages.
- Receive continuing education on prescribing antimicrobials.
- When diagnosing patients, be certain about either prescribing antimicrobials or deciding not to prescribe them.
- Have access to evidence-based guidelines for prescribing and dispensing antimicrobials.
- Know that some antimicrobials should be restricted to very specific instances.
- Comply with and support the implementation of regulations on the dispensation of prescription antimicrobials.

## BOX 3. Other issues to consider regarding audiences

- Caregivers and parents may seek advice and information from multiple sources when their children or loved ones need health care.
- Women (mothers, grandmothers, teachers, etc.) are usually key sources of information and promoters within their social network.
- Adolescents may be a source of information for their families, parents, siblings, and friends. They may share information at home that they learned at school or discussed with their peers.
- Healthcare professionals are essential to tackle antimicrobial resistance.
- The communication skills of healthcare professionals are key to educating patients.



# MESSAGES

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Once the target audiences of the communication strategy have been identified, key messages are designed to promote changes in behaviors, attitudes, and beliefs. Messages should be crafted based on the local context and the public's general understanding, as no message can be considered universal. For this reason, it is important to know the target audience.

Three key types of messages for the general public and one type of message for health professionals are proposed below. Other types of messages are also suggested for the caregiver/parent subgroup. They all complement each other to have a greater impact on the target population.

## AUDIENCE COMPRISED OF THE GENERAL POPULATION

### KEY MESSAGE #1

Never buy antimicrobials without a prescription.

#### OTHER MESSAGES:

- a. Antimicrobials should only be used when prescribed by a qualified healthcare professional.
- b. Never self-medicate. Always consult a healthcare professional who can diagnose your symptoms and tell you if you need an antibiotic.
- c. You may recognize your symptoms, but that doesn't mean you know how to treat them. Always consult your doctor before using antimicrobials.
- d. Never decide to use antimicrobials on your own. Protect your health and that of your loved ones.
- e. Did you know there are regulations stipulating that antimicrobials can only be obtained by prescription? Access that information here: *[insert the link to country information here]*.

### KEY MESSAGE #2

Antimicrobials may be harmful to your health if they are acquired and used without a prescription.

#### OTHER MESSAGES:

- a. Never buy antimicrobials from unknown sources, especially on the Internet. They can harm your health.
- b. Antimicrobials are not used to treat viral infections, such as colds and flus.
- c. Substandard, falsified, and unauthorized medicines may contain harmful or lethal ingredients that can be dangerous and sometimes deadly.
- d. Always follow your healthcare provider's advice when using antimicrobials. Take them exactly as prescribed.
- e. Never share antimicrobials or use leftover antimicrobials.

### KEY MESSAGE #3

Never ask for antimicrobials if your healthcare provider tells you that you do not need them and they will not benefit you.

#### OTHER MESSAGES:

- a. Never insist that your doctor should prescribe antimicrobials for you.
- b. Never insist that your pharmacist should dispense antimicrobials when you don't have a prescription.
- c. If we change the way we prescribe and use antimicrobials, we can ensure that they will be effective for a longer period of time.
- d. Never accept recommendations on antimicrobial use that do not come from a qualified professional.

## AUDIENCE COMPRISED OF CAREGIVERS/PARENTS OF CHILDREN

### KEY MESSAGE

You could harm your family members if you buy and give them antimicrobials without a prescription.

#### OTHER MESSAGES:

- a. Antimicrobials should only be used when the child's doctor says they are necessary.
- b. Consumption of any medicine entails potential risks. The use of antimicrobials may cause complications in a child.
- c. Always follow the recommendations of the child's doctor when you purchase and give antimicrobials to them.

## AUDIENCE COMPRISED OF HEALTH PROFESSIONALS

### KEY MESSAGE

Prescribe and provide antimicrobials only when they are truly needed, according to current evidence-based guidelines.

#### OTHER MESSAGES:

- a. When prescribing a medicine to a patient, explain how it will improve their health and what benefits or side effects they might experience.
- b. Tell your patients that they should only obtain medicines from known and reliable sources.
- c. Explain to your patients how to prevent infections, how to take antimicrobials correctly, what antimicrobial resistance is, and the dangers of misusing antimicrobials.
- d. Always follow infection prevention and control protocols.
- e. Antimicrobials should only be dispensed by prescription from a qualified professional who is authorized to prescribe under their country's regulations.

**Appendix B** includes a list of additional messages.



# STRATEGIES AND ACTIVITIES

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To motivate change at the different levels of the social-ecological model, it is necessary to have different communication strategies, activities, and channels that target specific audiences (10, 11, 13). The interventions and activities listed below may be implemented at the individual, interpersonal, community, and social levels. To make a communication strategy or intervention more effective, combining different activities at the model's different levels is recommended.

Before planning begins, think about which specific activities, events, or materials will convey the message most effectively to the target audience in the context of the country where the communication plan or strategy will be implemented.



## THIS HANDBOOK IDENTIFIES THE FOLLOWING FOUR STRATEGIC LINES OF ACTION:



### 1 HEALTH EDUCATION

The line of action on health education proposes different activities aimed at increasing knowledge and understanding about the proper use of antimicrobials in the target population. Some of the proposed activities in this handbook fall under the category of entertainment-education, where the focus is on implementing actions that seek to educate while entertaining the target audience.

#### AUDIENCE COMPRISED OF THE GENERAL POPULATION

Objectives of this line of action:

- Increase and improve the knowledge, attitudes, and behaviors of the general public with respect to antimicrobials.
- Educate the general public about the proper use and acquisition of antimicrobials.
- Raise public awareness about the importance of purchasing antimicrobials with a prescription.
- Increase knowledge about AMR.
- Reduce the acquisition of antimicrobials without a prescription.
- Reduce inappropriate self-medication behaviors.

The following are possible actions to implement in the area of health education for the general population.

## 1. SCHOOL ACTIVITIES

Narrative communication can help change health behaviors and outcomes. Based on models, narratives can be powerful tools to overcome resistance to different behaviors (34, 35). Along these lines, different narrative methods are proposed for working in schools with children and adolescents. These methods may also help students promote the message at home to educate their parents and other family members.

More effective communication can be achieved by including children, adolescents, parents, community workers (health promoters), and community organizations in the development of educational messages on the use of and resistance to antimicrobials, through public schools and other community organizations.

### A. CREATE A COMIC BOOK FOR TEENS:

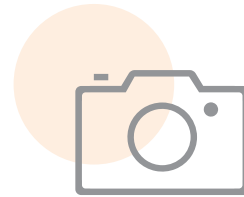
- Comic books are a narrative form that has been widely used for health promotion and education purposes. Stories can inspire and empower audiences as they learn about a specific health topic or problem.
- Through stories and the use of characters, a narrative can promote education about the rational use of antimicrobials and explain the dangers of self-medication.
- Create the story or anecdote in a participatory manner, in conjunction with students or their parents.
- Choose a topic for the story that will be of personal interest or that makes sense to the target audience. For example, if the comic book is intended for teenagers, topics such as sports could be covered.
- When creating characters, think about their names, gender, age, race, ethnicity, type of clothing they will wear, etc.
- Think of possible places where the story will take place, such as a rural or urban environment, landscape, buildings, etc.
- Choose from cartoons, illustrations, or photographs.
- Make sure the story and illustrations are culturally appropriate.
- Budget aspects to consider include staff time, hiring a designer (cartoonist and colorist), printing, distribution, etc.

Examples of comics used for health promotion and education include:



- **Wizard of Nightmares**, from the Bangladesh Center for Communication Programs, is a comic book that is part of the “Know Yourself” Adolescent Reproductive Health Communication Program in Bangladesh. The course can be found at: [https://www.thecompassforsbc.org/sites/default/files/project\\_examples/Wizard%20of%20Nightmares-English.pdf](https://www.thecompassforsbc.org/sites/default/files/project_examples/Wizard%20of%20Nightmares-English.pdf).
- **Meena** is a nine-year-old South Asian comic book character who takes on the world, whether in her efforts to go to school or in her fight against the stigma of HIV/AIDS in her village. Meena is well known and loved in most South Asian countries and is a successful tool for defending and educating others about the rights of children. The character gained popularity because she addresses the main issues affecting children and the threats to the rights of millions of girls in South Asia. Her story is available at: <https://www.unicef.org/nepal/stories/meena-cartoon>.
- **Aprendiendo sobre el virus que paralizó al mundo** (Learning about the virus that paralyzed the world). The development of this material focused on the conceptualization and production of communication materials for children and young people to learn about COVID-19. The comic was prepared by an interdisciplinary research team and was part of a project coordinated by the Pan American Health Organization/ World Health Organization (PAHO/WHO) country office in Cuba and the Embassy of Canada in Cuba. The story can be found at: <https://www.paho.org/es/documentos/aprendiendo-sobre-virus-que-paralizo-mundo-historieta>.

## B. ORGANIZE A PHOTOVOICE PROJECT:



- PhotoVoice is a community-based participatory method that uses photography as a tool to engage people in a critical reflection process on a specific topic.
  - Participants are given a question they need to answer or a trigger topic they need to address by taking photographs that deal with or explain a problem. Participants then share the photographs they took and explain why they took them and what they think about them.
  - For example, questions for participants could be: What are antimicrobials? How are antimicrobials used in your family? Or a statement could be made: Antimicrobials can be harmful to health.
  - PhotoVoice is a powerful tool that allows participants to share their knowledge or views on a topic so that they can relate more directly, helping them visualize their perspectives and giving them an extended period of time to think about their answers.
  - After taking the photographs and coordinating with a facilitator, the group selects the best ones from each student and, as a closing activity, a public exhibition can be organized at the school with photographs and captions that can be shared with their families.
  - This tool is also a vehicle to promote social change through a public exhibition of the final product.
  - PhotoVoice is an appropriate method for discovering more about a phenomenon that is not well understood; in this case, AMR.
  - When preparing a budget, remember that cameras will be needed and the photographs will have to be printed. Students can use their own cell phone or the school can raise funds to obtain cameras for students.
  - This activity should be performed over at least one month, or it could be planned as an annual activity. It could also be an after-school activity.
- More information about PhotoVoice projects with examples can be found at: <https://photovoice.org>.



## C. ORGANIZE PLAYS FOR CHILDREN:

- Write your own play or use an existing story and tailor it to the target audience.
- The story should include the following features: a conflict or topic that children can identify with, events that bring interest or a problem to the story, opportunities for characters to experience a dramatic climax, and resolution of the conflict.
- Think about different possibilities; for example, puppet theater.
- Think about visually appealing characters (e.g., with types of bacteria and antimicrobials).

## 2. CREATE AND DISSEMINATE STORYTELLING PIECES (HEALTH STORIES)

- Storytelling is an excellent way to convey messages.
- It helps teach and entertain people and reinforces health messages through different channels.
- People remember a message when it is conveyed through engaging stories and when they can relate personally or have an emotional connection to it.
- Seek out testimonials and personal stories that support the message (for example, testimonials from people who suffered the consequences of AMR). After setting up a meeting with the person, you need to have a list of questions that you want to ask the interviewee.
- Use different types of engaging stories in a series to maintain interest. Direct quotes from people should be included to make the stories more authentic.
- These stories can feature the progress made in achieving health goals; maintain enthusiasm by demonstrating success; demonstrate the impact of the work carried out, or describe the experience of a person who has directly benefited from a recommendation, policy, or action.
- When preparing a budget, keep in mind that you will need staff (journalist or communicator, cameraman), resources (camera, recorder), and someone to edit the story (video and text editors).
- Think about the best channel for the story to be shared (social media, website, print media, radio program, video, etc.).
- The story might not always be positive and you may need to make difficult decisions, such as sharing a sad story.

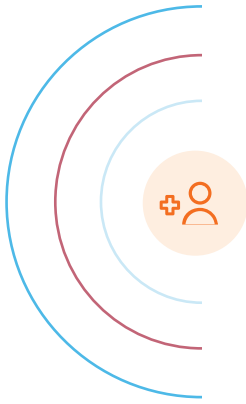
- Examples of PAHO public health stories can be found at: <https://www.paho.org/en/stories>.

### 3. DEVELOP EDUCATIONAL OR ADVOCACY VIDEOS

- Videos are an engaging source of information and education and can motivate people to take action very quickly.
- The use of technology and visual media can facilitate the communication of complex ideas through simple and clear messages.
- There are different ways to create a video. Cartoons (a good idea for children) can be used, an interview with an AMR expert could be recorded (for adults, technical staff, or health personnel), or a documentary could be filmed based on a personal story, etc.
- The first step in creating a video is to write the script. What is the message you want to convey? What is the purpose of the video (education, advocacy, etc.)? Who is the target audience?
- Another way to approach a script is to base it on ideas suggested by the audience.
- Another idea is to train teenagers in video storytelling so that they can participate in their own production project. To do this, an educational workshop on creative script-writing training, production, camera work, and the editing process could be organized.
- Videos could be hosted on the websites of organizations, or on YouTube or Vimeo.
- Community film screenings could be organized and shared on social media (Facebook, YouTube, Instagram, TikTok, etc.). Public screenings help bring communities together to reflect on a specific health issue.
- When preparing a budget, keep in mind that staff (journalists or communicators, actors, cameramen), lighting, sound, computers and Internet access, and video and audio editing will be needed. Video projects can be time-consuming and costly.
- The Global Fund for Children developed a set of tools for organizations on how to use technology and visual media to tell stories (36).

The following are examples of educational or advocacy videos:

- PAHO: The Bug Busters: Saving the Miracles of Modern Medicine (37).
- WHO: Antibiotics don't cure viruses like colds and flu (38).
- WHO: Only take antibiotics a health professional has prescribed to you (39).
- WHO: Never share antibiotics - not even with family (40).
- WHO: Wash your hands to prevent infections and avoid the need for antibiotics (41).
- Medicine for All (Medicina para todos). This is an educational program whose main objective is to reach the Salvadoran population, teach them about proper use of medicines and treatments, and show the consequences of misuse (42).
- An animated video series called Speak Up has different messages that encourage patients to express themselves and actively participate in their health care. The characters in the videos face everyday situations in which they have to read instructions, ask for directions, or read labels (43).
- Rational use of antibiotics (44).
- The Health Resources and Services Administration of the U.S. Department of Health and Human Services publishes informational videos on various topics related to incidents involving prescription medicines, such as the dangers of taking over-the-counter medicines when they are not needed, safety tips for purchasing prescription antibiotics, etc. (45).
- In September 2014, the Antibiotic Guardian Campaign was launched in the United Kingdom to increase the commitment of the public and health professionals and change behavior in light of the growing threat of AMR. The campaign included an educational video on the threat of antimicrobial resistance and provided links to resources describing the importance of AMR awareness (46).



## AUDIENCE COMPRISED OF HEALTH PROFESSIONALS

Objectives of this line of action:

- Improve prescription practices among health professionals.
- Boost the confidence of healthcare professionals when they diagnose their patients.
- Support and provide the necessary means for health professionals to educate their patients on the proper use and acquisition of antimicrobials.

The following actions could be used by health professionals to provide health education.

### 1. CONDUCT TRAINING SESSIONS FOR PRESCRIBERS

- Trainings can be face-to-face (visits to clinics or hospitals) or virtual (scientific/academic conferences, workshops, virtual meetings, online webinars and courses, etc.).

### 2. ORGANIZE GROUP DISCUSSIONS FOR HEALTH PROFESSIONALS

- Create groups for health professionals where they can share experiences, listen to colleagues, give testimonials, and tell stories about following prescription and dispensation guidelines, and what worked and did not work for them in their prescription practices (16).
- Educational models that encourage reflection on a practice, use of feedback, and small-group education such as group discussion are more likely to change behavior (16).

### 3. DISTRIBUTE EDUCATIONAL MATERIALS AND PRESCRIPTION AND DISPENSATION GUIDELINES ON ANTIMICROBIALS

- Distribute materials in hospitals, clinics, pharmacies, and universities, aimed at qualified professionals who prescribe antimicrobials and students preparing for careers in the health field.

- These materials will help educate health professionals who can use them to instruct others.
- Possible materials:
  - Frequently asked questions (FAQs)
  - Posters
  - Infographics
  - Brochures
  - Fact sheets with evidence and data
- Think about using existing materials. Technical materials are available from WHO and PAHO.

### 4. ORGANIZE INFORMAL LUNCHES

- These lunches can take place in the workplace and can more easily reach the target audience (in this case, health professionals).

### 5. RAISE AWARENESS ABOUT ATYPICAL DATA

- Send personalized communications (such as letters or emails) to health prescribers who exceed the average number of antimicrobial prescriptions.

## 2

## DISSEMINATION THROUGH MASS MEDIA

The line of action on dissemination through mass media proposes different activities to disseminate content about AMR to a wide and diverse audience. The use of mass media such as broadcast television, radio, social media, newspapers, etc. makes it possible to reach more people to inform, persuade, or motivate them to take a certain action. The use of mass media, in combination with another strategic line, increases the chances of having a positive impact on the population.

### AUDIENCE COMPRISED OF THE GENERAL POPULATION AND HEALTH PROFESSIONALS

Objectives of this line of action:

- Raise public awareness about the importance of obtaining antimicrobials with a prescription.
- Educate the general public about the proper use and acquisition of antimicrobials.
- Increase and improve the knowledge, attitudes, and behaviors of the general public with respect to antimicrobials.
- Improve the prescription practices of health professionals.
- Support health professionals so that they can educate their patients on the proper use and acquisition of antimicrobials.
- Position this issue on the mass media agenda.

Possible actions to be implemented through mass media aimed at the general population and health professionals are listed below.



## 1. PUBLIC CAMPAIGN

- Consider participating in World Antimicrobial Awareness Week, promoted by WHO/PAHO, and disseminating the materials provided by the organization.
- Consider developing campaign materials for your country or translating existing materials.
- Use social media to deliver the messages (Facebook, Twitter, WhatsApp, Instagram, YouTube, TikTok, etc.). Use annual campaign hashtags to participate in social media conversations worldwide.
- Distribute campaign materials to all stakeholders, including ministries of health, health services, clinics, universities, pharmacies, medical associations, etc.
- Consider repeating the campaign at least twice a year. Begin disseminating messages before the winter season, when the use and acquisition of antimicrobials increase.
- Partner with other organizations to spread the message so that the target audience hears it frequently through a variety of trusted sources.
- To organize a campaign, four key points must be established: 1) define the target audience (who the campaign will target); 2) identify the means (how it will be done); 3) prepare a timetable and a strategic plan (how to proceed); and 4) build partnerships to reach the most people with the message (how people will be educated to support dissemination of the campaign).

Examples of campaigns are listed below.

- **World Antimicrobial Awareness Week (WAAW) 2020.**

The global campaign to raise awareness about the use of antimicrobials features a change in the 2020 edition, as it included a call to use all antimicrobials wisely. An expanded approach is needed to warn people about AMR, since it threatens the effective treatment of infections caused by bacteria, parasites, viruses, and fungi, resulting in prolonged diseases and increased mortality.

Slogan: "Handle Antimicrobials with Care."

Theme for the human health sector: "United to preserve antimicrobials."

Campaign communication materials (social media, infographics, posters, brochures, GIFs, videos, etc.) are

available at: <https://www.paho.org/en/campaigns/world-antimicrobial-awareness-week-2020>.

- **World Antibiotic Awareness Week (WAAW) 2019.**

The theme of the 2019 campaign was "The future of antibiotics depends on all of us." Campaign communication materials (social media, infographics, posters, brochures, GIFs, videos, etc.) are available at: <https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2019>.

- **World Antibiotic Awareness Week (WAAW) 2018.**

The theme of the 2018 campaign was "Our time with antibiotics is running out. Change can't wait." Campaign communication materials (social media, infographics, posters, brochures, GIFs, videos, etc.) are available at: <https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2018>.

**Appendix C** provides links to archival footage for World Antibiotic Awareness Week between 2018 and 2020.

- **European Antibiotic Awareness Day.** The European Antibiotic Awareness Day campaign provides materials for healthcare professionals and the general public. Campaign communication materials (social media, infographics, posters, brochures, GIFs, videos, etc.) are available at: <https://antibiotic.ecdc.europa.eu/en/get-informed/key-messages/key-messages-general-public-self-medication-antibiotics>.



## 2. PUBLIC SERVICE ANNOUNCEMENTS (PSAS)

- Public service announcements consist of short videos (usually 30 seconds), produced for a wide audience and broadcast on television channels.
- The argument and messages should be simple and clear.
- First check the specifications required by the station(s) where the announcement will be broadcast.
- Depending on the country, broadcasters may or may not charge. If they do charge, check to see if there are reduced rates for public health content.
- PSAs can also be uploaded to websites and shared through social media.

## 3. RADIO SPOTS

- Radio spots are messages that are usually no more than one minute long.
  - They are excellent for reaching a broad audience all at once.
  - They may be broadcast on community radios, local stations, or national stations.
  - To create a radio spot, consider writing a script, think about what it will sound like (female or male voice, music, audio effects, etc.), and use an audio editing program.
- Examples of radio spots for PAHO's World Antimicrobial Awareness Week 2020 campaign can be found in **Appendix D**.

## 4. PRESS RELEASES

- Press releases are used to communicate breaking news on health issues, policy changes, new important information on a health issue, etc. A press release can also be created before launching a specific activity or campaign in the media.
  - Press releases have an “inverted pyramid” structure, with the most important information at the beginning of the release. The press release should answer five questions: who, what, when, where, and why.
  - The headers should be brief and engaging, and should focus on something new.
  - Quote relevant experts on the topic with simple and clear messages.
  - Communicators can post press releases on organization websites, send them directly to journalists, and distribute them on press release listings.
  - Most journalists will look at the headline and the first paragraph of a press release. For this reason, it is recommended to include the most important information there.
- Appendix E** provides an example of a PAHO press release.

## 5. PRESS CONFERENCE

- Press conferences are useful for reaching many journalists with the same message. They may be face-to-face or virtual.
- A panel can be set up with the directors of health institutions and professionals so that journalists can ask them questions. It is recommended that a press kit with key messages and information be provided to everyone who participates in the press conference.
- If the press conference is organized to promote a campaign, it will be scheduled prior to the launch of the event or campaign.

## 6. DISTRIBUTION LISTS (LISTSERV)

- A distribution list is an email-based discussion on a specific topic.
- All subscribers can choose to receive a copy of each message sent to the list or a regular email with all the information in a single message.
- Distribution lists are useful for reaching a large number of people who share an interest in a given topic.

## 7. DISTRIBUTION OF SMS MESSAGES (MHEALTH)

- Mobile health (mHealth) is the use of mobile and wireless technology to provide health services and information (47).
- mHealth is a tool that is increasingly being used to improve access to and the quality of health care in developing countries (47).
- This tool automatically sends promotional health information via SMS messages to all registered people. For example, healthcare providers can send automatic messages to their patients with specific information about the use of antimicrobials.

The following are two examples of projects that use mHealth:

- Reducing Maternal and Newborn Deaths (ReMiND) in India (Catholic Relief Services, 2013). It can be accessed at:  
<https://www.crs.org/sites/default/files/tools-research/baseline-study-summary-remind-reducing-maternal-newborn-deaths.pdf>.
- MosquitiaMed: Shortening Distances Through Telemedicine in Honduras. It can be accessed at:  
<https://socialinnovationinhealth.org/case-studies/mosquitamed/>.

Other actions to be implemented through mass media are:

- 1.** Website advertising.
- 2.** Billboards.
- 3.** Publicity in/on public transportation (bus and metro stations).
- 4.** Dissemination in movie theaters.

## 3

## COMMUNITY ACTIVITIES AND EVENTS

The line of action on community activities and events proposes different actions to inform, educate, persuade, or motivate the general public through interventions in the community. Community activities and events can help increase commitment on a specific public health issue.

When planning each event, the key points must be defined. Clear objectives must be identified for the event, as well as target audience(s), available staff, and financial resources. In addition, decisions must be made about which partners should be involved and how they can provide support.

The planning and coordination of events requires considerable time and effort. The decision to organize an event should be based on a detailed analysis of the added value it will bring to the campaign as well as the opportunity costs.

### AUDIENCE COMPRISED OF THE GENERAL POPULATION AND HEALTH PROFESSIONALS

Objectives of this line of action:

- Raise public awareness about the importance of purchasing antimicrobials with a prescription.
- Organize activities aimed at specific audiences to educate them about the proper use and acquisition of antimicrobials.
- Increase and improve the knowledge, attitudes, and behaviors of the general public with respect to antimicrobials.
- Support health professionals so that they can educate their patients on the proper use and acquisition of antimicrobials.

Possible community activities and events aimed at the general public and health professionals are listed below.

1. Community parades or walks.
2. Sports days.
3. Round tables.
4. Health fairs.
5. Races that benefit certain causes.
6. Short film, photography, or art competitions.
7. Flash mobs.
8. Competitions (sports, entertainment, etc.).



## ADVOCACY

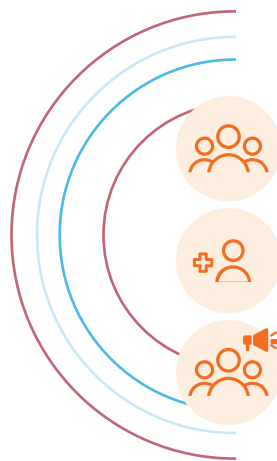
The line of action on advocacy proposes different activities aimed at achieving acceptance, support, and legitimation from different audiences, and encouraging them to act on the issue of antimicrobial resistance. Advocacy activities may target different audiences, from the general population to national officials, professional societies, medical organizations, the private sector, local leaders, etc. (48). The objective of advocacy strategies could include amending policies, providing support for funding, increasing political will to launch new programs, or promoting support at the community level (48).

**THE AUDIENCE IS COMPRISED OF THE GENERAL POPULATION, HEALTH PROFESSIONALS, AND DIFFERENT STAKEHOLDERS SUCH AS PUBLIC OFFICIALS, PROFESSIONAL SOCIETIES, MEDICAL ORGANIZATIONS, THE PRIVATE SECTOR, LOCAL LEADERS, HEALTH INFLUENCERS, ETC.**

Objectives of this line of action:

- Raise this audience's awareness about the importance of the proper prescription and dispensation of antimicrobials.
- Educate the audience about the proper use and acquisition of antimicrobials.
- Increase stakeholder support for the fight against antimicrobial resistance.
- Encourage them to take action with respect to antimicrobial resistance.

Potential advocacy activities aimed at this audience are listed below:



## 1. ORGANIZE INDIVIDUAL MEETINGS OR BRIEFINGS WITH SPECIFIC SMALL GROUPS

- Examples include medical organizations, academic institutions, the private sector, pharmaceutical associations, etc.
- Anticipate the reactions of support groups, associations, and the different audiences in terms of what you are trying to launch, implement, etc.
- Anticipate potential questions and concerns from audiences and plan actions to gain the support of these entities.

## 2. ORGANIZE MEETINGS TO DIALOGUE WITH GROUPS THAT DO NOT NECESSARILY SUPPORT (OR OPPOSE) ACTIONS ON ANTIMICROBIAL RESISTANCE

- For example, some influential groups may have concerns about the enforcement of regulations on the dispensation of antimicrobials. These groups need to be identified and their concerns addressed in advance.
- Anticipate potential questions and concerns from audiences and plan actions to gain the support of these entities.

## 3. COMMUNICATE WITH STAKEHOLDERS

- Before starting a public activity or campaign, invite social actors and strategic partners to participate and share their thoughts and opinions.
- Ensure that they have received the information and understand what and why a specific action is being planned, and explain how this action could benefit them.

## 4. DESIGN TRAINING WORKSHOPS WITH JOURNALISTS TO EDUCATE THEM ON HOW TO COMMUNICATE THE TOPIC

- Prepare communication materials to be shared.
- Have a support presentation ready (use data and show evidence).
- Prepare a list of key messages.
- Prepare a list of frequently asked questions for each specific audience. Different concerns and questions will be raised by different audiences. For example, it is to be expected that the questions posed by journalists will differ from those posed by the representative of a pharmaceutical association.
- Develop educational materials (technical data sheets, brochures, posters, infographics, videos, etc.).
- Prepare a press kit for journalists. It should include the press conference agenda, a press release, local, state and national statistics on AMR, supplementary information, reproducible copies of tables or graphs, links to reports or other important materials, and the contact information of the person who can answer questions.

## 5. INVITE STAKEHOLDERS TO SPECIFIC EVENTS

- For example, invite a political official to the launch of a public campaign, or the mayor of a city where an activity or event is being organized (health fair, parade, etc.).

## 6. WRITE OP-EDS AND LETTERS TO THE EDITOR

- Op-eds can help put the topic on the media's agenda.
- Consider having a statement written by a qualified individual based on their track record and knowledge about the subject.

**Table 1** below summarizes the four lines of action for the general population and describes the beliefs, misconceptions, and behaviors to be modified, the communication objectives of the lines of action, a list of messages, and the potential interventions to be implemented.

# TABLE 1. Summary of the four lines of action for a general population audience

## BELIEFS, MISCONCEPTIONS, AND BEHAVIORS TO BE CHANGED

- Acquiring antimicrobials without a prescription.
- Sharing antimicrobials with other people or using leftover antimicrobials.
- Believing that self-medication is not harmful to health.
- Believing that antimicrobials can treat the flu or colds, and even headaches.
- Using antimicrobials to treat symptoms.
- Insisting that health professionals prescribe antimicrobials when they believe they are not necessary.
- Having insufficient understanding of antimicrobial resistance and believing they pose a minor risk to health.

## COMMUNICATION OBJECTIVES

- Raise public awareness about the importance of acquiring antimicrobials with a prescription.
- Increase and improve the knowledge, attitudes, and behaviors of the general public with respect to antimicrobials.
- Educate the general public on the proper use and acquisition of antimicrobials.
- Inform the general public about the proper use and acquisition of antimicrobials.
- Increase knowledge about antimicrobial resistance.
- Reduce the acquisition of antimicrobials without a prescription.
- Reduce inappropriate self-medication behaviors.
- Organize activities aimed at specific audiences to educate them on the proper use and acquisition of antimicrobials.

## MESSAGES

### Never buy antimicrobials without a prescription.

Antimicrobials should only be used when prescribed by a qualified health professional.

Never self-medicate. Always consult a health professional who can diagnose your symptoms and tell you if you need an antibiotic.

You might recognize your symptoms but that does not mean you know how to treat them. Always consult a doctor before using antimicrobials.

Never decide to use antimicrobials on your own. Protect your health and that of your loved ones.

Did you know that there are regulations stipulating that antimicrobial drugs can only be obtained by prescription? See more information here: *[insert link with the country's specific information]*.

### Antimicrobials may be harmful to your health if they are acquired and used without a prescription.

Never buy antimicrobials from unknown sources, especially on the Internet. They can harm your health.

Antimicrobials are not used to treat viral infections such as colds and flu.

Substandard, falsified, and unauthorized medicines may contain harmful or lethal ingredients that can be dangerous and sometimes deadly.

Always follow your healthcare provider's advice when using antimicrobials. Take them exactly as prescribed.

Never share antimicrobials or use leftover antimicrobial drugs.

### Never ask for antimicrobials if your healthcare provider tells you that you do not need them and that they will not benefit you.

Never insist that your doctor prescribe antimicrobials for you.

Never insist that your pharmacist should dispense antimicrobials when you do not have a prescription.

If we change the way we prescribe and use antimicrobials, we can ensure that they will be effective for a longer period of time.

Never accept recommendations on antimicrobial use that do not come from a qualified professional.

#### OTHER MESSAGES FOR PARENTS AND CAREGIVERS

You could harm your family members if you buy and give them antimicrobials without a prescription.

Antimicrobials should only be used when the child's doctor says they are necessary.

Consumption of any medicine entails potential risks. The use of antimicrobials may cause complications in a child.

Always follow the recommendations of the child's doctor when you purchase and give antimicrobials to them.

## LINES OF ACTION AND INTERVENTIONS

#### HEALTH EDUCATION

- School activities:
  - Create a comic book for teens.
  - Organize a PhotoVoice project.
  - Organize plays for children.
- Create and disseminate storytelling pieces (interviews, videos, blogs, etc.).
- Develop educational or advocacy videos.

#### DISSEMINATION THROUGH MASS MEDIA

- Public campaign (World Antimicrobial Awareness Week).
- Public service announcements (PSAs) in the media.
- Radio spots.
- Press conference.
- Distribution lists.
- Distribution of SMS messages (mHealth).
- Website advertising.
- Billboards.
- Publicity in/on public transportation (bus and metro stations).
- Dissemination in movie theaters.

#### COMMUNITY ACTIVITIES AND EVENTS

- Community parades or walks.
- Sports days.
- Round tables.
- Health fairs.
- Races that benefit certain causes.
- Short film, photography, or art competitions.
- Flash mobs.
- Competitions (sports, entertainment, etc.).

#### ADVOCACY

- Organize individual meetings or briefings with specific small groups.
- Organize meetings to dialogue with groups that do not necessarily support (or oppose) actions on AMR.
- Communicate with stakeholders.
- Design training workshops with journalists to educate them on how to communicate the topic.
- Invite stakeholders to specific events.
- Write op-eds and letters to the editor.



**Table 2** below summarizes four lines of action for health professionals and describes what they should do after a communication strategy or plan is implemented, as well as the communication objectives of these lines of action, a list of messages, and potential interventions to be implemented.

## TABLE 2. Summary of the four lines of action for health professional audience

### HEALTH PROFESSIONALS SHOULD

Support and provide the means for their patients to always acquire medicines by prescription only and from known and reliable sources.

Be prepared to educate their patients when asked to prescribe them antimicrobials that the health professional does not consider necessary.

Educate their patients on how to use antimicrobials.

Have access to educational materials they can use to teach other people.

Receive continuing education on the prescription of antimicrobials.

When diagnosing patients, be certain about either prescribing antimicrobials or deciding not to prescribe them.

Have access to guidelines on the prescription and dispensation of antimicrobials.

Comply with and support the implementation of regulations on the dispensation of prescription antimicrobials.

### COMMUNICATION OBJECTIVES

Improve the prescription practices among health professionals.

Boost the confidence of health professionals when they diagnose their patients.

Support and provide the necessary means for health professionals to educate their patients on the proper use and acquisition of antimicrobials.



### MESSAGES

Prescribe and provide antimicrobials only when they are truly necessary, according to current evidence-based guidelines.

When prescribing a medicine to a patient, explain how it will improve their health and what benefits or side effects they might experience.

Tell your patients that they should only obtain medicines from known and reliable sources.

Explain to your patients how to prevent infections, how to take antimicrobials correctly, what antimicrobial resistance is, and the dangers of misusing antimicrobials.

Always follow infection prevention and control protocols.

Antimicrobials should only be dispensed by prescription from a qualified professional who is authorized to prescribe under their country's regulations.



### LINES OF ACTION AND INTERVENTIONS

#### HEALTH EDUCATION

1. Organize training sessions for prescribers.
2. Organize group discussions for health professionals.
3. Distribute educational materials and guidelines on the prescription and dispensation of antimicrobial drugs.
4. Organize informal lunches.
5. Raise awareness about atypical data.

#### DISSEMINATION THROUGH MASS MEDIA

1. Public campaign (World Antimicrobial Awareness Week).
2. Public service announcements (PSAs) in the media.
3. Radio spots.
4. Press releases.
5. Press conference.
6. Distribution lists.
7. Distribution of SMS messages (mHealth).
8. Website advertising.
9. Billboards.
10. Publicity in/on public transportation (bus and metro stations).
11. Dissemination in movie theaters.

#### COMMUNITY ACTIVITIES AND EVENTS

1. Community parades or walks.
2. Sports days.
3. Round tables.
4. Health fairs.
5. Races that benefit certain causes.
6. Short film, photography, or art competitions.
7. Flash mobs.
8. Competitions (sports, entertainment, etc.).

#### ADVOCACY

1. Organize individual meetings or briefings with specific small groups.
2. Organize meetings to dialogue with groups that do not necessarily support (or oppose) actions on AMR.
3. Communicate with stakeholders.
4. Design training workshops with journalists to educate them on how to communicate the topic.
5. Invite stakeholders to specific events.
6. Write op-eds and letters to the editor.



# COMMUNICATION CHANNELS AND TOOLS

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## CHANNELS, TOOLS, AND SETTINGS FOR REACHING TARGET AUDIENCES

Communication channels disseminate messages to target audiences. There are different types of channels and an infinite list of possibilities. To identify which channel should be used to reach a specific audience, answer the following questions: Where or from whom does the audience receive information? Who do they consider credible? Where do they spend most of their time? Where are they most likely to be paying attention?

## CHANNELS

- **Mass media:**
  - **Audiovisual:** television, radio, community radio stations, podcasts.
  - **Print media:** newspapers, magazines, local newspapers.
  - **Digital:** websites, social media (Facebook, Twitter, YouTube, Instagram, TikTok, etc.), blogs, newsletters.
- **Cell phones.**
- **Community organizations and mechanisms.**
- **Community leaders and influencers.**
- **In-person and virtual events:** press conferences, seminars, workshops, informative talks.

## TOOLS

- **Audiovisual:** videos, public service announcements (PSAs), radio announcements, photographs, etc.
- **Printed materials:** fact sheets, infographics, pamphlets, brochures, flyers, posters, etc.
- **Other tools:** text messages (especially useful for reaching target audiences in areas with an unstable Internet connection), handbooks, Q&As, press kits, etc.

## SETTINGS

Think about the best places to deliver your messages, materials, etc.

**Examples:** waiting rooms in clinics and hospitals, pharmacies, day care centers, community forums, community centers, street festivals, grocery stores, government offices (e.g., transit authority), shopping malls, parks, schools, university departments, vocational and language training centers, libraries, recreation centers (e.g., football or basketball courts), non-profit community offices, transportation terminals/stations, supermarkets, fast food restaurants, etc.

Another idea might be a participatory distribution process where the community is involved in recruiting residents to help with the distribution of materials.

## BUILDING PARTNERSHIPS

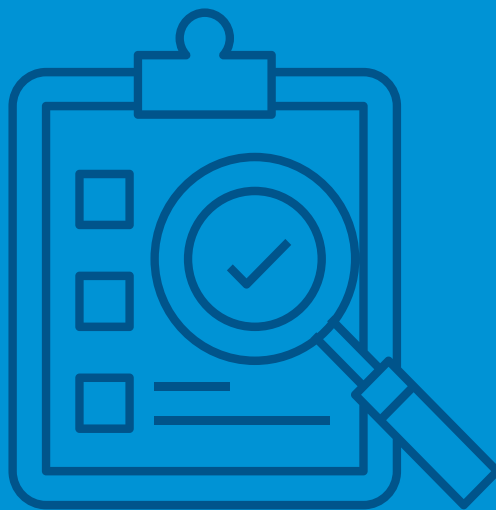
Leveraging dissemination channels and coordinating communication with partners and counterparts can amplify messages so that the target audience hears these frequently and from different reliable sources.

## BOX 4. Social media

Messages on Facebook, Twitter, YouTube, Instagram, Snapchat, TikTok, and other platforms are able to immediately reach millions of people.

Materials created by PAHO with messages on AMR for social media are available for download at the following links:

1. Pan American Health Organization. World Antimicrobial Awareness Week (WAAW) 2018 [Internet]. PAHO; 2018. Available from: <https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2018>.
2. Pan American Health Organization. World Antimicrobial Awareness Week (WAAW) 2019 [Internet]. PAHO; 2019. Available from: <https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2019>.
3. Pan American Health Organization. World Antimicrobial Awareness Week (WAAW) 2020 [Internet]. PAHO; 2020. Available from: <https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2020>.



# MONITORING AND EVALUATION

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Evaluation of interventions optimizes the effectiveness of communications, ensures that the communication strategy or plan connects with key audiences, and that the messages are resonating with them (10, 11, 30). A monitoring plan should define which aspects of the intervention (program, campaign, activity, event, etc.) will be monitored to determine whether it has been effective.

To assess progress, measurable objectives need to be determined for each intervention. Each communication objective should comply with the SMART concept (10, 11, 30).



**Specific**  
What tactical goal, strategy, or objective does your organization want to evaluate?



**Measurable**  
What are your key indicators for measuring the impact of that action?



**Attainable**  
Who will implement the communication objective?  
Is the necessary staff available to implement the communication action on an ongoing basis?



**Realistic**  
What outcomes can be realistically achieved?



**Time-bound**  
What is the timeline for achieving the outcome?

Reference data must be collected before beginning the intervention. For this reason, an evaluation plan must be considered and designed when beginning an intervention (10, 11, 30). For example, if you are going to implement an intervention that consists of sharing an educational video about the use and acquisition of antimicrobials during a group parent-teacher conference at a school, your target audience is the parents attending the meeting. Before watching the video, participants could be initially queried to assess their knowledge, attitudes, and practices on the use and acquisition of antimicrobials. One of the SMART goals to be measured could be that after watching the video, 70% of participants remember three key messages about AMR. Then, after viewing the video (intervention), you could ask participants the same questions and check the results to see if the intervention worked.

It is important to be realistic and set priorities when designing the evaluation plan. You do not need to evaluate all components of a communication strategy. Simply select some items or activities, and analyze progress and difficulties. The results of an evaluation should be used to inform stakeholders of the progress made or to propose future changes to address challenges (10, 11, 30).

### BOX 5. Steps to evaluate an intervention or activity

1. Identify an intervention to be evaluated (activity, product, or campaign).
2. Determine the SMART objectives for that intervention.
3. Create indicators to measure impact.
4. Conduct an initial assessment.
5. Implement the intervention.
6. Perform a post-intervention evaluation.
7. Measure the impact.

## BOX 6. Example of an approach to developing SMART goals for a communication strategy

Over the next three years, the implementation of a communication strategy will achieve the following objectives:

- By the end of three years, dispensation of prescription-only antimicrobials will have increased by x% (e.g., 40%) in a defined population sample.
- By the end of three years, the number of child caregivers or parents who say they obtained a prescription before purchasing antimicrobials will have increased by x% (e.g., 25%).
- By the end of three years, the total use of antimicrobials will have dropped by x% (e.g., 40%) in a defined population sample.
- By the end of three years, the total quantity of antimicrobials prescribed for upper airway infections will have fallen by x% in a defined population sample in each country.

## BOX 7. Example of indicators to be used in evaluations

Indicators may vary depending on the activity that is implemented.

- Antimicrobial use in the country (%).
- The public's knowledge, attitudes, and practices on the use and acquisition of antimicrobials (% increase in knowledge, change in attitudes about the acquisition of antimicrobials, number of respondents who obtained antimicrobials without a prescription).
- The knowledge, attitudes, and practices of healthcare professionals regarding the prescription of antimicrobials.
- Memory of a specific campaign.
- Quantity of educational materials distributed.
- Number of talks and presentations that have been given.
- Number of events organized.
- Time spent on the topic (messages about AMR) on radio and television stations.
- Number of participants attending activities or events.
- Number of radio spots broadcast.
- Number of public service announcements (PSAs) broadcast on television.
- Number of prescription and dispensation guidelines given to healthcare professionals in health centers and clinics.
- Number of website visits.

**Appendix F** includes an example of questions for conducting pre-test evaluations, an example of questions to evaluate a public service announcement (PSA) or radio spot, and examples of questions to assess actions related to the distribution and use of educational materials by healthcare professionals.

**Appendix G** contains an evaluation model for a communication strategy, which could also be used to evaluate the planned interventions after making the appropriate modifications.

## BUDGET

Before starting to outline a communication strategy, it is important to determine the financial resources that will be needed to develop, implement, monitor, and evaluate it.

By knowing the strategy's approximate budget, the required resources can be allocated and mobilized.

## LIMITATIONS

Possible barriers or obstacles to implementing a strategy include:

- Human and financial limitations.
- Staff has insufficient time to implement the strategy.
- Lack of political support.
- Public resistance to a change in behavior.

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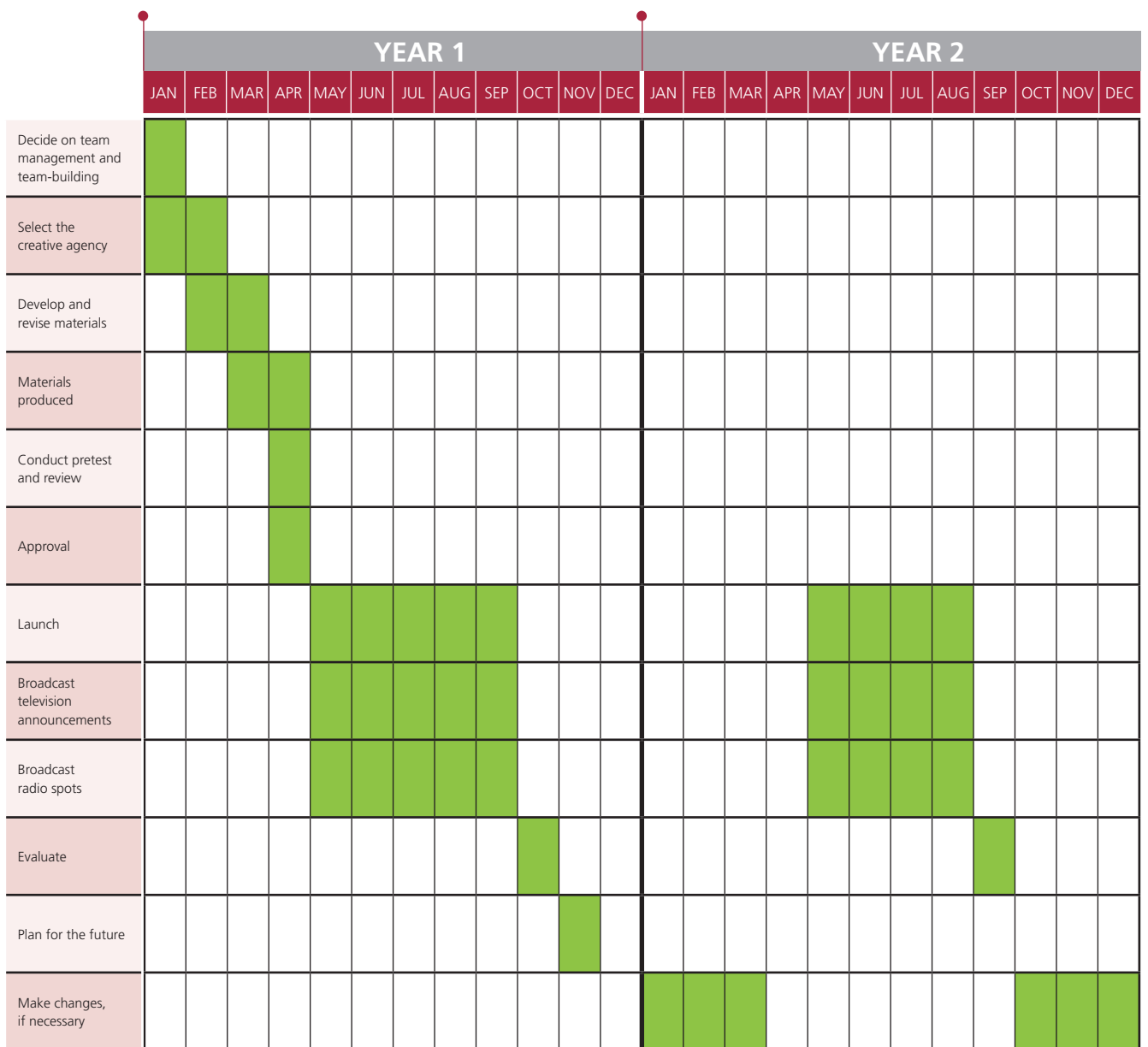


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# APPENDIX A

## EXAMPLE OF A TIMELINE FOR A PUBLIC CAMPAIGN AND COMMUNICATION STRATEGY ON ANTIMICROBIAL RESISTANCE

The following example is a two-year timeline for a public campaign with television and radio announcements. A timeline can be created and adapted to the specific intervention to be implemented.



The following example is a two-year timeline for a communication strategy that includes various activities and interventions. A timeline can be created based on the capabilities of each organization, budgets, country context, etc.

	YEAR 1												YEAR 2											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PhotoVoice Project	█	█	█	█												█	█	█	█					
Children's theater play	█	█						█	█							█	█						█	█
Social media campaign	█	█	█	█	█	█		█	█	█	█		█	█	█	█	█	█					█	
Storytelling	█					█				█								█					█	
Campaigns					█	█			█	█	█											█	█	
Training sessions for health professionals, students, etc.			█	█				█	█						█	█					█	█		
Discussion groups with health professionals			█			█			█						█			█				█		
Broadcast television announcements	█	█	█								█		█	█								█	█	█
Community events and activities	█	█					█			█			█	█					█				█	
Support meetings with stakeholders			█					█			█				█						█			█

## APPENDIX B

### KEY MESSAGES IN PAHO AND WHO PUBLIC CAMPAIGNS

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The following are key messages used by PAHO and WHO during World Antimicrobial Awareness Week between 2016 and 2020.

2020

**Slogan:** “Handle Antimicrobials with Care.”

**Theme for the human health sector:** “United to preserve antimicrobials.”

- Never buy antimicrobials without a prescription or from unknown sources, especially on the Internet. Antimicrobials may be harmful to your health if they are acquired and used without a prescription. Always seek advice from a qualified healthcare professional before taking antimicrobials.
- The era of antibiotics is ending. We run the risk of antimicrobials losing their effectiveness. This is due to their misuse or excessive use when they are not needed. Antimicrobials should only be used when prescribed by a qualified healthcare professional.
- What is antimicrobial resistance? It occurs through a genetic change in viruses, bacteria, fungi, and parasites, making them resistant to the drugs that typically combat them. The misuse and overuse of antimicrobials are accelerating the spread of antimicrobial resistance. Without antimicrobials, humanity will have no defense against many diseases. Due to antimicrobial resistance, medications do not work, and infections are harder to cure, increasing the risk of infections and death.
- Do you know about super bacteria? A bacterium becomes more resistant when it comes into contact with antibiotics. It mutates to survive, and transmits built-up resistance to other bacteria. The use of antimicrobial drugs in human, animal, and environmental health accelerates the emergence of antimicrobial-resistant bacteria. Antimicrobial resistance causes medications to no longer work effectively or cure infection. Antimicrobial resistance is a growing global problem as it puts the effective treatment of infections at risk.
- Do you know about antimicrobials? Antimicrobials are medicines used to treat infections caused by fungi, viruses, bacteria, and parasites. Antimicrobials are used in human health, animal health, and agriculture. Antibiotics are one of the most widely used antimicrobials. Antimicrobials are often overused and used without the supervision of a health professional. This increases the risk of resistance and reduces the effectiveness of drugs in curing diseases.

2019

- Proper hand hygiene prevents infections and slows the spread of antibiotic resistance.
- Vaccination prevents infections and slows the spread of antibiotic resistance.
- Even if you rarely take antibiotics you can get a resistant infection.
- Safe sex prevents infections and slows the spread of antibiotic resistance.

2018

**Slogan: "Think twice. Seek advice."**  
**Message to the general public: "Misuse of antibiotics puts us all at risk."**

2017

- Think twice. Seek advice. Antibiotics are not always the answer.
- Our time with antibiotics is running out. Antibiotics are in danger of losing their effectiveness due to misuse and overuse, and in many cases they aren't even needed.
- Misuse of antibiotics puts us all at risk. Taking antibiotics when we don't need them speeds up antibiotic resistance. Antibiotic-resistant infections are more complex and harder to treat. They can affect anyone, of any age, in any country.

2016

- We are about to enter a post-antibiotic era where common infections may kill. We can still avoid this by handling antibiotics with care.
- In every corner of the world, people are getting sick for a longer period of time, paying for more expensive treatments, and facing a greater risk of dying from #AntimicrobialResistance.
- You can combat #AntimicrobialResistance by maintaining good hygiene, keeping your vaccinations up to date, and using antimicrobials only when they are prescribed by medical practitioners and by completing treatments.
- Health workers must lead in combating #AntimicrobialResistance by prescribing appropriate medicines (and only when they are needed), educating patients on how to use them correctly, and improving preventive measures and infection control in clinics and hospitals.
- Did you know that 80% of all antibiotics are given to animals intended for human consumption and that only 20% are used to treat animals that are sick? #AntimicrobialResistance
- Governments also play an important role in the battle against #AntimicrobialResistance by regulating the production, distribution, and sale of antibiotics, and through quality control, implementation of health and hygiene standards, establishing monitoring and surveillance systems, and providing information to the public.

## APPENDIX C

### PAHO AND WHO CAMPAIGN COMMUNICATION MATERIALS

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This appendix contains communication materials used in PAHO/WHO World Antimicrobial Awareness Week campaigns from 2018 to 2020.

**All WHO resources can be found at this link:**

<https://www.who.int/en/campaigns/world-antibiotic-awareness-week>.

#### WORLD ANTIMICROBIAL AWARENESS WEEK (WAAW) 2020

**Social media materials:**

<https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2020>.

#### WORLD ANTIBIOTIC AWARENESS WEEK 2019

**Campaign webpage:**

<http://www.emro.who.int/world-antibiotic-awareness-week/2019/index.html>.

**Campaign materials:**

<https://www.paho.org/en/campaigns/world-antibiotic-awareness-week-2019>.

#### WORLD ANTIBIOTIC AWARENESS WEEK 2018

**Campaign webpage:**

<https://www.who.int/en/campaigns/world-antibiotic-awareness-week/world-antibiotic-awareness-week-2018>.

**Campaign materials (animated GIFs, messages, social media posters):**

<https://www.who.int/en/campaigns/world-antibiotic-awareness-week/world-antibiotic-awareness-week-2018/advocacy-material>.

## APPENDIX D

### EXAMPLES OF SCRIPTS FOR PAHO RADIO SPOTS

This appendix includes the radio scripts developed by PAHO for World Antimicrobial Awareness Week 2020.

#### SCRIPT 1

**Male voice 1:**

*"What are you looking for on the Internet?"*

**Male voice 2:**

*"I'm looking for antibiotics. I'm going to buy them on the Internet because I don't have a prescription. I think I just have an ear infection, so I don't want to go to the doctor."*

**Male voice 1:**

*"Be careful... don't buy antibiotics from unknown sources since they could be faked, they may not be of adequate quality, or their use may not be authorized. Furthermore, they may contain ingredients that are harmful for your health or even deadly. Use antibiotics exactly as prescribed by your doctor and purchase them at a drugstore."*

**Voice-over mentioning project:**

*"This is a message from PAHO, FAO, OIE, and the European Union."*

#### SCRIPT 2

**Male voice:**

*"Claudia, our neighbor is feeling sick. He seems to have an infection. I'm going to give him the leftover antibiotic from the last time I was sick."*

**Female voice:**

*"You're not a doctor so you may not recommend antibiotics... If he feels sick you should advise him to visit a health service."*

**Voice-over with tone of authority:**

*"Caution! You should not take antibiotics if an infection is suspected. Maybe you can recognize the symptoms of an infection, but that doesn't mean you know how to treat it. Only a doctor will know which medicine to prescribe, the right amount of it, and how long to use it."*

**Voice-over mentioning project:**

*"This is a message from PAHO, FAO, OIE, and the European Union."*

#### SCRIPT 3

**Child's voice:**

*"Mom, why don't antibiotics work against COVID-19?"*

**Female voice:**

*"Because COVID-19 is caused by a virus and antibiotics only attack bacteria."*

**Child's voice:**

*"Doesn't even an expensive antibiotic work?"*

**Female voice:**

*"The price is not the issue. Keep in mind that if we use the wrong antibiotic we could strengthen the bacteria that is making us sick, and it will be more difficult for us to get better."*

**Child's voice:**

*"Ah! That's why you always say that only a doctor knows what medicine we should take for each disease."*

**Voice-over mentioning project:**

*"This is a message from PAHO, FAO, OIE, and the European Union."*

## APPENDIX E

### EXAMPLE OF A PAHO PRESS RELEASE

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#### **NEW PAHO MANUAL GUIDES MANAGEMENT OF ANTIMICROBIAL RESISTANCE IN THE AMERICAS**

Washington, D.C., 16 November 2018 (PAHO/WHO). A new manual launched by the Pan American Health Organization, regional office of the World Health Organization (PAHO/WHO) and the Robert Stempel College of Public Health and Social Work, Florida International University (FIU) calls on countries in the Americas to set up programs to optimize the use of antimicrobials as a way to prevent resistance.

The manual entitled “Recommendations for Implementing Antimicrobial Stewardship Programs in Latin America and the Caribbean: Manual for Public Health Decision-Makers,” was launched today during World Antibiotic Awareness Week 2018, and aims to provide practical guidelines for health authorities, and recommendations for hospital managers and health workers on cost-effective interventions that tackle antimicrobial resistance.

“Antibiotics are responsible for having saved millions of lives all over the world, but we are currently experiencing unprecedented rates of resistance to some of the most common treatments,” said Dr. Marcos Espinal, Director of the Communicable Diseases and Environmental Determinants of Health Unit at PAHO. “It is vital that efforts are stepped up to preserve these achievements, reduce the impact of resistance and ensure continued treatment and prevention of infectious disease.”

Antimicrobials, or antibiotics as they are more commonly known, are vital in the prevention and treatment of infections. Antibiotic resistance occurs when the microorganisms in infections change in response to the use of these medicines, rendering them ineffective.

Evidence shows that antimicrobial resistance increases with the overuse of antibiotics. This is primarily due to antibiotics being misused to treat symptoms of cold and influenza, which are viral infections, or as a preventative measure following surgeries. It is estimated that up to 50% of antibiotic use is inappropriate, adding considerable costs to patient care, and increasing morbidity and mortality. This inappropriate use can be fostered by issues such as overprescription, and easy access via over-the-counter sales and Internet sales, which are widespread in some countries.

#### **Antimicrobial stewardship**

The aim of antimicrobial stewardship is to promote optimization of antimicrobial use at national and local levels in accordance with international standards in order to ensure the correct choice of antimicrobials at the right dose based on evidence.

Antimicrobial stewardship programs involve coordination with a variety of healthcare workers, including physicians, pharmacists, and microbiologists, as well as infection prevention specialists, nurses, and information technology staff.

Recommended strategies for antimicrobial stewardship include the implementation of prescription-based practices in hospitals, such as the reassessment of antibiotic prescriptions after 48-72 hours of onset of treatment; pharmacy-



driven interventions, to ensure correct usage and dosage; and data-driven interventions such as ensuring that microbiology records are easily accessible at the point of care.

“Antimicrobial stewardship ensures that country’s healthcare systems have the programs in place to address the determinants of antimicrobial resistance and to implement the policy, programmatic, and educational initiatives necessary to promote the judicious use of antibiotics,” added Espinal.

### **Antimicrobial resistance response in Latin America**

In Latin America, antimicrobial resistance is an urgent public health priority. The Region is already seeing an increasing trend of resistance in community and hospital infections. Over the past two decades, the Americas has been a pioneer in confronting antimicrobial resistance from a public health perspective, including laboratory-based surveillance, increased monitoring, implementation of awareness campaigns and development of antimicrobial stewardship programs in hospitals.

Antimicrobial stewardship interventions have been coordinated by PAHO and other health organizations in the Region, and initiatives to control the use of antibiotics, through mandatory prescriptions, for example, have already proved successful, resulting in a 12% reduction in use in Mexico. Following the implementation of this regulation in Chile in 1999, Colombia in 2005, and Brazil and Mexico in 2010, increments in bacterial infection-related admissions were not detected, highlighting their effectiveness.

Despite these advances, however, efforts toward antimicrobial stewardship must now be increased, and sectors, individuals, and organizations working in the area must be better integrated, in order to ensure a greater impact on antimicrobial resistance and to quantify this impact in the Region.

SIGNATURE

## APPENDIX F

### EXAMPLES OF QUESTIONS TO EVALUATE COMMUNICATION ACTIONS

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This section shows examples of questions that can be used to conduct evaluations before releasing a communication product, questions for evaluating public service announcements (PSAs) or radio announcements, and evaluate questions for actions related to the distribution and use of educational materials by healthcare professionals.

The question and evaluation models are based on the suggestions and recommendations in *Making Health Communication Programs Work*<sup>1</sup> and *Public Health Communication: critical tools and strategies*<sup>2</sup>.

#### **1. Examples of questions used to prepare an evaluation before releasing a communication product (brochure, video, poster, social media cards, etc.)**

##### **Check audience's understanding:**

- In your opinion, what is the message of this (television announcement, radio spot, printed material)?
- Are there any words you would change to make it easier to understand? Which one(s)?
- Please explain this message to your partner in your own words.

##### **Check to see if the product is engaging:**

- What do you like most about this product?
- What do you dislike?
- How would you change it?
- What do you think other members of this community would say about this product?

##### **Check acceptance** (regarding the target audience's practices, attitudes, and beliefs):

- Is there anything in this product that you find unacceptable?
- What about other people in this community? What would they say?
- (Point to a specific part of the product). Do you find this believable?
- Can you think of anyone else, such as a religious leader or important person in the community, that we should show this to before distributing it?

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<sup>1</sup> National Cancer Institute. *Making Health Communication Programs Work*. Washington, D. C.: NCI; 2004. [Accessed 6 August 2021]. Available from: <https://www.cancer.gov/publications/health-communication/pink-book.pdf>.

<sup>2</sup> Parvanta CF, Nelson DE, Harner RN. *Public Health Communication: critical tools and strategies*. Burlington: Jones & Bartlett Learning; 2018.

### **Ask about their sense of ownership**

(the target audience should be able to recognize the materials):

- Do you feel this product is speaking to you? Why or why not?
- If it doesn't resonate with you, who do you think it's for?
- Do you think the people in this product are people like you?

### **Call to action**

- What does this product ask you to do?
- How do you feel about this action?
- Would you have to do anything else before taking this action?

## **2. Examples of questions to evaluate a public service announcement (PSA) or radio spot**

### **1. Which of the following options would describe your overall reaction to this announcement?**

- I really liked it.
- I think it is correct.
- I really didn't like it.
- I didn't like it at all.
- Don't know or no answer.

### **2. What is the main message of this announcement?**

### **3. Does this announcement motivate you to do something? If so, what does it motivate you to do? If your answer is no, why not?**

### **4. How likely do you think it would be for you to [enter the main message of this communication product here], for example, buy antimicrobial drugs only with a prescription or not share them with others, etc.?**

- Very likely.
- Somewhat likely.
- Not very likely.
- Don't know or no answer.

### **5. Is there any part of the announcement that you found confusing or difficult to understand?**

- None.
- Confusing in general.
- The message is unclear.
- The words are hard to understand.
- It presents too much information.
- The message has nothing to do with me.
- Other.

### 3. Examples of questions for evaluating actions related to the distribution and use of educational materials by healthcare professionals (in clinics, hospitals, etc.)

**Did you use [name of educational material] in your practice?**

- Yes  | No

If your answer is "No," please provide more details below:

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**In what context did you use [name of educational material] (check all applicable options):**

- Clinic.
- Examination room.
- Nursing.
- Reception or waiting room.
- Room with educational resources.
- Other:

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**Was [name of educational material]**

- easy to use? Yes  | No
- the appropriate length? Yes  | No
- useful for discussing the use of antimicrobials with your patients? Yes  | No
- complete? (any additional information needed?) Yes  | No
- understandable (Could patients understand the information provided?) Yes  | No

If you answered "No" to any of the questions, please provide more details below:

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**Would you recommend this [name of educational material] to others?**

- Yes  | No

## APPENDIX G

### EXAMPLE OF A COMMUNICATION STRATEGY ASSESSMENT

The following is a sample template for assessing a communication strategy on antimicrobial resistance. It can also be used to evaluate any of the interventions, after making the relevant modifications.

#### EVALUATION TEMPLATE FOR A COMMUNICATION STRATEGY

Country: \_\_\_\_\_

Evaluation conducted by: \_\_\_\_\_

Department or work area: \_\_\_\_\_

**Did your organization or office implement any of the strategies or activities proposed in this communication handbook?**

Yes  | No

If yes, please describe the activities carried out below. List the **key activities** you organized, including the target audience (e.g., parents, adolescents, healthcare professionals or students, media), key partners involved, and commitments:

INTERVENTIONS OR ACTIVITIES	TARGET AUDIENCE	INDICATORS OR OUTCOMES: (number of participants, materials supplied, number of presentations given, etc.)	PARTNERS INVOLVED/ COMMITMENTS	OBSERVATIONS

MEDIA	YES   NO	INDICATORS	OUTCOMES	OBSERVATIONS
Did you prepare a press release? <i>Include the link in the Observations column.</i>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of contacts in media list		
Did you lead or participate in a press conference? <i>Provide more details in the Observations column.</i>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of journalists who participated in-person or virtually		
Did you prepare a TV or radio announcement?	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of radio announcements broadcast Number of PSAs broadcast on television		
Did you create an email list or listserv?	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of recipients		
Did you include announcements on billboards, in movie theaters, or public transportation? <i>(specify where and provide more information in the Observations column)</i>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of announcements		
Did you participate in the World Antimicrobial Awareness Week campaign or organize a public campaign?	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of infographics used Number of posters distributed Number of visits/downloads of materials on your website Number of video screenings <i>[Add/suggest other indicators based on the materials you used]</i>		

SOCIAL MEDIA	YES   NO	INDICATORS	OUTCOMES	OBSERVATIONS
<p>Did you use <b>Twitter</b>?</p> <p><i>Please include details on the most important publication (most popular) in the Observations column with the respective link.</i></p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of tweets Number of retweets Number of “likes” Number of mentions		
<p>Did you use <b>Facebook</b>?</p> <p><i>Include details on the most important publication in the Observations column with the respective link.</i></p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of posts Number of “likes” Number of shares		
<p>Did you use <b>YouTube</b>?</p> <p><i>Include details on the most important publication in the Observations column with the respective link.</i></p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of videos Number of views Number of shares		
<p>Did you use <b>Instagram</b>?</p> <p><i>Include details on the most important publication in the Observations column with the respective link.</i></p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	Number of posts Number of “likes” Number of “regrams”		
<p>Did you use a hashtag? If so, which one?</p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>	What number?...		
<p><b>Other</b> platforms of interest in social media, for example WhatsApp, LinkedIn, or TikTok?</p> <p><i>Include details on the most important publication in the Observations column with the respective link.</i></p>	Yes <input type="checkbox"/>   No <input type="checkbox"/>			

## LESSONS LEARNED

List three aspects of the development and implementation of the strategy that worked well:

1.

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2.

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3.

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List three aspects of the development and implementation of activities or interventions that could be improved:

1.

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2.

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3.

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Please provide any recommendations:

1.

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2.

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3.

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Would you like to add any other comments?

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The acquisition of antimicrobials without a prescription is a global concern. This practice is thriving in countries that lack adequate legislation or where regulations are not properly enforced.

The Pan American Health Organization (PAHO) and its member states in the Region of the Americas approved the *Global Action Plan on Antimicrobial Resistance*, which recognizes antimicrobial resistance as a threat to global public health that requires a multisectoral response.

To tackle antimicrobial resistance, a worldwide change in behavior is needed in terms of how these drugs are used and acquired. National approaches are required to address the indiscriminate use and overprescription of antimicrobials, and to enforce regulations on prescription and acquisition practices.

The objective of this communication handbook is to help communication professionals and health program officials develop strategies to raise awareness and promote the importance of the appropriate use of antimicrobials among different stakeholders; raise public awareness about the importance of obtaining antimicrobials with a prescription in order to achieve multisectoral collaboration to ensure compliance with laws and regulations on this issue; and promote a change in behavior regarding the appropriate use and acquisition of antimicrobials by everyone involved.

The target audiences for this handbook are the general population (including adolescents, children, and caregivers and parents of children), healthcare professionals (including pharmacists and pharmacy staff), and various stakeholders (government officials, professional societies, medical organizations, the private sector, local leaders, and health-influencers, among others).

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