Methodology for Evaluating National Arboviral Disease Prevention and Control Strategies in the Americas

PAHO
Pan American Health Organization
World Health Organization
REGIONAL OFFICE FOR THE Americas

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Evaluation’s most important purpose is not to prove, but to improve.

”

Egon G. Guba, 1981

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Preface

Implementation of the *Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas* (IMS-Arbovirus) occurs in very different situations in each country, under particular conditions that either improve or adversely impact outcomes. With this in mind, this *methodology for evaluating national strategies for arboviral disease prevention and control in the Americas* is designed for use in as many contexts as possible: in vast countries with large populations and also in smaller, less populous countries––all with ecological areas favorable to arbovirus transmission and with different prevention and control programs. The main objectives of this initiative are to fully cover this combination of factors in the evaluation process, in order to study outcomes, prevent deaths, and reduce morbidity from arboviruses. This publication will serve as technical support for countries in their internal monitoring and evaluation processes from the central level down to the local level. It is also expected to become one of the reference documents that will enable the Pan American Health Organization's Regional Program on Arboviral Diseases to monitor and evaluate national strategies in the Region.

The various IMS-Arbovirus implemented in the countries also contain mechanisms that will enable managers and technical staff to monitor them. These mechanisms are additional ways to guarantee implementation of the strategies and their modification over time, without waiting for an external evaluation.

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The standardized aspects evaluated in this manual were selected and defined with the support of the following professionals: Anabelle Alfaro (GT-Arbovirus International, Costa Rica), Antonio Lima Neto (independent consultant, Brazil), Milena Mazzarri (GT-Arbovirus International, Venezuela [Bolivarian Republic of]), Linda Lloyd (GT-Arbovirus International, United States), José Cruz Rodríguez Martínez (Secretariat of Health, Mexico), Hernán Rodríguez (Ministry of Public Health and Social Welfare, Paraguay), and Guillermo Sequera (Ministry of Public Health and Social Welfare, Paraguay). PAHO and the World Health Organization (WHO) benefitted from the support of Haroldo Bezerra, Eldonna Boisson, Thais dos Santos, Leticia Franco, Erika García, Gamaliel Gutiérrez, Lionel Gresh, Henry Hernández, Dennis Navarro, Freddy Pérez, Manuel Pérez, Diana Rojas, and José Luis San Martín.

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Acronyms

IMS-Arbovirus	Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas
International GT-Arbovirus	International technical group of experts on arboviral diseases
IVM	Integrated vector management
National GT-Arbovirus	National technical group of experts on arboviral diseases
National IMS-Arbovirus	National Strategy for Integrated Management of Arboviral Diseases
NGO	Nongovernmental organization
PAHO	Pan American Health Organization
RELDA	Arbovirus Diagnosis Laboratory Network of the Americas
WHO	World Health Organization

Introduction

Evaluation can be defined as rigorous analysis, based on the scientific method, of information on the activities, characteristics, progress, outcomes, and impact of a specific intervention or program. It is the systematic and objective review of the relevance, effectiveness, efficiency, and impact of activities deployed to meet specific objectives. Evaluation should be an activity common to administrative procedures, as it furnishes periodic guidance for correcting the course of the action taken. The idea in evaluation processes is to detect mistakes or failures in order to avoid their repetition and to identify and promote successful mechanisms or experiences (*1–5*).

A major objective of evaluation is to offer recommendations and guidance to managers in the expectation that they will use them in decision-making (*1, 2*). Evaluation should provide input to ministries of health to improve their performance and useful information for optimal distribution of responsibilities and available resources. Evaluation powers management and decision-making and makes an essential contribution to results-based management (*1–4, 6*). It should also respond to the objectives, purposes, expected outcomes, and specific activities established and described in the regional Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas (IMS-Arbovirus) document (*7*).

Monitoring is continuous review whose object is to provide early detailed information on progress or setbacks in ongoing activities. It entails constant supervision of the implementation stage of the activity or process to determine whether outcomes have been achieved on schedule, so that timely steps can be taken to correct any problems detected (*1, 8–10*). Notwithstanding the importance of monitoring the implementation of any strategy, this publication focuses specifically on evaluation of the implementation of the IMS-Arbovirus.

This manual, which should be considered a complement to the IMS-Arbovirus (*7*), offers a methodology for standardizing evaluations of national IMS-Arbovirus implementation, describing the phases of evaluation (planning, the evaluation itself, and the preparation and reporting of the results). It also describes the key aspects in each component of the IMS-Arbovirus that should be evaluated and furnishes guidelines on how to clearly and simply state the results of the evaluation exercise, thus enabling the country to take immediate corrective action and follow up on the evaluation's recommendations. The main purpose of the IMS-Arbovirus evaluation process is to strengthen national technical response capacity for arboviral disease prevention and control.

1. Background

The IMS-Arbovirus is a model that provides a methodological framework for arboviral disease prevention and control. It divides the compendium of actions to be taken into the following components, which are not listed in their order of importance: management, epidemiology (with emphasis on health surveillance), laboratory, patient care (clinical), integrated vector management (IVM), and environment (with emphasis on water, sanitation, and hygiene) (*7*). It also proposes common crosscutting themes for each component: operations research and health communication and promotion for behavioral change. Each component and crosscutting theme is overseen and executed by personnel trained for this purpose.

The Integrated Management Strategy for Arbovirus Disease Prevention and Control in the Americas (*7*) contains a group of indicators selected by the countries, and a trained professional regularly conducts an informal evaluation of the strategy. This evaluation may be based on what the coordinator for each component or the participants in the process report, often based only on their own experiences. Generically, this methodology attempts to organize ideas and the methodologies that should be followed for best performance in an evaluation.

The IMS-Arbovirus (*7*) currently includes monitoring and evaluation from the outset, thus systematically coordinating its planning, monitoring, and evaluation. The main objective is for monitoring and evaluation to serve as a good mechanism for management, course correction, and accountability to advance and improve the quality and impact of management with the preparation of the IMS-Arbovirus.

2. Target groups

The direct target groups for this material are IMS-Arbovirus managers at all levels, from national to local, depending on the agreed scope, as well as the leaders and members of the international teams that will be at the helm of the external evaluation in each country. Community health workers or other actors who are in some way involved in the IMS-Arbovirus and the professionals and technicians who directly or indirectly participate in the evaluation teams can also be included.

3. Objectives and purpose

The objectives and purposes of the national IMS-Arbovirus evaluation process are described below.

General objective

Improve IMS-Arbovirus implementation in the countries of the Americas.

Specific objectives

1. Determine the progress made and barriers to implementing the IMS-Arbovirus.
2. Formulate recommendations to improve the IMS-Arbovirus implementation process.
3. Create a monitoring plan based on the evaluation's results.

Purpose

The main purpose of the IMS-Arbovirus evaluation process is to strengthen national technical response capacity for arboviral disease prevention and control.

4. Phases of the evaluation process

Several elements must be considered when evaluating the IMS-Arbovirus in a country, namely: (*1*) the national strategy itself, and (*2*) the epidemiological situation at the time of the evaluation. Both elements will provide greater context for the evaluation team, allowing for better planning and a more targeted evaluation tailored to the national reality.

To facilitate understanding and the approach, the methodological procedures considered for evaluation of the IMS-Arbovirus have been divided into three phases––planning, the evaluation itself, and feedback––in order to standardize the evaluation methodology so that its execution is replicable, comparable, and sustainable.

4.1 Planning phase

The Pan American Health Organization (PAHO) Representative Office in the country, in coordination with the PAHO Regional Program on Arboviral Diseases, should take the following action:

- Coordinate the evaluation visit with the country.
- Compile the existing information necessary for the evaluation (see Annex 1).
- Select the administrative level(s) (departments, provinces, municipalities) to be visited.
- Create the multidisciplinary evaluation team.
- Prepare a work agenda for the evaluation (see Annex 2).

Each of the actions mentioned is detailed below.

4.1.1 Coordinate the evaluation visit with the country

This begins with an offer by PAHO or a country request to evaluate the national IMS-Arbovirus. Once this offer or request has been confirmed, agreement is reached with the national authorities on the relevance and scope of the evaluation through the PAHO Representative Office in the country; the dates and sites for the field visits are chosen, and a budget is estimated. The initial coordination activities will be handled by the PAHO focal point in the country and the PAHO Regional Program on Arboviral Diseases. The source of the funding to cover the costs of the evaluation will be determined at this time. The country should also call on the institutions and sectors (e.g., ministries of education, environment, tourism, and construction; national institutes of health; nongovernmental organizations, etc.) that have been involved in the implementation of the IMS-Arbovirus to actively engage in the evaluation planning process from the start. Finally, a schedule for the evaluation visit will be drawn up.

4.1.2 Compile the existing information necessary for the evaluation

Through the PAHO Representative Office in the country, the Regional Program on Arboviral Diseases will request the information necessary for the evaluation from the respective national authorities, which should be provided on the form created for this purpose (see Annex 1). The authorities may also provide any information relevant to this process that is not requested on the form. Once a date has been set for the evaluation, the Regional Program will send the form to the authorities (see Annex 1) at least 45 days in advance of the evaluation visit, and they will have 30 days to complete and return it to PAHO. This form (see Annex 1) provides the evaluation team with important information about the country and the IMS-Arbovirus implementation process.

In addition, the country to be evaluated must be sure to send PAHO a copy of the current national IMS-Arbovirus document to familiarize the evaluation team with the targets and indicators that will be evaluated. Reviewing the document beforehand will enable the team to identify from the outset the aspects least addressed, weaknesses, and critical points on which to focus the evaluation so that they can be discussed and corrective action suggested. This prior review will also enable the evaluation team to include evaluation indicators not found in the regional IMS-Arbovirus document, provided their inclusion is justified, making the national IMS-Arbovirus document the main reference for monitoring and evaluating the strategy in the country.

Other necessary information is a history of an IMS-Arbovirus evaluation in the country. If one has been conducted, the country or the PAHO Regional Program on Arboviral Diseases will provide the evaluation team with a copy of the most recent evaluation report. This will enable it to prepare a list of the most important findings (including conclusions and recommendations) of previous evaluations for each component and crosscutting theme of the IMS-Arbovirus. A review of this history is necessary for determining the progress made and solutions adopted, along with any new problems identified during the evaluation phase. This review and adjustment exercise should be conducted by the experts for each component in question.

4.1.3 Select the administrative level to be visited

The evaluation team, jointly with the national IMS-Arbovirus team, will select the areas to be visited, which should be representative of the country. The selection process should take areas with special characteristics into account (high and low incidence, high case fatality, serious cases, atypical cases, etc.). The different levels of the health system to be evaluated, from the primary to the tertiary level of care, should also be considered. Furthermore, it is critical to take the economic and political importance of a given region into account, as well as regions that have made progress implementing the IMS-Arbovirus and regions that have not.

Table 1 indicates the minimum number of sites that should be visited during the evaluation, by IMS-Arbovirus component and crosscutting theme. However, this may vary with the particular characteristics of each country.

Table 1. Sites that should be visited during the evaluation

COMPONENT	SITES TO VISIT AND EVALUATE	OBSERVATIONS AND COMMENTS
Management	Administrative levels for each component of the IMS-Arbovirus	National and subnational level
Epidemiology	National epidemiological surveillance office	
	Local epidemiological surveillance offices	
	Epidemiological surveillance units in the health facilities visited	Health posts/centers and hospitals
Patient care	Primary care units (medical posts, health centers, polyclinics, and urgent care units)	Visit emergency, medical consultation, and pharmacy areas, hydration wards
	Secondary care units (national, departmental, and regional referral and local hospitals)	Visit triage area, emergency room, waiting room, observation room, hospitalization wards, dengue units, shock area, and pharmacy
Laboratory	National reference laboratory	
	Departmental or municipal laboratories that are members of the national laboratory network	
	Laboratory areas in the health units visited	
Integrated vector management	National office or center	
	Local units	Evaluate field work, warehouses, technical equipment, and equipment repair shops
Environment	National environmental health office or its equivalent	
	Other institutions or ministries involved in environmental or community health	
	Local units	Evaluate the environmental situation in the health units and cities visited
Communication and health promotion for behavioral change	National communication and health promotion office	
	Local units	Evaluate the work of the health units visited

IMS-Arbovirus: Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas.

4.1.4 Create the multidisciplinary evaluation team

The evaluation team may consist either of international professionals or a mix of foreign and country professionals. This will depend on the circumstances and context (health emergencies, pandemics, travel restrictions, etc.) at the time of the evaluation. The decision to create a team of international professionals or a mix of international and country professionals will be made by the PAHO Regional Program on Arboviral Diseases, together with the PAHO Representative Office in the country. If the situation warrants the inclusion of country professionals in the evaluation team, the PAHO Representative Office in the country will coordinate the selection and preparation of these professionals jointly with the Ministry of Health. It is suggested that members of the International Technical Group of Experts on Arboviral Diseases (GT-Arbovirus International) living in the country be included. In any case, the evaluation team will ideally be led by a professional with experience in health management, program administration, and technical knowledge of arboviral diseases.

The evaluation team should be multidisciplinary and include at least one technical expert for each component of the IMS-Arbovirus (management, epidemiology, patient care, laboratory, IVM, and environment). There is no need for a professional specializing in the crosscutting theme of operations research; instead, each expert for the different components of the IMS-Arbovirus will evaluate aspects related to this theme in his or her own component. Furthermore, since the crosscutting theme of communication and health promotion for behavioral change heavily influences IMS-Arbovirus implementation, it is preferable for an expert in this area to be involved. However, if one is not available, the evaluation will proceed as indicated in the operations research component.

It is also important to identify certain characteristics and personal qualities in the individuals selected for the evaluation team, apart from their technical knowledge of the subject. The profile and requirements for members of the evaluation team are:

- The ability to listen patiently and a willingness to interact with people.
- Good communication skills and the ability to lead a discussion and communicate in the language of the country.
- Sensitivity, awareness, and respect for the local culture, customs, norms, and beliefs and for co-workers.
- The ability to work as part of a team and interact with other colleagues to conduct reviews and reach decisions by consensus.
- Have the certificate of satisfactory completion of the IMS-Arbovirus course for evaluators (which will soon be available through the PAHO Virtual Campus of Public Health).
- Familiarity with this manual, the regional IMS-Arbovirus, and strategy of the country under review.
- Health sector employment or connection with the sector. However, if considered important, experts in areas such as research or the environment may be from areas outside the health sector.
- For the laboratory component, the evaluator must be from a member laboratory of the Arbovirus Diagnosis Laboratory.

The number of professionals on the evaluation team will depend on the size and complexity of the country, as well as the geographic areas to be visited.

Furthermore, the ministry of health of the country to be evaluated will appoint a group of national professionals, hereafter the **national team**, to accompany the evaluation team at all times during the visit to the country. National evaluation team members must serve full-time throughout the process. It is recommended that the national team consist of at least one expert for each component of the IMS-Arbovirus.

It is important to note that under no circumstances may the evaluation team make evaluation visits unaccompanied by the national team.

4.1.5 Prepare a work agenda for the evaluation

PAHO's Regional Program on Arboviral Diseases, together with the PAHO Representative Office in the country to be evaluated, is responsible for preparing a work agenda prior to the evaluation visit. This agenda must be shared, discussed, and amended with the national authorities at least 30 days prior to the evaluation visit to guarantee the time and availability of the personnel involved in the scheduled meetings and visits. Annex 2 proposes a generic agenda for the evaluation process, which can be tailored to the national and local situation in the country to be evaluated. The final agenda will be determined on day one of the evaluation visit.

4.2 Evaluation phase

This is the actual evaluation phase––i.e., the day of the visit to the sites to be evaluated in the country (different administrative levels). The methodology proposed in this manual covers two key activities that should take place in this phase: meetings and evaluation of the selected aspects in each component of the IMS-Arbovirus.

4.2.1 Meetings

Several meetings are held during the evaluation phase. While their purpose differs, all must be planned in advance (Annex 2).

Meeting with the Representative of the Pan American Health Organization in the country

This first meeting of the evaluation will be held at the PAHO Representative Office. Its purpose is to enable the PAHO Representative (or chosen delegate) and the technical team to provide context for the evaluation team on current progress and problems in the country, PAHO's work, and aspects of security, pursuant to United Nations policy. The mission leader also informs the PAHO Representative about the way in which the evaluation will be conducted, addressing logistical aspects (materials, transportation, and schedules) and the planned agenda. This meeting is attended only by the evaluation team and PAHO country staff.

Meeting with Ministry of Health authorities and the national technical group of arboviral disease experts

This meeting can be held at the PAHO Representative Office in the country or at the facilities of the country's Ministry of Health. The participants will consist of the evaluation team, national authorities, the national IMS-Arbovirus manager, and the national technical group of experts on arboviral diseases (National GT-Arbovirus) responsible for each component and crosscutting theme of the national IMS-Arbovirus. During this meeting, the national authorities will provide context for the evaluation team and describe the work done in each of the components and crosscutting themes, as well as any progress or problems. The evaluation team should take note of the matters discussed during this meeting and proceed to corroborate them on the ground.

Visits to the selected evaluation sites will begin after these two meetings (see section 4.1.3).

Meeting at the evaluation sites

The visit to each evaluation site should begin with a meeting with the authorities at that level. Thus, at least one meeting will be held with the central level and one with the local level. These meetings are attended by the health authorities of the level visited, the evaluation team, and the national team. Their purpose is for the visited authorities to provide context for the evaluation team on the work done in each component of the IMS-Arbovirus. After these two meetings, the evaluation team will immediately begin field visits to the designated sites (hospitals, health centers, laboratories, epidemiology area, entomology units, areas where field activities are carried out, etc.).

An executive meeting will be held with local authorities at the conclusion of the field visits to discuss the main findings of the evaluation. This should not be interpreted as conclusions of the evaluation but as a way to provide an immediate response to a particular situation identified. This meeting also enables the evaluation team to address any issues that arose during the field visit and clarify any assumptions and interpretations through dialogue with local authorities.

Meetings to share preliminary information

At the end of the visit to the evaluation sites, the evaluation team should share preliminary information with the country (see section 4.3.1). Two meetings can be scheduled for this. The first is an executive meeting with the highest country health authority, in which the head of the evaluation mission reports the main findings of the visit. This meeting offers an opportunity to discuss findings that require immediate action, especially by the country's highest authority.

The other meeting is with the national GT-Arbovirus to share further details on the findings from the evaluation visit. Here, all members of the evaluation team will be able to state their findings, and agreement can be reached on specific activities and tasks for corrective action to address the problems and difficulties identified. The areas requiring PAHO technical support will also be identified.

Meeting of the evaluation team

It is recommended that the evaluation team meet at the end of each work day to discuss the day's findings, as well as the logistics of the next day's work. These meetings are usually brief, lasting 30 to 60 minutes, and enable preliminary informational material to be prepared in advance (see section 4.3.1).

4.2.2 Evaluation of IMS-Arbovirus components and crosscutting themes

For an effective evaluation of each component and crosscutting theme of the national IMS-Arbovirus, the evaluation team must combine different methods and techniques, both quantitative and qualitative. To do so, it must rely on different sources of information, such as observations, interviews, official reports, meetings, minutes of meetings, epidemiological data from official sources, etc. These sources include the necessary information collected prior to the evaluation visit (see section 4.1.2). All sources of information used should be described in the final report (see section 4.3.2).

Standardization of the evaluation methodology enables the evaluation team to present its findings (problems, progress, and recommendations) to the national authorities more simply, clearly, and objectively. Moreover, it enables the country to better monitor compliance with recommendations and facilitates better follow-up of key aspects in a second external evaluation, should the country request one.

As part of the standardization process, this manual includes the basic aspects (hereafter "standardized aspects") of each component and crosscutting theme of the IMS-Arbovirus that the evaluation team should consider during the evaluation exercise. Two matters should be noted: 1) The evaluation of these standardized aspects must be interpreted and analyzed in terms of the country's national and subnational realities; and 2) These standardized aspects can be modified to include not only the indicators contained in the regional IMS-Arbovirus document (*7*) but also indicators specific to each country, since the strategy is tailored to the national and local realities of each country. Therefore, when collecting the existing information (see section 4.1.2), it is essential for the evaluation team to have a copy of the national IMS-Arbovirus document, as well as the most recent IMS-Arbovirus country evaluation report.

The components and crosscutting themes of the IMS-Arbovirus are described below, along with the proposed standardized aspects to evaluate.

Management component

The IMS-Arbovirus is a methodological model for planning, organizing, and implementing activities for arboviral disease surveillance, prevention, and control. Management serves as a catalyst for intrainstitutional, interinstitutional,

multidisciplinary, and cross-sectional integration among the components of the IMS-Arbovirus. A good management model has the regulatory authority and managerial capacity to introduce changes. In the management component, the evaluator must consider the political, strategic, and operational or tactical level. This work is necessary at all levels.

Political level: At this level, it is necessary to maintain and foster political will and financial engagement, as well as human and logistical resources at the highest decision-making level. Furthermore, the national IMS-Arbovirus should be positioned at senior levels of the Ministry of Health organizational structure and recognized by the country's different levels of government.

Strategic level: This level establishes a general planning framework to meet the objectives of the national IMS-Arbovirus, in which action plans containing technical guidelines and expected outcomes are designed for each point in time at the different levels of the health system.

Tactical and operational level: At the tactical level, there should be a detailed review of how the activities for implementing each component of the national IMS-Arbovirus were planned, based on the strategic framework adopted by the country. At the operational level, the specific tasks assigned to the experts responsible for each component and crosscutting theme should be reviewed. It is necessary to review whether arboviral disease interventions are monitored and evaluated in a manner consistent with decisions at the political and strategic level. Furthermore, the tailoring of processes to local circumstances, both operational and social, must be facilitated.

Table 2 describes the 15 standardized aspects that should be evaluated in the management component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 2. Standardized aspects that should be evaluated in the management component

NUMBER	PRIORITY	ASPECTS
1	1	The structure and composition of the national GT-Arbovirus have representatives of each component and crosscutting theme of the national IMS-Arbovirus.
2	1	Existence of regulatory technical documents from the national to the local level (IMS-Arbovirus at the different levels, annual work plan or action plan, etc.).
3	1	Existence of a budget that guarantees sustainability in IMS-Arbovirus implementation.
4	1	Existence of explicit mechanisms for coordination with other ministries or institutions.
5	1	Existence of a legal framework to support the national IMS-Arbovirus.
6	2	Existence of an organizational chart (structural or functional) for implementation of the national IMS-Arbovirus.
7	2	The national IMS-Arbovirus manager has sufficient authority to convene meetings and make timely decisions.
8	2	Existence and implementation of a national IMS-Arbovirus monitoring and evaluation plan at the local level.
9	2	Existence of a training plan to build and strengthen capacity at all levels of the national IMS-Arbovirus.
10	2	Systematic coordination and planning meetings involving all components are held.
11	3	The information generated by the national health surveillance system is used to guide prevention and control decisions.

NUMBER	PRIORITY	ASPECTS
12	3	Existence of documented intersectoral coordination mechanisms involving civil society, academia, the private sector, NGOs, international cooperation mechanisms, and other partners to move IMS-Arbovirus implementation forward.
13	3	Existence of mechanisms for the timely transfer of financial resources to subnational levels.
14	3	Existence of contingency plans for responding to outbreaks and epidemics, with a response in each component and crosscutting theme of the national IMS-Arbovirus.
15	3	The country has a functioning national network of clinical arboviral disease experts linked to the regional network.

IMS-Arbovirus: Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas; National IMS-Arbovirus: National Integrated Arboviral Disease Prevention and Control Strategy; National GT-Arbovirus: National technical group of experts on arboviral diseases; NGO: Non government organization.

Epidemiology component

A timely, representative epidemiological surveillance system with quality data provides information for detecting risk situations and facilitates the design of prevention and control interventions in both epidemic and interepidemic periods. The information generated by this system is not confined to cases of disease but, for better analysis, consolidates the results of several surveillance subsystems, such as data on vector, clinical, and laboratory surveillance; and environmental and other indicators that provide useful information for a better prevention and control response.

A critical issue identified in integrated epidemiological surveillance in the Region is the lack of standard operational definitions and risk indicators that, inter alia, facilitate stratification for a more targeted prevention and control response, estimation of the burden of these diseases, and the comparability of data from all countries and territories. This should therefore be reviewed during evaluations.

An integrated epidemiological surveillance system can be supplemented with sentinel and syndromic surveillance. These types of epidemiological surveillance are not found in every country in the Region, but where they do exist, they should be reviewed by the evaluation team.

Table 3 details the 18 standardized aspects that should be evaluated in the epidemiology component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 3. Standardized aspects that should be evaluated in the epidemiology component

NUMBER	PRIORITY	ASPECTS
1	1	The country has an information and epidemiological surveillance system for arboviral diseases.
2	1	The data from dengue, chikungunya, and Zika surveillance are analyzed weekly at the different levels (national or central, subnational) for arboviral disease prevention and control.
3	1	There is feedback between the different levels (national or central, subnational) on the results of epidemiological surveillance and performance and process indicators.
4	1	The data provided allow for the epidemiological characterization of dengue, chikungunya, and Zika in time, place, and person, including the characterization of deaths, at-risk populations, comorbidities and coinfections, etc.
5	1	Existence of definitions and algorithms for suspected, probable, and confirmed cases of dengue, chikungunya, and Zika for epidemiological surveillance.

NUMBER	PRIORITY	ASPECTS
6	1	Transmission foci are identified and focus control studies conducted.
7	1	Epidemiological surveillance makes it possible to monitor the clinical diagnosis and classification of cases to ensure their accuracy.
8	1	Deaths from dengue, chikungunya, and Zika are systematically reviewed by a committee (the frequency of committee meetings will depend on the epidemiological context).
9	2	The subnational level systematically sends epidemiological surveillance data on chikungunya, dengue, and Zika to the central or national level on a daily, weekly, monthly, or other basis.
10	2	Thresholds for immediate intervention have been defined, based on integrated epidemiological surveillance indicators.
11	2	Epidemiological surveillance performance and process indicators, such as the quality, timeliness, and completeness of the data reported, are monitored.
12	2	For the analysis, epidemiological surveillance includes the information generated by other sources, such as laboratory, entomological, clinical, and environmental surveillance subsystems.
13	2	Surveillance data are analyzed and presented so that the effectiveness of dengue, chikungunya, and Zika prevention and control programs can be evaluated to facilitate planning and resource allocation.
14	3	The country systematically sends epidemiological information on arboviral diseases to the Health Information Platform for the Americas (PLISA) (add the frequency in your comments).
15	3	Cases of complications from chikungunya, dengue, Zika, and other arboviral diseases are investigated to detect errors in the management of these diseases and provide feedback to the country's health care network.
16	3	The country's information system is automated and can export data to PLISA and other platforms.
17	3	Epidemiological surveillance of arboviral diseases considers information generated by other subsystems, such as those for sentinel, syndromic, and event-based surveillance and surveillance of birth defects, acute neurological events, and other unusual events.
18	3	Spatial or stratified risk analysis is conducted to prioritize interventions.

Patient care component

The purpose of this component is to guarantee that clinical diagnosis and management of suspected cases of arboviral disease at all levels of care are properly done in a timely manner, using triage and flowcharts and following the recommendations of PAHO clinical handbooks and guidelines (*11*).[1] Continuous training of health workers should be visible in this component. Another aspect that should be included is whether health unit staff at the different levels are familiar with contingency plans. These plans should cover, at a minimum, human resources, supplies, and physical space that can be repurposed during epidemics. In hospitals, the existence of preliminary reviews of deaths in suspected cases of arboviral disease, as well as the corrective action taken, should be evaluated within seven days.

Table 4 describes the 13 standardized aspects that should be evaluated in the patient care component. The priority assigned to these aspects is discussed in section 4.3.2.

1 Pan American Health Organization. Guidelines for the clinical diagnosis and treatment of dengue, chikungunya, and Zika. Washington, D.C., PAHO, 2021 (English forthcoming, Spanish available at https://iris.paho.org/handle/10665.2/55125).

Table 4. Standardized aspects that should be evaluated in the patient care component

NUMBER	PRIORITY	ASPECTS
1	1	The country has national guidelines consistent with those of PAHO for the care of patients with dengue, chikungunya, Zika, or other arboviral diseases.
2	1	There is adherence to national protocols and guidelines for the clinical management and organization of health services for the care of dengue, chikungunya, and Zika cases; their existence, consistency, and use should be evaluated.
3	1	Health workers are trained in clinical diagnosis, differential diagnosis, and integrated management of suspected cases of dengue, chikungunya, Zika, and other arboviral diseases.
4	1	The health unit investigates deaths from dengue or other arboviral diseases with input from the staff involved in the case; this investigation should be conducted within seven days to take corrective action.
5	1	Health units make national clinical guidelines and flowcharts accessible to health workers for the care of dengue, chikungunya, and Zika cases.
6	2	Health units have dengue wards with trained personnel during outbreaks or epidemics.
7	2	Health facilities have plans for reorganizing the health services in outbreaks and emergencies.
8	2	The health unit has sufficient medicines and supplies to care for patients with dengue, chikungunya, Zika, or other arboviral diseases.
9	2	Health units have a triage area and trained personnel to correctly classify cases of arboviral disease.
10	3	Clinical case records are correctly completed.
11	3	Existence of procedures to promote autopsies of patients who had fever of unknown origin in areas endemic for arboviral diseases.
12	3	Health units have mosquito nets in observation and hospitalization wards for patients with suspected arboviral disease.
13	3	Health personnel correctly apply the definition of a dengue case and its severity classification and manage patients according to the severity established in national protocols.

Laboratory component

The laboratory component of the IMS-Arbovirus plays a key role in generating timely, quality information for decision-making in an integrated epidemiological surveillance system through serological and molecular diagnosis of circulating arboviruses. Therefore, in addition to a review of the procedures for obtaining diagnostic results, the strategy for evaluating this component should include a quality management process that guarantees the result, as well as the mechanisms and flow of information between the various actors in the integrated surveillance system.

It should be mentioned that the purpose of evaluating this component is to strengthen national reference laboratories (NRL) and their internal networks, WHO collaborating centers (WHOCC) for arboviruses, and centers of excellence, all as part of RELDA.

Table 5 describes the 11 standardized aspects that should be evaluated in the laboratory component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 5. Standardized aspects that should be evaluated in the laboratory component

NUMBER	PRIORITY	ASPECTS
1	1	Existence of capacity for serological and molecular diagnosis of arboviral diseases (dengue, chikungunya, Zika, Mayaro fever, etc.) and for genotyping the dengue virus.
2	1	Reports are generated by consolidating the results of weekly laboratory surveillance of dengue, chikungunya, and Zika and providing timely feedback to the epidemiological surveillance system and health units (daily, weekly, etc.).
3	1	Existence of standard operating procedures for the collection, transport, and processing of samples.
4	1	Existence of laboratory methods and algorithms for case confirmation through laboratory surveillance, following regional recommendations.
5	2	Existence of coordination between the epidemiology, clinical, and other components of the IMS-Arbovirus and other laboratories inside and outside the national network.
6	2	Existence of a sampling strategy based on the epidemiological situation and laboratory capacity.
7	2	Existence of an information system for timely notification of laboratory results.
8	2	Existence of a quality management system for national network laboratories that participate in internal and external performance evaluations.
9	3	Reports are issued on the quality of sampling, transport, processing, and completion of the accompanying forms, and feedback is provided to health units within a set number of days.
10	3	The national laboratory network is organized with regulations, and the reference laboratory or laboratories participate or are members of RELDA.
11	3	Key indicators of laboratory surveillance (percentage of useful samples, percentage of positivity, viral isolations, molecular confirmations, etc.) are reviewed.

IMS-Arbovirus: Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas; RELDA: Arbovirus Diagnosis Laboratory Network of the Americas.

Integrated vector management component

A key component is integrated vector management (IVM), understood as rational decision-making aimed at optimizing the use of available resources to achieve planned and sustainable technical coordination of vector surveillance and control. These interventions are reinforced through the integration of different surveillance, control, communication, and community engagement methodologies and with the participation of sectors outside the health sector. IVM is included in the Plan of Action on Entomology and Vector Control 2018–2023 (*6*) to build regional and national capacity in vector prevention and control. This is accomplished through the use of best vector control practices tailored to local circumstances in the countries. The evaluation of this component is based on the expected outcomes of the regional IMS-Arbovirus and the activities of the plan of action's five strategic lines of action (SLA).

The strategic lines of action of the Plan of Action on Entomology and Vector Control 2018–2023 are:

- SLA 1. Multilevel Integration Dimension.
- SLA 2. Governance and Community.
- SLA 3. Vector Control Programs and Systems.
- SLA 4. Tools and Interventions.
- SLA 5. Workforce and Training.

The expected outcomes of the regional IMS-Arbovirus's IVM component are:

- Implementation of an integrated entomological surveillance system
- Transmission prevention and vector control strategies tailored to new epidemiological and methodological scenarios for integrated, targeted, effective, and timely interventions.

Table 6 describes the 13 standardized aspects that should be evaluated in the IVM component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 6. Standardized aspects that should be evaluated in the integrated vector management component

NUMBER	PRIORITY	ASPECTS
1	1	Existence of policies, a legal framework, and a national plan of action that includes IVM monitoring and evaluation.
2	1	Existence of an adequate structure (human, logistical, and economic resources) to meet the requirements of the IVM plan.
3	1	Existence of a timely, comprehensive, and systematic entomological surveillance system for data collection and analysis to support decision-making.
4	1	Availability of human and logistical resources for IVM activities, in keeping with national needs.
5	1	Existence of standardized technical regulations for IVM (guidelines, protocols, etc.).
6	2	Existence of a multidisciplinary IVM committee that serves as a functional and operational arm in vector control decision-making.
7	2	Existence of a strategy to encourage effective engagement by individuals, families, and communities. This includes social and risk communication messages and materials to foster behavioral change for proper management of mosquito breeding sites.
8	2	Qualified personnel are in charge of IVM activities; verification of their competence and performance.
9	2	Existence of an ongoing training program on IVM and effective communication techniques for professionals and technicians.
10	2	Existence of a procedure for monitoring compliance and quality in the technical and logistical regulations for field work. Some basics to keep in mind are: – Departure time, proper identification of personnel, maps or diagrams of the day's work, fumigation equipment, the insecticide and dose used, and calibration of the equipment used. – Storage and handling of insecticides, larvicides, and fumigation equipment according to country regulations. – Repair shops for insecticide application equipment (manual and heavy) and stocks of spare parts. – The existence, condition, and stocks of equipment and pesticides (see requirements and percentage of coverage). – Review of the intra- and peridomiciliary fumigation schedule and technique. – Training of personnel in larvicide application: depot capacity and calculation of the dose of the larvicides to be used.
11	3	Existence of a system for monitoring and managing vector resistance to the insecticides used in public health that is consistent with PAHO guidelines or recommendations.
12	3	Use of standard methodologies for the evaluation and characterization of mosquito breeding sites.
13	3	Existence of an up-to-date annual evaluation of vector control needs.

PAHO: Pan American Health Organization.

Environmental component[2]

The transmission of arboviral diseases depends on the presence of social and environmental determinants whose prevention, control, and modification are not solely the responsibility of health sector vector prevention and control programs. In this regard, both the regional IMS-Arbovirus and the WHO Global Strategy 2012-2020 (*12*) emphasize an interprogrammatic, intersectoral, and interinstitutional approach for proper implementation within the framework of development agendas.

Knowing the action taken by the health sector in this component and identifying the actions of other sectors that affect the performance of the national IMS-Arbovirus are key elements of the evaluation process. It is therefore essential for vector surveillance and control strategies to include multiple comprehensive multisectoral approaches that consider initiatives to promote healthy environments by improving solid waste, clean water, and sanitation management, for example, to ensure the continuity and quality of services and proper handling of the chemicals used in vector control.

Table 7 describes the nine standardized aspects that should be evaluated in the environmental component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 7. Standardized aspects that should be evaluated in the environmental component

NUMBER	PRIORITY	ASPECTS
1	1	Existence and enforcement of laws and regulations governing the services responsible for safe management of the water supply for human consumption and sanitation.
2	1	Existence and enforcement of laws and regulations governing basic services for safe environmental sanitation management: – (review those related to the disposal of used tires/rims)
3	1	Monitoring of environmental indicators to guide decision-making and promote the investment of resources to improve environmental conditions.
4	2	Existence and enforcement of laws and regulations governing the proper handling of pesticides that are safe for human health.
5	2	Institutional and intersectoral action to reduce adverse health effects associated with environmental factors: – Risk management and mitigation governance mechanisms. – Development and evaluation of risk communication messages and materials. – Investment in risk reduction. – Preparedness for an effective response to disasters or health emergencies.
6	2	Existence of a training program to address the environmental determinants of health and integrate them into vector control and surveillance strategies (indicate the administrative level of the program).
7	2	Existence of programs for community engagement with local governments to improve environmental conditions associated with the presence of arboviral diseases, including lack of water resulting in water storage, proper sanitation and solid waste management, and domestic hygiene in general.
8	3	Existence of an early warning system for environmental and meteorological conditions associated with arboviral diseases.
9	3	Existence and enforcement of laws and regulations on urban planning, housing conditions, and healthy environments. These laws and regulations acknowledge the risk of vectors in urban environments and their main breeding sites and focus on prevention.

2 The environmental component of the IMS-Arbovirus focuses on water, sanitation, and hygiene. The term "environmental public health personnel" refers to Ministry of Health personnel who deal with environmental issues that impact health. "Environmental personnel," in contrast, are personnel in Environment ministries.

Crosscutting theme: communication and health promotion for behavioral change

Communication for behavioral change has become a crosscutting theme in the regional IMS-Arbovirus (*7*). The communication process is not a feature of this specialty alone. Social communication (both risk and crisis communication) must be approached from the standpoint of all components. For example, in the IVM and environmental components, there is a need for greater engagement by individuals, the family, and the community in environmental management and elimination of the main vector breeding sites. In the patient care component, there is a need for communication strategies that help the population recognize the signs and symptoms of disease early on and know when to seek immediate medical care. It is also important for doctors to know how to communicate with patients and educate them about their illness. Strategies are needed to improve effective communication inside and outside the health sector, during interepidemic periods and during crises.

Since communication for behavioral change is a crosscutting theme––that is, it is common to all components of the IMS-Arbovirus––each member of the evaluation team will need to review the standardized aspects of this theme that require evaluation. That way, all team members will be able to examine aspects related to communication for behavioral change in their particular component (management, epidemiology, patient care, laboratory, IVM, and environment), thus guaranteeing a comprehensive evaluation of the IMS-Arbovirus in the country.

Table 8 describes the eight standardized aspects that should be evaluated in the crosscutting theme of communication and health promotion for behavioral change. The priority assigned to these aspects is discussed in section 4.3.2.

Table 8. Standardized aspects that should be evaluated in the crosscutting theme of communication and health promotion for behavioral change

NUMBER	PRIORITY	ASPECTS
1	1	Existence of an appropriate up-to-date national communication, social mobilization, and risk plan for arboviral disease prevention and control with economic resources and trained personnel, consistent with the sociocultural, demographic, economic, and environmental characteristics of the country.
2	1	Existence of an adequate national communication, social mobilization, and risk communication plan implemented at the different levels (national or central and subnational).
3	1	Existence of social communication and risk communication strategies, including the use of mass media to promote: – elimination of mosquito breeding sites. – seeking timely medical care by recognizing the signs and symptoms of disease, warning signs, and indications of severity. – environmental and territorial planning, including legislation, institutional organization, and zoning and development plans.
4	2	The communication strategy includes a sustainability analysis, coordination mechanisms, work with social actors (community, institutions, NGOs, social organizations, etc.), and determination of the number and type of strategic partnerships involved in the implementation of the national IMS-Arbovirus.
5	2	Existence of health workers and other extrasectoral actors trained in risk and crisis communication on arboviral diseases, their role in each framework, and the prevention and control activities to be promoted in each case.
6	2	Messages and communication materials are available and accessible to physicians and nurses for communicating with patients and health promotion on: – The elimination of breeding sites indoors and in the area surrounding patients' homes. – The promotion of personal and community hygiene (including the management of water for human and domestic consumption and liquid and solid waste management). – Warning signs and indications of severity and personal protective measures to prevent mosquito bites.

NUMBER	PRIORITY	ASPECTS
7	3	Preparation of communication messages and materials using a planning tool for the promotion of behavioral change (COMBI, NEPRAM, or CBC).
8	3	Identification and dissemination of communication experiences that lead to successful behaviors (document the experiences).

CBC: communication for behavioral change; COMBI: communication for behavioral impact; National IMS-Arbovirus: National Integrated Arboviral Disease Prevention and Control Strategy; NEPRAM: Improved practice negotiation model; NGO: Nongovernmental organization.

Crosscutting theme: operations research

The IMS-Arbovirus includes a section devoted to operations research, which is critical to providing scientific evidence during implementation. The main objective of this crosscutting theme is to search for knowledge about interventions, strategies, and tools that can improve quality, effectiveness, and coverage. Its aim is to promote learning and contribute new knowledge that will lend sustainability to the strategy as its implementation progresses.

Like communication and health promotion for behavioral change, operations research is a crosscutting theme––that is, it is common to all components of the IMS-Arbovirus. It will therefore also be necessary for each member of the evaluation team to review the standardized aspects that should be evaluated. That way, all team members will be able to examine aspects related to operations research in their particular component (management, epidemiology, patient care, laboratory, IVM, and environment), thus guaranteeing a comprehensive evaluation of the IMS-Arbovirus in the country.

Table 9 describes the six standardized aspects that should be evaluated in the operations research component. The priority assigned to these aspects is discussed in section 4.3.2.

Table 9. Standardized aspects that should be evaluated in the crosscutting theme of operations research

NUMBER	PRIORITY	ASPECTS
1	1	Existence of procedures for continuous improvement, based on scientific evidence generated by a research and development plan linked to the national IMS-Arbovirus.
2	1	The country has defined and prioritized the main lines of operations research through an initial diagnosis, by component, of the national IMS-Arbovirus.
3	2	The priority generic operations research protocols have been prepared or are in implementation, taking bioethical aspects into account.
4	2	Existence of a country focal point for operations research that includes topics related to arboviral diseases.
5	2	Existence of a budget to support priority operations research.
6	3	Existence of links with academia to support and strengthen the development of the research plan.

National IMS-Arbovirus: National Integrated Arboviral Disease Prevention and Control Strategy.

In addition to the quantitative and qualitative data collected and recorded throughout the evaluation process, it is suggested that, if possible, photographs be taken for the preliminary briefings (see section 3.1) and included in the final report (see section 3.2). It is important to note that any photographs taken during the evaluation visit must adhere to all international and local ethical standards. People's privacy must be respected in all cases. If people are included in the photographs, their informed consent must be obtained.

4.3 Feedback phase

Evaluation of the national IMS-Arbovirus (or indeed, any evaluation) cannot be considered complete if it does not include feedback to national authorities on its results and recommendations. Although the feedback phase can be implemented in multiple ways, this manual proposes that it be done at two points: 1) during the evaluation visit, during which preliminary information is provided (results and recommendations); and 2) in a detailed final report on the evaluation process.

4.3.1 Preliminary information

During the evaluation phase (see section 2), the evaluation teams must interact with national and local authorities and share their technical assessment of the problems and progress identified. They should also offer the necessary recommendations for initiating the local response to address the problems identified (immediately, if possible).

Once the evaluation exercise in each institution or municipality has been completed, the evaluation team will brief the highest authority of the location visited (health center, hospital, laboratory, etc.) on its findings and potential recommendations, mainly those requiring immediate, short-term corrective action. These briefings are not considered the conclusions of the evaluation, since the only conclusions are those obtained at the national level; each of the locations visited is part of the national sample selected for the country evaluation.

Furthermore, on the last day of the evaluation (see model generic agenda in Annex 2), a meeting will be held with the most senior national authorities possible to share the preliminary results of the evaluation visit. Since this meeting is usually brief, it is recommended to state the two main challenges, the two most significant achievements, and the two main recommendations for each component and crosscutting theme of the IMS-Arbovirus. During the meeting, the evaluation mission leader should inform the country about the basic and urgent aspects that the national authorities should address in the short and medium term. If possible, a visual presentation of these preliminary findings should be prepared.

4.3.2 Final report

The final report will be aimed at filling in the gaps and removing barriers that interfere with implementation of the IMS-Arbovirus in each country.

The final report is the responsibility of PAHO's Regional Program on Arboviral Diseases and will be prepared in direct communication with and support from the evaluation team and main technical coordinators of the components and crosscutting themes in the country. All members of the evaluation team should draft their respective part––that is, the component or crosscutting theme that they evaluated, including all activities (meetings, field visits, description of photographs, etc.).

On completion, the Regional Program on Arboviral Diseases will send the report to the PAHO Representative Office in the country, which will deliver it to the country's most senior health authorities. It is suggested that the deadline for submitting the final report to the country be no more than 60 days. The report should be as detailed as possible, describing and reviewing all activities during the evaluation and the conclusions and recommendations (Table 10).

Table 10. Proposed structure and content of the final report

SECTION	CONTENT	COMMENTS
1	**Cover**	The cover should contain the title, country, and date of the evaluation. It must also bear the official logos of PAHO and WHO.
2	**Contents**	This section should contain the entire structure of the report, with page numbers. The numbering from the Contents page to the Executive Summary should be in Roman numerals and from the Introduction on, in Arabic numerals. Annex 3 of this publication shows the Contents section and content of the final report in greater detail.
3	**Abbreviations and acronyms**	Create a list of all abbreviations and acronyms appearing in the publication, with their respective meanings.
4	**Executive summary**	This should be no longer than one page and should contain, at a minimum, the following information: – Objectives and methodology. – Results of the evaluation, by component (the main problem and main achievement for each). – Main conclusions and recommendations.
5	**Introduction**	This should be no longer than one page. This section describes the current status of IMS-Arbovirus implementation in the country and the information that will be provided in the evaluation report.
6	**Background**	Two important aspects are described here: 1) the national IMS-Arbovirus; and 2) the epidemiological situation of arboviral diseases in the country. Each should be no longer than one page.
7	**Objectives**	Statement of the evaluation's general objective and specific objectives.
8	**Evaluation methodology**	Description of both the planning and the evaluation phase.
9	**Results of the evaluation**	The results of the evaluation of each area visited should be stated, beginning with the national level and then the local level. For each area, the meetings and visits should be described. For each component, the two or three main achievements and two or three most important problems should be described and the recommendations stated. It is suggested that photographs taken with the consent of members of the household or homeowners be included with a description to better document or explain the evaluation's findings. Annex 3 presents this structure in greater detail.
10	**Standardized aspects that should be evaluated**	These should be presented in two tables: one summarizing the achievements in each aspect evaluated and another describing these aspects in detail. For more information, see Tables 11 and 12.
11	**Monitoring plan**	This plan should contain the main activities to be monitored by the Regional Program on Arboviral Diseases and the PAHO Representative Office in the country, in compliance with and support for the evaluation's recommendations. This plan will be presented as a timetable, with dates and milestones. For more information, see Table 13.
12	**Conclusions and recommendations**	A table with the main findings and recommendations will be prepared for each component of the national IMS-Arbovirus. It is suggested that the columns contain the conclusions and recommendations and the rows, the components of the IMS-Arbovirus. For more information, see Table 14.
13	**Annexes**	These will include the instrument for collecting the existing information (see section 4.1.2), the final work agenda, and the list with the name, position, and institution of: – the national professionals involved in the evaluation. – the national team. – the evaluation team.

PAHO: Pan American Health Organization; WHO: World Health Organization.

More information about certain sections of the final report is provided below.

Standardized aspects to evaluate (section 10 of the final report). To facilitate the work of the national team, the final report will include tables summarizing the degree to which the targets for each component and crosscutting theme have been met (Table 11), and the priority assigned to each of the elements evaluated for each component and crosscutting theme, the degree of achievement, source of verification, and additional comments to facilitate their understanding (Table 12).

Each table in the final report is intended to enable the national teams to simply and easily visualize the most important elements for planning, prioritizing, preparing the work plan, and achieving the greatest possible impact on the implementation of the activities.

The section on the evaluation phase (section 4.2) mentioned the benefits of standardization in the evaluation process and detailed the standardized aspects that should be evaluated in each component and crosscutting theme of the national IMS-Arbovirus. The final report should include these aspects, establishing their order of priority (from 1 to 3) in each component and crosscutting theme of the IMS-Arbovirus:

- Priority 1: Aspects requiring an immediate response from the country if they are found not to have been achieved or only partially achieved during the evaluation visit. Priority 1 elements will be highlighted in **green**.
- Priority 2: Aspects requiring a short- or medium-term response from the country if they are found not to have been achieved or only partially achieved during the evaluation visit. Priority 2 elements will be highlighted in **orange**.
- Priority 3: Aspects requiring a medium-term response from the country if they are found not to have been achieved or only partially achieved during the evaluation visit. Priority 3 elements will be highlighted in **yellow**.

Table 11 presents a hypothetical situation detailing how many aspects per component and crosscutting theme were evaluated, indicating their priority level and degree of achievement. For example, five priority 1 indicators were evaluated for the management component, four of which were achieved and one only partially achieved.

Table 11. Summary of achievements in the standardized aspects for each component

CROSSCUTTING COMPONENT OR THEME	ACHIEVEMENTS IN STANDARDIZED ASPECTS		
	PRIORITY: 1	PRIORITY: 2	PRIORITY: 3
Management	– 4 out of 5 achieved. – 1 out of 5 partially achieved. – 0 out of 5 unachieved.	– 2 out of 5 achieved. – 1 out of 5 partially achieved. – 2 out of 5 unachieved.	– 3 out of 5 achieved. – 0 out of 5 partially achieved. – 2 out of 5 unachieved.
Epidemiology	– 5 out of 8 achieved. – 1 out of 8 partially achieved. – 2 out of 8 unachieved.	– 4 out of 5 achieved. – 1 out of 5 partially achieved. – 0 out of 5 unachieved.	– 3 out of 5 achieved. – 0 out of 5 partially achieved. – 1 out of 5 unachieved.
Patient care	– 1 out of 5 achieved. – 1 out of 5 partially achieved. – 1 out of 5 unachieved.	– 1 out of 4 achieved. – 2 out of 4 partially achieved. – 1 out of 4 unachieved.	– 1 out of 4 achieved. – 3 out of 4 achieved. – 0 out of 4 unachieved.
Laboratory	– 4 out of 4 achieved. – 0 out of 4 partially achieved. – 0 out of 4 unachieved.	– 3 out of 4 achieved. – 1 out of 4 partially achieved. – 0 out of 4 unachieved.	– 2 out of 3 achieved. – 1 out of 3 partially achieved. – 0 out of 3 unachieved.
IVM	– 2 out of 5 achieved. – 2 out of 5 partially achieved. – 1 out of 5 unachieved.	– 2 out of 5 achieved. – 2 out of 5 partially achieved. – 1 out of 5 unachieved.	– 1 out of 3 achieved. – 2 out of 3 partially achieved. – 0 out of 3 unachieved.
Environment	– 0 out of 3 achieved. – 1 out of 3 partially achieved. – 2 out of 3 unachieved.	– 1 out of 4 achieved. – 1 out of 4 partially achieved. – 2 out of 4 unachieved.	– 0 out of 2 achieved. – 2 out of 2 partially achieved. – 0 out of 2 unachieved.

CROSSCUTTING COMPONENT OR THEME	ACHIEVEMENTS IN STANDARDIZED ASPECTS		
	PRIORITY: 1	PRIORITY: 2	PRIORITY: 3
Communication and health promotion for behavioral change	– 0 out of 3 achieved. – 2 out of 3 partially achieved. – 1 out of 3 unachieved.	– 1 out of 3 achieved. – 1 out of 3 partially achieved. – 1 out of 3 unachieved.	– 0 out of 2 achieved. – 1 out of 2 partially achieved. – 1 out of 2 unachieved.
Operations research	– 1 out of 2 achieved. – 1 out of 2 partially achieved. – 0 out of 2 unachieved.	– 1 out of 3 achieved. – 1 out of 3 partially achieved. – 1 out of 3 unachieved.	– 1 out of 1 unachieved.

IVM: Integrated vector management.

Table 12 presents an example of how to prepare the table, indicating the standardized aspects by component and crosscutting theme (in this case, the management component). In other words, there should be eight tables in all: management, epidemiology, patient care, laboratory, IVM, environment, communication and health promotion for behavioral change, and operations research. For each standardized aspect, the following should be indicated:

- Priority: state the priority level with the respective number and color.
- Level of achievement: achieved, partially achieved, or unachieved.
- Source of verification: technical documents or official reports, interviews, photographs, information systems, etc.
- Comments: if necessary, you may add any comment that helps to clarify the evaluation of the indicator and even include a recommendation.

Table 12. Standardized aspects for the management component

PRIORITY	ASPECT	ACHIEVEMENT LEVEL	SOURCE OF VERIFICATION	COMMENTS
1	The structure and composition of the national GT-Arbovirus includes representatives of each component and crosscutting theme of the national IMS-Arbovirus.	Achieved	National IMS-Arbovirus document and plan of action on arboviral diseases, among others	There is a resolution. There are communication challenges in the group. It has a representative in each component. Leader: "..." (add the name of the person leading the evaluation).
1	Existence of technical regulatory documents from the national level down to the local level (IMS-Arbovirus at the different levels, annual work plan, or plan of action).	Achieved	National IMS-arbovirus document	A technical document for the national IMS-Arbovirus is established in a plan of action.
1	Existence of a budget guaranteeing sustainability in the implementation of the IMS-Arbovirus.	Achieved	Interview with national technical team	Established for each component of the IMS-Arbovirus.
1	Existence of explicit mechanisms for coordination with other ministries or institutions.	Partially achieved	Interview with national technical team	It is recommended that the most senior health authority coordinate with counterparts to adopt a plan of action based on the IMS-Arbovirus.
1	Existence of a legal framework to support the national IMS-Arbovirus.	Achieved	Interview with the national technical team	

PRIORITY	ASPECT	ACHIEVEMENT LEVEL	SOURCE OF VERIFICATION	COMMENTS
2	Existence of an organizational chart (structural or functional) for implementation of the national IMS-Arbovirus.	Partially achieved	Interview with the national technical team	There is a structure for certain components and certain regions. It is not specified.
2	The manager of the national IMS-Arbovirus has sufficient authority to convene meetings and make timely decisions.	Achieved	Interview with the national technical team	The IMS-Arbovirus is overseen by the Vice-Minister of Health.
2	A national IMS-Arbovirus monitoring and evaluation plan is being implemented at the local level.	Unachieved	Interview with the national technical team	Established in the IMS-Arbovirus, but there is no written plan.
2	There is a training plan to build and strengthen capacity at all levels of the national IMS-Arbovirus.	Unachieved	Interview with the national technical team	
2	Systematic coordination and planning meetings involving all components are held.	Achieved	Minutes of meetings	
3	The information generated by the national health surveillance system is used to guide decision-making in arboviral disease prevention and control.	Achieved	Situation room and online platform	
3	Existence of documented intersectoral coordination mechanisms that include civil society, academia, the private sector, NGOs, international cooperation mechanisms, and other partners to move IMS-Arbovirus implementation forward.	Achieved	Interview with the national technical team	
3	Existence of mechanisms for timely transfer of financial resources to subnational levels.	Unachieved	Interview with the national technical team	
3	Existence of contingency plans for managing outbreaks and epidemics, with a response in each component and crosscutting communication theme of the national IMS-Arbovirus.	Unachieved	Interview with the national technical team	They exist but are not timely.
3	The country has a functioning national network of clinical experts in arboviral diseases linked to the regional network.	Achieved	List of network members	

IMS-Arbovirus: Integrated management strategy for arboviral disease prevention and control in the Americas; National GT-Arbovirus: National technical group of experts on arboviral diseases; NGO: Nongovernmental organization.

Monitoring plan (section 11 of the final report). The monitoring plan should contain the main activities to be monitored by the Regional Program on Arboviral Diseases and the PAHO Representative Office in the country, pursuant to and in support of the recommendations issued following the evaluation. It is suggested that this plan be presented in a table indicating the activities and timetable for their implementation, with time counted from the delivery of the final report to the national authorities. Table 13 offers a sample monitoring plan.

Table 13. Sample monitoring plan

ACTIVITIES	TIME AFTER DELIVERY OF THE FINAL REPORT							
	MONTH 1	MONTH 2	MONTH 3	MONTH 6	MONTH 12	YEAR 2	YEAR 3	YEAR 4
Distribute the country evaluation report to all respective technical and managerial levels								
Prepare a plan of action in response to the conclusions and recommendations of the final evaluation report								
Meeting (may be virtual) between national authorities and PAHO technical staff to monitor progress in the standardized aspects evaluated in priority level 1[a]								
Meeting (may be virtual) between national authorities and PAHO technical staff to monitor progress in the standardized aspects evaluated in priority levels 1 and 2[a]								
Meeting (may be virtual) between national authorities and PAHO technical staff to monitor progress in the standardized aspects evaluated in priority levels 1 and 2[a]								
Reevaluation of the IMS-Arbovirus								

Notes:

[a] During these meetings, PAHO will modify its technical cooperation program on arboviral disease prevention and control based on the progress made and the cooperation needs indicated by the country and the PAHO technical teams.

IMS-Arbovirus: Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas; PAHO: Pan American Health Organization.

Main conclusions and recommendations (section 12 of the final report). The purpose of this table is to summarize the main conclusions and respective recommendations for each component and crosscutting theme of the national IMS-Arbovirus. It will also be useful for follow-up and monitoring of IMS-Arbovirus implementation and strengthening in the country, as well as for a second evaluation process. Table 14 provides an example.

Table 14. Sample summary of main conclusions and recommendations following the evaluation

CROSSCUTTING COMPONENT OR THEME	CONCLUSIONS	RECOMMENDATIONS
Management	1 – 3	One for each conclusion
Epidemiology	1 – 3	One for each conclusion
Patient care	1 – 3	One for each conclusion
Laboratory	1 – 3	One for each conclusion
Integrated vector management	1 – 3	One for each conclusion
Environment	1 – 3	One for each conclusion
Communication and health promotion for behavioral change	1 – 3	One for each conclusion
Operations research	1 – 3	One for each conclusion

Each of the tables included in the final report is intended to enable national teams to simply and easily visualize the most important elements for planning, prioritizing, and drafting the work plan to ensure the greatest possible impact in the implementation of the activities.

To introduce the changes proposed during the evaluation process, it is necessary for the Ministry of Health to fully share this final report with all professionals and technicians responsible for or involved in implementing the IMS-Arbovirus in the country. This will facilitate a clearer, more detailed understanding of how each conclusion and recommendation was reached. It is also essential to share the entire report with the experts on all the components, since the integration of activities is key in a model like the IMS-Arbovirus.

Extensive discussions should accompany this dissemination of results so that a work plan can be drawn up with activities that will advance solutions to the problems identified at all levels.

Annex 3 presents a sample structure for a final report that can aid the evaluation team in this task.

Conclusions

The IMS-Arbovirus requires continuous monitoring and periodic, systematic evaluation to gradually advance its implementation and thereby have the greatest impact on arbovirus disease prevention and control. It is known that multiple social and environmental health determinants affect the transmission dynamics of these diseases. Evaluation should therefore be considered an important step in learning about problems and taking action in all disciplines (components), the sectors involved, and communities to solve them.

The final report of each evaluation is one of the most important, updated working documents available to the country and the PAHO Regional Program on Arboviral Diseases to provide continuity for PAHO technical cooperation. Moreover, it is one of the most objective and important documents for lending sustainability to the IMS-Arbovirus and will enable the necessary guidelines to be prepared to continue making progress and improvements in the prevention and control of these diseases.

We hope that this instructional manual has provided you with standardized methodological guidance on how to conduct an evaluation and at the same time has bolstered your competence and performance in evaluating the IMS-Arbovirus in our Region.

We also hope that you continue to employ your creativity, innovation, and experience to enrich this evaluation process.

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Glossary

TERM	DEFINITION
Standardized aspects that should be evaluated	Predetermined set of indicators and other elements in the national IMS-Arbovirus that the evaluation team should measure.
Evaluation team	Professionals who evaluate implementation of the national IMS-Arbovirus. It can consist of international experts or a combination of this group and country experts.
National team	Professionals appointed by the Ministry of Health to assist the evaluation team.
Evaluation	Rigorous analysis of information on the activities, characteristics, results, and effects of a specific program or intervention, based on the scientific method, that makes it possible to assess its merit. It measures the impact of the strategy and investigates its results and impact by comparing the baseline with the results obtained after a specific time ("before and after" design).
Indicators	Management tools that provide a reference value for comparing the planned goals with the performance achieved.
Impact indicator	Determines the characteristic or change showing that an impact has been achieved. Measures the changes expected at the end of the project and even beyond its completion, which are defined in its general purpose or objective.
Process indicator	Part of program monitoring or follow-up; its data indicate the status of an activity. They measure some specific, observable characteristic to show the changes and progress taking place.
Monitoring	Ongoing assessment whose purpose is to provide early detailed information on progress or delays in the activities under way. It measures the strategy's impact. It is done to correct aspects of the strategy that do not work as planned, make the necessary changes in time, and adapt to them.
National or central level	National administrative or ministry authorities with decision-making power in the implementation of the IMS-Arbovirus. It is the highest strategic level of the Ministry of Health and includes the centers, institutions, bureaus, and departments with national responsibilities and functions.
Subnational level[a]:	Authorities of the region (or health region), department, province, or state in the country. The subnational level also includes local levels (municipalities, health areas or networks, polyclinics, etc.).
Environmental personnel	Ministry of Environment staff in the countries.
Environmental public health personnel	Ministry of Health staff who study environmental issues that impact health.

Notes:

[a] The levels vary from country to country, depending on the geographical, political, and administrative division related to the health sector.

IMS-Arbovirus: Integrated management strategy for arboviral disease prevention and control in the Americas; National IMS-Arbovirus: National integrated arboviral disease prevention and control strategy.

Annex 1. Preliminary information necessary for evaluating implementation of the national IMS-Arbovirus

As part of the preparations for evaluating the IMS-Arbovirus, the national team must complete and send the questionnaire presented here to the PAHO Representative Office in the country.[3] This information is essential and will serve as an important diagnostic tool for the national authorities, national team, and international evaluation team. It will enable them from the outset to identify some of the aspects that should be prioritized and buttressed during the mission.

This questionnaire is based on a World Health Organization (WHO) proposal that was adapted by experts from the different components of our Region. It has been used in earlier evaluations of the Integrated Management Strategy for Dengue Prevention and Control in the Region of the Americas (IMS-Dengue)[4] in recent years and has proven an important comprehensive evaluation tool (Table A1).

Table A1. Questionnaire for situational diagnosis of arboviral diseases in the Region

1. General information	1.1. Geography
	1.2. Demographics and trends
	1.3. Socioeconomic and development profile
	1.4. Estimated proportion of the national population currently at risk for dengue, chikungunya, and Zika

3 Pan American Health Organization. Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas. Washington, D.C., PAHO, 2019. Available from: https://iris.paho.org/handle/10665.2/52492

4 Pan American Health Organization. Estrategia de Gestión Integrada para la prevención y control del dengue en la Región de las Américas. Washington, D.C., PAHO, 2017. Available from: https://iris.paho.org/handle/10665.2/34859

2. Sector and ministry of health	2.1. Brief description of the health system
	2.2. Organizational chart of sector levels, including the national, regional, and government levels: – Health sector reforms, integration of services, and role of the private sector. – Other relevant reforms for implementation of the IMS-Arbovirus.
	2.3. Human Resources: – Number of physicians, environmental health personnel, entomologists, vector control personnel, epidemiologists, arbovirus diagnostic laboratory personnel, and communicators (coverage by major administrative division).
	2.4. Accessibility and estimated coverage of public health services: – Urban, rural, and total.
	2.5. Existing legislation on any component of the topic
	2.6. Health information system: – Organization, frequency, and format of the information disseminated on arboviral diseases. Flow of the information issued (newsletters, electronic information, etc.) and key audiences.
	2.7. Private and nongovernmental health sector: – Number of private sector health institutions (private clinics and hospitals) serving patients and their coverage.
3. Management	3.1 Description of the strategy's or program's history and political backing (include the latest annual report)
	3.2 Current location of the IMS-Arbovirus or program in the current ministry of health structure. Integration in the health services.
	3.3 Type, number, and distribution of personnel involved in management of the IMS-Arbovirus: – How many people work full-time in arboviral disease prevention and control and what positions do they hold? – Number of existing and vacant posts.
	3.4 Technical documents – Describe the adapted documents of the national IMS-Arbovirus. – Briefly describe the main legislation, regulations, resolutions, or instructions from the ministerial level and other ministries for its implementation in the country.
	3.5 Has a budget been allocated for the IMS-Arbovirus? – Total budget. – Amount of foreign aid provided for the national IMS-Arbovirus.
	3.6 Describe the monitoring and evaluation method: – Describe the past year's supervisory activities (e.g., number of visits, by whom, and at what level; the regularity, frequency, and length of the supervisory visits). – Coordination of the IMS-Arbovirus with other ministries, national external partners, government programs, etc.
4. Epidemiology	4.1 Case definitions and diagnostic criteria used in reporting arboviral diseases. – Date of the last update of the arbovirus surveillance guides, and whether they are aligned with those of PAHO. – How surveillance data are reported; whether they are disaggregated by age, sex, and geographic distribution (e.g., by district or region; urban, rural, or country capital). Frequency of reports and notification.
	4.2 Epidemiological information is available and has been reviewed to identify historical trends in arboviral diseases (dengue, Zika, and chikungunya) over the past 5-7 years.

5. Patient care	5.1 Existence of a national guide for the management dengue, chikungunya, and Zika patients; and when it was last updated.
	5.2 National guides are aligned with the PAHO clinical management guides for arboviral diseases in the Region.
	5.3 Existence of a training program for doctors, nurses, and other health workers, based on the national guides.
	5.4 Existence of a group created for the review of severe cases and deaths from arboviral diseases (composition, terms of reference for the group, and frequency of meetings).
6. Laboratory	6.1 Description of activities and procedures for the diagnosis and reporting of arbovirus-positive cases
	6.2 Description of the services of the arboviral disease laboratory: – Laboratories available for the diagnosis of arboviral diseases. – Existence of a national laboratory network for the diagnosis of arboviral diseases. Existence of a national reference laboratory. – Available diagnostic methods and tests. – The national laboratory is a member of the Arbovirus Diagnosis Laboratory Network of the Americas (RELDA). – The laboratory has experienced a shortage of reagents in the past year. Explain why. – Results of the last laboratory quality assessment test (external and internal).
	6.3 Activities of the national reference laboratory (if there is one): – How quality control of serological and virological tests is performed in the national network. – Have the staff of all laboratories that do diagnostic testing for arboviral diseases been trained? Who is trained? How often? How is supervision of the national network conducted?
	6.4 What commercial diagnostic kits are used in the country for the diagnosis of arboviral diseases?
7. Integrated vector management	7.1 Geographic distribution of the vector and determination of priority areas (*Aedes aegypti* and *Ae. albopictus* separately): – Infestation and other available indexes. – Profile of the vector's main breeding sites. – Mapping of the areas and regions where vector resistance and susceptibility to the insecticides used in the country has been found.
	7.2 Systematic evaluation of the effectiveness of vector control activities in the field and laboratory
	7.3 Presentation of tables or reports indicating fumigation equipment stocks, needs, coverage, etc.
	7.4 Frequency of systematic staff training and certifications in insecticide application
	7.5 Insecticide use: – Policies, regulations, and distribution of insecticides licensed for public health use. – Insecticides used in the arboviral disease control program. – Annual insecticide use for the control of arboviral disease vectors (if specific data exist). – Plan of action on vector control with insecticide use at different stages of the vector life cycle.

8. Environment	8.1. Brief description of the water and sanitation and environment sectors and environmental public health managers
	8.2. Accessibility and coverage of water and sanitation services, including solid waste management (collection, treatment, and final disposal): – Urban, rural, and national.
	8.3. Tires, rims, and household appliances: their impact on public health and the environment: – Analysis of the impact on public health and the environment. – Impact of policies, plans, and projects related to the use and disposal of tires and rims at the national and subnational levels. – Strategies for the management and disposal of tires and rims.
	8.4. Environmental public health personnel: – Environmental indicators that are followed and monitored. – Integration of environmental public health surveillance with epidemiological surveillance.
	8.5. Activities to integrate the environmental determinants of health with vector surveillance and control strategies: – Safe water and sanitation management. – Solid waste management. – Healthy environments – Hygiene promotion. – Risk communication.
9. Communication and health promotion for behavioral change	9.1 Describe the health promotion and social communication activities that have been carried out and how they were monitored and evaluated.
	9.2 Describe how promotion and communication activities were planned. Was COMBI or any other planning tool used? – The effectiveness of the tool or methodology used was evaluated: what was the result? – Mass media are used for these activities: to what extent?
	9.3 There is a training plan for health workers directly involved in caring for the population, and they must send educational messages (doctors, nurses, entomologists, technicians, etc.).
	9.4 Who was responsible for guiding, organizing, and monitoring promotion and communication activities?
	9.5 Is a specific budget allocated for promotion and social communication on arboviral diseases or is it part of a general plan?
10. Operations research	10.1 Existence of a needs diagnosis or research problem database for the IMS-Arbovirus.
	10.2 Operations research lines are defined generally or by component.
	10.3 Send a list of the main research currently under way in relation to the IMS-Arbovirus.

IMS-Arbovirus: Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas; COMBI: communication for behavioral impact; PAHO: Pan American Health Organization.

Annex 2. Model activities agenda

Table A2 provides a model agenda for the evaluation process. This agenda can be modified during the planning process to tailor it to the national context.

Table A2. Model agenda for the evaluation process

DAY 1 (MONDAY X OF MONTH XX)	
SCHEDULE	**TEAMS 1, 2, AND 3: CAPITAL CITY AND COUNTRY**
8:30 a.m.-9:00 a.m.	Mission meeting with the PAHO Representative in the country and focal point: – Brief overview by the team leader of the mission's planning, objectives, approved agenda, and logistics. – Comments and guidance from the Representative, including a security briefing for the entire team.
9:30 a.m.-12:00 p.m.	Mission meeting with the country's multidisciplinary intersectoral technical teams: – Organizational aspects » Introduction of international participants. » Thanks to the country and local PAHO Representative Office for their preparations and support for the mission. » Brief explanation by the team leader of the mission's objectives, its importance, the agreed agenda, and other necessary details. Necessary clarifications with the national team. » Introduction of the national team that will accompany the mission or be part of it in each component. Each external evaluation team will constantly be accompanied by a national team throughout the mission. » Logistical aspects of the mission that the team should be aware of. – Technical aspects » Presentation of the epidemiological situation of arboviral diseases in the country. » Presentation of the current status of the strategy for arboviral disease prevention and control in the country, the organizational structure, components, resources, operation, prevention and control activities, training, monitoring, and other relevant aspects. » Extrasectoral and community activities. » Technical discussions, Q&A session.
12:00 p.m.-1:00 p.m.	**Lunch**
1:00 p.m.-2:30 p.m.	**Departure of teams 2 and 3 for the selected region, province, or municipality (hereafter, Regions A and B)**
2:00 p.m.-4:00 p.m.	**Team 1:** Visit to the national strategy bureau's coordination office. This varies from country to country; it can be in the epidemiology or entomology bureau and sometimes under the vice ministry. The basic objective of this visit is to review the key aspects of IMS-Arbovirus management, its implementation and monitoring process, and the training plan from the central level and to gain a clearer understanding of how extrasectoral and other aspects of the national IMS-Arbovirus's management component work.

DAY 2 (TUESDAY)				
SCHEDULE A	**Team 1: Capital city (central level)**	**SCHEDULE A**	**Team 2: Selected region, province, or municipality (Region A)**	**Team 3: Selected region, province or municipality (Region B)**
8:00 a.m.-11:00 a.m.	Visit to the epidemiology unit, national office, and institutions involved in surveillance in the country	**8:00 a.m.-11:00 a.m.**	Technical meeting of the mission and the regional, provincial, or municipal director and his or her entire technical team: – Presentation of the evaluation agenda by the PAHO team leader. – Presentation of the epidemiological situation of arboviral diseases in the country. – Presentation of the current status of the IMS-Arbovirus and its organizational structure, components, resources, and prevention and control measures. – Extrasectoral and community activities.	Technical meeting of the mission and the regional, provincial, or municipal director and his or her entire technical team: – Presentation of the evaluation agenda by the PAHO team leader. – Presentation of the epidemiological situation of arboviral diseases in the country. – Presentation of the current status of the IMS-Arbovirus and its organizational structure, components, resources, and prevention and control measures. – Extrasectoral and community activities.
11:30 a.m.-1:00 p.m.	Visit to the department of health promotion and communication for behavioral change	**11:30 a.m.-1:00 p.m.**	Visit to the department of health promotion and communication for behavioral change	Visit to the department of health promotion and communication for behavioral change
1:00 p.m.-2:30 p.m.	**Lunch**	**1:00 p.m.-2:30 p.m.**	**Lunch**	**Lunch**
2:30 p.m.-5:30 p.m.	Meeting with the director and team of the central vector control and surveillance unit. Technical information, planning and operations, availability of resources, etc.	**2:30 p.m.-5:30 p.m.**	Visit to the arbovirus diagnostic public health laboratory	Visit to the arbovirus diagnostic public health laboratory

DAY 3 (WEDNESDAY)				
SCHEDULE	**Team 1: Capital city (central level)**	**SCHEDULE**	**Team 2: Region A**	**Team 3: Region B**
8:30 a.m.-12:00 p.m.	Visit to the national diagnostic virology laboratory and the national diagnostic entomology laboratories	**8:00 a.m.-10:30 a.m.**	Visit to the vector control unit or department and field visits	Visit to the vector control unit or department and field visits
12:00 p.m.-1:30 p.m.	**Lunch**			
1:30 p.m.-5:30 p.m.	– Visit to the national bureau for medical care or patient management. – Visit to the national bureau of environmental health.	**10:30 a.m.-1:00 p.m.**	– Visit to the primary care center. – Verification of prevention and control activities at this level.	– Visit to the primary care center. – Verification of prevention and control activities at this level.
		1:00 p.m.-2:30 p.m.	**Lunch**	**Lunch**
		2:30 p.m.-5:30 p.m.	– Visit to the hospital or other secondary care unit. – Verification of prevention and control activities at this level.	– Visit to the hospital or other secondary care unit. – Verification of prevention and control activities at this level.

DAY 4 (THURSDAY)				
SCHEDULE	**Team 1 (central level)**	**SCHEDULE**	**Team 2**	**Team 3**
8:00 a.m.-1:30 p.m.	Field visits: – Primary care unit (polyclinic, health area). – Visit to the hospital or other secondary care unit.	**8:30 a.m.-12:00 p.m.**	Meeting with the health team and information and review of the findings during the visit, by component; preparation of main recommendations	Meeting with the health team and information and review of the findings during the visit, by component; preparation of main recommendations
		12:00 p.m.-2:00 p.m.	**Lunch**	**Lunch**
1:30 p.m.-2:30 p.m.	**Lunch**			
2:30 p.m.-5:30 p.m.	Visit to the vector control center or department. Verification of vector surveillance and control activities in the field (resources, logistics, etc.).	**2:00 p.m.**	Departure for the capital city in the afternoon of Day 4	Departure for the capital city in the afternoon of Day 4

DAY 5 (FRIDAY)	
SCHEDULE	**FULL EVALUATION TEAM**
8:00 a.m.-11:00 a.m.	Preparation of the preliminary presentation to the national authorities. Discussion with the team of preliminary conclusions and recommendations and timetable for preparation of the final report.
11:00 a.m.-12:30 p.m.	Meeting to discuss conclusions and recommendations. Presentation of a summary of the visit, as well as the main conclusions and recommendations. Participation of the ministry of health technical team and authorities and the PAHO technical team and PAHO Representative in the country.
12:30 p.m.-2:00 p.m.	**Lunch**
2:00 p.m.	Participants return to their countries of origin.

PAHO: Pan American Health Organization.

Annex 3. Structure of this report

A sample structure for the final evaluation report is proposed below. If necessary, other aspects that emerged during the evaluation visit not considered in this proposal can be added.

1. Cover
2. Title page
3. Content
4. Acronyms
5. Executive Summary
6. Introduction
7. Background
   - a. Country program for arboviral disease prevention and control
   - b. Epidemiological situation of arboviral diseases
8. Evaluation objectives
   - a. General objective
   - b. Specific objectives
9. Evaluation methodology
   - a. Pre-evaluation preparations
   - b. Evaluation phase
10. Results of the evaluation
    - a. Ministry of Health (central level)
      - i. Management
      - ii. Epidemiology
      - iii. Patient care
      - iv. Laboratory
      - v. Integrated vector management
      - vi. Environment
      - vii. Communication and health promotion for behavioral change
      - viii. Operations research
    - b. Subnational Region 1 evaluated
      - i. Management

ii. Epidemiology

iii. Patient care

iv. Laboratory

v. Integrated vector management

vi. Environment

vii. Communication and health promotion for behavioral change

viii. Operations research

c. Subnational Region 2 evaluated

i. Management

ii. Epidemiology

ix. Patient care

i. Laboratory

ii. Integrated vector management

iii. Environment

iv. Communication and health promotion for behavioral change

v. Operations research

11. Standardized aspects that should be evaluated

a. Summary of aspect achievements, by component and crosscutting theme

b. List of elements by component and crosscutting theme

i. Management component

ii. Epidemiology component

iii. Patient care component

iv. Laboratory component

v. Integrated vector management component

vi. Environmental component

vii. Crosscutting theme: Communication and health promotion for behavioral change

viii. Crosscutting theme: Operations research

12. Monitoring plan

13. Conclusions and recommendations

14. Annexes

a. List of professionals participating in the evaluation

b. Final agenda

c. Instrument for the collection of preliminary information necessary for the evaluation

The *Integrated Management Strategy for Dengue Prevention and Control in the Region of the Americas* (IMS-Dengue) was prepared in 2003 by the countries of the Region and the Pan American Health Organization (PAHO). In 2016, it was expanded to address other arboviral diseases (chikungunya and Zika), thus becoming the *Integrated Management Strategy for Arboviral Disease Prevention and Control in the Americas* (IMS-Arbovirus). Today, the IMS-Arbovirus is a robust tool for responding to situations created by these diseases.

One of the IMS-Arbovirus's main strengths has been its sustainability, thanks in part to the monitoring and evaluation performed by the countries of the Region and by PAHO. As of the date of publication of this document, 34 external evaluation exercises had been conducted in the countries of the Region, some of which had two or more evaluations. This publication summarizes the experience and evidence gleaned from these processes and clearly and simply provides a methodology to enable the teams responsible for implementing the national IMS-Arbovirus in each country and the PAHO Regional Program on Arboviral Diseases to monitor and evaluate these strategies in a standardized manner.

These evaluations of the national IMS-Arbovirus are intended to contribute to improved technical cooperation to strengthen response capacity in arboviral disease prevention and control in the countries and territories of the Americas.

PAHO Pan American Health Organization World Health Organization Regional Office for the Americas

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