GUIDE FOR THE PREPARATION OF REPORTS ON THE AÉDES AEGYPTI ERADICATION CAMPAIGN IN THE AMERICAS

PAN AMERICAN SANITARY BUREAU
REGIONAL OFFICE OF THE WORLD HEALTH ORGANIZATION
WASHINGTON 6, D. C.
U. S. A.
GUIDE FOR THE PREPARATION OF REPORTS
ON THE AEDES AEGYPTI ERADICATION CAMPAIGN
IN THE AMERICAS

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PAN AMERICAN SANITARY BUREAU
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World Health Organization
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TABLE OF CONTENTS

Page

Introduction ........................................... 1

I. General Standards Governing the Aedes aegypti Eradication Campaign ................. 2

II. Instructions on the Use of Form PASB-1 (Monthly Report on the Aedes aegypti Eradication Campaign) .... 4

III. Instructions on the Use of Form PASB-4 (Quarterly Summary of the Aedes aegypti Eradication Campaign) .... 9
INTRODUCTION

The present campaign for the continental eradication of Aedes aegypti was undertaken in accordance with a resolution of the Directing Council of the Pan American Sanitary Organization at its First Meeting held in Buenos Aires from September 24 to October 2, 1947. It forms part of the program of international cooperation in public health.

This Guide explains the new forms and procedures which are to be used as of January 1954 in the preparation of the monthly and quarterly reports on the campaign. The data contained in these reports will serve principally for evaluation of the status and progress of the campaign in entire countries and in each locality found infested by the preliminary survey.

The data will be very useful, also, in the application of the various definitions and provisions concerning yellow fever contained in the International Sanitary Regulations, especially the following:

Definitions Included in Part I, Article 1, of the Regulations

"Aedes aegypti index" means the ratio, expressed as a percentage, between the number of habitations in a limited well-defined area in which breeding-places of Aedes aegypti are found, and the total number of habitations in that area, all of which have been examined, every dwelling of a single family being considered as a habitation;

"infected local area" means -
(a) a local area where there is a foyer of plague, cholera, yellow fever, or smallpox; or ...
(d) a local area or a group of local areas where the existing conditions are those of a yellow-fever endemic zone;

"yellow-fever endemic zone" means an area in which Aedes aegypti or any other domiciliary vector of yellow fever is present but is not obviously responsible for the maintenance of the virus which persists among jungle animals over long periods of time;

"yellow-fever receptive area" means an area in which yellow fever does not exist but where conditions would permit its development if introduced."

Provisions Included in Part II, III and V of the Regulations

"Article 6, 2. An infected local area may be considered as free from infection when... (b) in the case of yellow fever outside a yellow-fever endemic zone, three months have elapsed after the occurrence of the last human case, or one month after the reduction of the Aedes aegypti index to not more than one per cent;

"Article 20, 1. Every port situated in a yellow-fever endemic zone or a yellow-fever receptive area, and the area within the perimeter of every airport so situated, shall be kept free from Aedes aegypti in their larval and adult stages.

"Article 70, 2. When a health administration declares to the Organization that, in a local area which is part of a yellow-fever endemic zone, the Aedes aegypti index has continuously remained for a period of one year below one per cent, the Organization shall, if it concurs, notify all health administrations that such local area has ceased to form part of the yellow-fever endemic zone."

The epidemiological as well as the statistical value of the reports on the campaign will depend greatly on their being sent regularly and promptly to the Pan American Sanitary Bureau.
I. GENERAL STANDARDS GOVERNING THE AÈDES AEGYPTI ERADICATION CAMPAIGN

IN EACH COUNTRY

An exhaustive survey to determine the infested area of the country, through careful inspection of all localities presumed to be infested. By “locality” is meant any populated center such as cities, towns, villages, etc., as well as any inhabited rural place having its own name and comprising one or more isolated houses or huts, ‘fincas,’ farms, plantations, etc.

IN EACH LOCALITY

Preliminary Survey

1. An exhaustive survey to determine the infested area of the locality, following the classical method, i.e., inspection of every third house of the urban zone, where the houses are contiguous; of every second house when they are separated by less than 25 yards; and of all houses when the space between them is 25 yards and over, as is usually the case in rural areas.

Initiation of the Eradication Work

2. The first application of DDT by the perifocal or intradomicile methods, as follows: a) to all houses of the positive locality in the case of massive or generalized infestation; b) to all infested houses and to those situated within a radius of 25 yards of infested houses, in the case of localized infestation.

Three Months after Initiation of the Eradication Work

3. First check of infestation in the locality treated three months previously, through search for foci performed by inspectors instructed and equipped to do such work. If this check is positive it is to be accompanied or followed by:

4. Second application of DDT to the locality, using the method described in item 2 above.

Six Months after Initiation of the Eradication Work

5. Second check of infestation, through search for foci, both if the locality was found positive or if it was found negative on the first check. If this check was negative, the search for foci will be conducted in all houses of the area found infested during the preliminary survey, and in one third of the total number of houses in the area found negative at the time of the preliminary survey. When the second check is positive it is to be accompanied or followed by:

6. New Application of DDT to the locality, using the method described in item 2 above.

Nine Months after Initiation of the Eradication Work

7. Third check of infestation, through search for foci, if the locality was found positive on the second check, or if it was found negative by the second check but had been positive on the first check. In case the locality was found negative on the first and second checks, the third check is not to be carried out. When this check is made and the result is positive, it is to be accompanied or followed by:

8. New application of DDT to the locality, using the method described in item 2 above.

Twelve Months after Initiation of the Eradication Work

9. Special check of infestation, through house capture of mosquitoes, if the first and second checks of the locality were negative. This special check is to be made in all houses of the area found infested during the preliminary survey, and in one third of the total number of houses in the area found negative during the preliminary survey. Suspension of the work if results of this check are completely negative.
REMARKS

1. A positive check will always be accompanied or followed by new application of DDT to the locality.

2. Basically, eradication will be considered to have been attained in the locality when two consecutive checks through search for foci followed by another check through house capture of mosquitoes are negative in a minimum period of one year from the last application of DDT.

3. For the purposes of the campaign the term "carrier" means: a) an aircraft or ship as defined below, or a train or road vehicle making an international voyage; b) an aircraft, vessel (including coasting vessels), train or road vehicle of internal traffic, touching an airport or port as defined below or a frontier post. Furthermore, the following definitions in Part I, Article 1, of the International Sanitary Regulations will apply:

   "aircraft" means an aircraft making an international voyage;

   "airport" means an airport designated by the State in whose territory it is situated as an airport of entry or departure for international air traffic;

   "international voyage" means-
   (a) in the case of a ship or an aircraft, a voyage between ports or airports in the territories of more than one State, or a voyage between ports or airports in the territory or territories of the same State if the ship or aircraft has relations with the territory of any other State on its voyage but only as regards those relations;

   "port" means a seaport or an inland navigation port which is normally frequented by ships;

   "ship" means a seagoing or an inland navigation vessel making an international voyage;"

4. When the locality rendered negative has a port, airport or frontier post and there is relation with infested localities, checks of infestation will be made every 6 to 12 months after the locality has been found negative by the special check in item 9. above, and a permanent service of disinsectization of carriers on arrival and of surveillance of port, airport or frontier port installations will be organized. This service will be maintained until all positive localities touched by the carriers before arrival are negative as prescribed in remark 2. above.

5. If a locality rendered negative as prescribed in remark 2. above becomes reinfested, it will be again subjected to the pertinent procedures set forth in these General Standards.
II. INSTRUCTIONS ON THE USE OF FORM PASB 1 (MONTHLY REPORT ON THE AÈDES AEGYPTI ERADICATION CAMPAIGN)

This form replaces Form PASB/PH-14E and should be used starting January 1954.

The purpose of this form is to present each month the cumulative results of the campaign from its start, according to the total number of localities covered, either by the campaign itself or through campaigns against vectors; the localities with international traffic, found with aegypti as of their latest inspection; and the carriers found to be aegypti positive during the month of the report.

The report is to be prepared monthly and presented, in duplicate, to the following address, as soon after the close of the reporting month as possible:

Pan American Sanitary Bureau
Regional Office of the World Health Organization
Washington 6, D.C., U.S.A.

In addition, a copy of the report should be sent to the appropriate Zone Office of PASB.

PART I

Columns (1) to (13) will include only the totals for the entire country.

The totals of columns (1) and (2) will be fixed, although the total for column (2) may be modified whenever more accurate or complete data become available.

The totals of columns (3) to (13) will be cumulative, i.e., for the period from the start of the campaign through the reporting month.

Extent of the Problem in Square Miles

Columns (1), (2), and (3) will indicate: the total area of the country according to official information; the approximate initial area presumably infested because of conditions favorable to the development of Aedes aegypti; and the area of the country already inspected.

By “area already inspected” is meant that portion of the initial area presumably infested, in which a preliminary survey or aegypti eradication work without preliminary survey has been effected, either by the campaign itself or through campaigns against vectors.

The presumably infested initial area of the country (column (2)) as well as the area already inspected (column (3)), can be determined, on the basis of official figures, by totaling the pertinent areas of the major administrative divisions of the country (such as states, provinces, departments or their equivalents) or of subdivisions thereof (such as municipalities, districts, or their equivalents).

Number of Localities Covered

Preliminary Survey

Column (4) - In this column record the total localities in which a preliminary survey was completed.

Column (5) - In this column enter the number of localities noted in column (5) which were found with aegypti.

Aedes aegypti Eradication Work

Anti-aegypti campaign. - Columns (6) to (9) will serve to record, exclusively, the eradication work effected by the anti-aegypti campaign, and should be filled in as follows:

Column (6) - In this column indicate the total localities that have received one or more applications of insecticide.
Column (7) - In this column specify the number of localities noted in column (6) which have been checked one or more times to ascertain the status of the eradication work. The total of column (7) is broken down into two parts which will be recorded in the following columns:

Column (8), for the number of localities found *aegypti* free as of their last check, and
Column (9), for the number of localities found with *aegypti* as of their last check.

**Contribution of other campaigns.** - Columns (10) to (13) will serve to record exclusively, the *aegypti* eradication work carried out through campaigns against vectors by the application of insecticides, with or without preliminary survey.

Column (10) is to be completed in the same manner as column (6), and columns (11), (12) and (13) in the same manner as columns (7), (8) and (9).

**PART II**

This part is devoted to localities with international traffic, found with *aegypti* as of their latest check inspection. By "locality with international traffic" is meant any locality having a port or airport as defined in remark 3 of the General Standards, (see p. 3), as well as any locality with a frontier post.

Column (11) - The name of each positive locality with international traffic will be entered in this column. When there are two or more such localities, the names should be listed strictly in the order of date of the latest check inspection, i.e., the name of the most recently inspected locality first, then the name of the locality inspected just prior to that and so on. Also one of the symbols appearing at the foot of the form or the proper combination thereof will be written next to the name of the locality, to indicate the place of entry or departure for international traffic.

**Conditions as of Latest Inspection of each Locality**

The word "inspection" means:

1 - the inspection of houses exclusively (including installations), in the case of a locality with a port, airport or frontier post where carriers are not or have not been inspected;

2 - the inspection of houses (including installations) and carriers, in the case of a locality with a port, airport or frontier post where carriers are or have been inspected as well.

Also the definition of "carrier" as given in remark 3 of the General Standards (see p.3) will apply.

Column (2) - In general the date will be indicated by writing first the day of the month in Arabic numerals, then the month in Roman and the last two numerals of the year in Arabic, e.g.: 15/II/54.

"Houses" and "Carriers Inspected"

These columns require a special explanation when the inspection is of the type described in item (2) above. In this case, the latest inspection will be considered positive if *aegypti* has been found in either the houses (installations included) or the carriers, or in both.

Generally, the complete data of the last inspection of houses (installations included) and the last inspection of carriers should be indicated, whether effected in the same month or in different months, so long as one of them shows positive results. In the event these inspections were made in different months, two lines should be used, listing the data on the most recent inspection on the first line, and the data on the inspection previous to that on the second line.
PART III

In this part on the reverse side of the form, the information on each carrier making an international voyage, which was found with aegypti during the reporting month should be entered on one or more lines.

Only the following columns require explanation:

Column (4) - When the carrier has made a stop in more than one port, airport or frontier post, this will be indicated in the proper order, by naming, first the last port, airport or frontier post touched by the carrier, then the previous port, airport or frontier post and so on.

Column (6) - To indicate the results, the words “pupae,” “larvae” or “adults” or the proper combination of these, should be used.

COMMENTS

This space on the reverse side of the form will be used for any comments or explanations on the information entered in the various parts of the form, as well as for any supplementary data or information of interest in the eradication campaign.
MONTHLY REPORT ON THE AÈDES AEGYPTI ERADICATION CAMPAIGN - FORM PASB 1

Size 8 1/2" x 11"

MONTHLY REPORT OF THE AÈDES AEGYPTI ERADICATION CAMPAIGN

Pan American Sanitary Bureau
Regional Office of the
World Health Organization
Washington 6, D.C., U.S.A.

Country ____________________________

Month ____________________________ 19

PART I

Extent of the Aëdes aegypti Problem and Results of Preliminary Surveys and Eradication Work Performed to Date in the Localities Covered

<table>
<thead>
<tr>
<th>EXTENT OF THE PROBLEM</th>
<th>NUMBER OF LOCALITIES COVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>in Square Miles</td>
<td></td>
</tr>
<tr>
<td>Total area of the country</td>
<td>Initial area presumably infected *</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td>(8)</td>
</tr>
<tr>
<td></td>
<td>(10)</td>
</tr>
<tr>
<td></td>
<td>(12)</td>
</tr>
</tbody>
</table>

PART II

Number of Houses and Carriers Inspected and Found with Aëdes aegypti as of the Latest Inspection of Each Locality with International Traffic

<table>
<thead>
<tr>
<th>Name of Positive Localities with International Traffic **</th>
<th>CONDITIONS AS OF THE LATEST INSPECTION OF EACH LOCALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>HOUSES</td>
</tr>
<tr>
<td></td>
<td>Date (2) Number existing (3) Total (4) With aegypti (5)</td>
</tr>
<tr>
<td></td>
<td>CARRIERS INSPECTED</td>
</tr>
<tr>
<td></td>
<td>Total (6) With aegypti (7)</td>
</tr>
</tbody>
</table>

* Express in thousands of square miles or fraction thereof.
** Abbreviations for the place of entry or departure for international traffic: A= Airport; M= Maritime port; F= River or lake port; T= Frontier post

(Over)
PART III

Carriers on an International Voyage Which were Found with Aedes aegypti during the Month

<table>
<thead>
<tr>
<th>Inspection Port, Airport or Frontier Post * (1)</th>
<th>CARRIER</th>
<th>INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name (2)</td>
<td>Type (3)</td>
<td>Arrived from * (4)</td>
</tr>
</tbody>
</table>

* Abbreviations: A = Airport; M = Maritime port; F = River or lake port; T = Frontier post

COMMENTS

Signature __________________________ Position __________________________

Date __________________________ Office __________________________

* Abbreviations: A = Airport; M = Maritime port; F = River or lake port; T = Frontier post
III. INSTRUCTIONS ON THE USE OF FORM PASB 4 (QUARTERLY SUMMARY OF THE AÉDES-AEGYPTI ERADICATION CAMPAIGN)

This form replaces Form PASB/PH 15E and will be used starting January 1954.

The main purpose of this form is to report quarterly, for the period from the start of the campaign through the reporting quarter, on the situation of each locality found with aegypti in the preliminary survey or treated with insecticide, without preliminary survey, either by the campaign itself or through campaigns against vectors.

The report is to be prepared quarterly and transmitted, in duplicate, to the following address, as soon after the close of the reporting quarter as possible:

Pan American Sanitary Bureau
Regional Office of the World Health Organization
Washington 6, D.C., U.S.A.

In addition, a copy of the report should be sent to the appropriate Zone Office of PASB.

The quarters will be those of the calendar year, as follows: first quarter, January to March; second, April to June; third, July to September; and fourth, October to December, all inclusive.

The page number of each record used and the total pages of the report will be given in the spaces provided at the upper right hand section of the form.

The form is composed of three sections, the use of which is described below.

Positive Localities

By "positive locality" is meant any locality in accordance with definition given in the General Standards (see p. 2), which is found with aegypti in the preliminary survey or in which aegypti eradication work without preliminary survey has been effected, either by the campaign itself or through campaigns against vectors. The columns of this section are completed as follows:

Column (1) - Record only the number corresponding to each locality entered in column (2).

Column (2) - For purposes of geographical identification, the localities should be grouped in this column by the major administrative divisions of the country (state, department, province or equivalent) and by the subdivisions thereof (county, district, municipality or equivalent). The following should also be observed:

1. The major administrative divisions, the subdivisions thereof, and the localities of each subdivision will be listed strictly in alphabetical order. The localities will be listed in alphabetical order under each subdivision, and the subdivisions in alphabetical order under each major division.

2. The localities covered by the anti-aegypti campaign should not be entered separately from those covered through campaigns against vectors. Both types of localities should appear in alphabetical order under the subdivision to which they belong. However, in the case of localities covered through campaigns against vectors, the type of contributing campaign should be indicated in parentheses, in abbreviated form, after the name of each locality. For example: (Mal.) for malaria.

3. The name of each major administrative division will appear in the center of the column, that of each subdivision at the left of the column, and the names of the localities a little to the right and under the name of the subdivision to which they belong.

4. In the case of localities with international traffic, one of the following symbols or the proper combination thereof should be written next to the name of each locality, to indicate the place of entry or departure for international traffic:

A=Airport; M=Maritime port; F=River or lake port; T=Frontier post.
Preliminary Survey

In this section, comprising columns (3) to (6), the data resulting from the preliminary survey, if there was one, are entered for each locality found positive in that survey. When, before the start of eradication work, more than one preliminary survey has been made, the results of the latest one will be specified. Only the following column requires explanation:

Column (6) - In this column enter the number of houses found with *aegypti*, in any stage of its development.

If the preliminary survey of localities with international traffic, in addition to the inspection of houses (including installations), covered the inspection of carriers, the results on this inspection are entered on the form only when they are positive and the survey was made during the reporting quarter. In such a case, a second line of the form will be used for these data, which are entered followed by an asterisk.

In the case of localities where eradication work was carried out without a preliminary survey, only column (4) is to be completed.

Eradication Work

This section, which comprises columns (7) to (12), is used to show the situation of *aegypti* eradication in each locality treated to date. The following columns require explanation:

Column (7) - In this column enter the figures for the day, month, and year when the first application of insecticide began in each locality where *aegypti* eradication work has been done either by the anti- *aegypti* campaign or through campaigns against vectors.

Column (8) - In this first column of the heading “Completed Cycles,” enter the number of insecticide applications completed before the locality is found negative.

Column (9) - In this second column under “Completed Cycles” enter the number of consecutive negative checks after the last application of DDT to the locality, until completion of a total of three consecutive checks, which, in accordance with remark 2 of the General Standards (see p. 3), should be negative in a minimum period of one year from the last application of DDT and consist of two successive checks through search for foci and a final one through house capture of mosquitoes.

Latest Inspection Made

The columns under this subtitle are self-explanatory and will serve for recording the results of the latest check in each locality.

In the case of a locality with international traffic whose latest inspection covered houses (including installations) and carriers, the data on the latter are entered only when, in addition to *aegypti* being found on the carriers, the inspection took place in the reporting quarter. In this case, a second line of the form will be used for these data, which are entered followed by an asterisk. Any latest inspection including only carriers is entered only if it was positive and was made in the reporting quarter, in which case the data are followed by an asterisk.

Reinfestation

In the case of localities that have become reinfested after having been found negative in one or more checks, two lines of the form will be used. On the first line enter the data from the preliminary survey to the last negative inspection prior to reinfestation. On the second line of the form in which the reinfestation was discovered are recorded under the “Preliminary Survey” section; in column (7) list the date on which application of insecticide was begun after reinfestation; in column (8) enter the number of insecticide applications after reinfestation; in column (9) show the number of consecutive negative checks after reinfestation; and in the section “Latest Inspection Made,” record the data of the last check after reinfestation.

Generally, in the case of several reinfections a line will be used for each one and the procedure given in the above case will be followed.
Supplementary Table on the Reverse of the Form

In completing this table, the following should be kept in mind:

1. The type of administrative subdivision (county, district, municipality or equivalent) should be written in the space reserved for this purpose under column (1).

2. Column (2) will show the number of localities, as well as the number of subdivisions to which they belong, existing in the initial area presumably infested.

3. The totals of columns (3) to (8) are cumulative and should include all localities, as well as the subdivisions to which they belong, which have been covered either by the campaign itself or through campaigns against vectors.

4. The figures on the second line are required so as to indicate, for each total of localities entered in the first line, the number of administrative subdivisions in which they are located.

Map of the Preliminary Surveys and Checks of Infestation Performed during the Quarter

The quarterly report which is transmitted, in duplicate, to the Pan American Sanitary Bureau, should be accompanied by one map of the country showing the localities in which a preliminary survey or check of infestation was performed during the reporting quarter, either by the campaign itself or through campaigns against vectors.

The results of the preliminary survey in a locality will be indicated by a blue dot if negative or by a red dot if positive.

The result of the check of infestation in a locality will be indicated by a mark (+) which should be blue if the result is negative and red if positive.
QUARTERLY SUMMARY OF THE \textit{Aedes aegypti} ERADICATION CAMPAIGN - FORM PASB 4

Size 11" x 8 1/2"

Page No. of Results of the Preliminary Survey and Eradication Work Performed in Each Locality Initially Positive

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Each Locality</th>
<th>Date completed</th>
<th>No. existing</th>
<th>Total</th>
<th>No. inspected</th>
<th>Starting date</th>
<th>No. D.D.T. applied</th>
<th>Latest inspection made</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

Date ______________ Signature ______________ Position __________________ Office __________________

PASB 4 1-54 Fill in supplementary table on the reverse side
Summary of the Country by Number of Localities Covered to Date and Administrative Subdivisions (County, District or Equivalent) to Which they Belong

<table>
<thead>
<tr>
<th>AREAS</th>
<th>Number Existing</th>
<th>PRELIMINARY SURVEY</th>
<th>CHECK OF INFESTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total (3)</td>
<td>Without aegypti (4)</td>
</tr>
<tr>
<td>Localities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subdivision:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>