



Republic of the Philippines  
Department of Health

**OFFICE OF THE SECRETARY**

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August 23, 1999

**ADMINISTRATIVE ORDER**

No. 30-F s. 1999

**SUBJECT: The Soil Transmitted Helminthiasis Control Program:  
Guidelines on the Implementation of the Soil  
Transmitted Helminthiasis Control Program**

**I. RATIONALE**

Intestinal helminthiasis is numbered among the top ten infectious disease killers causing 165,000 deaths worldwide. It causes enormous morbidity second only to diarrhea and tuberculosis (WHO Report, 1996). The World Bank Report, 1993, ranked intestinal helminthiasis as the #1 disease burden among 5-14 y/o. Various surveys in the Philippines show high prevalence rate of 50-90%. It leads poor physical development and activity; reduced capacity for productive work; and causes impairment in mental development and reduction in performance in school of the affected children.

Many programs to deworm children have recently been established to efficiently control the disease and mass deworming is considered by the World Bank as the # 1 cost effective priority intervention among 5-14 y/o group. Accordingly, the Communicable Disease Control Service has created the Soil Transmitted Helminthiasis Control Program, funded in 1999 under GAA (RA 8735 #III,a.10).

**II. PROGRAM GOAL AND OBJECTIVES**

**A. GOAL:**

To reduce morbidity, mortality and other effects of soil transmitted helminthiasis in families and communities of provincial project sites

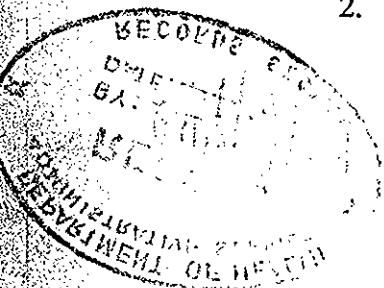
**B. OBJECTIVES:**

**GENERAL OBJECTIVES:**

1. To reduce all high/medium grade intensity of infection to low intensity infection in 100% of 2-14 y/o children in project sites at end of 3 years
2. To reduce prevalence of infection to < 30% in project sites at end of 3 years

Signed A. O Received in  
the Records Section on 11/3

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### SHORT TERM OBJECTIVE

To treat 80 % of 2-14 y/o in project site for a period of three years

### LONG TERM OBJECTIVES

1. To ensure practice of personal and food hygiene in 90% of households
2. To increase sanitary toilets by 10% at the end of 3 years
3. To ensure access to safe water in 80% of household

### III. COVERAGE

1) A project site shall be composed of a province, to include all its component municipalities. Project duration in each project site is three (3) years. At least 5 new project sites should be covered each year.

2) Target client for targeted mass treatment

- *Children aged 2-14*

6-14 y/o = They harbor the greatest load of infection and are the significant source of transmission. Treatment of this age group is of public health significance since it will decrease transmission

2-5 y/o = They suffer the greatest morbidity when infected and treatment is intended for curative care for illness to alleviate impact on children in the age group

### IV. DEFINITION OF TERMS

*Benchmark* – roles/activities identified at the start of the project which the stakeholders must fulfill before succeeding phase/activity for the project will ensue

*Community managed program* – a program where people's participation and sense of collective responsibility is maintained

*Family competencies* – combination of knowledge, attitude and practice competencies, which when developed in families, leads to informed, cooperative and capable families who participate in the control of STH

*Individual treatment* – treatment is based on positive (+) stool exam

*Mass treatment* – giving drugs to an entire group of people without the prior diagnosis of current infection

*Prevalence* – measures the number of infected persons in a population

*Soil transmitted helminthiases* – an infection caused by soil transmitted helminths

*Targeted mass treatment* – giving drugs to specific group in the community defined by age, or other social characteristics, irrespective of infection status e.g. children aged 2-14 y/o

*Universal or blanket mass treatment* – giving drugs to community irrespective of age, sex, infection status or other social characteristics

## V. PROGRAM STRATEGIES

### A. Mass Treatment

1. Mass treatment of 2-14 y/o is the main strategy of the program because children aged 2-14 y/o are the most exposed or high risk group to helminth infection. They have the highest prevalence as well as intensity of infection. Studies showed that mass treatment of these age group will automatically reduce the prevalence and intensity of infection for the whole community, thus reducing the frequency of transmission. Selective treatment will be done after 3 years when the prevalence and intensity has already been decreased. In selective treatment, only children 2-14 y/o who are positive (+) for helminths will be given anthelmintic drug.
2. Kinds of mass treatment
  - a. Universal or blanket mass treatment
  - b. Targeted mass treatment
  - c. Individual treatment
3. Target client for targeted mass treatment – children aged 2-14 y/o
4. Frequency of treatment = at least 2x a year
  - a. Basis for frequency is reinfection  
Treatment once a year has very little effect on prevalence of STH. Reinfection is 100 % at 6 months after treatment, hence the need to give repeated treatment at least 2x/yr
  - b. Recommended frequency
    - b.1. Department of Health (DOH) Project sites
      - 2x/year – minimum on Y1, Y2
      - 1x/year – minimum on Y3
    - b.2. World Health Organization (WHO)
      - Prevalence < 50% = treat 2x/yr
      - Prevalence > 50% = treat 3x/yr

## 5. Duration of treatment

Mass treatment should be done for:

### a. 3 years

Infective eggs remain viable in the soil and are able to infect people for a maximum of 2 years

### b. Promotion of mass treatment once a year until PR < 5% should be done after 3 years in each project site

## 6. Service Outlet

- For 2-5 y/o  
= Family based – mother under the supervision on BHW will give the anthelmintic drug to the child
- For 6-14 y/o  
= School based – teachers under the supervision of school nurse or midwife will give the anthelmintic drug to school children

## 7. Drug delivery scheme

- a. DOH = provide 1<sup>st</sup> dose to the Provincial Health Office (PHO) in the project site
- b. Smithkline Beecham (SB) = provide 4<sup>th</sup> dose to the PHO in the project site through the DOH
- c. LGU = must develop scheme to provide 2<sup>nd</sup>, 3<sup>rd</sup>, & 5<sup>th</sup> dose  
⇒ Schemes will be worked out with core groups in project sites to include the following options:
  1. LGU allotted budget (Municipal or Provincial) Contribution for succeeding doses (e.g. municipal government provides for 2<sup>nd</sup> dose, provincial government for 5<sup>th</sup> dose)
  2. NGO contribution for succeeding doses (e.g. NGO for 3<sup>rd</sup> dose)
  3. Membership fee/family in STH Control "Club"

4. Retail pay by family where the family is motivated to purchase their own drug requirement on a regular basis for the project duration. Drug outlet maybe the RHU, NGO, FAMUSY, P.O. Sustainability will need to be ensured.

8. Drugs for mass treatment

a. Choice of drugs

*Criteria for choice of drugs for mass deworming:*

1. Safe
2. Broad spectrum of activity
3. Simple
  - a. single dose
  - b. standardized dose
  - c. easy administration by non health worker (e.g. teacher, BHW)
4. Economical
5. Quality
  - a. Savings is lost if drug is less effective than it should be and if
  - b. Development of resistance results

b. Anthelmintic activity of selected drugs

Table 1. WHO Recommended Anthelmintic Drugs

	THERAPEUTIC ACTIVITY AGAINST		
	ASCARIS	TRICHURIS	HOOKWORM
Albendazole	4	3	2-3
Levamisole	4	2-3	2
Mebendazole	4	2-3	2-3
Pyrantel	4	2-3	1

Key:

- 1 = 0-19 % "cure rate" – inseparable from technical errors associated with parasitological techniques used in field examinations
- 2 = 20-59 % "cure rate" – moderate activity
- 3 = 60-89% "cure rate" – good activity
- 4 = > 90% "cure rate" - very good activity

c. DOH recommended drugs for project use

- c.1 Albendazole, 400 mg, single, standardized dose in chewable tablet form

c.2 Mebendazole, 500 mg, single, standardized dose in chewable tablet form

\* *Basis of recommendation*

*Albendazole and mebendazole are benzimidazole derivatives. They have the widest spectrum of activity and mode of action against the intestinal helminths. They fulfill the criteria for choice of drug for mass deworming as enumerated in 8a 1-5 above, although Albendazole is known to be more effective against hookworm.*

## **B. Community Management**

### **1. Participation and networking of stakeholders in project activities**

#### **a. Stakeholders will include the following:**

- Local Government Unit (LGU)
- Department of Health (DOH)
- Department of Education, Culture and Sports (DECS)
- Non-Government Organization (NGO)
- Community
- Family

#### **b. Networking. Networks between stakeholders will be formalized and facilitated through core groups formed at various levels.**

b.1 Core groups serve as a forum for stakeholders to interface and to consolidate stakeholder strengths for better coordination and management of the project

#### **b.2 Core Groups**

b.2.1. *National Advisory Committee (NAC)*. The NAC will recommend policies and guidelines, set the national agenda and recommend sources of funding. This will be composed of:

- Undersecretary, OPHS
- Assistant Secretary, OCS
- Director, CDCS
- Director, SCS
- Director, EHS
- Director, NS
- Director, Health & Nutrition Center- DECS
- Chairman, Parasitology Department, UP-CPH
- 2 External Consultants

- Technical Working Group (TWG) – Assigned by DOH NAC members

b.2.2. *Regional Soil Transmitted Helminthiases Control Committee (RSTHCC)* will be in charge of training of provincial coordinators, advocacy activities, selection of project sites, development of IEC materials and prototypes and resource allocation. This will be composed of:

- Project coordinator
- Regional Technical staff
- Regional DECS representative
- NGO

b.2.3 *Provincial Soil Transmitted Helminthiases Control Committee (PSTHCC)* will ensure the participation of all the municipalities in the province, ensure performance of benchmarks by municipalities and project budget of province and its component municipalities, create core groups and supervise the project. This will be composed of:

- Project supervisor – PHO personnel
- Provincial health personnel
- Local government executives
- DOH representative
- DILG
- DECS
- DSWD
- NGOs

b.2.4 *Municipal Soil Transmitted Helminthiases Control Committee (MSTHCC)*. The role and functions includes organizing communities and creating core groups, implementing project (+ budget) and records/reports. This will be composed of:

- Municipal Health Officer and health worker
- Local government executives
- President of Barangay Captains
- BHW President
- Health volunteers' President
- NGO/PO Representative
- DECS Representative

## 2. Commitment to benchmarks

- a. All stakeholders must fulfill benchmarks agreed to before succeeding phase/activity for the project will ensue.

b. Recommended Roles/Benchmarks for key stakeholders in each project activity must be finalized by Provincial Core Group and DOH

**Table 3. RECOMMENDED BENCHMARKS**

ACTIVITY	DOH	LGU
1. Advocacy/ Coordination for Project site selection	<ul style="list-style-type: none"> <li>- develop advocacy materials               <ul style="list-style-type: none"> <li>- IP package</li> </ul> </li> <li>- disseminate advocacy materials</li> <li>- meet with concerned LGUs</li> <li>- selection LGU partner based on commitment</li> <li>- finalize MOA</li> <li>- sign MOA with selected LGU</li> </ul>	<ul style="list-style-type: none"> <li>- signify specific commitment for inclusion in MOA</li> <li>- sign MOA</li> </ul>
2. Prevalence survey	<ul style="list-style-type: none"> <li>- initiate survey</li> <li>- utilize survey protocol</li> </ul>	<ul style="list-style-type: none"> <li>- 1 letter of request to participate in survey and commitment to role in survey and commitment to role in</li> </ul>
3. Core group formation- province	<ul style="list-style-type: none"> <li>- identify stakeholders</li> <li>- province orientation materials and support</li> <li>- facilitate workshop</li> </ul>	<ul style="list-style-type: none"> <li>- Resolution passed on of formation of PSTHCC/MSTHCC</li> <li>- organization/list of family clusters/ municipality</li> <li>- list of family clusters</li> </ul>
4. Training of health workers	<ul style="list-style-type: none"> <li>- provide training/reference mat'l.</li> <li>- train provincial trainers</li> <li>- give 2 microscopes/province</li> </ul>	<ul style="list-style-type: none"> <li>- training of municipal trainers and of municipal health workers</li> <li>- 46 trainers per province trained (at least 2/mun)</li> <li>- 80% PSTHCC/MSTHCC oriented</li> <li>- 10 health workers trained per municipality</li> </ul>
5. Build family competencies	<ul style="list-style-type: none"> <li>- provide IEC prototype/ materials</li> </ul>	<ul style="list-style-type: none"> <li>- develop/print monitoring form</li> <li>- develop or implement IEC plan to develop family competencies</li> </ul>
6. Mass treatment and case management	<ul style="list-style-type: none"> <li>- provide 1st dose supply for mass treatment</li> <li>- facilitate provision of 4th dose for mass treatment by SB</li> </ul>	<ul style="list-style-type: none"> <li>- provincial budget for PSTHCC</li> <li>- cost sharing scheme for drugs for 2nd, 3rd, 5th and other doses approved in MOA</li> <li>- dx/bx competency completed in all municipalities</li> </ul>
7. Sanitation promotion	<ul style="list-style-type: none"> <li>- provide toilet bowl moulds</li> </ul>	<ul style="list-style-type: none"> <li>- 80% compliance to mass treatment</li> <li>- env'tl. sanitation/health resource competency completed</li> </ul>
8. Provision of equipment	<ul style="list-style-type: none"> <li>- deliver equipment to project site</li> </ul>	<ul style="list-style-type: none"> <li>- access to safe water for all family clusters</li> <li>- 40 completed toilets per municipality</li> </ul>
9. Evaluation	<ul style="list-style-type: none"> <li>- provide equipment to project site</li> </ul>	<ul style="list-style-type: none"> <li>- early/complete submission of reports</li> <li>- 80% compliance to mass treatment and toilet</li> <li>- database developed, complete &amp; accurate+C14</li> </ul>



## C. Family Empowerment

This involves the development of family core groups and of developing 5 basic competencies among families

- 1) The 5 basic family competencies for development are:
  - a.1. to realize the impact of STH
  - a.2. to realize the importance of environment in causing STH
  - a.3. to submit to diagnosis and treatment
  - a.4. to realize importance of hygiene and sanitation
  - a.5. to utilize health resources in the community
- 2) Suggested methods for development of 5 competencies

Table 2. FAMILY COMPETENCIES IEC PLAN

COMPETENCIES	MESSAGE	SUGGESTED METHOD
1. IMPACT	1. 3 major effects of STH on child a. Decreased activity b. Malnutrition c. Stunted physical growth 2. There is no need for mass treatment	Presentation Kit Leaflets/health advisory Flyer/poster Flipchart Homevisits
2. ENVIRONMENT	1. Mode of transmission a. Five Fs (finger, food, fomite, fly, feces) b. Skin penetration 2. Life cycle of worms to show transmission 3. Keep environment clean to prevent transmission	Presentation Kit Leaflets/health advisory Flyer/poster Flipchart
3. DIAGNOSIS	1. Submission of stool specimen for examination 2. Willingness to take anthelmintic drugs 2-3x/yr 3. Side effects are temporary and manageable	Health education Manual/posters Radio ad/streamers
4. HYGIENE & SANITATION PRACTICE	Helminthiasis can be prevented by: 1. Washing hands before eating and after using the toilet 2. Wearing slippers/shoes always 3. Having sanitary toilet in every home 4. Proper use of toilet facilities 5. Cooking food thoroughly and keeping it properly covered 6. Using water from safe sources	Presentation kit Leaflets/health advisory Flyer/poster Flipchart Homevisits
5. HEALTH RESOURCES	1. Support core group/committee by cooperating with activities 2. Participate in family cluster activities	Health education Homevisits Mothers' class/Family cluster Bulletin board

- 3) Core groups of family clusters of about 20-25 families per cluster will be formed. Each cluster will have a lead family on whom IEC will be focused. The lead family will model the proper KAP which the families in the cluster can follow. Each cluster will be supervised and monitored by a BHW

#### **D. Hygiene and Sanitation**

The following are important methods in achieving long term objectives and sustained reduction in STH prevalence. It prevents further shedding of eggs thus maintaining decreased risk exposure to transmission of infection.

1. Promotion of personal hygiene as a family competency (knowledge, attitude, practice)
  - 1.a. Washing of hands before eating and after using the CR
  - 1.b. Wearing of slippers/shoes always
  - 1.c. Construction of toilets
  - 1.d. Proper use of toilet facilities
  - 1.e. Hygienic preparation of food
  - 1.f. Drinking of potable water
2. Toilet construction for households without sanitary toilet
  - 2.a. Toilet bowl moulds will be provided to each community (5/prov) by the EHS
  - 2.b. Provincial core group will schedule rotation of moulds in its component municipalities
  - 2.c. Target of each province is to complete the gap of 20 % or to reach a level of coverage of least 90-100 %
3. Promotion of use of safe water as a family knowledge and attitude competency

#### **E. Individual Case Management**

1. Case management of non-target client will primarily be the responsibility of LGUs. Community members 15 y/o and above will be given selective individual treatment.
2. Capability of RHUs to diagnose and treat STH among non-target client of 15 y/o and above should be upgraded for them to be able to efficiently meet the anticipated increased demand from families for such services
  - a. Personnel skills and resources for diagnosis should be upgraded

- b. Resources should be ensured for drugs and health education

## VI. PROGRAM ACTIVITIES

### A. Advocacy

This includes presentation of the program to LGUs, NGOs and other stakeholders to solicit participation in project.

- e.g. Presentation to Provincial boards for possible project site
- Presentation to large NGOs for fund assistance to project site

It may take the form of print materials, group meetings, or other trimedia

### B. Surveys

#### 1. Prevalence survey

- a. This is done to get baseline data/information on the burden of STH in the community. It will also guide the planner to design an appropriate strategy or intervention for the specific area.
- b. Prevalence survey should be done at the start of project (Y1) and at the end of Y2 or after the 4<sup>th</sup> dose
- c. The World Health Organization (WHO) recommends that data be collected from school children since they are representative of the disease burden in the community and they are most easily accessible in the schools.
- d. The prevalence survey design should employ a statistically efficient selection of a minimum of 200 students or 8 classrooms of about 30 students per classroom. Stratified random sampling design, or multi-stage stratified random sampling may be used.
- e. Stool examination will be done using Kato Katz technique. This is a practical method as it measures not only the prevalence rate but also the intensity of infection.

#### 2. KAP survey

- a. KAP survey is done to determine the levels of differences in the knowledge, attitude and practices of the people in the community and to determine adjustments required in implementing IEC plan and to measure effectivity of IEC plan/development of family competencies at the end of the project
- b. Prevalence survey sites shall be the KAP survey areas and sample size should not be less than 400/prevalence site

- c. KAP survey shall be conducted by the RHMs and BHWs trained on use of survey instruments and procedures. The 1<sup>st</sup> 400 HH in each prevalence survey site shall be used as survey respondents. Respondent should be either mother, father of the HH or HH member > 18 y/o. HW shall use interview guide as a tool.
- d. Results of the survey shall be collated by the MHOs, kept on record, and copies should be submitted to PHO for purposes of evaluation at project end.

## C. Manpower Development

### 1. Program Manpower Development

- a. Academic training for national program experts should be comprehensive but condensed to equip trainees on all aspects of program management. Participants in this training will include national and regional coordinators.
- b. Field program training will include structured field experiences in actual program implementation in selected sites with ongoing programs on STH control. Participants for this training will be national and regional coordinators and selected provincial supervisors.
- c. Basic and advanced laboratory skills in STH control. This training aims to improve the knowledge and skills of medical technologists in laboratory identification of STH. Participants will be national, regional, and provincial personnel.
- d. Computer software and applications training (GIS, EPI-INFO, etc.) Computer skills relevant to database development for parasite control programs will be improved. Participants will be national, regional and provincial personnel.
- e. Health information and community mobilization techniques. This will involve principles/concepts methods for health information and community mobilization for parasite control programs. Participants will be national, regional and provincial personnel.
- f. Research training and fellowship. National and regional personnel will be given basic and advanced training on research principles and actual research.

### 2. Project Manpower development

Regional coordinators will manage training of provincial trainers. Provincial trainers will manage training of municipal trainers and healthworkers

- a. Training of provincial trainers (3/province)\*
- b. Training of municipal trainers (3/municipality)\*
- c. Training of municipal health workers (10/municipality)\*

\* Target competency level: 80% knowledge acquired as per standard evaluation to be administered by DOH (DIRFO)

**D. Build family competencies**

Strategies and scheduling of development of family competency 1-5 should be worked out by LGU using recommended tools to obtain optimum effect.

**E. Mass treatment**

**F. Research**

1. Operational researches are encouraged at all levels with a system for awarding of grants to be developed
2. Research priorities are on measurement of the effects of control programs, specially on nutrition and educational performance.

**G. Monitoring**

1. Monitoring will be conducted on the following levels:
  - a. Family
  - b. Community (barangay)
  - c. Municipality
  - d. Province
  - e. Region
2. The implementation shall follow the summary program monitoring guide

Table 4. Monitoring guide

Who to monitor?	Who will monitor?	To whom monitoring is submitted?
> Family cluster	> cluster leader or BHW or RHM	> To RHU or MSTHCC
> Community (barangay)	> RHU or municipal STH Control Committee	> To PSTHCC
> Municipal STH Control Committee	> PSTHCC	> To DIRFO

### 3. Monitoring indicators

#### a. Input indicators

ex. # of deworming drugs available at project site

#### b. Output indicators

ex. # of 2-14 y/o dewormed

4. Monitoring shall be done on a regular schedule, either quarterly or semi-annually.

5. A regular meeting shall be conducted to monitor the continuance of the program & to identify the problems. Submission of reports and review of records on-site visits may be required to support monitoring function.

## H. Evaluation

### 1. Evaluation indicators:

- a. Changes in KAP
- b. Intensity of infection
- c. Prevalence of infection

2. The evaluation shall be undertaken at the end of the project.

3. The PSTHCC and the Regional Health Office are responsible for the evaluation process

## VII. Program Implementation

### A. Mechanism

#### 1. Phased implementation

This is necessary to keep the yearly cost of the program manageable since the cost of drugs for mass treatment is enormous.

The 3 phases of implementation:

- a. Pilot implementation – YO
  - a.1. To provide guide for adjusting project plan for national implementation
  - a.2. Development of basic program tools
- b. Start-up activities
  - b.1. Prevalence survey

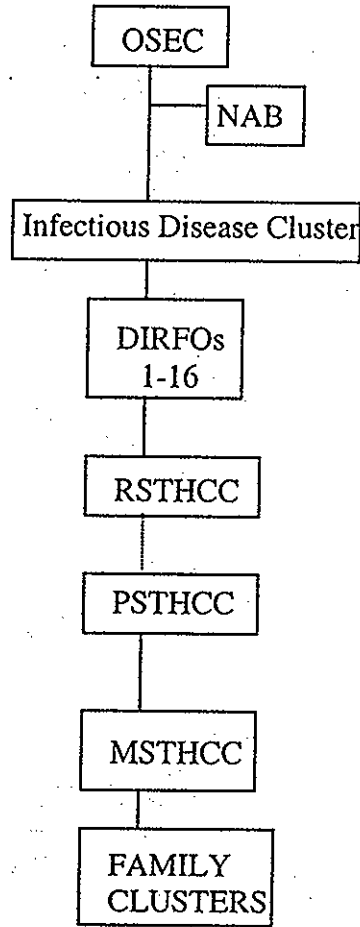
- b.2. Manpower development/training
  - b.3 Development of program tools for training, family competency development, monitoring and evaluation
  - b.4 Development of advocacy/IEC materials (workshop/trimedia production)
- c. National Implementation  
 At least 5 new project sites per year is recommended to create an impact on the national burden of STH. Duration of project implementation per province is 3 years taking into account the viability of infective eggs. The project will be endorsed after Y3 to the LGUs who will be in charge of the sustainability of the project

2. Integrated Implementation

- a. STH control has always been identified as a good entry point program in a community because its effect is very visible e.g. people can actually see the expelled worms a day after treatment. Popularity and acceptance of programs integrated with STH control is therefore increased. Integration of STH with other mass treatment programs particularly with Filariasis and Schistosomiasis would also increase efficiency in the use of resources.
  - b. Integrated implementation with other programs is under study and development, initiatives at integration is highly recommended. Task Force for integration will be created to finalize operational guidelines for integration and models implemented on pilot project scale are encouraged.
- c. Initials areas on integration

	No. of endemic regions	No. of endemic provinces
Filaria	13	45
Schistosoma	10	24
Filaria + Schistosoma	10	22

B. Implementing Structure



VIII. Effectivity

This Order takes effect immediately upon approval.

ALBERTO G. ROMUALDEZ, JR., M.D.  
Secretary of Health