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MALARIA CONTROL II PROJECT, NO.391-0472
EXTERNAL EVALUATION 1984 - PART I

EVALUATION OF FEASIBILITY OF USING VOLUNTARY COLLABORATIONS FOR MALARIA CASE DETECTION AND TREATMENT

REPORT OF THE
EXTERNAL EVALUATION TEAM
(DR. TRENTON RUEBUSH)
April 30 - May 19, 1984
ISLAMABAD, PAKISTAN.

UNCLASSIFIED

FACE SHEET EXTERNAL EVALUATION REPORT 1984, PART I

(April 30 - May 19, 1984)

Basic Project Identification Data

1.	Country	Pakistan
2.	Project Title	Malaria Control II
3.	Project Number (Grant and Loan where applicable)	391-0472 (Grant)
4.	Project Dates:	
	a. First Project Agreement	May 19, 1982
	b. Final Obligation (last)	March 31, 1984
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5.	Project Funding:	
	a. AID Bilateral Funding (Loan or Grant)	Grant $41,000,000
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	c. Host Country Counterpart Funds	Rs.414,070,000 $39,699,904 @ Rs.10.43= $1
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7.	Responsible Mission Officials:	
	a. Mission Director	Dr. Donor Lion
	b. Project Officer	Dr. Rifaq A. Ismail
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9. Cost of Present Evaluation: (Obligated)

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a. Direct Hire:	-	-
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	64,000	400

CONSULTANT'S REPORT

EVALUATION OF THE FEASIBILITY OF USING VOLUNTEER COLLABORATORS FOR MALARIA CASE DETECTION AND TREATMENT IN THE PAKISTAN MALARIA CONTROL PROGRAM

(April 28 - May 19, 1984)

ISLAMABAD

Trenton K. Ruebush II, M.D.

ABBREVIATIONS AND TERMS USED IN THIS REPORT

ABER	Annual Blood Examination Rate
ACD	Active Case Detection
AMS	Assistant Malaria (CDC) Superintendent
APCD	Activated Passive Case Detection
API	Annual Parasite Incidence
CDC	Communicable Disease Control
DHO	District Health Officer
DMCO	District Malaria Control Officer
DOMC	Directorate of Malaria Control
MCP	Malaria Control Program
MI	Malaria Inspector
MS	Malaria Superintendent
NMTC	National Malaria Training Center
NWFP	North West Frontier Province
PCD	Passive Care Detection
SPR	Slide Positivity Rate
VC	Volunteer Collaborator
WHO	World Health Organization

The term "Official PCD Post" will be used in this report to mean those PCD posts located in government health facilities (hospitals, Rural Health Centers, Basic Health Units, etc) as differentiated from VC Posts which are located in the home or place of work of a private individual.

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I. SUMMARY

From 28 April to 19 May 1984 an evaluation was made of the surveillance activities of the Pakistan Malaria Control Program (MCP) to determine the feasibility of the use of Volunteer Collaborators (VC) for malaria case detection and treatment.

Three of the four districts selected by the Committee on Surveillance of the Directorate of Malaria Control (DOMC), for the VC Pilot Project were visited (Lahore District, Punjab, Bannu District, NWFP and Larkana District, Sind) and a wide range of individuals interviewed at the district, sector, subsector and local levels. In all three districts, a small number of VC have already been selected and trained by MCP/CDC staff and have been functioning for up to two months. Thus far, the selection of VC has been limited almost entirely to school teachers and unqualified dispensers of health care (hakims, quacks, etc). The great majority of VC are men but several female school teachers have been selected and trained in Larkana District.

Perhaps because the Project is still in its early stage, the training the new VC have received has not been of a very high quality. The majority of the VC interviewed did not have a thorough understanding of their duties, were not aware of the correct presumptive dosage of chloroquine, and were not proficient in making bloodsmears. Furthermore, many lacked some of the materials needed to carry out their duties such as patient report forms. On the other hand, none of the VC interviewed was lacking in enthusiasm or willingness to learn and improve.

Based on the results of the visits to the three Project districts, it is clear that a network of VC for Passive Case Detection (PCD) can be established and made to function effectively in Pakistan. There are, however, obstacles which will need to be overcome if the VC network in Pakistan is to be a success.

1. Because of the purdah system, it will be difficult to identify women to serve as VC or to convince them to make use of the VC.

2. Low morale is a common problem among MCP workers.

3. Some districts lack the equipment/supplies necessary for MCP workers to carry out their duties (e.g. vehicles, petrol, etc.)

4. There is a lack of discipline and of a sense of responsibility among MCP workers.

5. There is inadequate supervision of MCP field workers and or inability administratively by supervisors to correct poor worker habits.

6. Preconceived, negative attitudes on the part of some MCP workers about volunteer workers and PCD make it difficult to give a VC network a fair trial in Pakistan

7. The feeling exists among many medical officers and technicians in general health services that malaria is not their responsibility and thus are reluctant to participate fully in an enlarged PCD network.

In view of these limitations, the following major recommendations are made:

1. Increase the number of VC in each project area to 40 - 50. This will be a sufficient number to allow a fair evaluation of the VC network in Pakistan and yet not be so many that adequate supervision will be a problem;

2. Combine ACD and PCD so that the Malaria Supervisors are responsible for both activities and the two activities complement each other;

3. Standardized guidelines should be established for the selection, training and supervision of VC during the Pilot Project;

4. Classroom and on-the-job training should be given to all MCP workers assigned to the Project in the methods to be used in the selection, training and supervision of VC;

5. Incentives (other than cash) should be provided to VC (e.g. diplomas, identification cards, preferential treatment for themselves and their families at government health facilities);

6. Incentives should be provided for MCP workers assigned to the Project (e.g. bicycles for Malaria (CDC) Supervisors, motorcycles with sufficient petrol for MI/AMS and sufficient petrol for the vehicles of MS and DHO/DMCO; and

7. Work codes for MCP workers should be more strictly enforced.

Now that VC are functioning in three of the four designated Project districts, every possible effort should be made to maintain this momentum. Draft guidelines for the selection, training and supervision of VC and for the supervision of Malaria Supervisors have been prepared (annexes B, C, D and E) using as a basis the protocol written by the DOMC's Committee on Surveillance. These drafts will need to be reviewed and revised by the MCP. As soon as that has been done, a date can be set for the training course for Project personnel, using the revised guides as texts for the course.

II. INTRODUCTION

Accurate epidemiologic data is essential to the successful planning of malaria control activities and the efficient utilization of available resources. Most malaria control programs use a combination of two basic forms of malaria surveillance to collect epidemiologic data - Active Case Detection (ACD) and Passive Case Detection (PCD). In ACD, a malaria worker seeks out and takes bloodsmears from persons with symptoms suggestive of malaria. In PCD, a surveillance post is established in a given location and persons with symptoms suggestive of malaria are encouraged to visit the post for a diagnostic bloodsmear. In both cases it is common practice to administer a one-dose, presumptive treatment for malaria to alleviate symptoms before the result of the bloodsmear is known.

Both ACD and PCD have their advantages and disadvantages. As a result, most malaria control programs use a combination of the two methods to obtain as complete a picture as possible of the malaria situation in their country.

Perhaps the most successful PCD system ever developed for malaria surveillance has been the Volunteer Collaborator (VC) Network of Latin America. This network is made up of unpaid community volunteers who are trained by the malaria worker to take thick bloodsmears and administer a presumptive treatment for malaria to febrile patients who visit them. Although the VC Network was first established more than 25 years ago as a means of monitoring the progress of malaria eradication from the Americas, it has now become the major form of malaria surveillance and antimalarial drug administration for most Latin American malaria control programs.

Previous External Reviews of the Pakistan Malaria Control Program (MCP) have commented on the need for strengthening and broadening their surveillance activities which, until recently, have relied almost totally on ACD. Recommendations have included:

1. Establish an effective PCD system.

2. Expand PCD by attaching malaria workers to government health facilities.

3. Implement use of VC in NWFP.

4. Modify surveillance activities of ACD worker to include PCD, special surveys and case treatment and followup.

5. Promote community participation in MCP activities.

As yet, none of these recommendations has been implemented successfully.

III. THE PRESENT REVIEW

A. Objectives

1. To evaluate the feasibility of using VC for malaria detection and treatment in Pakistan.

2. To evaluate the draft protocol "Pilot Project on New Methodology in Malaria Surveillance" developed by the Committee on Malaria Surveillance of the Directorate of Malaria Control (DOMC) Pakistan.

3. To modify and expand the above protocol so as to provide guidelines for the selection, training and supervision of VC and the establishment of an effective PCD network in Pakistan.

B. Methods

Visits were made to three of the four districts selected as sites for the Pilot Project on Malaria Surveillance:

1. Lahore District, Punjab

2. Bannu Zone, NWFP

3. Larkana District, Sind

In each of these sites, discussions were held with District Health Office and MCP staff including DHO, Assistant DHO, DMCO, MS, AMS, MI and Entomologists. Following these discussions, site visits were made to two or more villages/towns within the Project area to view local health facilities and interview medical officers, medical technicians, microscopists, Malaria Supervisors, traditional health dispensers (hakims, quacks, etc), VC and local residents. A list of the persons contacted during these visits is shown in Annex A.

IV. FINDINGS

In three of the four Project districts - Lahore, Bannu and Larkana - a start has already been made to evaluate the new methodology for malaria surveillance. Two or three subsectors in each district have been selected for a small-scale trial and the selection and training of VC and the activation of PCD posts in government health facilities has begun. In spite of this fact, the findings reported here must be regarded as preliminary since the number of VC selected and trained thus far is very small and, only in Bannu have VC been functioning for more than a month. In Lahore and Larkana, VC have been selected but their training apparently began just a week before the consultant's visit. Similarly, the activation of PDC posts in government health facilities is a relatively recent innovation in these districts.

A. Volunteer Collaborators

1. Selection: The selection of VC is being carried out by MCP personnel (generally Malaria Supervisors and AMS) who have lived and/or worked in the subsector for several years and are thus familiar with most of the local residents. Selection of a VC is usually made without consultation with residents of the locality. Instead, using his knowledge of the community, the MCP worker decides who would make the most suitable VC, approaches that person and asks for his help.

All VC interviewed were very enthusiastic about their work. Most of them apparently accepted the job because they felt it would help their communities. One VC said that he wanted to detect enough cases of malaria so that the MCP would have to spray his village. Several VC mentioned that the MCP worker was their friend and that they were helping him with his work.

At present, none of the VC are being paid for their services, nor are they receiving any incentives from the MCP, except that the VC who are dispensers do charge patients when they provide them with their own medications.

The great majority of VC selected thus far are men. Only in Larkana have a few female school teachers been selected. Discussions with local residents and VC confirmed the opinion of MCP personnel that in most cases it will be difficult to identify women to serve as a VC.

Nearly all of the VC selected thus far are traditional dispensers of health care (hakims, quacks, etc) or school teachers. Most informants agreed that persons with other occupations would not be appropriate or would be too busy to collaborate with the MCP.

2. Training: VC are being trained by Malaria Supervisors and AMS/MI. According to the MCP personnel interviewed, the training takes two to six hours over a several day period; however, the results observed suggest that the training has not been of a particularly high quality. A variety of problems were noted:

a. Many VC did not have a clear understanding of their responsibilities. Several seemed to think they were expected to fill a certain quota of bloodsmears each day or to carry out ACD-like activities and went out to "round up" prospective patients.

b. The majority of the thick bloodsmears were of poor quality and many VC used so little blood for the thin smear that they did not have sufficient room to record the identification number and the date.

c. Most VC had only a vague idea of the correct presumptive chloroquine dosage for children and only one had been provided with a written dosage schedule.

d. VC were not provided with boxes to keep their materials.

e. Several VC did not have patient report forms and were recording patients' names in a notebook.

f. As yet, no provisions have been made for VC to administer radical treatments to patients with positive bloodsmears.

3. Supervision: In Bannu, where seven VC have been functioning for more than a month, the Malaria Supervisors are visiting them approximately once a week for one to two hours per visit. During these visits, they talk with the VC, collect any bloodsmears he may have taken since their last visit and replace materials which are lacking. Although it was not possible to observe any of these visits, it appears that the Malaria Supervisors generally do not concern themselves with problems or questions the VC may have or the technical aspects of the VC's job such as the quality of his bloodsmears and patient records or the correct use of the chloroquine tablets. No provisions have been made for the Malaria Supervisor to make an analysis or tabulation of the VC's data or to record his observations and recommendations for the VC's benefit. Furthermore, it does not appear to be customary for the Malaria Supervisors to compliment the VC on their work or to impress upon them the importance of their collaboration for the MCP and the community.

In spite of these difficulties, the five VC visited in Bannu had taken 25, 28, 31, 39 and 137 bloodsmears respectively in the six to eight weeks since they were selected and trained.

B. Activated PDC

Two methods for activating PCD are being used in the project areas:

1. Stationing of the Malaria Supervisor for one or two days/month in each of the Rural Health Centers in his subsector; and

2. Placement of a permanent malaria microscopist in a major government health facilities in the area.

It is hoped that while the MCP worker is present he will take bloodsmears on any patient referred by the medical officers and, on the days the Malaria Supervisor is not present, the medical officers and medical technicians will be sufficiently motivated to continue taking bloodsmears on their own. Unfortunately, it appears that even with MCP

workers present in the same building, many medical officers are not sufficiently interested and informed about malaria and the MCP to make full use of this service. When the MCP worker is no longer present, bloodsmears are rarely taken. Part of this problem may be related to the longstanding administrative separation of the MCP from the general health services and a belief on the part of many medical officers that "malaria is not a part of their responsibilities".

C. ACD

At the present time, the Malaria Supervisors in the three project areas devote approximately 15 days/month to ACD. The number of houses to be visited varies from district to district but averages about 150 to 200/day. Since initiation of the Pilot Project, Malaria Supervisors have been instructed to visit several houses on each block rather than every house so that once every two months, all of the houses in the subsector will be visited.

ACD is carried out by most Malaria Supervisors in a rather uninspired and mechanical fashion. Many times the Malaria Supervisor never enters the house to speak with the family members as a group. Instead, he will confer with an adult male member of the household and ask him if anyone in the family has a fever now or has had a fever since his last visit. In nearly all cases observed, the informant responded "No" without giving any real thought to his answer. Consequently, it is understandable why most ACD workers take so few bloodsmears and detect so few cases of malaria.

In only one of the three project districts (Lahore) have house cards with the numbers of the sector, subsector, locality and house been installed. None of the Malaria Supervisors visited had sketch maps of the localities in their subsector.

D. MCP

1. Malaria Supervisors

Before the Pilot Project began, almost all of the Malaria Supervisor's time was devoted to ACD. Only during the months of January and February when he was responsible for geographical reconnaissance and the month(s) of July/August when he was expected to supervise spray activities in his subsector, would ACD be reduced. With the initiation of the Project, several modifications have been made and Malaria Supervisors now devote approximately 15 days/month to ACD, 7 days/month to VC and 2 days/month to APCD.

Most Malaria Supervisors interviewed have had many years of experience with the MCP and are quite well trained. There does seem to be some confusion, however, about the correct dosage of chloroquine for presumptive treatment.

2. Transportation/Supplies

Lack of adequate transportation is a chronic problem for MCP personnel. Most Malaria Supervisors use their own bicycles if available. Porters, who are responsible for pickup of bloodsmears and delivery of results to PCD posts, generally travel on foot. Very few AMS/MI have motorcycles and those who do rarely have sufficient petrol to carry out their duties. MS, DMCO and DHO may have pickups or jeeps but shortages of petrol render many inoperative.

The materials needed to maintain PCD posts (lancets, cotton, alcohol and microscope slides) are apparently available in adequate supply.

3. Morale/Discipline/Attitude of MCP Workers

Low morale is a common problem in MCP personnel particularly among lower-level workers such as the Malaria Supervisors. This seems to be due to a variety of factors, including:

1. Low salaries
2. Limited benefits (e.g. fixed TA/DA of 35 rupees/month for Malaria Supervisors)
3. Insecure work position (in Sind and NWFP MCP workers are still considered temporary and receive no retirement benefits).
4. Tedious and repetitive activities.
5. Inadequate and unenthusiastic supervision.

Perhaps, as a result of these factors, strict discipline is not maintained and many workers seem to lack a sense of responsibility towards their jobs. Late arrival at work or failure to report for work are not uncommon in some areas. Even those workers who do report on time, go about their duties in an unenthusiastic, uninspired fashion. Higher level workers such as the AMS/MI, MS and DMCO, frustrated by the poor work conditions and the inability to carry out their duties due to inadequate transport, have come to accept these poor work habits.

Another problem which was noted was a skeptical or negative attitude on the part of many MCP workers about the feasibility of using VC and expanding PCD in the MCP of Pakistan. Comments, based on preconceived ideas such as, "No one in Pakistan will do something for nothing", "No one cares about anyone but the members of his family", "There is no spirit of community participation here", and "PCD will never

be as effective as ACD", were common. Thus far, these negative comments have not been borneout by results with PCD and VC activities in the three project districts.

V. CONCLUSIONS

Based on the observations made during the visits to the three project districts and the progress made thus far, there appears to be no reason why a successful and effective VC network cannot be established in Pakistan. In fact, many of the critical elements necessary for the development of an effective VC system are already present:

1. An established MCP with trained field and laboratory personnel.

2. Most rural residents are familiar with the symptoms of malaria and realize that drug treatment is necessary to cure the infection.

3. There is evidence of community spirit and a willingness to participate in community activities among rural residents.

4. Rural residents have become accustomed to having bloodsmears taken during the 20 years the MCP has been operational.

5. Adequate roads and communication systems are available.

There are, however, obstacles which must be overcome:

1. Because of the purdah system, it may be difficult to enlist women to serve as VC and to convince them to visit the VC.

2. Tribal/subtribal/family allegiances and attitudes may have a negative influence on how a given VC functions.

3. Morale of MCP workers is very low due to a variety of causes.

4. There is both a lack of discipline and of a sense of responsibility by many MCP field workers.

5. Supervision of field workers is inadequate and supervisory personnel have come to accept poor work habits.

6. Many MCP workers have pre-conceived negative attitudes about PCD and volunteer workers which make it difficult to give the VC network a fair trial in Pakistan.

7. The general health services seem to feel that malaria is not their responsibility and consequently are reluctant to participate fully in an enlarged PCD network.

In spite of the value of VC and PCD in malaria surveillance particularly in Latin American countries, it should be recognized that to achieve effective PCD system requires considerable time. Until the PCD System becomes more efficient, the Pakistan MCP should not discontinue their ACD activities. Every possible effort should be made to get the most out of both forms of malaria surveillance.

VI. RECOMMENDATIONS

A. General

1. Increase the numbers of VC in each of the three project districts to 40 - 50. This will be a large enough number to allow an evaluation of the VC network but not so many that adequate supervision becomes a problem.

2. Combine ACD with PCD in a more workable fashion. The Malaria Supervisor's schedule should be rearranged so that if there are two VC in a locality, he will make a supervisory visit to one for one to two hours in the morning and then devote the rest of the day to ACD visits in the neighborhood around the VC's house. The next day, he should repeat the process with a visit to the second VC and ACD visits in his neighborhood. During the house visits, ACD can be combined with publicity for the VC post. If the VC needs further training, the patients with fever detected on the ACD round should be taken to the VC's house so that the Malaria Supervisor can observe his technique in making bloodsmears.

B. Training of MCP Personnel

1. Standardized guidelines for the selection, training and supervision of VC and for the supervision of Malaria Supervisors should be established as soon as possible. With this in mind, draft protocols for these four activities have been prepared (Annexes. B, C, D and E) using the protocol of the DOMC's Committee on Surveillance as a model. These draft guidelines will need to be carefully reviewed and revised by the DOMC before they may be used as training guides for Project personnel.

2. A formal 2-week training course for Malaria Supervisors, AMS/MI, MS and the district project leaders involved with the project in each province should be given at the NMTC in Lahore. Arrangements should be made for DHO from the Project districts to attend this course or a shortened version of the course at a later date. The course should include in-depth training of the methods to be used in the

selection, training and supervision of VC and PCD posts in government health facilities. At least one day should be devoted to the training of supervisory personnel in the methods to be used in the evaluation of the PCD network and the supervision of the Malaria Supervisors. During this course, an attempt should be made to instill in the project workers some "esprit de corps" and the feeling that the success of the project will depend in large part on them. The course should be given as soon as possible so as to standardize methods before the Project is too far advanced in implementation.

3. Following the 2-week course at NMTC, a 2-4 week period of on-the-job training and daily supervision should be given to each Malaria Supervisor by the AMS/MI, MS, and/or district project leader. The purpose of this period of close field supervision is to ensure that the Malaria Supervisors are adhering to the techniques they learned during the NMTC course. After that, supervision can be reduced to a once or twice a week basis depending on the availability of supervisory personnel and abilities of the Malaria Supervisors.

4. Four to six months after completion of the NMTC course, an opportunity should be given to the one individual in each project district who is most directly responsible for the Project to visit and observe the functioning of the VC Network in Guatemala. This will allow an interchange of observations and experiences among the project participants as well as between project participants and Guatemalan Malaria Service personnel some of whom have had more than 25 years experience with the use of VC for PCD.

5. Four to six months after the trip to Guatemala, a consultant familiar with the use of VC in Central America should be invited to Pakistan for about 4 weeks to consult with project personnel about progress and problems they have encountered. Five to six days should be spent in each district and an in-depth office and field evaluation of the progress made. During the final week the consultant should meet in a central location with the district project leaders and a protocol for expansion of the PCD network be jointly prepared. If problems still exist, a decision can be made to extend the Pilot Project by an additional six to nine months until they are resolved.

B. Incentives

1. Since VC will receive no salary, they must be offered some incentive(s) to motivate them. These incentives should not be in the form of cash, nor should they be so attractive that competition will develop between villagers to become VC. At the same time, the incentives offered during this pilot phase of the project should be such that the MCP can continue to offer them if the VC network is later expanded to the entire country. Several suggestions for possible incentives are given below:

a. diplomas (preferably multicolored and eye-catching) acknowledging the invaluable assistance of the VC (Mr._____) in the national effort to control malaria. The diplomas should be signed by the Secretary Health of the province and the Director DOMC.

b. Identification cards (preferably with photographs) stating that the bearer is an authorized Volunteer Collaborator of the MCP.

c. Letter from Provincial Secretary Health stating that the bearer of the identification card mentioned in "b" and his immediate family are entitled to preferential treatment at government health facilities. A copy of this letter with an explanatory cover letter should be sent to the directors of all hospitals, and other health facilities in the province.

Note: Regardless of the incentive or incentives finally decided upon by the MCP and the project staff, it is important that they be made available as soon as possible so as not to lose the interest of the VC who have been and are being selected.

Perhaps the greatest single incentive for most VC will be the enthusiasm generated by the regular visits of the Malaria Supervisor and other MCP personnel or visitors. This, and the honor that VC feels at being singled out from among his neighbors to collaborate with the MCP will be sufficient motivation for many people, particularly if the MCP personnel visiting the VC go out of their way to congratulate him on a job well done and stress repeatedly the important role he is playing in the nationwide effort to combat and control malaria. The same message should be repeated to his neighbors whenever the occasion arises.

2. There is a consensus among MCP supervisory personnel that lower level MCP/CDC workers, particularly Malaria Supervisors, will need additional incentives if they are expected to carry out the project activities in a more responsible and disciplined fashion than usual. If the MCP is committed to making this pilot project a success, it seems apparent that some incentives will have to be provided, however, the incentives should be carefully considered so that they will be acceptable to the MCP if the VC network is expanded after the termination of the pilot project. Several suggestions for incentives for MCP workers assigned to the project are given below. It should be noted that emphasis is placed on incentives which will increase the workers' efficiency and quantity of work rather than on strict cash awards.

a. All Malaria Supervisors should be provided with bicycles. Funds should be set aside for major repairs.

b. All MI/AMS should be provided with motorcycles and a sufficient monthly allotment of petrol to carry out their duties. Funds should be set aside for maintenance and repairs.

Provisions should be made to deduct the cost of the bicycles and motorcycles from the workers paychecks in monthly installments.

All district project leaders should be provided with a jeep or pickup and sufficient monthly allotment of petrol to carry out their duties. Funds should be set aside for repairs so as to minimize the off-road time of the vehicles.

Two cash incentives which might be considered are:

1. raise the fixed TA/DA (at least for Supervisors), and

2. a cash award for the worker in each district who comes up with the best suggestion of how to improve the functioning of the PCD network during the first year of the pilot project.

These incentives should be accompanied by a stricter and more uniform enforcement of MCP work regulations. Discipline is crucial to the success of this project and workers should be made aware that infractions will be dealt with according to an established code. The three most serious infractions are:

1. Falsification of data in any form (e.g. taking multiple bloodsmears from a single patient; recording bloodsmears taken by MCP worker as VC bloodsmears, etc).

2. Failure to comply with established work hours and the Work Plan.

3. Personal use of materials or vehicles supplied by the MCP.

A list of suggested penalties is given below:

First offense - written reprimand with copy to the district project leader

Second offense - forfeiture of fixed TA/DA for one to two weeks.

Third offense - transfer out of Project area.

C. On-going Evaluation of Project:

Each project area should keep a monthly record of the activity of all VC and official PCD posts. A draft format for this record is shown in Annex F.

All district project leaders should submit a monthly report of the progress of the VC Project in their district to Dr. I. H. Shah, NMTC. A draft format for the report is shown in Annex G. This report should be postmarked no later than the 10th of the month following the reporting period and should include partial data as of the last day of the previous month and complete data for the month before that.

At the end of the calendar year a summary of the Project results should be prepared by each district project leader using a similar format and submitted to the DOMC.

D. Publicity for Project

The quarterly MCP bulletin (currently in the late stages of production of the first issue) would be an ideal vehicle for stimulating interest and disseminating information about the VC Project to MCP personnel at large. One complete issue could be devoted to a general description of the project objectives and methods with brief updates on project results in later issues.

ANNEX A

PLACES VISITED AND PERSONS CONTACTED

PUNJAB

National Malaria Training Center, Lahore
Dr. I. H. Shah, Director

Provincial Health Office, Punjab
Dr. S.M. Nasir, Assistant Director CDC (Malaria)

District Health Office, Lahore
Dr. Abdul Ghafoor, DHO
Mr. Sardar Ahmed Sheikh, Entomologist
Mr. Sana Mahmood, CDC Officer

Visits were also made to a Rural Health Center, a VC and a Malaria Supervisor.

NWFP

Provincial Malaria Office, Peshawar
Mr. Aziz Khan, Senior MS
Mr. Fazale Raziq, Entomologist

Bannu Zonal Malaria Office
Dr. Khush Dil Khan, DMCO

Visits were also made to a Rural Health Center, 2 Basic Health Units, 5 VC and 2 Malaria Supervisors

United Nations High Commission for Refugees, Peshawar
Dr. Naveeda Bano, Medical Officer

Visits were made to 2 Afghan Refugee Camps, one administered by Saudi Red Crescent and one by Save-the-Children Fund, London.

SIND

District Health Office, Larkana
Dr. Abdul R. Bugti, DHO
Dr. Ali Nawaz Sheikh, Assistant DHO
Mr. Nawab Ali Waqqar, MS

Visits were also made to 2 Rural Health Centers, 2 VC, and a Malaria Supervisor

DOMC

Dr. S. M. Mujtaba, Director

WHO, PAKISTAN

Dr. Tawil, Malaria Advisor

USAID

Dr. Donor M. Lion, Mission Director
Dr. Cornelia E. Davis, Chief, O/HPN
Dr. William Chin, Malaria Advisor
Dr. Rifaq A. Ismail, Public Health Physician/HPN

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The consultant wishes to thank the Provincial MCP, the DOMC and the WHO officers contacted during this evaluation for their generous assistance; he is most grateful to the USAID/Pakistan for extending the kind invitation and for the efficiently arranged logistical support which added much personal pleasure to this assignment.

ANNEX B

PROTOCOL

Selection of VC

The selection of a new VC is the single most important activity of the Malaria Supervisor in this project. If the selection is successful, the VC will be readily accepted by the residents of the community and visited on a regular basis by febrile patients seeking anti-malarial treatment. On the other hand, if the selection is unsuccessful, the Malaria Supervisor will have to invest additional time supervising and retraining the VC or may even have to repeat the selection to find a more appropriate person.

A new VC may need to be selected in several different situations:

1. when the MCP decides to establish a new VC post in a community;

2. when the former Volunteer decides he no longer wants to continue serving as VC;

3. when the former Volunteer is planning to move away from the community;

4. when the former Volunteer abandons his post;

5. when the Malaria Supervisor observes such serious problems in a VC post that he feels a change is necessary (for example, when a VC is giving away medications without taking blood smears or filling out the patient report forms or when no patients have visited the post for more than three months.

At present, VC in the Project districts are being selected directly by MCP personnel. As long as this gives satisfactory results the practice can be continued but experience in Latin America has shown that VC tend to function longer and better when they are selected by their neighbors.

The selection process described below is one in which the residents of the community play the major role in the selection of a VC; the Malaria Supervisor's input is to determine which of the candidates best fits the criteria he is looking for.

Ideally a VC, male or female, should have four basic qualities besides knowing how to read and write:

1. be at home most of the time;

2. have another person in the house who can help take care of patients;

3. be well-liked and respected in the community;

4. show interest in accepting the job.

The selection consists of two parts which should be carried out in the following order:

1. Discussions with the local authorities.

2. House-to-house visits and interviews with 20 to 25 families in the community.

A. Discussions with Local Authorities

The major purpose of this phase of the selection is to inform local authorities such as the mullah and the school teacher that there is going to be a change in the current VC or that the MCP has decided to establish a new post in the community. The Malaria Supervisor should describe the type of person he is looking for and ask these individuals to provide him with names of some possible candidates.

B. Interviews with Residents of the Community

The 20 to 25 houses the Malaria Supervisor visits should be chosen in such a manner that they give him a representative sample of the houses in the community. If only one VC post is to be established in the community, the Malaria Supervisor should include houses in all parts of the community in his sample. If 2 or more VC posts are to be established, he should choose the 20 to 25 houses from the sector from which the new VC is to be selected. In large localities the Malaria Supervisor will visit one of every three or four houses. In localities with less than 20 houses the Malaria Supervisor should visit all of them.

When the Malaria Supervisor visits a house he should introduce himself and then explain the purpose of his visit. The following explanation is intended as a guide. The Malaria Supervisor can use his own words but should include all the important points mentioned below:

> "As you probably know, malaria is a very common problem in this area. Unfortunately, the MCP doesn't have enough workers to visit each community as frequently as we would like, so we need to find someone in this village who can collaborate with us by taking bloodsmears and administering antimalarial medicine to people who have fever and chills. That's the reason for my visit today.

If I choose the new VC, he might not be the sort of person you or your family would want to visit when you're ill. To avoid that, I'm visiting most of the families here in the community to ask them who they think would make the best VC.

We are looking for a certain type of person:

a. The VC should be a person who stays at home most of the time, because if you have fever or chills, you wouldn't want to visit his house 2 or 3 times in order to be treated;

b. If possible, there needs to be someone living in the same house with the VC who can help him take blood samples and give out the antimalarial medicine. That way, if one of them has to go out for a while, the other will still be around to take care of any patients who might visit them;

c. The VC should be the sort of person who enjoys helping his neighbors and doing favors for them because he doesn't receive any salary for his work with the malaria service;

d. Finally, the VC and his family should be well-liked and respected by their neighbors.

You can help me pick the best possible person by thinking of the families you know in the community and telling me which one you think would be most suitable for this job".

The Malaria Supervisor should note down the names of any candidates mentioned after assuring himself if they have all the necessary qualities he is looking for. Candidates who do not fulfill the four basic criteria should be eliminated from the selection process.

The Malaria Supervisor should then continue to the other houses he plans to visit repeating the procedure described above in each house. Any additional votes for a candidate who has already been mentioned and is considered acceptable should be recorded. If a new candidate is mentioned, the Malaria Supervisor should record his name only if he has all four basic qualities being sought in a VC.

As a part of the house-to-house visits, it is important to include the home of each of the candidates. This is best done after having obtained opinions about the candidate from eight to ten informants. The interview with the candidate and his family should follow exactly the same pattern as the other interviews; they should not be told that they have been recommended by their neighbors as VC. It is

important, however, to take advantage of this opportunity to get to know them in depth and to clarify whatever doubts may have arisen with regard to their selection. For example, if there is a question about the ability of one of the members of the family to read and write or about his daily activities, this is the best time to resolve the problem.

The Malaria Supervisor should also take advantage of the visit to the candidate's house to describe in detail to him and his family the activities and responsibilities of a VC in order to see if they show any interest in the job. Persons who respond to this description by giving excuses as to why they cannot volunteer to serve as VC should be eliminated immediately from consideration. On the other hand, a voluntary offer to serve as VC by one of the candidates should weigh heavily in the final decision as to the most acceptable candidate. If it is unclear whether the candidate would be interested in serving as VC, the Malaria Supervisor can close his interview by asking, "What would you say if, after finishing my visits to the other houses, I come back here and told you that your family had been recommended by your neighbors as the best persons to serve as VC in this community?"

After visiting eight to ten houses and obtaining a list of several suitable candidates, the Malaria Supervisor should start making a comparison between them by explaining to each informant that several good candidates have been recommended and asking him which one he would prefer as VC. This can be done by asking questions such as:

a. "Which of these persons would you and your family prefer to visit if they become ill? Why? (Reasons such as "They live closer to us", or "They are my relatives", are not acceptable and an additional reason should be sought).

b. "Which of these persons is more likely to be at home if you should want to visit him? Why?

c. "Which of these families is more popular with their neighbors? Why?

d. "Which of these families is the most active in community affairs?

The results of this comparison should be recorded so as to help the Malaria Supervisor in his final decision.

The responsibility for making the final decision in the selection of a VC lies entirely with the Malaria Supervisor. Even in those cases in which a candidate receives a majority of the votes, the Malaria Supervisor may eliminate him if, in his opinion, he does not meet all the necessary requirements.

After making his decision, the Malaria Supervisor should then revisit the selected candidate to explain again the responsibilities involved in being a VC and describe the manner in which they were selected. This explanation should include the fact that the VC does not receive any salary for his services. In asking a candidate if he is willing to collaborate with the MCP, it is extremely important that he does not exert pressure on the candidate to accept the job. If the candidate does accept, a convenient time should be chosen to begin his training. If the candidate does not accept, the Malaria Supervisor should visit the best one of the remaining candidates and request their collaboration.

If the MCP decides to continue with the selection process currently in use in the Project districts in which the Malaria Supervisor makes the selection, it might be wise to include 15 to 20 house-to-house visits and interviews to assure himself that his candidate is also acceptable to the local residents. If not, the Malaria Supervisor may need to carry out a selection as described above.

ANNEX C

PROTOCOL

Training of VC

The training of a new VC should be carried out by the Malaria Supervisor who selected him and will be responsible for his day-to-day supervision. This helps to create a closer working relationship between the VC and the Malaria Supervisor and will generally result in a higher level of performance by the VC.

The training should be carried out in a quiet, relaxed atmosphere. It should be done at the VC's convenience and at a time of the day when he will not be disturbed or have other things on his mind. The Malaria Supervisor should strive to be patient and understanding throughout the training period and should remember that he is dealing with a volunteer - not a paid employee of the MCP.

The initial training of a new VC generally takes from four to six hours. Experience has shown that it is best to divide this training into two, two to three hour sessions so as not to tire out the VC. Further training can then be provided as needed to the VC in special sessions or during the Malaria Supervisor's regular supervisory visits to the VC post.

The training consists of six steps which should be carried out in the following order:

1. Description of malaria and MCP.
2. Description of patient report form.
3. Practice in technique of making thick and thin bloodsmear.
4. Description of presumptive drug dosages and administration.
5. Description of radical treatment dosage schedule.
6. Practice of #2 through #4 with several febrile patients.

Patient Report Form

A standardized patient report form should be available for use by all PCD posts. It should include all of the following information:

1. Code number of PCD post
2. Number of slide (patient)
3. Full name of patient

4. Age

5. Sex

6. Name of responsible adult in the case of a minor

7. Address of patient

8. Number of chloroquine tablets administered

9. Location of PCD post

10. Date (day, month and year)

The Malaria Supervisor should review with the VC each one of the items on the Patient Report Form. In particular, he should concentrate on questions which tend to cause problems and explain why each one is important.

1. Each PCD post should be given a code number which distinguishes it from all other PCD posts. For example, code number SL-C1-5D might refer to a VC post in the Sind (S), Larkana District (L), sector/subsector C1 and locality number 5 in that subsector. Then letters after the locality code can be used to refer to the different PCD posts in that locality. Since the PCD network in Pakistan will also include official PCD posts it might be wise to reserve letters A,B and C for such posts and use letters beginning with D for VC posts.

2. Each patient treated by a PCD post should be given a number. This number will appear on the patient report form and on the patient's slide. The VC should begin with number "1" for the first slide taken during the year, number "2" for the second and so forth until the end of the calendar year. Then in the following year he should begin with number "1" again.

3. Age refers to age at last birthday and is very important for determining correct chloroquine dosage.

4. The patient's address refers to his usual home address - not the address (location) of the VC post.

5. The patient's address and his (her) father's name are important in locating patients whose bloodsmears are positive for radical treatment.

Taking Bloodsmears

This is generally the most difficult aspect of the training of a

new VC and the Malaria Supervisor should be prepared to invest as much time as necessary to assure that the VC is well trained. A VC who is not proficient in taking bloodsmears will never be successful.

Experience has shown that it is best if the training is taken step by step:

1. Proper cleaning of microscope slides before use; handling by edges.

2. Practice in holding the lancet and the movement involved in the fingerprick. It may be helpful here for the VC to practice using the lancet on a lemon or an orange which have rinds which present about the same amount of resistance to pricking as a human finger.

3. Proper positioning of patient and correct way to hold patient's hand for finger pricks. If possible, bloodsmears should be taken from the patient's non-dominant hand (i.e. left hand for right-handed persons) and from a finger such as the fourth (or ring) finger which is less frequently used in day-to-day activities. Furthermore, the fingerpricks is best taken from the side of the finger at a point about halfway between the base and tip of the finger nail. This area is less sensitive and generally has less buildup of callus.

4. Practice of the movements involved in making thick and thin bloodsmears and their proper positioning on the slide.

5. Demonstration by Malaria Supervisor of fingerprick and preparation of thick and thin bloodsmear using two or three members of VC's family.

6. Practice by VC of fingerpricks and bloodsmear technique on Malaria Supervisor.

7. Practice by VC of entire procedure on several members of his family or neighbors. In most cases, a sizeable crowd of children will gather around the training site and they should be told that price of admission to the spectacle is a fingerprick and bloodsmear. The more opportunity the VC has for practice, the more proficient he will become. If possible, eight to ten bloodsmears should be taken during the first day's training session.

The VC should be taught to cover the bloodsmear as soon as it is taken to prevent dust or flies from settling on it. When the thin smear is dry, it should be labelled with the VC code number and the slide (patient) number to avoid confusion with other slides. A simple but effective labelling system consists of dividing the thin smear into two

halves with a straight line and writing the VC code number above and the slide (patient) number below. It is not necessary to include the date.

The bloodsmear should always be taken before administering treatment, otherwise a patient who has already received his medication may be tempted to refuse the bloodsmear.

Presumptive Drug Dosage and Administration

All VC should be provided with a written form which clearly spells out the presumptive chloroquine dosage for different age groups. All drugs must be taken in the VC's presence. Under no circumstances should patients be given medication to take home with them because there is no assurance that the drugs will be correctly taken. Patients should be encouraged to take the tablets with a large quantity of water or to eat something immediately before or afterwards since this will generally reduce gastric upset.

Medication of young children with chloroquine is never easy. For children who cannot swallow the tablets, the VC should be shown how to crush the tablets using two spoons and to mix the powder with sugar and a small amount of water. Then with the child's mother or father holding him firmly, the child's nose should be occluded and the spoon introduced into his mouth until he swallows.

If a patient vomits the chloroquine immediately after taking it, the VC should be instructed to repeat the dose.

Radical Treatment

The Malaria Supervisor should explain the procedure to be followed when a patient has a positive bloodsmear and a radical treatment is delivered to the VC post. The patient should first be advised that his bloodsmear was positive and that he should return to the VC post at the earliest possible moment to begin his radical treatment. A radical treatment form which details the correct daily dosage of chloroquine should accompany the drug treatment. The VC should administer each dose in person, making a mark on the form to indicate each time a dose is administered. Drugs should never be given to the patient to take home with him. When the radical treatment has been completed, the form should be kept in the VC's malaria kit until the Malaria Supervisor visits him next. A space should be provided on the form to indicate whether the radical treatment was completed or not, and if not, the reasons should be recorded (e.g. patient left locality, patient had side effects to drug, etc).

At this stage it is usually best to terminate the first training session so as not to tire out the VC. The following day the Malaria Supervisor should try to find six to eight febrile patients in the

locality and bring them to the VC post so that the VC can practice the entire procedure with each of them. These slides can be submitted as the first slides taken by the new VC.

The VC should be supplied with a complete malaria kit including all of the materials he will need to carry out his duties:

1. Microscope slides
2. Cotton
3. Alcohol
4. Lancets
5. Patient Report Forms
6. Pencil
7. Small box or tube for storing bloodsmears
8. Notebook for recording visits of MCP workers
9. Printed dosage schedule for presumptive and radical treatment

These materials should be stored in a wooden or plastic box provided by the MCP.

10. A food cover made of insect screen netting to cover blood smears to prevent flies from lapping the fresh blood. Such devices are available for about Rs 20 each
11. Lastly, an attractive sign should be designed and made to be displayed prominently in front of the VC's house indicating that the house is a PCD post

ANNEX D

PROTOCOL

Supervision of VC

A Malaria Supervisor should revisit each of his VC at least once every month; however, during the initial six months of this Project, supervisory visits should ideally be made every seven to ten days. These revisits to the VC posts serve several important purposes: 1) They allow the Malaria Supervisor to judge the level of performance of the VC and his (her) assistant(s) and if problems are noted, they can be retrained. 2) They give the Malaria Supervisor the opportunity to record patient data and resupply the VC with materials. 3) They allow the Malaria Supervisor to judge the attitude of the residents of the community towards the VC post. 4) They provide the Malaria Supervisor with an opportunity to educate the local residents about the services of the VC and the goals of the MCP.

The supervisory visits to a VC post involve 3 steps which should be carried out as follows:

1. A visit to the local authorities to advise them of the Malaria Supervisor's presence in the community and the purpose of his visit.

2. A visit to the house of the VC.

3. House-to-house visits to an established number of families in the community. The number of houses to be visited will vary from area to area depending on how scattered the houses are. An average of 50 houses for each VC post visited is probably an appropriate number, since each visit will take considerably longer than the traditional ACD house visits.

Visit to Local Authorities:

As soon as the Malaria Supervisor arrives in a community he should inform the local authorities of his presence and the reason for his visit. This helps to maintain a good working relationship with the authorities and to avoid any misunderstandings which might arise as to the reason for his presence in the locality.

Visit to the House of the VC:

The visit to the home of the VC should take approximately one hour, however, in the case of very active VC who treat large numbers of patients each month, 1-1/2 hours may be required to check and tabulate all of the VC's data and resupply the post with materials. The activities involved in the visit to the VC's house should be carried out in the following order:

1. An informal conversation with the VC and his(her) family members.

2. Review of the patient records since the Malaria Supervisor's previous visit and a tabulation of the patient data.

3. Resupply VC post with chloroquine tablets, lancets, cotton, alcohol and patient report forms; make sure all equipment is in working order. (While carrying out #2 and #3, the Malaria Supervisor should continue talking with with the VC and his (her) assistants and commenting on, or questioning them, about aspects of their work).

4. Preparation of a note describing the location of the houses the Malaria Supervisor plans to visit in the community.

On arriving at the VC's house, the Malaria Supervisor should spend 5 to 10 minutes talking informally with the VC and his (her) family about any subject that might be of interest to them, for example, what they've been doing since his last visit or what's been going on in the community. If possible, the Malaria Supervisor should ask by name about members of the family who are not present or who were ill or away from home when he last visited the community. The purpose of this conversation is to establish a close working relationship with the VC, his(her) assistant(s) and other family members and to indicate to them that they are important to the Malaria Supervisor and the MCP not just as volunteer workers but as friends and co-workers. This serves to increase the importance of the VC's work in his own eyes and his prestige within the community.

The Malaria Supervisor should then ask the VC for his (her) malaria kit and for a place where he can sit down and review the patient report forms and replace any materials which are lacking. If the VC has something else to do, there is no need for him to stand around waiting for the Malaria Supervisor to finish, but he should be told that if any questions arise he may call on him for help.

The Malaria Supervisor should follow a set sequence when examining the VC's malaria kit. Not only does this save time but it also reduces the possibility of errors. The following sequence has proved to be the most efficient:

1. Check the numbering of the patient report forms for missing or repeated numbers;

2. Check data in patient report forms for accuracy and completeness;

3. Count chloroquine tablets and compare number used since last visit with balance remaining in kit;

4. Resolve any doubts about data in patient report forms by speaking with VC and/or his(her) assistant(s);

5. Tabulate data on patient report forms;

6. Resupply kit with materials.

Any errors or missing data in the patient report forms should be marked with a small red check. When finished the Malaria Supervisor should question the VC or one of his(her) assistant(s) about the doubtful data. This should be done as tactfully as possible, so that the VC will understand the importance of complete and accurate data but will not feel hurt or discouraged that a few small errors were found. As part of the teaching process, it is preferable if the VC corrects his own errors rather than the Malaria Supervisor correcting them for him because in this way, it is less likely that the same error will be made again in the future.

Using the chloroquine dosages recorded on the patient report forms, the Malaria Supervisor should calculate the number of chloroquine tablets used since his last visit and compare that count with the balance left in the VC's malaria kit. A shortage of tablets suggests that patients are being treated without taking blood smears or recording patient data. The Malaria Supervisor should question the VC about any discrepancies in order to stress the importance of correct medication of each patient.

Next, the Malaria Supervisor should tabulate the data on patients treated by the VC since his last visit and enter the totals in his notebook. The tabulation includes a division of patients by age and sex, as well as by the results of the blood smear (P. vivax, P falciparum, mixed infections, and negative). A format for the table to be used by Malaria Supervisors to record this data is shown on page 32.

The Malaria Supervisor should resupply the VC with sufficient chloroquine and other materials to last until his next visit. The amount of these materials he leaves should be based on the average monthly consumption of the post during the preceeding 2 to 3 months. Before leaving the VC's house, the Malaria Supervisor should leave a brief note in the VC's kit describing the location of the houses he plans to visit in the community. In this way, a supervisor or visitor looking for the Malaria Supervisor can locate him without wasting time.

During his conversation with the VC, the Malaria Supervisor should intersperse questions about various aspects of the VC's work. The answers he receives will help to determine if the VC understands all aspects of his job or if he needs further training. Several examples of possible questions are given below:

1. What's the best way to give chloroquine tablets to a very small child who can't swallow them whole?

2. How many chloroquine tablets would you give to a child who is 7 years old? 12 years old? etc.

3. What would you do if a pregnant woman or a woman who is breastfeeding comes here asking for medicine?

4. What would you do if someone asks to take their medicine home with them?

5. What should you do when a patient vomits the chloroquine tablets after taking them?

House-to-House Visits:

The house-to-house visits the Malaria Supervisor makes within the community serve four purposes:

1. To evaluate the level of performance of the VC post from the point of view of the residents;

2. To inform the residents of the existence and services provided by the VC post;

3. To educate the residents of the community about malaria and the activities of the MCP;

4. To carry out ACD.

The Malaria Supervisor should visit an established number of house for each VC post in a community. In communities with only one VC post, the houses should be selected from all sectors of the community. In communities with 2 or more VC the houses should be chosen from the sector surrounding the VC's house. The Malaria Supervisor should avoid revisiting houses a second time until all the houses in the community have been visited at least once. For this reason, it is helpful to follow a sketch map of the locality and to make a mark on the map each time a house is visited. In this way it is hoped that during a 3 to 4 month period, most if not all of the houses in the community will be visited.

In each house he visits the Malaria Supervisor should introduce himself and explain the reasons for his visit. He should then attempt to find out how many family members have had chills and/or fever in the last several months and where they sought treatment. If one of the family members visited the VC post, he should be questioned to determine the nature of the treatment he received, e.g.:

1. Who took care of you when you went to the VC's house?

2. What time of the day did you go? Did you have to wait long?

3. Did he take a blood smear?

4. How many pills did he give you? Did you take the pills there or bring them home with you?

5. Did you find out the result of the bloodsmear? How? What was it? How many days did the treatment last?

If someone in the family has had chills and/or fever and thought he had malaria but did not visit the VC, he should be questioned to determine the reason.

The Malaria Supervisor should then ask if anyone in the family currently has a fever or chills. When this question is asked after rapport has been established with the informant, he is much more likely to give a truthful response.

Before leaving the house, the Malaria Supervisor should be sure that the informant at least knows the following information about the VC post:

1. That the VC does not earn any salary, so patients should try to visit him(her) at a convenient time - not at mealtimes or late in the evening.

2. That the medicine the VC has is only good for malaria and not for other illnesses.

3. That the tablets have to be taken in the VC's house so that the VC can keep track of the dosage. Patients should not ask to take the medicine home with them.

4. That patients should return to the VC's house about 15 days after the bloodsmear was taken to find out the result. If the blood smear is positive (i.e., if the patient has malaria) he will receive a complete anti-malarial treatment which lasts 3 or 5 days depending on the type of malaria he has.

When the Malaria Supervisor finishes his house-to-house visits, he should return to the VC's house and leave a detailed note with any recommendations he has in the VC's notebook. Before saying goodbye he should read what he has written to the VC.

If the VC's house is closed when the Malaria Supervisor visits, he will have to move on the the next scheduled PCD post and return later to talk with the VC, review his records and resupply the post with materials.

ANNEX D

Format of Table for Recording Data from Each VC Posts and Official PCD Post in Malaria Supervisor's Notebook

Subsector: _____

Locality: _____

PCD Post: _____ Code No. of VC: _____

198___(Current Year)

Month	No. Blood-smears	No. of Positive for				No. of Bloodsmears						
		P.v.	P.f.	Mixed	No Data	Male/ Female	0-11m	12-23m	2-5	6-9	10-14	1
Jan.												
Feb												
Mar.												
Apr.												
May.												
Jun.												
Jul.												
Aug.												
Sept.												
Oct.												
Nov.												
Dec.												
Total												

198___(Previous Year)

	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Tot
No. of Blood-smears													
No. + P.f.													
No. + P.f.													
No. + Mixed													
No. + Total													

ANNEX E

PROTOCOL

Supervision of Malaria Supervisor

The supervision of a Malaria Supervisor by a MS/MI or other superior is one of the most difficult but important activities involved in the establishment and maintenance of a successful VC network. Without close and constant supervision, both the work of the Malaria Supervisor, and ultimately, the performance of his VC will suffer.

The supervision is a continuous process which lasts as long as the Malaria Supervisor serves in that capacity in the MCP. The goals of the supervision are two-fold:

1. To determine if the Malaria Supervisor is carrying out his work in accordance with the guidelines and procedures laid down by the MCP.

2. To attempt to improve by any means possible the level of performance of both the Malaria Supervisor and his PCD workers (VC and official PCD posts).

Although a Malaria Supervisor may be supervised by a variety of individuals including AMS, MI, MS, DMCO, Assistant DHO and DHO, the person responsible for the day-to-day supervision of a Malaria Supervisor is usually the MS/MI. Therefore, for the purpose of this protocol, it will be assumed the supervisor is an MS/MI, but it should be remembered that the principles given here apply equally well to any individual involved in the supervision.

The supervision of a Malaria Supervisor may take two forms:

1. Direct supervision in which the AMS/MI observes and corrects the work of the Malaria Supervisor in person; and,

2. Indirect supervision in which the AMS/MI evaluates the quality of the Malaria Supervisor's work through a review of his records and reports and by a personal visit to one or more localities already visited by the Malaria Supervisor.

Ideally, the AMS/MI's activities should be planned so that he can devote one full day each week to the direct supervision and approximately one day a month to the indirect supervision of each of his Malaria Supervisors. Thus, a AMS/MI without other responsibilities than ACD and PCD can supervise up to five Malaria Supervisors. At least one half-day each week should be set aside for office work so that the AMS/MI can plan activities, bring his records up to date, and review the records and reports of his Malaria Supervisors.

Direct Supervision

The direct supervision of a Malaria Supervisor should be carried out no less frequently than once a week; otherwise the performance of both the Malaria Supervisor and his PCD posts will suffer. The AMS/MI should begin his supervision when the Malaria Supervisor first arrives in a locality in the morning and should continue throughout the day until the Malaria Supervisor finishes his activities. In this way he will have the opportunity to observe and evaluate all aspects of his work.

The visits of the AMS/MI should be programmed at least one week in advance so that visitors to the district will be able to locate him without difficulty in any given day. It is preferable, however, if the Malaria Supervisor is unaware ahead of time of the exact date of the AMS/MI's visit.

Direct supervision consists of four steps which should be carried out in the following order:

1. Observation
2. Correction and Instruction
3. Evaluation
4. Approval

These four steps may be repeated many times during a single day of supervision, each time focusing on a different aspect of the Malaria Supervisor's work.

Observation: During the observation stage, the AMS/MI should observe the Malaria Supervisor's work carefully without interrupting or disturbing his concentration. The goal of this stage of the supervision is to identify specific areas of the Malaria Supervisor's activities which either need improvement or are being well done and should be complimented and reinforced. In particular, the AMS/MI should focus on the following aspects of the Malaria Supervisor's activities:

1. Does the Malaria supervisor follow the recommended sequence of activities in his visit to the locality and the PCD posts in that locality?
2. Does the Malaria Supervisor complete each of his activities in an appropriate amount of time?
3. How does the Malaria Supervisor interact with the local authorities, the VC and the other persons he visits in the locality?

4. When the Malaria Supervisor finishes his visit to a VC post does he leave the VC and his assistant(s) well-trained and well-supplied with materials.

5. Does the Malaria Supervisor follow the recommended procedures for ACD in the locality?

6. When the Malaria Supervisor finishes his house-to-house visits in the locality, have the residents been adequately informed of the location and services of the VC post?

7. Is the Malaria Supervisor successful in identifying and resolving problems which might affect the performance of the VC or his acceptance by the community?

8. Does the Malaria Supervisor demonstrate creativity and personal initiative in his day-to-day activities, i.e. does he seek new or different ways to increase the efficiency of his work and improve the performance of his PCD posts?

The AMS/MI should make notes of his observations and comments so that the next time he visits the Malaria Supervisor he can continue his supervision in an uninterrupted fashion. Experience has shown that the best way to do this is with the use of a checklist which includes the key points to be noted during the supervision. An example is shown on pages 38 and 39. One of these checklists should be filled out each time the AMS/MI supervises a Malaria Supervisor, preferably towards the end of the work day when the AMS/MI has seen enough of the Malaria Supervisor's work to be able to adequately judge his level of performance.

Correction and Instruction: After the AMS/MI has had the opportunity to observe the Malaria Supervisor's work for a period of time, he should pass to the next stage of the supervision - the correction and instruction. Before starting, the AMS/MI should make it clear to the Malaria Supervisor that the sole purpose of his comments is to improve his performance and that of his VC. Every possible effort should be made to avoid hurting the Malaria Supervisor's feelings. For this reason, it is preferable to look for a quiet spot where the AMS/MI and the Malaria Supervisor can talk without being disturbed or overheard. The AMS/MI should also remember that it is much easier to accept criticism if it is combined with a positive comment or compliment about some aspect of his work that the Malaria Supervisor is doing well.

The Malaria Supervisor's errors should be pointed out in a clear, concise and non-accusatory fashion. No matter how many faults he has observed, it is best to focus initially on just one or two of the most important ones so as to be sure the Malaria Supervisor understands and has the opportunity to correct these errors before mentioning others. It is particularly helpful if the AMS/MI can provide examples of

the error he observed and suggest one or more ways it might be corrected. When visitors are present, especially persons who are not employees of the MCP, corrections should be kept to a minimum. The AMS/MI will always have an opportunity later to discuss his observations with the Malaria Supervisor.

Evaluation: When the AMS/MI is confident that the Malaria Supervisor understands the nature of his error and how to go about correcting it, they should return to work and the Malaria Supervisor be given the opportunity to put into practice what he has learned. The AMS/MI should observe him carefully to determine whether his work has improved or not. If the Malaria Supervisor shows improvement, the AMS/MI should compliment him, return to the observation stage and continue following the Malaria Supervisor's work. On the other hand, if the Malaria Supervisor did not understand or was unable to correct his error, the AMS/MI should once again take him aside and explain what he is doing wrong. It may be helpful at this point for the AMS/MI to demonstrate personally what he is trying to explain. Then, they should return to work so that the Malaria Supervisor can demonstrate what he has learned.

Approval: The final step in the direct supervision is to compliment the Malaria Supervisor on having improved the quality of his work. Even if only minimal improvement was noted, it is worthwhile mentioning it so as to encourage him to keep trying. In such cases, it is also best to intersperse comments about what the Malaria Supervisor is doing well with comments about aspects of his work that still need improvement.

The series of four steps which make up the direct supervision will normally be repeated many times during a single day of supervision, each time focusing on a different aspect of the Malaria Supervisor's work.

Indirect Supervision

Indirect supervision may take two forms:

1. Supervision at the office level

2. Supervision in the field

Supervision at the office level consists of a careful review of the records kept by the Malaria Supervisor to make sure they are accurate and complete in all respects. If the AMS/MI notes any errors, he should point out how to correct them and how to avoid similar errors in the future when he next visits the Malaria Supervisor in the field.

The second form of indirect supervision involves a repetition of the work carried out by the Malaria Supervisor in the field to determine if it has been done correctly. The AMS/MI should revisit one or more PCD posts already visited by the Malaria Supervisor. During these visits, he should try to determine if the VC's data have been correctly recorded and

tabulated, if his equipment is in satisfactory condition and the post well-stocked with materials, and if the VC and his assistant(s) are properly trained and understand all aspects of their work. Then the AMS should visit 10 to 15 houses in the locality to see if the residents are well-informed about the PCD post and the services provided there. If the AMS/MI encounters problems with one of the PCD posts he visits, he should discuss them with the Malaria Supervisor on his next visit. If everything is in order, he should congratulate the Malaria Supervisor on a job well done.

Volunteer Collaborator Pilot Project
Supervision of Malaria Supervisor

Name of Malaria Supervisor:_____ Date:_____

District_____ Locality:_____

Supervision carried out by:_____

A. Malaria Supervisor	Yes	No*	Unable to judge
1. Work Plan complete and left in designated location			
2. Equipment complete and in satisfactory condition			
3. Well dressed			
4. Complies with Work Plan **			
5. Complies with established work hours			
6. Maintains bicycle in good working condition			
7. Maintains good relations with community leaders			
8. Follows correct sequence of activities in locality			
9. Follows correct sequence of activities during visit to VC post			
10. Has good working relationship with VC			
11. Records and analyzes data from VC's patient report forms			
12. Verifies correct usage of anti-malarial drugs by VC			
13. Tactfully corrects VC's errors			
14. Leaves notice with VC of location of house-to-house visits within community			
15. Leaves VC well supplied with materials			
16. Follows established guidelines in ACD			
17. Advises residents of existence and purpose of VC post			
18. Makes required number of house-to-house visits in community			
19. Records findings/observations in VC's notebook before leaving locality			

B. Volunteer Collaborator	Yes	No*	Unable to judge
1. Understands all aspects of work			
2. Well known in community			
3. Well liked in community			

* Comments on reverse

** Example on Page 40.

	Yes	No*	Unable to judge
4. Bloodsmears of satisfactory quality			
5. Data in patient report forms accurate and complete			
6. Notifies patients of bloodsmear result (positive and negative)			
7. Manages properly the administration of radical treatments			
8. Assistant VC in household			
9. Shows interest/enthusiasm in job			

C. Locality

	Yes	No*	Unable to judge
1. VC post justified in locality			
2. VC post well located in locality			
3. Should additional VC post be installed in locality?			

Signature: _____

---

* Comments on reverse

Volunteer Collaborator Pilot Project
Work Plan for Malaria Supervisor

:t:_____ Sector/Subsector:_____

of Locality	Number of Houses	Number of Residents	Type of Activity*	Name of VC/ Official Post	Code No.	Number of Houses to be visited	No. of Days of work

/C, Official PCD posts, APCD or ACD

ANNEX F

Passive Case Detection Network
Monthly Production of Bloodsmears and Malaria Case Detection

istrict : ____________________ Year: ________________

e			M O N T H												
	Locality	Name of VC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total

Key to be followed in filling out "Monthly Production of Bloodsmears and Malaria Case Detection" Form

	17	No. of bloodsmears taken during month
No. + Bloodsmears	4	No. + for P. vivax (blue)
No. of mixed infections (red/blue or green)	1	No. + for P. falciparum (red)

Installation of new VC Posts: (Blue border)

Transfer of VC Post to another person: (Pencilled border)

Elimination of VC Post: (red border)

Thus, an example of 8 months in the life of one VC Post:

Jan	Feb	Mar	Apr	May	June	Jul	Aug
		10	4	0	15	13	16
		1	0	0	2	3	2

ANNEX G

Voluntary Collaborator Pilot Project
Monthly Report Form

Period Covered by report: 1,_____1984 to 31,_____1984

Province: _____

District: _____

Name of Reporting Officer:_____

Volunteer Collaborators	Month (Previous month)	Month (Month covered by this report*)
1. Total No. of VC posts (last day of month)		
a. No. of new VC posts installed		
b. No. of VC posts eliminated		
c. No. of VC posts transferred		
2. Total No. of bloodsmears taken by VC		
3. Mean no. bloodsmears/VC		
4. Population of Project area		
5. Monthly blood examination rate (No. bloodsmears / Population)		
6. No. bloodsmears + for *P. vivax*		
7. No. bloocsmears + for *P. falciparum*		
8. No. bloodsmears + for mixed infections		
9. Total No. bloodsmears +		
10. SPR		
11. Radical treatments initiated		
12. Radical treatments completed		
13. % completed		

* Indicate with an asterisk data which is incomplete

1. What problem have you encountered in selection of VC? Solutions?

2. What problems have you encountered in training of VC? Solutions?

3. Has high turnover of VC been a problem? Reasons? Suggestions to reduce turnover.

4. Are current procedures for supervision of VC by Malaria Supervisors adequate? Comments?

5. Have VC, PCD Official posts, Malaria Supervisors in your district experienced shortages of materials/equipment? Reasons? Solutions?

6. Additional comments?