

Acronyms

CCCD	Combatting Childhood Communicable Diseases
CDC	Centers for Disease Control (Atlanta)
DSPP	Direction de la Santé Publique et de la Population
DPSS	Direction de la Planification et de la Statistique Sanitaire
EPI	Expanded Program of Immunization
GOCI	Gouvernement de la Côte d'Ivoire
IH	Institut d'Hygiene
INSP	Institut National de Sante Publique
K.A.P	Knowledge, Attitudes and Practices
MSPP	Ministere de la Sante Publique et de la Population
ORT	Oral Rehydration Therapy
PADS	Program Analysis and Development Staff
PDRl	Project Development and Regional Implementation
PHC	Primary Health Care
RPD	Regional Projects Division
SNES	Service National d'Education Sanitaire
VHW	Village Health Worker
WHO	World Health Organization

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Executive Summary

The CCCD project contract was signed by USAID and the GOCI on June 28, 1985. Project activity began in early 1986 following the arrival of the technical officer and the assignment of certain MSPP personnel to the project. Overall, the project has made moderate progress toward achieving its goals.

The following are the major achievements accomplished during the first 12-18 months of actual project activity:

- Drafts of workplans completed for the three project interventions and the four support activities.
- Elaboration of training modules for the mid-level management course and organization of the training strategy.
- Implementation of two Training of Facilitators courses and two Mid-level Management (MLM) courses
- Elaboration of basic technical guides for local paramedical training in EPI, diarrheal disease control and malaria.
- Six operations research projects, completed or in progress.
- Elaboration of a national strategy for malaria control.
- Beginning of centralization of health statistics in the DPSS.

During this same period, a number of problems have been encountered. Some of these were identified during the first year evaluation and recommendations were made concerning actions that needed to be undertaken in order that project activities advance (see CCCD Project Evaluation Summary - Cote d'Ivoire 1/87). Certain of these actions have not yet been fully achieved. National plans have been drafted for the control of diarrheal diseases and malaria; however, they have certain weaknesses which still need to be addressed. There has been no progress in locating a french-speaking yaws consultant. The Project Agreement has not been amended to reflect the revised number of health workers to be trained under the project. Feasibility studies in alternative health care financing mechanisms have not been done. Documentation concerning the GOCI monetary contributions to the CCCD project has not been adequately clarified. The procurement process has begun for certain materials and needs to be undertaken for others.

Other more general problems which continue to affect project progress include problems of integration of project activities into the existing MSPP structure and the role of the project in supporting CCCD-related MSPP activities; inadequate planning at the central MSPP level; and lack of support for the project by REDSO. There are a number of more specific technical problems.

Project achievements, problems encountered and recommendations for project improvement are discussed in the following pages.

The following are major recommendations of this evaluation team; additional recommendations are included in the report:

1. A meeting be held between REDSO, the Minister of Public Health and Population and the national CCCD project coordinator to review project progress to date and current central-level leadership problems in order to come to agreement as to a) if and how the project can contribute to improvement in the delivery of immunization, diarrheal disease control and malaria treatment services in Ivory Coast, and b) necessary and appropriate measures to take if the project is to serve the needs of Ivory Coast. Such measures will have to address, among other things, a lack of support for CCCD-related activities in the Direction of Public Health and Population. The coordinators of the diarrheal disease control and malaria treatment components will need to play more active roles in order for these CCCD interventions to be effectively implemented in the field. The assistant national coordinator of the CCCD project, as Director of PHC, must be allowed and encouraged to play a more active role in providing leadership for the advancement of technical interventions. This individual must be provided the means (vehicle and gas) to carry out this task. This individual's role as coordinator of malaria treatment component of the project should also be reviewed in light of his ability to be effective in so many roles at once.
2. The workplans which have been drafted be revised to reflect time frames, budgets and persons responsible for each activity so that they serve as effective guides for program implementation and evaluation. Project coordinators should select at least 5 specific priority activities to be implemented by June 1988. Successful implementation of these activities will serve in part as a means for evaluating project progress during the third year evaluation. The project should provide assistance as needed to facilitate this process.
3. Meetings be held among the following personnel and/or organizations involved in CCCD-related activities, and according to the following schedule:
 - a. A meeting of the national CCCD coordinator, assistant CCCD coordinator, CCCD technical assistant, field epidemiologist and REDSO project officer twice a month. The purpose of this meeting would be to review current activities and problems, plan subsequent steps to be taken and discuss any administrative problems with REDSO.
 - b. A meeting of the coordinators of the technical and support components of the project once a month to review current activities and problems and to define priorities for the following month.
 - c. A quarterly meeting among donors to allow for a better coordination and therefore use of external aid.
 - d. A meeting with the directors of the directions and institutes in the MSPP twice a year to share with them progress in CCCD activities.

The above meetings should be planned according to need, with specific agendas so as to make efficient use of participants' time.

4. REDSO communicate directly and regularly with the national project coordinator regarding all administrative aspects of the project.
5. CCCD continue to support the centralization of health statistics by providing technical support to obtain a better use of data, e.g , to define the most relevant health indicators which will serve in planning and evaluating health services in relation to the priorities selected by the MPHP.
6. The drug ordering and distribution system at the central level be re-organized to reflect the new MPHP policies for the control of diarrheal diseases (emphasizing ORS instead of anti-diarrheal preparations or antibiotics) and malaria (emphasizing chloroquine instead of injectable anti-malarials).
7. The CCCD project provide technical assistance to sector health officers in the establishment of a functional and supportive supervisory system at the peripheral level.
8. There be officially established within the national coordinating committee for diarrheal disease control a technical subcommittee, with physician representation, under the leadership of the coordinator for diarrheal disease control (CCCD project). The individual in this position will have to be sufficiently available to provide the leadership necessary for influencing both central-level planners and administrators and providing support to sector-level health officers. This subcommittee should exist as the single national technical committee responsible for the diarrheal disease control program.
9. Establishment of a national reference/demonstration unit for ORT at the Treichville University Hospital; and eight regional demonstration centers. Such centers, based in the university teaching hospital and in existing sector-level MCH services, would serve as facilities where health staff from the region could observe and practice using ORT with patients, a necessary step for many in convincing them of the effectiveness of this intervention.
10. The two remaining MLM Courses be conducted as soon as possible, to be followed (again as soon as possible) by the Training of Trainers Course (to be completed by the end of April 1983).

In summary, the CCCD project is off to a somewhat slow start. Significant progress has been made in certain areas. In order for the project to effectively contribute to the lowering of childhood morbidity and mortality due to EPI-related diseases, diarrheal disease and malaria, agreement needs to be reached between the MSPP and USAID as to how the project can best serve the needs of the Ivory Coast in the area of CCCD and what steps need to be taken to facilitate the project's contribution to these ends.

I. Project Planning, Administration and Management

The CCCD project was signed by the Government of Ivory Coast (GOICI) and USAID on June 28, 1985. Its goal is to strengthen the ability of the Ministry of Public Health and Population (MSPP) to deliver primary health care services and thereby reduce infant and childhood morbidity and mortality by controlling the most frequent causes of death for which there are safe, efficient and cost-effective interventions.

The CCCD project in Ivory Coast is designed around the three CCCD interventions (immunization, diarrheal disease control and malaria prophylaxis and treatment) and the treatment of yaws. Four support activities (training, health education, health information systems and operations research) are designed to facilitate the implementation of the interventions.

Inasmuch as the three interventions of the CCCD project represent principal components of primary health care, it is logical that the CCCD project be integrated into an existing PHC structure. At the time of signing the project agreement, however, there did not exist in Ivory Coast an official PHC structure. The MSPP assigned responsibility for various components of the project to existing directions and institutes of the MSPP according to their most logical relationship within the Ministry structure, which is made up of a series of parallel directorates and institutes. A possible exception to this schema was the selection of the Director of the Directorate of Planning and Health Statistics (DPSS) as the national CCCD coordinator. This selection was logical in terms of the role of the DPSS in planning; however, the DPSS is not directly involved in PHC of which the CCCD components are a part.

Other Ministry personnel directly affiliated with the project include:

- Assistant National CCCD Coordinator; also:
 - Coordinator, Malaria Control (CCCD project).
 - Assistant Director of Public Health, Endemic Disease Control Branch.
 - National Director, Primary Health Care Program.
- Coordinator, Diarrheal Disease Control (CCCD project); also:
 - Assistant Director of Public Health, Maternal and Child Health and School Health Branch.
- Coordinator, EPI (CCCD project); also:
 - Director of EPI, Institute of Hygiene.
- Coordinator of Health Statistics (CCCD project); also:
 - Assistant Director for Planning and Health Statistics, Statistics and Health Information Branch.

- Coordinators of Training and Health Education components (CCCD project); also:
 - Responsible for training and health education activities in the National Health Education Service (SNES), and the National Institute of Public Health (INSP). The organizational chart in Annex V outlines the MOH structure and shows the linkage of the CCCD project to the structure.

The capacity of the GOCI/MSPP to plan and manage immunization, ORT and malaria treatment programs is affected by:

1. the existing organizational structure,
2. program planning and management practices at the central level, and
3. management and service delivery practices at the sector and peripheral levels.

Both USAID and the GOCI MSPP are committed to full integration of CCCD project components into the existing Ministry structure. However, how to achieve this integration is not so clear. Contributing to problems of project integration of project activities is the fact that the CCCD project is seen as being a somewhat separate and parallel program as opposed to a source of assistance to established MSPP public health programs. This may be due, in part, to 1) the existing MSPP structure and to the way in which the CCCD components have been linked to this structure, 2) the history of the introduction of vertical health projects in the Ivory Coast, and 3) certain management practices within the project. In the existing organizational structure of the MSPP, the national CCCD coordinator is based in the DPSS and each of the assistant coordinators (of project interventions or support activities) has another primary responsibility and immediate supervisor (with one exception).

There have been both advantages and constraints associated with the central level organization and leadership of the CCCD project. On the positive side, the national coordinator is a serious, dynamic and capable leader. His position, in some ways, facilitates his role as coordinator of project activities which directly involve two directions and two institutes of the MSPP.

There have been problems with this structure, however. First the national coordinator does not come from a medical or public health background but is nevertheless responsible for providing leadership to a project with medical and public health components in a Ministry structure which is largely controlled by medical personnel. Secondly, he has no line responsibility for any of the coordinators of the various components of the CCCD project (except for the coordinator for health statistics). The designation of the Assistant Director of Public Health, Endemic Diseases Branch (also the assistant CCCD coordinator for malaria and more recently named Director of PHC) as assistant coordinator of the CCCD project was intended to provide linkage and support between the technical components of the project and thereby facilitate the development of these components. To date, this structure has not functioned as it was envisioned. This has made it difficult for the national

coordinator to advance Ministry-level decisions necessary for the planning and implementation of CCCD activities.

In attempting to integrate project activities into the different directorates and institutes, the CCCD project has made demands of personnel who have other primary responsibilities for which they are held accountable and compensated. This may have contributed to seeing the CCCD project as a separate entity (particularly when interventions are referred to as "CCCD", "CCCD project" or "project" interventions). Coordinators for the various components of the project have not always been adequately consulted regarding the need for outside technical assistance to the project; the need for consultants has often been determined by American technical assistants and presented to local project personnel. This may contribute to problems of local ownership of, identification with, and responsibility for CCCD activities.

These administrative and management problems have had several implications for the implementation of CCCD-related activities. Inasmuch as all of the central level personnel directly involved in CCCD-related activities have other primary responsibilities, it has been difficult to obtain the necessary input/participation of some individuals when needed. When project activities began in February 1986, it was planned that there would be quarterly meetings of directors of Ministry directorates and institutes involved directly or indirectly with project-related activities, to discuss project activities undertaken and planned. Monthly technical meetings involving the national coordinator, the assistant coordinator and the coordinators of the different components of the project would be held to facilitate the planning and coordination of activities. It has been difficult to obtain active participation and collaboration at times, particularly from the coordinators for malaria and diarrheal disease control, both of whom are based in the DSPP.

Ministry protocols and national work plans needed to guide training and health education activities (the link to effecting change in disease prevention and treatment practices) have been slow in their elaboration. In many cases, they lack some of the elements necessary for the implementation and evaluation of program activities (identification and assessment of the existing problem; establishment of goals and objectives of the selected intervention; analysis of available or obtainable resources and existing or potential obstacles; identification of strategies, including prevention or treatment protocols; determination of specific activities, time frames for accomplishing them, budgets and personnel responsible; and methods for evaluation). This lack of well-defined Ministry strategies for the three disease interventions has impeded progress in the development of corresponding support activities.

Other examples of planning and management problems at the central level include:

- the current vaccination campaign which was mounted with approximately one month's planning and without adequate assessment of resources required and available, strategies for the efficient use of these resources, nor of the campaign's impact on other health services; and

- the PHC program plan recently elaborated which details the administrative steps to be taken at the various government levels for implementing the PHC program but does not adequately address important local implementation and sustainability issues such as community involvement and support of VHW's, nor the logistics of drug re-supply to village pharmacies.

Effective management and administration of immunization, ORT and malaria treatment activities at the sector and peripheral levels is problematic in terms of the organization and management of services, given large patient loads and problems of space and staffing. The use of space, time and personnel, staff supervision and the logistics of drug ordering and supply will all have to be addressed if CCCD interventions are to be effectively implemented.

In conclusion, the capacity of the MSPP to manage and administer a program incorporating immunization, ORT and malaria treatment is made difficult by the organizational structure and a lack of attention to detailed planning and management problems at the central sector and peripheral levels. Integration of the CCCD project is further impeded by its being perceived as a separate entity.

The roles of AID/W, REDSO and CDC in supporting the CCCD project are clearly spelled out. AID/W and REDSO are responsible for the allocation of resources, project management and evaluation. AID/W also allocates regional funds to support regional WHO CCCD-related activities (in the form of a regional grant to WHO).

REDSO is responsible for the allocation of bilateral funds to the GOCI MSPP for the implementation of project activities and for project management and evaluation in terms of the use of bilateral project funds. Thus, REDSO is responsible for:

- 1) assuring that necessary procedures are followed by the project in requesting and justifying the use of bilateral funds,
- 2) assisting the national project coordinator as necessary in following AID procurement and reporting requirements; and
- 3) completing the necessary paperwork at REDSO to efficiently process all requests for bilateral funds, materials and/or equipment to support project activities.

CDC is responsible for technical assistance to the project. Two CDC long-term contractors (the technical officer for the CCCD GOCI project and a CDC regional field epidemiologist) have offices adjacent to the office of the national project coordinator in the MSPP. Short-term technical assistance requests are processed through the technical officer to CDC and to AID/W. Support from AID/W and CDC has been very good. Contact between the two CDC long-term contractors and the national project coordinator has been for the most part informal and positive. However, it has not always provided for focused attention to project progress, problems and planning. Monthly reports of project activity prepared for CDC are not shared with the national coordinator.

REDSO support of project activities has been problematic. Within REDSO, responsibility for the CCCD project lies within the Regional Projects Division (RPD) of the Project Development and Regional Implementation (PDRI) office. Among the problems cited by project staff, there emerges a general problem of lack of communication between REDSO and the project. Virtually all communication between REDSO and the national project coordinator takes place by correspondence. The national coordinator receives requests for information and responds to questions from different individuals at different times in REDSO, thus creating confusion as to lines of communication to be followed with REDSO. In some cases, for example, that of ordering vehicles and computer equipment, the national coordinator has provided REDSO the information requested to justify procurement, as he understood the request, only to be sent a further request for similar or the same information.

In the case of project vehicles, with the drop in the value of the American dollar since the signing of the project agreement, it is no longer possible to purchase the maximum 26 vehicles proposed in the pro-ag for health worker supervision in the field. The national coordinator proposed, and the CDC technical officer and REDSO project officer concurred with, assessing the existing availability of vehicles in all 26 health sectors, purchasing the 9-10 vehicles for which there are sufficient funds and distributing them according to a combination of:

- progress in implementation of CCCD-related activities in the sector; and
- local need for an additional vehicle to ensure management and supervision of CCCD-related activities.

At the same time, it was suggested that the remaining project funds in this category be allocated to assist other sectors with maintenance of an existing vehicle to be used in the supervision of CCCD-related activities. The project coordinator has not received clarification from REDSO regarding the possibility of assisting these sectors in this manner. (This assistance to sector-level project activity, given proper controls, is logical for two reasons: 1) many sectors have vehicles which, with certain maintenance and/or replacement of parts, could be made functional; and 2) the disparity between sectors benefiting from a new vehicle versus those receiving no logistical support other than gas could contribute to motivational problems among the latter.)

There is a lack of communication regarding what constitutes GOCI contributions to the project. In accordance with stipulations agreed to in the project agreement, REDSO has requested of the national coordinator an accounting of the GOCI contribution to the project. Because project activities are not, and were not intended to be, completely separate from on-going MSPP activities within the project component areas, it has not been clear to the national coordinator how to identify GOCI contributions.

Workplans are required by REDSO from each of the project components in order to justify bilateral support of project activities. In some cases, plans submitted to REDSO have not been acceptable but feedback has not been given as to the reasons why and how to improve these plans.

Processing requests for bilateral funds has been problematic. Requests for funds for approved operations research grants which should normally take a month to process from the receipt by REDSO of the necessary paperwork from the CDC field epidemiologist to the receipt of the check have been taking two and one-half to six months to process. Likewise, for the initial training activity in June 1986 there was a lack of understanding as to why funds were not made available in advance of the actual activity.

UNICEF, WHO, the French government and USAID are the principal donors to the health sector in the Ivory Coast for nonconstruction costs. The World Bank is financing the construction of two new nursing schools. Donations from these sources are relatively modest if one considers the GOCI MSPP budget. Even so, it is important that maximum benefit be gained from this assistance. To date, collaboration between the above donors has been informal and situational.

Recommendations

In order to facilitate effective implementation of the CCCD project interventions, it is recommended that:

1. A meeting be held between REDSO, the Minister of Public Health and Population and the national CCCD project coordinator to review project progress to date and current central-level leadership problems in order to come to agreement as to:
 - a. If and how the project can contribute to improvement in the delivery of immunization, diarrheal disease control and malaria treatment services in Ivory Coast, and
 - b. Necessary and appropriate measures to take if the project is to serve the needs of Ivory Coast.

Such measures will have to address, among other things, a lack of support for CCCD-related activities in the Direction of Public Health and Population. The coordinators of the diarrheal disease control and malaria treatment components will need to play more active roles in order for these CCCD interventions to be effectively implemented in the field. The assistant national coordinator of the CCCD project, as Director of PHC, must be allowed and encouraged to play a more active role in providing leadership for the advancement of technical interventions. This individual must be provided the means (vehicle and gas) to carry out this task. This individual's role as coordinator of the malaria treatment component of the project should also be reviewed in light of his ability to be effective in so many roles at once.

2. The workplans which have been drafted be revised to reflect time frames, budgets and persons responsible for each activity so that they serve as effective guides for program implementation and evaluation. The project should provide assistance as needed to facilitate this process.

3. That meetings be held among the following personnel and/or organizations involved in CCCD-related activities, and according the following schedule:

- a. A meeting of the national CCCD coordinator, assistant CCCD coordinator, CCCD technical assistant, field epidemiologist and REDSO project officer twice a month. The purpose of this meeting would be to review current activities and problems, plan subsequent steps to be taken and discuss any administrative problems with REDSO.
- b. A meeting of the coordinators of the technical and support components of the project once a month to review current activities and problems and to define priorities for the following month.
- c. A quarterly meeting among donors to allow for a better coordination, and therefore, use of external aid.
- d. A meeting with the directors of the directorates and institutes in the MSPP twice a year to share with them progress in CCCD activities.

The above meetings should be planned according to need, with specific agendas so as to make efficient use of participants' time.

4. Needs for outside technical assistance be pursued in detail with the appropriate project coordinators and requests for consultants reflect the coordinators' assessment of need for such assistance.

5. Monthly activity reports to CDC be shared with the national coordinator.

6. REDSO communicate directly and regularly with the national project coordinator regarding all administrative aspects of the project.

7. REDSO assure that requests for funds are expedited through the necessary steps at REDSO in order that the project can count on the receipt of funds within agreed upon time frames.

II. Health Information Systems

The MSPP Service for Health Statistics has elaborated a workplan aimed at improving health data collection along with its centralization within the DPSS.

At the present time, the INSP is in charge of collecting and analyzing all data from monthly morbidity reports from rural health sectors (approximately 850 clinics). The INSP receives financial support from UNICEF/WHO and personnel resources from the French government. Despite this support, long delays (up to two years) have been experienced in publishing analyses of data.

The existing monthly morbidity reports prepared by rural health facilities and by hospital out-patient services (in draft form) are very complex; the different variables represent a succession of diseases and disease symptoms (128) which create confusion for health personnel responsible for reporting and for analysis. (For example, the different variables of the group "ill-defined conditions" are mainly symptoms. Often, these overlap with the diseases enumerated in the same document. The reliability of this data is doubtful and could be improved by reducing and

harmonizing these variables). These monthly morbidity reports, although very detailed, are not very useful for evaluating most health interventions since they do not allow for a precise follow-up of target diseases for which specific programs are presently being implemented (for example, number of deaths due to dehydration or to malaria).

Since the start of the EPI program in 1978 and its expansion throughout the country, a lack of immunization coverage data has made it impossible to determine the effectiveness of this program in the Ivory Coast. A vaccination coverage survey was recently conducted in a neighborhood of Abidjan. More extensive pre- and post-campaign evaluations will need to be done for the rest of the country in order to determine the effectiveness of the EPI program and to improve its performance.

The current lack of monthly morbidity reports from hospital out-patient consultations and from private institutions does not allow for an accurate estimation of EPI-related diseases in the country.

The diarrheal disease control program was initiated in 1985. However, no data has been collected to measure the effectiveness of diarrheal treatment through ORT. Nor is there any data available regarding the use of ORS packets. Some data was collected at the beginning of the UNICEF-sponsored national ORT campaign. However, analysis of this data has not been done.

The national program for combating malaria, which is based on chloroquine treatment of any fever in children and on prophylaxis for pregnant women, has not yet been made official. This program is aimed at decreasing mortality due to malaria. At the present time, there is not adequate statistical data to allow for an effective follow-up and evaluation of this program.

A consulting team from the U.S. Bureau of Census evaluated the health statistics system in Ivory Coast in May 1986 and made certain recommendations regarding the collection and analyses of health data (see Trip Report, James Gibbs, U.S. Bureau of Census). The Service for Health Statistics has undertaken a number of actions in response to these recommendations.

A National Committee for Health Statistics was created in May 1986, headed by Eugene Yapo, health statistics coordinator for the CCCD project. Members of this committee include representatives of all directorates and institutes of the MSPP. This committee is charged with overseeing the reorganization and centralization of health statistics in the DPSS. Within the planned centralization, the DPSS will collect and analyze all health care data, public and private, from university and regional hospitals, health centers, institutes and special public health centers (e.g., IH, INSP, leprosy service), national health establishments (e.g., army and social security health services), and the private sector. The centralization will reduce the present duplication and confusion resulting from the diversity of departments involved in the collection and analyses of health data.

Activities undertaken by this committee to date, though not in all cases implemented in the field, include:

- The creation of a delivery registry with detachable stubs for maternity clinics to report births occurring in their clinics by month.

- The preparation of monthly morbidity reports for hospital out-patient consultations.
- The creation of a check list to be used by DPSS to monitor the timely submission of reports by maternity clinics, rural health centers and MCH centers.
- Coordination between INSP, IH and DPSS concerning EPI activity reports. New indicators for EPI (units of vaccine distributed and number of children vaccinated by antigen and by age) were discussed. It is planned that results will be available on a quarterly basis.
- The design of new consultation registers and data processing notebooks to facilitate the elaboration of monthly morbidity reports by health service personnel.
- The revision of the existing monthly morbidity reports form used by rural health facilities.

A survey of the health facilities was conducted in December 1986 with the objective of evaluating their performance in the areas of childhood vaccination, diarrhea disease control through ORT and malaria treatment. A total of 140 health facilities were selected randomly throughout the country, including Abidjan. The results of this survey will provide a better knowledge of the practices used by health personnel as well as the identification of problems which hamper their task. The results could serve as a basis for an evaluation of changes in those practices. To date, the data from this survey has not been analyzed by DPSS.

The centralization of health statistics within the DPSS will not be without problems. Problems encountered already include inadequate equipment, facilities and personnel. These problems will likely increase as the centralization becomes more defined.

Recommendations:

In order to improve the effectiveness of the collection and analysis of health data and its use for planning and evaluating health services, it is recommended that:

1. Several MCSSRs be identified to participate in the committee to review monthly morbidity reporting. Through their knowledge of local realities and of the nurses whom they supervise, they should be able to contribute to a more functional definition of health indicators.
2. All monthly morbidity reports from out patient consultations be standardized in order to obtain a global analysis of morbidity throughout the country.

3. The number of variables contained in the monthly morbidity reports be limited to those which will serve the MSPP in planning, monitoring and evaluating health services; such variables should focus on high morbidity and high mortality diseases and facilitate monitoring of specific interventions.
4. The DPSS complete the data analysis of the health facilities survey and that the results be shared with the authorities in charge of all health facilities involved in EPI, diarrheal disease control and/or malaria so that they may use this information to better plan their interventions.
5. WHO-type surveys be conducted to determine the vaccination coverage throughout the country before and after the national vaccination campaign. A complete post-evaluation of the vaccination campaign in Abidjan should be done.
6. Simple indicators, appropriate for measuring diarrheal disease morbidity and in relation to the use of ORT, be defined and collected as a part of the monthly morbidity reports throughout all health facilities in the country. Examples might include:
 - diarrhea without dehydration: morbidity and mortality
 - diarrhea with dehydration: morbidity and mortality
 - consumption of ORS packets
 - number of treatments using intravenous injections.
7. Simple indicators appropriate for measuring malaria treatment be defined and collected as part of monthly morbidity reports by all health facilities in the country. Examples might include:
 - presumptive malaria: morbidity and mortality
 - cerebral malaria: morbidity and mortality
 - chloroquine consumption
 - use of injectable anti-malarials
8. CCCD continue to support the centralization of health statistics by providing technical support to obtain a better use of data, e.g., to define the most relevant health indicators which will serve in planning and evaluating health services in relation to the priorities selected by the MSPP.

III. Health System Support

Field visits to a variety of health facilities in Abidjan as well as to several rural health sectors in Ivory Coast made it possible to better appraise certain aspects of the basic support system for these facilities.

A. Transportation

1. Roads

The road network in Ivory Coast consists of major asphalt routes (north/south and east/west) and of numerous laterite or dirt roads, half of which are passable during the rainy season.

2. Vehicles and fuel

At the central level of the MSPP, the availability of vehicles appears to be somewhat limited. USAID has provided vehicles to the CCCD national coordinator and to the assistant project coordinators in order to facilitate their work.

At the peripheral level, the health sectors appear to have relatively large motor pools. However, a number of vehicles are out of service due to problems of spare parts and maintenance. Repairs are costly in relation to the budget allocated to the sectors.

Allocations of fuel to health sectors is limited. Fuel is available but expensive throughout the country. In Abidjan, one liter of gas costs 350 FCFA (approximately \$1.30).

B. Logistics and Supply

1. Immunization supplies

The Ivory Coast is one of the few African countries which buys its own vaccines; these vaccines are not limited to those required by the expanded program of immunization.

The Institute of Hygiene (IH) is the central supply for all MSPP vaccines. It is equipped with a walk-in cold room and several large freezers.

The rural health sector officers in the 25 health sectors go to Abidjan monthly or quarterly to obtain their supplies from the IH, according to their needs. They are in charge of distributing the vaccines throughout their health sector (to MCH and government social security health clinics). All 25 health sectors are equipped with freezers and refrigerators to store vaccines. Only a relatively small number of rural health centers are so equipped for vaccine storage. Most of the refrigerators used for that purpose are electric. From the central to the peripheral level, there appears to be no daily recording of temperatures of refrigerators or freezers used for the storage of vaccines.

The EPI in rural health sectors is conducted largely by mobile units, except for MCH and government social security clinics. Due to a lack of fuel, mobile immunization units are able to conduct an average of one to two campaigns per year (a campaign includes a series of three visits). This does not provide adequate immunization coverage for all villages within most health sectors.

The 1985-1990 MSPP immunization plan advocates the reinforcement and creation of new fixed centers for immunization. UNICEF and USAID are providing certain cold chain equipment in support of this policy.

Because of a lack of supplies, vaccinations are not always given according to the WHO protocol (one syringe and one needle per child or woman). The use of injection guns (Pedojets and Immojets) is still very widespread with all the mechanical problems its application involves. In principle, injection equipment is sterilized by boiling for 20 minutes. In practice, the boiling time varies. Steam sterilization, using UNICEF pressure cookers, has been introduced in the Ivory Coast only recently and is not yet functional.

2. Drug Supply

The central pharmacy provides drugs to all of the public health facilities, each facility receiving a given stock based on its request and on the drug supply available at the central pharmacy. The drug supply does not reflect the WHO list of essential drugs in all cases. Rural health centers frequently run out of drug supplies before the next stock is delivered, even though there is a supply at the sector level. Private pharmacies exist in some of the larger villages. Under the auspices of NGO's, some villages have been supplied with village pharmacies which are replenished by drug purchases through private pharmacies. When health facilities run out of drugs, patients rely on one of these resources. It is estimated that 70% of the drugs used in Ivory Coast are acquired through the private pharmaceutical sector.

Oral Rehydration Salts (ORS)

A supply of ORS was distributed throughout the country at the start of a UNICEF-sponsored campaign to combat diarrheal diseases in 1985. In the sectors visited, there still exists a substantial supply of these ORS packets, some of which are no longer consumable. At the health center level, the use of ORS does not appear widespread. This is understandable in light of the fact that there has not been sufficient orientation to, nor training in, the use of ORT; nor are there established yet any demonstration/training centers for the use of ORT. (At the sectors visited, there are also substantial supplies of anti-diarrhea medicines. USAID, through the CCCD project, is ordering a supply of ORS packets for distribution to all public health facilities. ORS are also sold in private pharmacies at a price of about 100 FCFA (approximately \$.30) per packet.

Anti-malarials

Chloroquine is purchased by the GOCI, stocked by the central pharmacy and supplied to health facilities. A factory for the production of chloroquine is currently being built in the Ivory Coast; production is scheduled to begin in about two years. Injectable anti-malarials are well stocked at health sector levels and are commonly used. Chloroquine can be bought without prescription in private pharmacies; one 300 mg tablet costs about 43 FCFA (approximately \$.12).

C. Personnel

The orientation of the health care system in Ivory Coast is essentially curative. The ratio of physicians to nurses in 1983 was one physician for 5.5 nurses. Preventive health activities are somewhat limited due to a lack of human and material resources. Medical training, particularly in specialized medicine, is still very important but there are few medical specialists in PHC. Sanitarians, assisted by community development

workers, are responsible for water quality and environmental health in the ten health sectors where they exist. Community development workers are also responsible for the supervision of village health workers where there are VHWs.

Supervision

There is no functional system for supervision throughout the rural health system, either in terms of timing or of process. Lack of vehicles and fuel are obstacles to regular supervision. The time devoted to supervision, from the central level to the peripheral level, is often not sufficient and does not reflect particular priorities. There is no established calendar of supervision; the average number of supervisory visits to health center nurses is once or twice a year. Due to the above constraints as well as to a lack of standards of performance, supervisory check lists, and an organizational structure facilitating regular supervision, health personnel at the service delivery level receive minimal supervisory support.

Recommendations

In order to improve the delivery of CCCD services, it is recommended that:

1. Health personnel responsible for EPI receive training in the use of the steam sterilizers and that such sterilizers be distributed to MCH centers where immunizations are routinely given.
2. The drug ordering and distribution system at the central level be re-organized to reflect the new MSPP policies for the control of diarrheal diseases (emphasizing ORS instead of anti-diarrheal preparations or antibiotics) and malaria (emphasizing chloroquine instead of injectable anti-malarials).
3. To the extent that there are drugs available for the public health sector, there be established a more efficient and effective distribution system at the peripheral level such that rural health centers benefit from all visits of sector staff to receive needed supplies.
4. The CCCD project provide technical assistance to sector health officers in the establishment of a functional and supportive supervisory system at the peripheral level.

IV. Expanded Program of Immunization

The expanded program of immunization (EPI) was begun in Ivory Coast in 1978. At the central level, coordination and management of the program is based in the Institute of Hygiene (IH).

With the signing of the CCCD project contract in 1985, the director of the EPI program in the IH was also named assistant coordinator for EPI in the CCCD project. This has facilitated very well collaboration between the existing MSPP EPI program and assistance to this program from the CCCD project.

At the operational level, the rural health sectors are responsible for the implementation of program activities in the field. They are assisted in this task by MCH centers and mobile vaccination teams.

The vaccination calendar adopted by the MSPP corresponds to that recommended by WHO except for the oral polio vaccine which is not given at birth. The GOCI ensures the purchase of its own vaccines.

Vaccination of children is routinely done at MCH centers of which there are ten in Abidjan and at least one in each of the rural health sectors. In most centers, there are specified days of the week for vaccinations (usually two-three days per week). In some situations, vaccinations are given daily.

There are very few rural health centers which operate as fixed centers for vaccination due to lack of refrigeration for vaccines, trained personnel and logistics of re-supply.

The CCCD project has ordered certain cold chain equipment to reinforce existing, and facilitate the expansion of new, fixed centers.

Organization and technique varied among the various centers visited. In general, there were large crowds awaiting vaccination at all centers. Although health personnel worked steadily, they were not always as efficiently organized as would be possible under existing conditions. Sterilization technique varied among the centers and within the same center with the immediate presence or absence of the sector health officer (indicating that the staff knew the principles of sterile technique but did not always practice them). Virtually no information/education was given regarding possible side effects of the vaccines, which ones were given nor when to return for subsequent vaccinations. In some cases, there were organized health education sessions other days of the week or month where such information was presented. There is not a well-defined policy for the immunization of sick children; and they are at times excluded from vaccination for apparently fairly minor reasons.

Supervision of EPI mobile teams is infrequent. The national coordinator of EPI is able to supervise mobile teams approximately twice a year while rural health officers supervise their teams on an average once a year.

Steam sterilizers have been provided by UNICEF but are not yet operational in most centers. The team was told that needles and syringes were boiled for 20 minutes; however, it was not clear if this was closely monitored during busy vaccination sessions.

In response to the UNICEF appeal to participate in the African Year of Immunization, the MSPP recently launched a nation-wide vaccination campaign. Prior to this campaign, the vaccination coverage rate was estimated at approximately 30%-40% for the entire country. Officials hope to bring the rate of coverage up to 80% at the end of the campaign.

In some ways, this campaign has led to a greater awareness among the population of the importance of vaccination. However, there have been a number of problems associated with the campaign. In general, the campaign thus far has suffered

from a lack of planning in terms of: assessment of necessary and available resources, including overall cost of the campaign; organization and collaboration with existing fixed centers giving vaccinations; timing (in relation to Ramadan); necessary publicity; and efficient use of human resources (including the disruptive effects of this campaign on other Ministry programs).

Recommendations:

In order that the EPI program achieve the most positive results possible with a more efficient use of resources, it is recommended that:

1. The MSPP reinforce and multiply the fixed vaccination centers in order to make immunizations more accessible to all. The CCCD project should assist in this endeavor with cold chain equipment and the training of personnel. The possibility of using petrol refrigerators instead of awaiting electricity in all locations should be explored.
2. Given the constraints involved in using mobile vaccination teams (that is, in providing adequate coverage for all EPI vaccinations), consideration should be given to using mobile teams: a) for one-dose vaccines (measles and yellow fever) and b) for reinforcing fixed centers in the rural areas (by serving as a vehicle for re-supply of vaccines and equipment). With proper support, such centers could better provide the immunizations requiring more than one dose.
3. Existing fixed centers, particularly those of a preventive nature such as MCH and hygiene centers, work to integrate immunizations into daily services in order to better serve the needs of their clients.
4. A WHO-type evaluation be conducted following the third dose in the national vaccination campaign in Abidjan and before and after the campaign in the rest of the country.

V. Diarrheal Disease Control Program

A national program for combating diarrheal diseases was initiated in 1985 under the auspices of UNICEF. A national interministerial committee was created to promote and guide the development of diarrheal disease control activities. The president of the committee is a well-known professor of pediatrics, based at the university hospital in Cocody.

The committee developed a national policy on the use of ORT in the treatment of diarrheal diseases. Three home solutions were proposed for first line treatment of diarrhea in the home. Posters were printed and distributed promoting these three solutions. An expansive information campaign was launched; 16 seminars were organized throughout the country with the objective of increasing awareness among administrative and medical personnel of oral rehydration therapy. The focus of these seminars, both in terms of content and process, was too broad to have much impact on attitude change; and they lacked the practice necessary to effect behavior change.

UNICEF provided approximately 1.4 million packets of rehydration salts which were distributed to all health sectors in the country.

With the signing of the CCCD project in June 1985, an assistant coordinator for diarrheal disease control was named. This individual is also assistant director of the DSPP, MCH and School Health Branch. Thus, at present there exist two somewhat parallel structures concerned with the control of diarrheal diseases in the Ivory Coast. Although UNICEF and the CCCD project collaborate in providing resources to the MSPP, there has not developed a strong functional integration of the two planning/coordinating units, both of which have essentially the same objectives.

At the central level, the MCH Branch and the SNES are responsible for the design and implementation of diarrheal disease control activities. A workplan has been prepared; however, the strategies and activities need to be further detailed so that the plan may better serve program implementation.

In the field, ORS packets do not appear to be widely used. There was a significant stock of packets at sector pharmacies visited by the team. Some packets were out of date. There were also significant supplies of anti-diarrhetic preparations as well as antibiotics for the treatment of diarrhea. In the several rural health centers visited, ORS packets did not seem to be in use. In sector-level MCH centers, ORS packets were in evidence and it was explained that they are used in cases of diarrhea in children attending clinic. It appeared that such practice is more the product of a few motivated health workers than the result of a well-developed and supported central policy.

A demonstration ORT unit was established in January 1986 by the CCCD project at the Port Bouet hospital in Abidjan. However, it did not endure long due to a lack of local involvement in the planning and management of the center.

The apparent lack of uniform adoption of ORT for the treatment of diarrhea is related to at least three factors. First, although there is a national policy on ORT and a supply of ORS, training in the rationale for, and use of, ORT has not effectively reached even the sector level of health personnel in at least half of the country. At the most peripheral level, few health care providers have received such training. Secondly, it will take more than one training program to change the attitudes of many health care providers who have been trained in and have practiced for many years using other methods for the treatment of diarrhea. Finally, the distribution of packets is not effective in providing a stable supply at all service points; and there continues to be an equal supply of anti-diarrhetic and antibiotic drugs distributed by the pharmaceutical system for the treatment of diarrhea.

A team representing PRITECH, HEALTHCOM and WHO evaluated the diarrheal disease control component of the CCCD project in August 1986 and made a number of recommendations for improving the effectiveness of this program. Some of their recommendations which have not yet been implemented, appear below.

Recommendations:

In order to reduce morbidity and mortality associated with diarrheal diseases among children ages 0 to 5 years through the use of ORT, it is recommended that:

1. There be officially established within the national coordinating committee for diarrheal disease control a technical subcommittee, with physician representation, under the leadership of the coordinator for diarrheal disease control (CCCD project). The individual in this position will have to be sufficiently available to provide the leadership necessary for influencing both central-level planners and administrators and providing support to sector-level health officers. This subcommittee should exist as the single national technical committee responsible for the diarrheal disease control program.
2. The policy of promoting three home solutions for oral rehydration be reviewed in light of studies which were done showing the difficulties women have in remembering the proper quantities of ingredients. The promotion of home solutions needs to be simplified as much as possible; one way of doing this is to promote a single solution which will be easiest for most people to prepare.
3. Sector health officers be actively involved in the planning and administration of the diarrheal disease control program.
4. There be established a national reference/demonstration unit for ORT at the Treichville University Hospital; and eight regional demonstration centers. Such centers, based in the university teaching hospital and in existing sector-level MCH services, would serve as facilities where health staff from the region could observe and practice using ORT with patients, a necessary step for many in convincing them of the effectiveness of this intervention.

VI. Malaria Control

Malaria treatment is among the oldest public health interventions in Ivory Coast. Until recently, however, limited attention has been given to the adequacy and uniformity of treatment strategies. Each sector (indeed in some cases each health worker) has used its own strategy according to the treatment practices of the head physician. The injectable anti-malarial, quinimax, is still used extensively in the treatment of malaria at the expense of chloroquine and with the attendant problems of injections.

With the signing of the CCCD project contract, there was initiated an organized focus to the control of malaria. At the central level, the planning and administration of program activities for combating malaria was placed under the jurisdiction of the DSPP. The assistant coordinator of this component of the CCCD project is also deputy director for endemic diseases and national coordinator for primary health care, both within the DSPP. The Epidemiology Branch of the INSP collaborates in the research aspects of this program. The microbiology lab is charged with providing periodic surveillance of malaria resistance to chloroquine.

In September 1986, an international seminar was held on the chemosensitivity of *Plasmodium falciparum* to chloroquine. As a result of this seminar, a national strategy

for the treatment of malaria was elaborated, using chloroquine at a dose of 25 mg base/kg body weight over a three-day period (10 mg - 10 mg - 5 mg); and a dose of 300 mg per week for prophylaxis for pregnant women. This strategy emphasizes the systematic treatment of any febrility in children 0-4 years of age and in pregnant women; and prophylaxis for all pregnant women. This strategy, developed by a technical committee in the MSPP, awaits the signature of the Minister in order to become official.

Training of health workers in the new malaria prophylaxis and treatment strategy is proposed for health workers in the field as well as for health sciences students. Training of the former group is covered by the project-supported CCCD training plan. The strategy for integrating such training into the schools of health sciences has yet to be clearly defined.

Problems of drug supply are, and will be increasingly, posed by the new malaria control strategy. Currently, there are equal or greater supplies of injectable anti-malarials than of chloroquine in the rural sector pharmacies. The problem of availability of chloroquine should be somewhat alleviated by the planned construction of a chloroquine factory to be in operation within the next several years. The ordering policies of the national pharmacy also need to be revised in light of the new national strategy for malaria control.

Recommendations:

In order that malaria control activities be effectively and uniformly executed, it is recommended that:

- 1) The national strategy for the treatment of malaria be ratified in order to make it operational, thus providing a standard for training in malaria treatment throughout the country.
- 2) Orders of anti-malarial drugs be revised, beginning at the central level, to reflect the new national strategy for the treatment of malaria.
- 3) The leadership of the malaria component of the CCCD project be reviewed in terms of the time and commitment necessary to advance activities of this program; and a new coordinator be named if necessary in order to provide this leadership.

VII. Yaws

A national Yaws Control Program is one of the four components of the CCCD project in Ivory Coast. This component was included at the request of the Direction of Public Health and Population (DSPP).

Since June 28, 1985, when the contract was signed, only a draft workplan has been written. Neither the treatment strategy nor the plan for the collection of data necessary for epidemiological follow-up and evaluation have been sufficiently developed to allow for the implementation of program activities. Furthermore, CDC has not been able to identify a french-speaking physician with expertise in the

treatment of yaws to help formulate a definitive workplan. As a result, there has been no activity in this program to date.

Recommendations

In order that this component of the project progress, it is recommended that:

1. The WHO strategy for the treatment of yaws be adopted for use in this program.
2. The Director of the DSPP work with the CCCD technical consultant and the Epidemiology Branch of the INSP to develop a functional workplan. This workplan should be finalized by the end of 1987.
3. Drugs and injection equipment be ordered as soon as possible in order that they be available for program implementation once a functional workplan has been developed.

VIII. Training and Health Education

Training and health education services in the MSPP are a function of the National Health Education Service (SNES), a branch of the National Institute of Public Health. A dedicated and capable health education and training staff are integrated within this branch. The staff includes six health educators, one educational technology specialist, one communication specialist and two medical sociologists.

The SNES receives minimal financial support from the Ministry budget for either materials development or health education or training activities. In collaboration with projects such as CCCD, they conduct training and develop health education materials to support given health activities.

The following training activities have taken place in support of CCCD interventions:

- Participation of a four-person national training team in an international training program for CCCD national training teams (February 1986).
- Development of a Training of Facilitators Manual.
- Development of a CCCD Training Strategy for Ivory Coast.
- Implementation of two Training of Facilitators Courses (26 participants: regional and sector health officers).
- Implementation of two Mid-level Management (MLM) Courses (45 participants: nurses, midwives, social workers, sanitarians).
- Two sector-level training courses (for nurses and midwives).

- Elaboration of the following training modules for the Facilitators Course and the MLM Course:
 - Training
 - Target diseases
 - Malaria
 - Diarrheal treatment
 - Epidemiological surveillance
 - Management of vaccination sessions
 - Cold chain
 - Immunization coverage
 - Supervision
 - Monitoring
 - Health education
 - Local planning

- Elaboration of basic technical guides for local paramedical training in EPI, diarrheal disease control and malaria.

One health sector which has participated in the MLM Course has undertaken a sector-level training program at project expense (considered a pilot program) and another has conducted local training with the support of local resources. Subsequently, a third health sector submitted to the Project a training strategy with a substantial budget.

Training efforts are currently and justifiably focused on health personnel in the field. In recognition of the importance of introducing the concepts and practices which are being taught in the field into the health sciences schools (medical, nursing and midwifery schools), a representative of each of the latter two schools served as facilitators for the first MLM Course. These individuals are, in turn, planning to integrate some of the training module material and techniques into their practical training. They have requested project support with materials and their integration into the existing nursing and midwifery school curricula.

A workplan was developed for training and health education in consultation with K. Parker, CDC Health Education Specialist. A number of the planned activities involve or depend upon progress with the MLM Courses which are currently in limbo due to the current national vaccination campaign. (Sector health personnel are involved in planning for the campaign in their sectors. The health education/training staff are involved in health education and training aspects of the campaign.) From the central level, there remains to be conducted two Training of Facilitators Courses and two MLM Courses (in order to have covered all of the health sectors); and one Training of Trainers Course (for one-two designated trainers per sector). These activities were originally scheduled to occur before the end of 1987. However, due to the current nation-wide vaccination campaign, they have been postponed. Following the completion of the above activities, it is intended that the sectors conduct training for their health personnel in the three targeted interventions: EPI, diarrheal disease control and malaria prophylaxis and treatment. (Two such local courses have been conducted as previously mentioned).

A lack of training in health education among health personnel has been identified as a major problem in the development of effective health education activities within the health delivery system. Other problems impeding the effectiveness of current health education activities in MCH centers include large crowds (up to 150 women and children per morning session), inadequate space (both in terms of size and proximity to other distractions), a lack of visual aides, a lack of personnel and a lack of efficient utilization of personnel. In response to these problems, SNES has developed within the MLM Course a unit on health education which is intended to give sector-level personnel an introduction to health education. The SNES plans to follow this orientation with 1) three-five day training programs, on health education, for health personnel responsible for the implementation of education activities within their health facility, and 2) the development of health education activities in at least 80% of the MCH centers in the country, beginning with the ten MCH centers in Abidjan.

To date, the SNES has had mixed success in working with mass media. They lack equipment to prepare radio spots. There have been problems in collaborating with station personnel to better schedule and animate messages. They have had more success working with local newspapers, which regularly give them space for health education messages. It is planned that PRITECH provide assistance in the development of a mass media strategy. A KAP study is to be done to guide the development of health education messages.

The SNES has produced posters on oral rehydration, infant nutrition and immunization. These posters are widely distributed throughout the health system; however, their effectiveness is difficult to evaluate. Postage stamps, stickers and leaflets have been produced in support of diarrheal disease control. It is planned to 1) use public buses as a vehicle for health education posters; 2) develop songs on various health themes in collaboration with traditional healers and local musical talent; and 3) develop a health education curriculum for the primary schools.

In summary, the health education/training team has contributed actively to the planning and implementation of CCCD interventions. Their support of these interventions depends upon 1) the elaboration of functional plans for each of the three CCCD interventions, 2) other priorities of the MSPP, 3) the availability of resources, and 4) the development of an effective strategy for working with certain mass media (radio and TV). Given the necessary support, SNES is ready and capable of developing the training and health education activities necessary to the success of the CCCD project.

Recommendations

The training/health education staff are to be congratulated for their accomplishments over the past 18 months. As the ultimate payoff of their efforts depends upon the completion of a series of planned training activities, the development of an effective supervisory system at the health service delivery level, health center environments which facilitate health education activities, and more effective use of mass media for public education, it is recommended that:

1. The two remaining MLM Courses be conducted as soon as possible, to be followed (again as soon as possible) by the Training of Trainers Course (to be completed by the end of April 1988).

2. Participants of the MLM Course not be encouraged to organize local training until the selected individual trainers have participated in the Training of Trainers Course and until the basic technical guides intended for use in the local training programs are available (i.e., printed and distributed).
3. The Training of Trainers Course emphasize:
 - The development by the participants of training designs based on specific tasks and skills required of participant health workers.
 - Practice training sessions conducted by participants based on their prepared training designs and feedback.
4. Organizational/management problems impeding the effective implementation of health education activities in MCH centers be addressed under the MLM supervision, monitoring and local planning modules; and that additional assistance be provided to sector health officers to design a) a supervisory check list, and b) a strategy for the supervision of MCH services and rural health centers.
5. Inasmuch as Project policy is to support only training material costs for local training in order to promote local training responsibility and sustainability, that this policy be made very clear to participants of the remaining MLM courses and that alternative local sources of support be discussed.
6. The Project collaborate with the health sciences schools in providing CCCD training materials for their use.
7. The training/health education staff collaborate with the health sciences schools in providing technical assistance for the integration of CCCD training materials into their curricula.
8. The planned KAP study be conducted in preparation for the development of the mass media strategy and preparation of health education messages.
9. Visual aides be developed to support health education activities in MCH centers. The development of such materials should be supported by the project, be adapted to the physical realities of the MCH centers and facilitate two-way communication.
10. The use of expatriate training consultants be based on an assessment of the need for such assistance in consultation with the training coordinator.

Annex I

Scope of Work

For Second Year External Evaluation

1. Objectives of Evaluation

a) To evaluate ACSI-CCCD activities in three countries through systematic collection and analysis of data on ACSI-CCCD management and operations at the central, regional and peripheral levels.

b) To measure the extent to which ACSI-CCCD activities have been integrated into the existing primary health care structure.

c) To offer a series of recommendations to impress the expansion and delivery of ACSI-CCCD services (including training, health education and health information system developments) and to accelerate their integration into the primary health care delivery structure given ever present resource constraints.

2. Methods of Evaluation:

Two teams comprised of epidemiologists, health educators and health economists, will be fielded to conduct an evaluation of the CCCD project. The team will work in the Francophone countries of Guinea and Ivory Coast.

a) Study relevant reference documents at central and regional levels.

b) Visit selected service delivery units and other health institutions in rural and urban areas of a representative number of regions of the countries.

c) Review survey data.

d) Interview relevant project implementing agents.

Evaluation Components:

1. Project planning administration and management.

a) Review the development of plans of operation and the adequacy of those plans to govern and support field activities.

b) Describe and review the capacity of government management and administrative structures to manage and administer a program incorporating immunization, ORT and malaria treatment.

c) Review the AID and CDC administration and support to the project and adequacy of procedures established for project support.

d) Review country project executive management structure and functions with particular emphasis on relevant CCCD project and executive committees, as well as donor coordination activities.

2. **Project Support:**

a) Review epidemiologic and health services statistics in order to determine if the CCCD project has exerted an influence on lowering morbidity, mortality or increasing the availability or quality of primary health care services in the respective country.

b) Review the adequacy of information systems current and planned to provide data necessary to determine project impact.

3. **Program Operation:**

a) Review the delivery system (current and proposed) to be utilized to deliver CCCD services, (supervision, logistics and supply, communications, personnel coverage, control of funds and supplies).

4. **EPI Program Components:**

a) Review immunization policies and schedules.

b) Review coverage of immunizations and review immunization practices with special emphasis on sterilization of equipment, immunization ill of children and frequency of immunization clinics.

5. **ORT Program Components:**

a) Review national ORT policy.

b) Review population coverage of ORT.

c) Review ORT practices with special emphasis on continuing use of I.V., adequacy and frequency of use of ORS and adequacy of public information regarding ORS.

6. **Malaria:**

a) Review national malaria treatment and antimalarial chemoprophylaxis policies.

b) Review population coverage of malaria treatments; and

c) Review malaria treatment and chemoprophylaxis practices with particular emphasis on availability of chloroquine, adherence to national policies, and frequency of antimalarial chemoprophylaxis in pregnant women.

7. **Training:**

- a) Review types and magnitude of training provided.
- b) Review training materials developed.
- c) Review numbers and types of personnel trained and evaluation of their performance; and,
- d) Review training plan for remainder of project.

8. **Health Education:**

- a) Review the current health education structure, plan of execution and activities to date.
- b) Review staffing and institutional capacity for delivering health education services, and
- c) Review the adequacy of technical assistance provided for support to health education activities.

Annex II

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26. Rapport du Deuxieme Cours Moyens de Formation du Personnel de Santé - Infirmiers et Assistants d'Assainissements. Yamoussoukro 24/11 - 5/12/86.
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28. Trip Report. CCCD Training, Côte d'Ivoire. 3/3 - 21/86.
29. Trip Report. CCCD Training, Côte d'Ivoire. 11/10 - 12/13/86. R. Stone.
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31. Trip Report. James Gibbs, U.S. Bureau of the Census. 5/3 - 24/86.
32. Evaluation de l'Utilisation a Domicile des Solutions Familiales de Réhydratation Orale dans les Diarrhées Aigues Bénignes. E. Shaw et al.
33. Bilan Diagnostic, SWante 1981 - 1985. MSPP - DSPP.
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Annex III

Persons Contacted

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Dr. Soro Benoit	Epidemiologist, INSP
Dr. Jean Lou Rey	Epidemiologist, INSP
Dr. Jean Lou Rey	Epidemiologist, INSP
Dr. Germaneto	Assistant Director, Primary Health Care (Southern region)
Professeur Assi Adou	Chief of Pediatrics, University Hospital Center, Cocody
Dr. Masumbuko	WHO representative, Abidjan
Mr. Kale Kouame	Interim Director, SNES

Mr. Moussa Traoré	Chief of Health Education Service, INSP
Mr. Sia Jean	Trainer, SNES
Mr. Djadji	Educator, SNES
Dr. Andoh	Chief of Pediatrics, University Hospital Center, Treichville
Dr. Collinson	Health Officer, MCH Center, Abobodomé
Dr. Tre	Regional Health Officer, Man
Dr. Assale	Rural Health Sector Officer, Man
Dr. Dogore	Assistant Rural Health Sector Officer, Man Chief of MCH Services, Man
Dr. Yao	Rural Health Sector Officer, Bouafle
Dr. Zaka	Assistant Rural Health Sector Officer, Bouafle
Mr. Sandro	Coordinator, Primary Health Care Program, Bouafle
Dr. Djakeau	Assistant Rural Health Sector Officer, Bouake
Mr. Coulibaly	Sanitarian, Bouaké
Mr. Assoko	Nurse, Bouaké
Dr. Okubi	Rural Health Sector Officer, Bouaké
Miss Sogodogo	Health Development Agent, Bouaké
Mr. Robert Weierbach	Technical Officer. CCCD Project
Dr. Cornelia Davis	Regional Epidemiologist, CDC
Miss Ming Hung	Family Health Advisor, PADS, REDSO
Ms. Sarah Clark	Supervisor: Health, Population and Nutrition Division, REDSO
Mr. John Schneider	Project Development Officer, PDRI, REDSO
Larry Bond	Director, REDSO

Annex IV

Recommendations

1. A meeting be held between REDSO, the Minister of Public Health and Population and the national CCCD project coordinator to review project progress to date and current central-level leadership problems in order to come to agreement as to a) if and how the project can contribute to improvement in the delivery of immunization, diarrheal disease control and malaria treatment services in Ivory Coast, and b) necessary and appropriate measures to take if the project is to serve the needs of Ivory Coast. Such measures will have to address, among other things, a lack of support for CCCD-related activities in the Direction of Public Health and Population. The coordinators of the diarrheal disease control and malaria treatment components will need to play more active roles in order for these CCCD interventions to be effectively implemented in the field. The assistant national coordinator of the CCCD project, as Director of PHC, must be allowed and encouraged to play a more active role in providing leadership for the advancement of technical interventions. This individual must be provided the means (vehicle and gas) to carry out this task. This individual's role as coordinator of malaria treatment component of the project should also be reviewed in light of his ability to be effective in so many roles at once.
2. The workplans which have been drafted be revised to reflect time frames, budgets and persons responsible for each activity so that they serve as effective guides for program implementation and evaluation. Project coordinators should select at least 5 specific priority activities to be implemented by June 1988. Successful implementation of these activities will serve in part as a means for evaluating project progress during the third year evaluation. The project should provide assistance as needed to facilitate this process.
3. That meetings be held among the following personnel and/or organizations involved in CCCD-related activities, and according to the following schedule:
 - a. A meeting of the national CCCD coordinator, assistant CCCD coordinator, CCCD technical assistant, field epidemiologist and REDSO project officer twice a month. The purpose of this meeting would be to review current activities and problems, plan subsequent steps to be taken and discuss any administrative problems with REDSO.
 - b. A meeting of the coordinators of the technical and support components of the project once a month to review current activities and problems and to define priorities for the following month.
 - c. A quarterly meeting among donors to allow for a better coordination and therefore use of external aid.
 - d. A meeting with the directors of the directions and institutes in the MSPP twice a year to share with them progress in CCCD activities.

The above meetings should be planned according to need, with specific agendas so as to make efficient use of participants' time.

4. Needs for outside technical assistance be pursued in detail with the appropriate project coordinators and that requests for consultants reflect the coordinators' assessment of need for such assistance.
5. Monthly activity reports to CDC be shared with the national coordinator.
6. REDSO communicate directly and regularly with the national project coordinator regarding all administrative aspects of the project.
7. REDSO assure that requests for funds are expedited through the necessary steps at REDSO in order that the project can count on the receipt of funds within agreed upon time frames.
8. Several MCSSRs be identified to participate in the committee to review monthly morbidity reporting. Through their knowledge of local realities and of the nurses who they supervise, they should be able to contribute to a more functional definition of health indicators.
9. All monthly morbidity reports from out-patient consultations be standardized in order to obtain a global analysis of morbidity throughout the country.
10. The number of variables contained in the monthly morbidity reports be limited to those which will serve the MSPP in planning, monitoring and evaluating health services; such variables should focus on high morbidity and high mortality diseases and facilitate monitoring of specific interventions.
11. The DPSS complete the data analysis of the health facilities survey and that the results be shared with the authorities in charge of all health facilities involved in EPI, Diarrheal Disease Control and/or malaria so that they may use this information to better plan their interventions.
12. WHO-type surveys be conducted to determine the vaccination coverage throughout the country before and after the national vaccination campaign. A complete post-evaluation of the vaccination campaign in Abidjan should be done.
13. Simple indicators, appropriate for measuring diarrheal disease morbidity and in relation to the use of ORT, be defined and collected as a part of the monthly morbidity reports throughout all health facilities in the country. Examples might include:
 - Diarrhea without dehydration: morbidity and mortality.
 - Diarrhea with dehydration: morbidity and mortality.
 - Consumption of ORS packets.
 - Number of treatments using intravenous injections.

14. Simple indicators appropriate for measuring malaria treatment be defined and collected as part of monthly morbidity reports by all health facilities in the country. Examples might include:
 - Presumptive malaria: morbidity and mortality.
 - Cerebral malaria: morbidity and mortality.
 - Chloroquine consumption.
 - Use of injectable anti-malarials.
15. CCCD continue to support the centralization of health statistics by providing technical support to obtain a better use of data, e.g., to define the most relevant health indicators which will serve in planning and evaluating health services in relation to the priorities selected by the MSPP.
16. Health personnel responsible for EPI receive training in the use of the steam sterilizers and that such sterilizers be distributed to MCH centers where immunizations are routinely given.
17. The drug ordering and distribution system at the central level be re-organized to reflect the new MPHP policies for the control of diarrheal diseases (emphasizing ORS instead of anti-diarrheal preparations or antibiotics) and malaria (emphasizing chloroquine instead of injectable anti-malarials).
18. To the extent that there are drugs available for the public health sector, there be established a more efficient and effective distribution system at the peripheral level such that rural health centers benefit from all visits of sector staff to receive needed supplies.
19. The CCCD project provide technical assistance to sector health officers in the establishment of a functional and supportive supervisory system at the peripheral level.
20. The MSPP reinforce and multiply the fixed vaccination centers in order to make immunizations more accessible to all. The CCCD project should assist in this endeavor with cold chain equipment and the training of personnel. The possibility of using petrol refrigerators instead of awaiting electricity in all locations should be explored.
21. Given the constraints involved in using mobile vaccination teams (that is, in providing adequate coverage for all EPI vaccinations), consideration should be given to using mobile teams a) for one-dose vaccines (measles and yellow fever) and b) for reinforcing fixed centers in the rural areas (by serving as a vehicle for re-supply of vaccines and equipment). With proper support, such centers could better provide the immunizations requiring more than one dose.
22. Existing fixed centers, particularly those of a preventive nature such as MCH and hygiene centers, work to integrate immunizations into daily services in order to better serve the needs of their clients.

23. A WHO-type evaluation be conducted following the third dose in the national vaccination campaign in Abidjan and before and after the campaign in the rest of the country.
24. There be officially established within the national coordinating committee for diarrheal disease control a technical subcommittee, with physician representation, under the leadership of the coordinator for diarrheal disease control (CCCD project). The individual in this position will have to be sufficiently available to provide the leadership necessary for influencing both central-level planners and administrators and providing support to sector-level health officers. This subcommittee should exist as the single national technical committee responsible for the diarrheal disease control program.
25. The policy of promoting three home solutions for oral rehydration be reviewed in light of studies which were done showing the difficulties women have in remembering the proper quantities of ingredients. The promotion of home solutions needs to be simplified as much as possible; one way of doing this is to promote a single solution which will be easiest for most people to prepare.
26. Sector health officers be actively involved in the planning and administration of the diarrheal disease control program.
27. There be established a national reference/demonstration unit for ORT at the Treichville University Hospital; and eight regional demonstration centers. Such centers, based in the university teaching hospital and in existing sector-level MCH services, would serve as facilities where health staff from the region could observe and practice using ORT with patients, a necessary step for many in convincing them of the effectiveness of this intervention.
28. The national strategy for the treatment of malaria be ratified in order to make it operational, thus providing a standard for training in malaria treatment throughout the country.
29. Orders of anti-malarial drugs be revised, beginning at the central level, to reflect the new national strategy for the treatment of malaria.
30. The leadership of the malaria component of the CCCD project be reviewed in terms of the time and commitment necessary to advance activities of this program; and a new coordinator be named if necessary in order to provide this leadership.
31. The WHO strategy for the treatment of yaws be adopted for use in this program.
32. The Director of the DSPP work with the CCCD technical consultant and the Epidemiology Branch of the INSP to develop a functional workplan. This workplan should be finalized by the end of 1987.
33. Drugs and injection equipment be ordered as soon as possible in order that they be available for program implementation once a functional workplan has been developed.

34. The two remaining MLM Courses be conducted as soon as possible, to be followed (again as soon as possible) by the Training of Trainers Course (to be completed by the end of April 1988).
35. Participants of the MLM Course not be encouraged to organize local training until the selected individual trainers have participated in the Training of Trainers Course and until the basic technical guides intended for use in the local training programs are available (i.e., printed and distributed).
36. The Training of Trainers Course emphasize:
 - The development by the participants of training designs based on specific tasks and skills required of participant health workers.
 - Practice training sessions conducted by participants based on their prepared training designs and feedback.
37. Organizational/management problems impeding the effective implementation of health education activities in MCH centers be addressed under the MLM supervision, monitoring and local planning modules; and that additional assistance be provided to sector health officers to design a) a supervisory check list, and b) a strategy for the supervision of MCH services and rural health centers.
38. Inasmuch as Project policy is to support only training material costs for local training in order to promote local training responsibility and sustainability, that this policy be made very clear to participants of the remaining MLM Courses and that alternative local sources of support be discussed.
39. The Project collaborate with the health sciences schools in providing CCCD training materials for their use.
40. The training/health education staff collaborate with the health sciences schools in providing technical assistance for the integration of CCCD training materials into their curricula.
41. The planned KAP study be conducted in preparation for the development of the mass media strategy and preparation of health education messages.
42. Visual aides be developed to support health education activities in MCH centers. The development of such materials should be supported by the project, be adapted to the physical realities of the MCH centers and facilitate two-way communication.
43. The use of expatriate training consultants be based on an assessment of the need for such assistance in consultation with the training coordinator.

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