



PROJECT AMIS:  
ACCELERATED IMPACT OF PID  
ON MATERNAL CHILD HEALTH CARE IN GUINEA

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PROJECT AMIS:  
ACCELERATED IMPACT OF PID  
ON MATERNAL CHILD HEALTH CARE IN GUINEA

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During The Period:  
FEBRUARY 4-16, 1980

Under The Auspices of:  
AMERICAN PUBLIC HEALTH ASSOCIATION

Supported By The:  
U.S.AGENCY FOR INTERNATIONAL DEVELOPMENT  
(ADSS) AID/DSPE-C-0053

AUTHORIZATION:  
Ltr. AID/DS/HEA: 1/25/80  
Ass. No. 583-011

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## ACKNOWLEDGMENTS

This proposal for a USAID-funded maternal and child health care project was written on site at Conakry, Guinea, February 4-16, 1980. The following persons helped prepare the proposal:

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## PROPOSAL ABSTRACT

The Government of Guinea (GOG) is making a concerted effort to improve health care facilities throughout the country, and maternal and child health in particular. Efforts to improve and expand health care services to rural areas are severely constrained by the lack of health equipment and educational materials, and by the shortage of vehicles in rural areas. Irregular or delayed delivery of medicines, vaccines, and other supplies, and limited access to continuing education for all health workers also hinder improvement and expansion activities.

USAID/Guinea proposes to work with the Ministry of Social Affairs to strengthen maternal and child health care services in selected areas of rural middle Guinea; the objective will be to reduce morbidity and mortality and to improve the health of children aged 0-7 and of women of childbearing age. This goal will be accomplished by providing continuing education for various levels of MCH workers, including those at rural health posts and traditional birth attendants; planning, implementing, and evaluating community health and nutrition education programs; designing and using a baseline data collection system; helping to implement the Expanded Program of Immunization (EPI); and providing improved pre- and post-natal care for all women in the target area.

Designed to meet the specifications listed in Guinea's Country Program Strategy Statement (CPSS), this experimental pilot project will have maximum impact within a short time and allow USAID/Guinea to take a graduated approach to involvement in a new country program.

## I. INTRODUCTION

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### Background

The Republic of Guinea, situated on the west coast of sub-Saharan Africa, has an estimated population of five million; it is approximately the size of Oregon, 95,100 square miles. Per capita income is \$230 (World Bank, 1977). Approximately 80 percent of the population is rural, but agropastoral activities account for less than half of the GNP.

Large areas of Guinea are isolated, lacking both modern transportation and complete health care facilities. As in other sub-Saharan nations, endemic infectious and parasitic diseases are common.

### Summary of the Problem

Maternal and child health care is a fundamental component of comprehensive family health care. The importance in Guinea of the "mother and children" group is obvious: the estimated 912,690 women of childbearing age and children aged 0-14 represent 43.25 percent of the entire population. The annual rate of population growth is 2.8 percent. The official infant mortality rate is 156 per 1,000 (this probably varies from region to region).

The incidence of measles, malaria, other parasitic and gastrointestinal disorders, and respiratory infections, most of which are preventable, is highest for young children. The synergistic relationship of nutrition to parasitic and infectious diseases results in high childhood mortality and morbidity rates. Although not confirmed in recent nutrition studies or by comprehensive health statistics,\* on-site observation indicates that the two severest kinds of childhood protein energy malnutrition, kwashiorkor and marasmus, are common among the

---

\*Few nutrition studies have been made recently and few data are available.

Guineans. Anemia is widespread among children and mothers. Women of child-bearing age suffer constant nutritional stress from repeated pregnancies, prolonged lactation, and heavy physical labor. A 1978 FAO report stated that 10 percent of the babies born in Conakry are of low birth weight, a condition which may be the result of maternal malnutrition.

Some nutrition practices are beneficial. Almost all Guinean women breast-feed until the 18th month. A variety of cereals, vegetables, fruits, and foods rich in animal protein are available.

The lack of nutrition information, particularly on the recommended diet for the weaning child and pregnant and lactating woman, contributes to nutritional problems. Among other public health problems are malaria, gonorrhea, schistosomiasis, onchocerciasis, and skin infections. According to a 1979 World Bank publication, 90 percent of the population does not have access to a safe water supply; environmental sanitation is poor.

The government is making a laudable effort to train professional and paramedical staff to meet current and future needs. The National School of Health has enrolled approximately 1,300 students; 25 percent will become medical doctors, the remainder nurses, midwives, and paramedicals. Students graduating from medical school are required by law to serve a minimum of two years in rural areas. Guinea's two schools of health (the GOG hopes to open another four), located in the interior of the country, train health technicians who serve in rural health facilities and support community health efforts. In 1978, according to a United Nations report, the country had 354 doctors, 194 pharmacists, 949 nurses, 473 midwives, and 1,546 paraprofessionals.

Guinea's health infrastructure consists of 47 hospitals (of various categories), 276 district rural health centers, 321 rural dispensaries, 2,442 PRL

health posts (local political groups (Pouvoir Revolutionaire Local) number between 1,500 and 2,000 inhabitants), 76 maternity centers, and 45 maternal and child protection centers; a mobile health service is used during vaccination campaigns. The sophistication and organization of these facilities vary. Some centers no longer operate, others have yet to open. Many facilities are housed in old, run-down, poorly equipped structures.

## II. PROPOSED PLAN OF ACTION

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### Proposed Response

The AMIS Project proposes to assist the GOG in strengthening and extending health services within a target area; the objective is to help the government cope effectively with the complex health and nutrition problems of infants, young children, and women of childbearing age--the most vulnerable segments of the population. The National Direction for Maternal and Child Health Services (SMI), which is part of the Ministry of Social Affairs (MOSA), organizes guides, and is responsible for the training required to carry out all SMI activities; it collaborates with the director of preventive services of the Ministry of Health (MOH), regional medical inspectors, and chief regional medical officers. Given the SMI's central role, USAID should channel its assistance through this group to strengthen health services for mothers and children.

The SMI National Director establishes health and nutrition education programs, organizes expanded immunization programs and refresher courses for health personnel, collects statistics, and manages and evaluates all programs. SMI services in each region are coordinated by the chief medical officer and integrated with other MOH health services; the service facilities usually are part of the physical complex housing other health program staff and services.

The objectives of SMI services are primarily preventive and educational. Activities include pre- and post-natal consultations, vaccinations for children and pregnant women, health and nutrition education, and surveillance and care of well and sick children. These activities became the responsibility of the MOSA instead of the MOH because the PRRG identified mother-child activities with

the social sector. Children enter school at age 7, and at that time the MOH assumes responsibility for child health care. In addition to health facility services, SMI personnel supervise the activities of community health brigades, including traditional birth attendants.

The GOG has not acknowledged officially that family planning can improve the health of mothers and children. Professionals in health and social affairs have expressed interest in the subject, and child-spacing services may be incorporated soon into family health care programs. Additional AID/W resources for child-spacing activities will be used in the MOH sector as soon as possible to support AMIS Project activities.

Efforts to provide SMI services and to implement all health programs in Guinea are constrained by the lack of health equipment, educational materials, and vehicles for regular community outreach; by irregular delivery of medicines, vaccines, and other supplies; and by limited opportunities to provide continuing education for all health workers. To illustrate: It is estimated that only 20 percent of births within the project target area can take place in government facilities with trained health staff because families cannot or will not travel the long distances to health facilities and because most women continue to rely on traditional village-based birth attendants.

### Project Description

The purpose of the AMIS Project is to improve mother-child health care services in selected intervention areas to reduce morbidity and mortality and to improve the health of children aged 0-7 years and women of childbearing age. The project area will include three administrative regions. (See Appendix C.)

## Project Outputs

The first activity component will be continuing education for various levels of MCH workers, including traditional birth attendants and those at rural health and SMI centers and PRL posts. Short courses and seminars will be offered regularly to upgrade personal skills. Health and nutrition education, the implementation of expanded immunization programs (EPI), health data collection, and pediatric and maternal assessment will be emphasized.

In all cases, the "training of trainers" approach will be used. Project technicians will work with their Guinean counterparts to improve the training skills of certain key personnel who, in turn, will be responsible for implementing continuing education activities. For example, a few midwives from each region will be selected to receive special training in conducting short courses to upgrade the skills of TBAs. Approximately 2,000 person-days of continuing education will be offered and at least five sets of materials will be designed, adapted, and distributed.

The second component will be the planning, implementation, and evaluation of community health and nutrition education programs planned and organized by SMI personnel from regional health centers in collaboration with PRL health-post staff. Health and nutrition programs will be presented to families at weekly PRL and women's meetings. (This is an ongoing activity that will improve during the life of the project.)

Development of an adequate health data collection system will be the third project activity. Additional data will be collected and the existing collections of health facilities data expanded, standardized, and analyzed. Surveys on attitudes toward and knowledge, practice, and status of health and nutrition

will be made in a sampling of villages. All compiled data will be used for the project evaluation and future health sector planning.

Project staff will assist the MOSA and MOH in implementing the EPI within the target area. The objective of this fourth activity is to vaccinate systematically at least 75 percent of the children against six childhood diseases.

The fifth component is the provision of appropriate pre- and post-natal care for all women within the target area. Activities are designed to improve the quality of pre- and post-natal care provided by traditional birth attendants (TBAs). Services offered at health facilities will be upgraded and family planning activities integrated with family health care services. TBAs will receive simple equipment and be able to enroll in short courses on pre- and post-natal care. Midwives will supervise regularly their work.

All of these project components will be implemented progressively. Activities listed in the annual workplans prepared by USAID/Conakry, project technicians, and GOG counterparts will be organized by priority output. The workplan describes the precise order in which components will be implemented and regional sites targeted.

### USAID Contributions

#### A. Personnel

USAID will contribute the following personnel:

- o Health Educator/Public Health Specialist (24 person-months)
- o Management/Logistics Specialist for EPI--a CDC operations officer if possible (2 person-months)

- o Health Systems Specialist for 2 Evaluations (2 person-months)
- o Public Health Professional for 2 Evaluations (2 person-months)

B. Commodities

USAID will provide the following equipment:

- o Cold Chain Equipment (portable cold packs, refrigerators)
- o Project Vehicles (4-wheel drives, mbylettes)
- o Training Material (audiovisual equipment, books, journals, flip charts, etc.)
- o Office Equipment and Supplies
- o Traditional Birth Attendant Kits

C. Participant Training

- o Inter-African MCH observation visits requiring 10 person-months of travel

GOG Contributions

GOG contributions will include salaries for counterparts; all in-country travel and per diem costs for training programs; permanent housing for U.S. technicians, and short-term housing within the project area; refurbished health facilities; and POL for project vehicles.



III. RELATIONSHIP OF PROJECT TO CPSS  
AND HOST COUNTRY PRIORITIES

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By targeting the health sector for priority development, Guinea aims to improve the well-being of the poor, particularly the rural poor and those living in the secondary towns that serve them. Project and site selection criteria defined in the CPSS include geographic concentration that facilitates program management and encourages mutual support among technicians; and adequate reinforced linkages of project objectives. AMIS meets these criteria since it is rural-based, targeted for an area where three other AID projects (village woodlots, women in development, agricultural production and capacity) will be implemented soon.

This pilot project will enhance the skills and knowledge health personnel need to improve the health of the rural population, and it will allow USAID/Guinea to take a graduated approach to involvement in a new country program. The government has emphasized regional development in its yearly development plans, and its provision of aid to the health sector in middle Guinea--where USAID's target population is located--will fit well into the development strategy.

The GOG has allocated a larger percentage of its national budget to the health sector in the last three years. According to the most recent government figures, the health sector receives between 5 percent and 6 percent of the current expenditure; the percentage varies according to the government's priorities for each year. About two-thirds of the budget is for personnel, the other third for material. The per capita health expenditure is about \$3.50. The largest proportion of the government health budget is expended on curative services and goods, despite strong evidence that preventive health care is

far more effective. According to MOH officials, implementation of new primary health care plans is beginning to reverse the trend. The AMIS Project responds to the new direction in government health policy.

### Alternatives

During the pre-design phase, the design team studied and rejected several inappropriate alternatives because they did not meet the criteria for accelerated impact or the specifications set forth in the Guinea CPSS. The team rejected two urban projects. One was targeted for an urban area where transportation and logistics pose fewer problems and mothers and young children can be served more easily. Concentration on Conakry's or Kindia's urban population through SMI centers neither met the criterion of "poorest of the poor" nor promoted economic linkages to other proposed projects in the targeted population area/axis of Kindia - Manou - Labe - Faranah. A second urban project concentrating on higher education in the health sciences was rejected for similar reasons. Variations on these alternatives included a mix of urban and rural activities and required resources unavailable for this project.

In its request for AID assistance in designing a project, Guinea emphasized that the project must:

- be conducted in a rural setting;
- use mid- and lower-level health care staff;
- concentrate on a target village population; and,
- produce results within 30 months.

The AMIS Project meets these specifications.

#### IV. BENEFICIARIES



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The proposed target area is situated in middle Guinea near the foothills of the Fouta Djallon Plateau, Guinea's natural watershed. Approximately one million people, mostly cattle raisers and subsistence farmers, live in this area which stretches from Kindia and Mamou to Faranah and Labe. Data on income distribution are unavailable, but other indicators reveal that the area is one of the least economically developed in Guinea. The lack or availability of water and soil and forest depletion are serious problems in middle Guinea. Recent unpublished FAO statistics reveal that per capita production (growth and yield) of rice and other cereals is the lowest in Guinea.

This project will involve four groups:

- health personnel at all levels in the project area, who will receive equipment and training in health and nutrition education;
- approximately 200,000 women of childbearing age and more than 400,000 children, who will be the direct beneficiaries of improved health and nutrition services.
- traditional birth attendants and other village health workers, who will receive additional outreach support for equipment and education; and,
- the ministries of health and social affairs, whose planning strategy will be improved through use of reliable statistical data. It is hoped that data collected during the project will be used to replicate the mid-level training effort in other rural areas.

The quality of life of the target population will be improved through better health and nutrition, which in turn will create more productive workers. Improved maternal health care and nutrition will lead to the birth of healthier offspring who will have a better chance of fulfilling their mental and physical potential.

## V. IMPACT OF PROJECT ON WOMEN

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The AMIS Project will have a positive impact on several groups of women: the target population, midwives and nurses, and birth attendants. The health and nutrition of the target population, 200,000 women of child-bearing age, will improve as upgraded pre- and post-natal care becomes available. Midwives and nurses trained in health and nutrition education will become more competent and enjoy a higher social status in the community. The hundreds of traditional village birth attendants (TBAs) will receive better equipment and basic training in modern health principles, which will enable them to perform their duties more easily and effectively.

## VI. ECONOMIC CONSIDERATIONS

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### Host Country Contribution

The GOG's 25 percent contribution to the project will cover salaries for GOG health personnel and in-country costs of travel to health and nutrition seminars. GOG officials have assured the team they are committed to training in-country mid-level health personnel and will bear the costs of that training. The GOG operates attractive lodging facilities in the larger towns for all official travelers. The government will house and feed the USAID project manager, the Guinean counterparts, and all health personnel participating in training activities.

The government will assume vehicle operating costs. The availability of POL for official use is not a problem in Guinea, and given the severe shortage of vehicles for health personnel in rural areas and the good condition of MOH vehicles up-country, vehicles in running condition should be available.

Since this project is not equipment-intensive and does not call for additional personnel on government payrolls, recurrent costs should not be a major problem. Local costs for equipment maintenance can be assumed by the GOG.

### Financial Requirement

The financial requirements of the AMIS Project are described in Exhibit 1.

Exhibit 1

FINANCIAL REQUIREMENTS

	USAID		GUG	
	YR1	YR2	YR1	YR2
<b>A. Personnel</b>				
1. 24 pm Technical Assistance	92	92	-	-
2. Housing and Utilities			18	18
3. 2 pm Management/Logistics Specialists	12	-	-	-
4. 4 pm for 2 Evaluation Specialists (2 Evaluations)	-	-	-	-
Subtotal	104	116	18	18
<b>B Participant Training</b>				
1. Inter-African MCH Observation Visits 10 pm	5	5	-	-
2. Incountry Travel, Per Diem, and Salaries of Participants*	-	-	20	20
Subtotal	5	5	20	20
<b>C. Commodities</b>				
1. 4-Wheel Drive Project Vehicles, 5 @ 14,000	70			
Spare Parts	22			
POL			30	30
2. Mobylettes, 550 X 16	9			
3. Project Management Office Equipment and Supplies	15			
4. House Furnishings	18			
5. House Refurbishing			5	

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\* 20 Health workers from five categories trained 10 days at \$40/day

Exhibit 1, cont.

	<u>USAID</u>		<u>GOG</u>	
	<u>YR1</u>	<u>YR 2</u>	<u>YR1</u>	<u>YR2</u>
6. Upgrading MCH Center Facilities			10	10
7. Coldchain Equipment	20			
8. Traditional Birth Attendant Kits, 200 @ \$39.50	8			
9. Audiovisual Equipment (4 projectors, 4 portable generators, blackboards flip charts)	6			
10. Selected Library of Journals, Films	6	6		
11. Local Printing and Translations			3	4
12. Contingency	<u>40</u>	—	—	—
Subtotal	<u>214</u>	<u>6</u>	<u>48</u>	<u>44</u>
TOTAL	<u><u>323</u></u>	<u><u>127</u></u>	<u><u>86</u></u>	<u><u>82</u></u>

TOTAL USAID: \$450,000

TOTAL GOG: \$168,000

GOG Contribution: 27 percent



VII. OTHER DONORS



## VII. OTHER DONORS

### European Economic Community (EEC)

From 1975 to 1980, the EEC was the major foreign contributor to Guinean health care efforts; it contributed \$2,860,000 (2,000,000 currency units (UC); 1 UC = \$1.43). (See Exhibit 2.) Early this year, an EEC review team analyzed Guinea's future needs and prepared a new five-year plan. Limited technical assistance, major and minor equipment for both hospitals and small health centers, vehicles, and scholarships for six Guineans to study health abroad have been provided. A replenishable EEC-established fund allows Guineans to purchase replacement parts and to finance equipment repairs. The EEC mission has had difficulty importing products, providing up-country transportation, and installing equipment. It has also been unable to obtain expected government support without outside intervention. Mission funds have been used to engage private contractors to accomplish many of these tasks.

### United Nations Capital Development Fund

The U.N. Capital Development Fund, established in 1979, allocates \$627,000 for primary health care equipment for 98 rural district health centers (arrondissements). Funding covers a fixed list of items, including fundamental equipment for mother and child health care services; this list is similar to that of the EEC but does not duplicate equipment funded under the EEC five-year plan for rural centers.

Exhibit 2

EEC CONTRIBUTIONS, 1975-1980

	<u>Contribution in UC</u>
Technical Assistance (1 Mechanic/Electrician for 24 months)	
Scholarships for Foreign Health Training (6)	200,000
Hospital and Health Center Equipment (2 high- power and 4 medium-power X-ray units installed in Conakry and in regional hospitals in Kankan, N'Zercore, Kindia, and Labe)	
Small equipment (microscopes, refrigerators, delivery beds, operative suite equipment, and basic medical equipment for 21 hospitals)	
Rural Health Centers (basic medical equipment for 89 facilities)	
Maternal and Child Protection Centers Equipment (for 42 sites)	1,300,000
Vehicle Assistance (10 ambulances, 5 Landrovers, 70 Mobylettes, 80 bicycles)	225,000
Repair and Spare Parts Fund (disbursed as required by agent)	50,000
Contingencies	<u>225,000</u>
TOTAL	<u><u>2,000,000*</u></u>

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\*\$2,860,000

UNICEF

In collaboration with WHO, UNICEF has furnished vehicles, equipment, vaccines, and other health materials for the health sector. As much as \$350,000 has been approved for basic medical and laboratory equipment for 66 rural health centers. UNICEF proposes to upgrade the 33 regional hospital laboratories for which it will provide essential equipment and supplies. The National School of Health will receive teaching aids (charts, models, audio-visual equipment, etc.).

As much as \$150,000 has been allocated to improve the water supply and to provide (by 1980) safe drinking water for 45 percent of the population. Wells have been or will be constructed in most communities, and at schools and women's education centers. UNICEF was asked to provide 200 hand pumps, 12 centrifugal pumps, and various other construction materials to complete the task.

France

Guinea severed diplomatic relations with France more than 15 years ago, but several modest bilateral educational and technical assistance arrangements have been made. No Guineans are studying the health sciences in France, and no French physicians are teaching in the School of Medicine in Conakry. A small number of French pharmaceuticals are available in local markets, and technical assistance to the pharmaceutical arm of the Ministry of Health (Pharmaguinee) is being negotiated.

### Eastern Bloc Nations

Numerous East European physicians are working in Conakry as well as in regional hospitals. The exact number of physicians and health science instructors and kinds of technical assistance provided are unknown. Several Guinean physicians interviewed in Conakry and the project area said they received their medical education in the Soviet Union and the German Democratic Republic.

### People's Republic of China

The exact number of Chinese doctors working in several regional hospitals is not known.

### WHO

Dr. Alpha Camara, a Guinean physician directs the regional office. One of the first to graduate (in 1978) from Guinea's Medical School, Dr. Camara is one of many early graduates now holding high positions in planning and conducting Guinea's health programs.

The 1981 budget for efforts in four major areas have been increased slightly. (See Exhibit 3, a line-item budget for 1981.) Additional funds have been allocated for:

- technical assistance (teachers and personnel) to support ongoing public health programs;
- equipment and materials;
- supplies for specific anti-disease programs; and,
- financial support for training programs in public health (the three-month programs will be held in Togo for physicians, nurses, and other health workers).

Exhibit 3

FUNDING LEVEL 1981

To the Ministry of Health (based in Conakry) in direct support of programs:

1 Public Health Physician	\$ 78,000
1 Laboratory Technician	57,000
Equipment and Supplies	10,000
	<u>\$145,000</u>

For primary care efforts:

Equipment and Supplies	\$ 50,000
Local Expenses for Operation	8,000
	<u>\$ 58,000</u>

For preventive medicine/contagious disease efforts:

Malaria and other Transmissible Diseases	8,000
	<u>\$ 83,000</u>

To the Ministry of Education (to be located in hospital at Donka, Conakry) for teaching and clinical functions:

1 Teacher in Dermatology/Venereal Diseases	\$ 78,800
2 Laboratory Technicians	114,000
Supplies and Equipment	25,000
	<u>\$217,800</u>

Since 1976, an active program of short courses in public health has been offered to Guineans at WHO's Regional Training Center, in Togo; courses lasting from one or two to 12 weeks are offered regularly to physicians (seven weeks), nurses (12 weeks), and sanitarians (1 to 3 weeks). Two physicians, two nurses, and two sanitarians will participate in the 1980 programs. (See SHDS project.)

WHO's 1980 health sector budget was \$555,800; the 1981 budget has been increased to \$607,500. WHO's total 1980 budget for Guinea was \$996,200. WHO has allocated for the 1981 Guinea budget \$1,163,300.

#### Other USAID Inputs in the Health Sector

Guinea is one of the 20 countries participating in the SHDS project (696-0398). In addition to receiving measles vaccine in 1977-1979, Guineans participated in almost all the training activities conducted under SHDS auspices. Two Guineans took the EPI National Managers Course offered in Abidjan in April 1979. Since 1975, USAID has contributed \$329,000 (\$75,000 obligated to FY80) in Drought Relief Program funds to improve and support preventive health activities in Guinea. Vaccines, cold chain equipment, vehicles, and equipment for countrywide immunization programs have been provided.

Onchocerciasis, known locally as river blindness, is a major cause of blindness in sub-Saharan West Africa. The World Health Organization has initiated a multidonor project (698-0135) to determine the feasibility of establishing a control program in the river basins in Guinea, Guinea-Bissau, Mali, and Senegal. Several nations and organizations, including the U.S., Canada, the Netherlands, Belgium, Kuwait, and the United Nations Development Program, have or will become active donors.

## VIII. PROJECT TIMETABLE



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<u>ACTION</u>	<u>MONTH</u>
1. PID Submitted	- 3
2. PID Approved	- 3
3. PP Developed	- 2
4. Project Details Negotiated with PRRG	- 2
5. PP Submitted	- 2
6. PP Authorized and Concurred	- 1
7. ProAg Negotiated and Signed	- 0 -
8. Commodities Ordered	1
9. Refurbishing of Project Manager's Residence	1 - 3
10. Recruiting Project Manager	1 - 4
11. Project Counterparts Chosen	1 - 4
12. Project Manager Arrives	5
13. Commodities Arrive	5 - 12
14. Short-term TA (4 person-months)	5 - 30
15. TA Workplan Submitted	8
16. Participants Inter-African Seminars and Workshops	8 - 22
17. Training Materials Adapted and Developed	8 - 30
18. Mid-term Progress Evaluation	16
19. Continuing Education Sessions Held	7 - 30
20. Baseline Health Data Developed	7 - 30
21. Community Nutrition/Health Programs Organized and Implemented	9 - 30
22. EPI (ongoing)	0 - 30
23. Pre- and Post-natal Care (ongoing)	0 - 30
24. Final Evaluation	28
25. Project Ends	30



Appendix A  
LIST OF PERSONS CONTACTED



## Appendix A

### LIST OF PERSONS CONTACTED

#### Team Members and Contacts

Dr. Mohamed Kader  
Pediatre Directeur General des Services des PMI  
Hopital Donka

M. Ibrahima Balde  
Directeur National Adjoint  
Services de la Sante Maternelle Infantile  
Ministere des Affaires Sociales

Dr. Pathe Diallo  
Medecin-Nutritioniste, et Pediatre  
Ministere de la Sante Publique

Dr. M. Malifa Balde  
Directeur Regional de la Sante  
Conakry I

Mme. Hadja Nanfadima  
Directrice du Centre de PMI  
Coreathie

Mme. Ester Kourouma  
Directrice du Centre de PMI  
Boulbinet

M. Kindji Toure  
Directeur de Centre de PMI Centrale  
Koulewondy

Dr. Mamadou Kaba Bah  
Doyen de l'Ecole de Medecine et  
Chef de l'Hopital Donka

Dr. Yaya Diallo  
Directeur de la Division des Maladies Transmissibles  
Ministere de la Sante Publique

Dr. Alpha Camara  
Coordinateur avec l'OMS

M. Masai Camara  
President de la Federation de Conakry III

Dr. Cyprien Hakizimana  
OMS (long-term consultant)

M. Yamoussa Yattara  
Etudiant, 6<sup>ieme</sup> Annee Medecine

M. Mamadou Bailo Camara  
Chef de Poste Medical  
Sougueta, Region Kindia

Dr. Cellou Balde  
Medecin-Chef/Pediatrie  
Hopital de Kindia

Dr. Konde Bakany  
Medecin-Chef-Adjoint/Maternite  
Hopital de Kindia

Dr. Foude Drame  
Medicin Chef  
Hopital de Kindia

M. Marcello Palmieri  
Conseiller, Delegation de la Commission des Communauts (EEC)  
Europeennes en Republique de Guinee

Dr. Liliane Dimova, Pediatre  
Bulgania, Enatenue  
Ministere de La Sante  
Centre de DMI, Boulbinet

Dr. Svetlana Bourych, Pediatre  
U.S.S.R., En Service  
Ministere De Sante  
Hopital De Donka

M. Jacques Palamoudhian  
Conseiller Technique  
United Nations Development Programs  
Telecommunications

M. Andre Musy  
Counseiller Technique  
United Nations Development Programs  
Telecommunications

United States Mission Representatives

Ambassador Oliver S. Crosby, Guinea

Mr. Walter J. Sherwin, AID Affairs Officer, Conakry

Mr. Norman Garner, Deputy AID Affairs Officer, Conakry

Ms. Marianne Malde, General Services Officer, Conakry

Appendix B  
CORRESPONDENCE



16 February 1980  
Conakry, Guinea

Walter J. Sherwin  
AID AFFAIRS OFFICER  
Conakry, Guinea

Dear Walt:

It has been a pleasure to work in Guinea as a part of a team sent to appraise resources and support for an appropriate maternal and child health program to be proposed by USAID to the Government.

I must offer some comment on the brief PID report submitted at this time in light of the six years I have spent in developing nations as a medical student, clinician, programmer of rural health care activities and as a teacher of health care personnel. From this background I know that in rural Africa one finds both the majority of population and human suffering from absent or inappropriate health care. For this reason alone it is splendid that AID-supported programs be directed toward ameliorating these problems.

Unfortunately, all-rural programs directed only toward the low and middle level technical personnel likely to spend their careers in small town and semirural areas are unlikely to touch the many other students in health sciences, particularly physicians in training who will in all likelihood be directing and carrying out national priorities in the future.

I am concerned that this project as conceived dismisses any combination of rural/urban demonstration sites and with it the potential for other than incidental involvement of medicine and nursing students in Conakry. Precisely because of the major investment being made in the preparation of these students, their numbers, and the fact that their impressionable early training years are largely spent in Conakry, retaining at least a single Conakry site for a nutrition/MCH effort appears to me as an important option to be kept open.

Visibility, accessibility and logistic support issues are also important. A reality that I have experienced is that proximity to central governmental personnel is helpful in mounting new programs in health care. If the logistic support provided by the mission and the government is not strong this will become an important reason for avoiding total concentration of a single technician's efforts in a rural area. A well-thought of technician doing useful work in a visible site over a protracted period would be most helpful in paving the way for other projects. Again, I think that it is important not to close off options that the future project manager/technician may find important.

Because personal contact of Guineans with highly-qualified, popular and effective technicians will be invaluable, and because this is a multi-site project, I would prefer to see two technicians involved.

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The influence of American medical textbooks: A second means of long term influence which neither I nor the other team members considered is that possible with textbooks. They are the standard of the world and dominate the world medical text market, even in non-English speaking nations because of their quality, descriptions, frequent revision, illustrations and comparatively low prices. I was repeatedly asked in Conakry by both students and teachers about availability, price and access.\*

A relatively easy first approach well within the domain of this project would be the local construction of up to a dozen study tables with attached book shelf. On each would be placed a dozen medical texts in representative specialty areas, installed with small chains to permit on-site useage by students. These would be placed in student areas of hospitals and outpatient areas where students are present. I have done this in the past and the texts and tables have had many years of life and heavy useage. Later, the availability of books for student purchase would be a highly popular effort which would win many friends. The hunger and unmet need for medical texts among students is probably difficult to comprehend.

A Department of State/mission consideration that I feel is worth entertaining is the recruitment of a physician interested in its health projects and in the flexible clinical needs of a small post such as this. Proximity to the national health administrative, teaching and health planning functions in Conakry and clinical interests in tropical health problems would be strong positive factors. A doubling of the number of US medical graduates in little more than a decade has greatly increased the number of young physicians interested in the unusual. What I consider to be a major health initiative has been proposed for Guinea for 1980-1986. I recall that an AID physician resident in Yaounde performed in a versatile role and set the stage for a balanced and long term group of health-centered projects in Cameroon. I think that this is an issue to be discussed with the Ambassador in terms of long range mission and post needs.\*\*

I have not commented on the fact that I consider this proposed project to be a difficult but worthy one; it risks invisibility and unworkability, and I have tried, in my input to the team to limit constraints on those who will carry it out. I am enthusiastic about the progress made by Guinea in health priority setting and by the worthiness of Guinea as a choice by AID and other donors for health sector investment.

Yours truly,



Noel Guillozet, M.D., University of Illinois College of Medicine  
Consultant in Maternal and Child Health

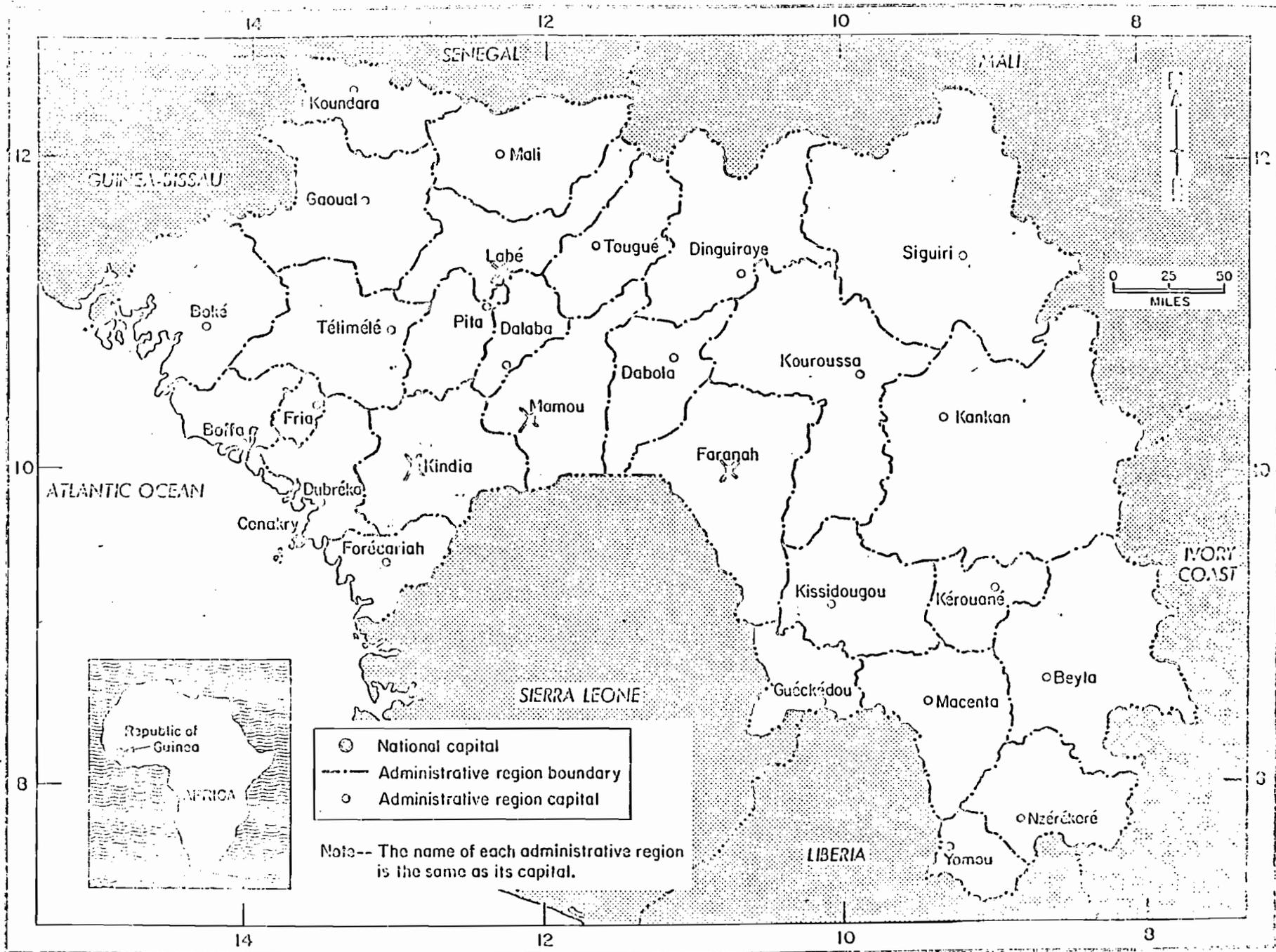
\* This is a future consideration, and obviously not in this project scope.

\*\*The issue of teaching materials and general texts has been generously provided for personnel directly involved. I am referring to classical medical texts used by physicians and nurses and recommending some effort be directed in this regard to this needy group.

Appendix C  
TARGET AREA MAP



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- National capital
- - - Administrative region boundary
- Administrative region capital

Note-- The name of each administrative region is the same as its capital.

Figure 1. Republic of Guinea

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Appendix D

NOTES ON HEALTH CARE STRUCTURE IN GUINEA



SOME PERSONAL NOTES ON THE HEALTH CARE STRUCTURE OF GUINEA:  
ITS PROBLEMS AND PROMISES

Noel Guillozet, M.D., Consultant in Guinea  
February 1980

Guinea, situated above the equator on the west coast of Africa has a population of approximately 5.2 million (1979) on a land mass of 95,000 square miles, approximately the size of Oregon. Eighty-three percent of its population and labor force are involved in agriculture. In 1973 literacy was estimated at ten percent of the population and life expectancy for men at 40 and for women at 42. Official figures indicate that significant improvements in both survival and literacy have occurred since a survey five years earlier. It is a largely rural nation with 20% of its population classed as urban.

Guinea has large areas in relative isolation from modern transport or developed health care facilities. It has the typically young population seen in a tropical nation with 43% 14 and under. It shares the endemicity of infectious and parasitic diseases of the tropical sub-Saharan nations. Malaria is a formidable cause of morbidity as is the widespread latent protein deficiency malnutrition seen among young children. In Guinea and in much of sub-Saharan Africa this is due in part to dependency on cassava and other low protein foods during transition feeding. Guinea has a population growth rate of about 2.7%, and infantile mortality was estimated by the government at 156/1000 (1977). Hospital deaths caused by transmissible diseases were estimated by the government to be 34% in 1977, and malaria, malnutrition, diarrheal diseases and tuberculosis rank only below infectious diseases in the top ten causes of hospital deaths.

Among the children of Guinea are many deaths in the 1-5 year age range from preventable contagious and non-contagious diseases and complications of malnutrition. Conakry, the capitol city has had major reductions in measles deaths and complications in recent years through effective vaccination programs, but such efforts have been less successful in many rural areas. Childhood malnutrition is both a serious problem in Conakry and the rural areas and is often more pronounced among rural adults than among young children at times of crop failure. The complexity of the problem of malnutrition can never be understated since its sources include cultural dietary traditions, urban crowding, and the recent but spreading trends toward bottle feeding of babies. Despite small official importations of consumer goods, the presence of baby bottles and imported baby formula milk powders in the Conakry market place indicate demand. Twenty infants and young children were hospitalized with kwashiorkor and marasmus in the malnutrition ward of Conakry's Donka Hospital during a visit in February, 1980. At the time of the visit, only 2 infants, twins, were hospitalized with measles, indicating a remarkably effective regional measles immunization program.

Encouraging Aspects of Government Health Policies: In the face of a distressingly low per capita income (\$230 in 1977: World Bank) Guinea has

made an impressive commitment to health, both through delivery of services and through the form of training health manpower in significant numbers at all levels within the country. Guineans are also being sent abroad and elsewhere in Africa to seek specific clinical and academic skills necessary for local needs and the development of a basic national health care infrastructure. The government expended about 3.14% of its national budget for health in 1978.

With a young population, the government has adopted health policies that direct maximal efforts toward preventive medicine and appropriate curative medical efforts toward this group. It has adopted the following priorities that impinge immediately on maternal and child health:

1. Accomplish a major reduction in infantile mortality.
2. Assure to each mother and child systematic vaccination and all preventive health measures including pre and post-partum care for women.
3. Control or eradicate contagious and transmittable diseases.
4. Assure clean drinking water, appropriate health and nutrition education, and correct management of wastes for all.
5. For each village accomplish the development of an infrastructure that will assure that all people receive basic health needs.

The Education of Health Personnel: The Government has backed these health priorities with local training programs for physicians, nurses, pharmacists and paramedical personnel. Positive plans for their deployment to sites of need throughout the country have already begun to be implemented, as with medical graduates from each of whom is expected two years of service to the government in outlying areas. Ratios of physicians to population were estimated by the Government to be 17,500:1 in 1976. The ratio is improving with 336 physicians listed as in service in December 1979, with paramedical personnel listed as 3,242 for a ratio of 9.6:1, an unusually favorable ratio of physician/ paramedical personnel. WHO recommendations suggest a goal of 10,000:1 population/physician ratio, one that is probably attainable here.

In prior years Guinean physicians and a very few other health professionals received training in France, other European countries, and, occasionally the United States. Political changes altered these patterns, and recent trainees have either returned from or are pursuing studies in the USSR, China, Rumania, Bulgaria, Yugoslavia, Hungary, Cuba, Algeria and both East and West Germany. At this time there are at least 25 expatriate physicians and 6 laboratory technicians from the USSR and Bulgaria working locally. The number of Chinese working locally was not available.

In early 1980, 21 Guineans are overseas pursuing a curriculum that will prepare them to teach the basic sciences in the School of Medicine. The largest single number are in the USSR (8) with others in Rumania, USSR, both East and West Germany, and Switzerland. They will join the existent 5 Guinean professors and 18 faculty members of lower rank currently serving the School of Medicine.

In the production of health personnel, a pyramid approach is employed in the National School of Health whereby the top fourth of an enrollment of about 1200 students are selected to pursue the medical curriculum while others are trained in various paramedical schools. The medical students receive their basic science training and the majority of their clinical rotations in the Conakry area. A senior year approximating the internship may be spent in interior towns such as Kindia, where they may also pursue a clinical specialty interest such as pediatrics or obstetrics. Approximately 55 graduates are expected from this year's senior class of about 70 students. Classes of substantial size have occurred since 1974. Students in all health sciences are subsidized and not less than two years of rural service in the national health structure is expected. There is apparently neither a private health sector nor a missionary one, in keeping with the government's social and political policies. Interestingly, Guinea has recently provided some of its physicians to lesser developed African nations. At least a dozen younger physicians have served in Mozambique and I was told that at least six are out of Guinea at this time.

In 1980 the health training structure has no emphases in the academic arena beyond that of a mandatory thesis on some topic for each senior medical student. There are really no tertiary medical services available at all in this nation. Apart from a rather isolated immunologic research project based near Kindia, there is no research underway that I could determine. The return to Guinea of non-physician faculty in training abroad to conduct the future basic science segments of the medical curriculum may change the all-clinical emphasis somewhat.

At this time Guinea is heading for physician/non-physician health manpower sufficiency, the School of Medicine and two related schools for other personnel are geared up to produce generalists who will be trained in the realities of sub-Saharan medical practice and who anticipate conducting them at sites deemed to need them.

A major need of health care students is textbooks. Those existent are retained in a Conakry library, and personal texts are virtually unobtainable except by mail or trips outside the nation. Both are difficult because of severe currency restrictions. American medical texts and journals were mentioned specifically and by name to me as being desired by faculty as well as students. The frequent revision, high quality and highly competitive cost of US textbooks overcomes the obvious disadvantage of English in the French-speaking African nations. A new health sector project might wish to address this fundamental educational shortcoming as textbooks are both necessary and highly influential.

The nation's health facilities are at base a network of colonial era French military hospitals and dispensaries of varying age. They include 47 hospitals of various categories, 276 district rural health centers, 321 rural dispensaries, 2,442 health posts (for political-geographic units of 1,500 - 2,000 inhabitants), 76 maternity centers, 45 maternal and child protection centers, and a mobile health service for vaccination campaigns.

Both hospitals and units at various levels have most recently benefited from UNICEF, European Economic Community, WHO, United Nations Capital Development Fund and USA provided equipment. Based on visits to several in the Conakry-Kindia area, they are neither much worse nor any better than those of a representative six other sub-Saharan nations I have visited. Team members were told that materials in the way of drugs, fluids for infusion, immunization material, and bandages are usually minimally adequate. I would gather, based on the paucity of consumer goods and similar official importations in the market places, (the least I have ever seen in any country) that some medical goods must be in short supply on occasion.

A highly promising aspect of the central Guinean health training structure is its integration with both direct patient care efforts and with the planning and execution of public health programs for the nation. An example is the head of the pediatrics department of the medical school who serves as chief of service in the major hospital and in a key role in the national strategy for addressing MCH needs. As a dynamic and charismatic clinician, he is also a role model for the many students in contact with him, literally all medical students. His interests and efforts at the national level in carrying out maternal and child health programs are highly influential on them. Further, literally dozens of the school's earliest graduates and recent returnees from medical education taken abroad have been pressed into positions of both clinical and major administrative responsibility throughout the nation for running the network of hospitals, MCH centers and mobile immunizations services. It is clearly an exciting venture for them, and there is exuberance and hopefulness in waging new battles against the ancient scourges well-known to these young men and women who have grown up among them.

To this observer Guinea is on the right course for the clinical and public health problems it faces and deserves selective external support in their health training, public health and clinical care endeavors.

Appendix E  
STATISTICAL INFORMATION



HEALTH INFRASTRUCTURE - FACILITIES

<u>Facility</u>	<u>Category/Level</u>	<u>Number</u>
Hospitals	Category I	6
	II	15
	III	26
Health Centers	Arrondissement Level	276
	Rural Posts	321
	Community Brigades	2,442
Maternity Units		76
Mother and Child Health Centers		51
Preventive and Medicine Units		35
Pharmacies		331

HOSPITAL STATISTICS ON CHILDRENS' ILLNESSES  
(DONKA - Major Facility for Children in Guinea)\*

	1976			1979		
	<u>Boys</u>	<u>Girls</u>	<u>TOTAL</u>	<u>Boys</u>	<u>Girls</u>	<u>TOTAL</u>
Hospitalizations	1,050	696	1,746	2,062	995	3,057
Hospital Deaths	114	75	189	165	88	253
Consultations	4,849	3,606	8,455	8,471	6,299	14,770
Immediate Deaths	28	20	48	165	88	253

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		<u>Percent</u>			<u>Percent</u>
5 Major Causes of Illness	Gastroenteritis	28	Respiratory (Eye and Ear)		42
	Respiratory	25	Gastroenteritis		23
	Malaria	11	Malaria		25
	Other/Parasites	6	Other/Parasites		5
	Malnutrition	2	Malnutrition		1
Major Causes of Hospital Death	Malnutrition	17	Respiratory Infections		14.2
	Gastroenteritis and Toxic States	17	Umbilical Tetanus		22.1
	Respiratory Infections	11	Gastroenteritis and Toxic States		13.8
	Malaria	11	Malaria		9.0
	Measles	9.5	Meningitis		7.1
	Umbilical Tetanus	6.8	Measles		4.3

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		<u>Percent</u>			<u>Percent</u>
Death by Age	0 - 1 year	59			61.2
	2 - 6 years	40			30.4
	7 -14 years	1			8.3

\*Built in 1957-58.

NATIONAL HEALTH STATISTICS  
(1977)

10 Principal Causes of Illness, All Ages (Percent)

1	Malaria	17.0
2	Wounds	7.3
3	Scabies	5.3
4	Intestinal Parasites, except hookworm	4.6
5	Diarrheal Diseases	4.6
6	Eye Infections	3.5
7	Respiratory Infections and Conditions	3.4
8	Influenza-like Disorders	3.3
9	Non-diarrheal Diseases	3.3
10	Skin and Tissue Infections	2.8

10 Principal Causes of Hospital Death, All Ages (Percent)

1	Respiratory Infections	15.0
2	Malaria	10.8
3	Malnutrition	9.6
4	Diarrheal Diseases	5.7
5	Tuberculosis	4.0
6	Intestinal Occlusions	2.5
7	Anemias	2.1
8	Intestinal Parasites	1.0
9	Complications of Pregnancy	0.9
10	Amebiasis	0.4



Appendix F  
DESCRIPTION OF GUINEA HEALTH SERVICES



En République Populaire Révolutionnaire de Guinée, il existe une Direction Nationale pour les services de Santé de la mère et de l'enfant. Placée sous l'autorité administrative du Ministère des Affaires Sociales, cette Direction opère à la fois avec le Ministère des Affaires Sociales, et le Ministère de la Santé .

## I - STRUCTURE ET FONCTIONNEMENT

### 1° A L'ECHELON NATIONAL

La Direction Nationale des SMI a un rôle de conception, d'organisation, de dynamisation et surtout de formation en rapport avec la Direction Nationale des services de Prévention, les Médecins Inspecteurs des Commissariats généraux de la Révolution (C.G.R.) et les Médecins Chefs des Régions Médicales .

- Elle établit des programmes d'éducation sanitaire populaire .
- Des programmes d'éducation nutritionnelle
- Des calendriers et programme de vaccinations
- Organise des périodes de recyclage pour le personnel spécifique des centres -
- Etablit des statistiques
- Contrôle l'exécution des programmes
- S'impose périodiquement une correction de la méthodologie après le bilan des résultats .

### 2° AU NIVEAU DE CHAQUE C.G.R. (Commissariat général de la Révolution)

Il existe un centre principal de SMI et 3 pour la zone spéciale de Conakry (un centre par Fédération) -

#### OBJECTIF :

- PREVENTION
- EDUCATION
- Et surtout formation et coordination sous la responsabilité du Médecin Inspecteur du C.G.R.

P E R S O N N E L :

I/ DIRECTION NATIONALE :  
I Directeur National  
I Directeur National Adjoint  
I Se Technique  
I Se Administratif  
I Se Statistique

2/ CENTRES PRINCIPAUX :  
I Médecin  
I Technicien de Santé Publique  
2 Sages-Femmes  
I Laborantin  
I Aide Infirmière  
I Infirmier  
2 Filles de salle  
I Garçon de salle  
I Gardien

3/ CENTRES REGIONAUX :  
I Médecin  
I Technicien de Santé Publique  
3 Sages -Femmes  
I Matrone  
2 Infirmiers  
I Garçon de salle  
2 Filles de salle  
I Gardien

4/ AU NIVEAU DE L'ARRONDISSEMENT:  
I Médecin ou Infirmier  
I Aide -Infirmier  
I Sage-Femme  
I Matrone  
I Manoeuvre .

3° AU NIVEAU REGIONAL :

Existe un centre Régional de santé maternelle et infantile remplissant toutes les activités habituelles de SMI (consultations pré-per- post -natales- vaccinations -éducation sanitaire populaire -éducation nutritionnelle -)

NB Pour la zone spéciale de Conakry, il existe un centre par arrondissement ayant les mêmes équipement et les mêmes activités qu'un centre Régional -

4° AU NIVEAU DE L'ARRONDISSEMENT :

Un centre de Santé d'arrondissement qui, en plus des activités habituelles d'un centre de SMI, supervise les activités des brigades sanitaires au niveau des P.R.L. (Pouvoir révolutionnaire local) -

-Consultations prénatales avec vaccinations antitétanique ,assistance périnatale à la maternité et à domicile où sont utilisées les matrones traditionnelles -

-Consultations post-natale avec surveillance des enfants -

-Vaccinations systématiques :

-B.C.G.

-DT-COQ

-Polio

-Rougeole

-Éducation nutritionnelle

-Éducation sanitaire -

En marge de ces activités fondamentales de prévention , il existe toujours une consultation d'enfants malades où, en plus des soins , se pratique aussi l'éducation sanitaire populaire -

Ainsi sur le plan National , nous totalisons :

I Direction Nationale

9 Centres principaux

4I centres Régionaux

320 centres de santé d'arrondissement -

.../...



