

**AIRGRAM**

**DEPARTMENT OF STATE**

*RS/PS*

UNCLASSIFIED  
CLASSIFICATION

For each address check one ACTION | INFO

DATE REC'D.

TO - NID/W TOAID A-

X

*35 W*

PD. AAK-402-B1

*660-11-531-049*

*6600049*

*(2)*

DATE SENT

*12/9/71*

DISTRIBUTION

ACTION

*Mail Rm*

INFO.

*35* FROM - NINSHASA

SUBJECT - WOP - MCF/Family Planning Pilot Project

REFERENCE - A. Davis/Warner's letter dated November 22, 1971  
B. NINSHASA 105117  
C. TOAID A-164

The attached WOP presents the joint efforts of USAID/M mission personnel, Dr. J. Prince of AID/W and Dr. William Close, Medical Advisor to the Presidency of the GDR, who also heads FORZA (Fonds Medicale du Saire), the agency for the operation of the Marie Madeleine Yoro Hospital of Niakhar. The Government of the Saire, through its agency FORZA, is in accord with the requests and propositions made in this WOP.

The WOP has been presented as a discreet pilot project lasting 32 months. It must be understood that projects of this nature cannot be expected to make dramatic immediate changes in the current indicators listed in Section 2-2 of the WOP, within this time period. It is therefore assumed that these indicators are established with a longer view in mind. Second phase projections over a roughly 3 year period would include increased training for staffing of additional MCF/FP centers to be constructed on a standard pattern. Any AID participation in any second phase activities would, of course, be wholly dependent upon the performance of this pilot project as well as upon available funds.

OTHER AGENCY

VANCE

Attachment a/s

PAGE 1 OF 1

DRAFTED BY

PROG:JGraham:efc

OFFICE

Program

PHONE NO. DATE

36

12/7/71

APPROVED BY:

Horon S. Davis, Jr. Direct

AID AND OTHER CLEARANCES

PROG:CBriggs

UNCLASSIFIED

CLASSIFICATION

I. PROJECT IDENTIFICATION

1. PROJECT TITLE <p style="text-align: center;"><b>Kinshasa - M/CH Centers Pilot Project</b></p>		APPENDIX ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 2. PROJECT NO. (M.O. 1025.2) <p style="text-align: center;"><b>660-11-531-049</b></p>
3. RECIPIENT (specify) <input checked="" type="checkbox"/> COUNTRY <u>ZAIRE, Republic of</u> <input type="checkbox"/> REGION/L _____ <input type="checkbox"/> INTERREGIONAL _____	4. LIFE OF PROJECT BEGINS FY <u>1972</u> ENDS FY <u>1975</u>	5. SUBMISSION DATE <u>Dec 8, '71</u> <input checked="" type="checkbox"/> ORIGINAL _____ <input type="checkbox"/> REV. NO. _____ CONTR./PASA NO. _____

II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	F. OTHER COSTS \$	G. PASA/CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ U.S. <u>.50</u> (U.S. OWNED)		
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN	(2) COOP COUNTRY	
										(A) JOINT	(B) BUDGET	
1. PRIOR THRU ACTUAL FY												
2. OPRN FY <u>72</u>												
3. BUDGET FY <u>72</u>	136	30	6	6	6	-	100	30	6	-		10
4. BUDGET +1 FY <u>73</u>	3147	330	99	102	310	478	2237	330	99	-		210
5. BUDGET +2 FY <u>74</u>	887	295	81	55	236	365	172	295	81	-		190
6. BUDGET +3 FY <u>75</u>	84	60	15	4	45	10	10	60	15	-		9
7. ALL SUBQ. FY												
8. GRAND TOTAL	4254	715	201	167	597	853	2519	715	201	-		419 *

9. OTHER DONOR CONTRIBUTIONS \*Allocation between

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT A & B to be determined
-------------------	----------------------------	-----------------------------------

III. ORIGINATING OFFICE CLEARANCE

1. DRAFTER PROG: James Graham <i>[Signature]</i>	TITLE Assistant Program Officer	DATE Dec. 8, 1971
2. CLEARANCE OFFICER PROG: Clyde Briggs <i>[Signature]</i>	TITLE Acting Assistant Director	DATE Dec. 8, 1971

IV. PROJECT AUTHORIZATION for Program

1. CONDITIONS OF APPROVAL

2. CLEARANCES

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE

3. APPROVAL AAs OR OFFICE DIRECTORS	4. APPROVAL A/AID (See M.O. 1025.1 VI C)
SIGNATURE _____	SIGNATURE _____
DATE _____	DATE _____

AID 1025.1A (NARRATIVE DESCRIPTION) (7-71)			
PROJECT NO. 660-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION	(Number) DATE 1 2/8/71	PAGE 2 of 14 PAGES

## A. PROJECT GOAL

1. Goal Statement. The President of the GOZ has stated in strong terms that he wishes to improve the lot of the Zairoise woman and her family. This Pilot MCH/Family Planning project is to a degree a response to the desires of the GOZ on behalf of its women.

2. Measurement of Goal Achievement. This project will contribute to the achievement of the goal set forth by the President of Zaire in that it will establish a pilot scheme to show in what way comprehensive MCH and family planning service delivery systems can be adapted to the Zairois' political, social and economic scene. Such services and facilities will alleviate certain of the concerns which bear most heavily on the Zairoise woman, such as infant and maternal mortality, and morbidity (including malnutrition), abortion, having excessively large families, inability to space pregnancies, high incidence of communicable diseases.

3. Assumptions of Goal Achievement. That Zairoise mothers and all families in general do indeed feel seriously concerned with problems such as those listed in point A.2, and that attention to these problems will, in their view, enable them to lead a better life and receive a better "lot" within the confines of Zairian life.

## B. PROJECT PURPOSE

1. Statement of Purpose: The expansion and improvement of maternal and child health care service component of a HS delivery system including FP service and limited curative services in the selected pilot areas of Kinshasa, through the development of a decentralized and coordinated system of small centers supervised by Marie Madeleine Yemo Hospital (FOMECO).

2. Conditions expected at the end of Project.

- a) Establishment of 2 pilot centers with adequately trained staff with capacity for replication by GOZ.
- b) Establishment of an effective system of supervision/coordination of centers by Marie Madeleine Yemo Hospital.
- c) Reduction of birth rate in pilot areas.

AID 1025.1A (NARRATIVE DESCRIPTION) (7-71)		(Number)	DATE	PAGE 3 of 14 PAGES	
PROJECT NO.	<input checked="" type="checkbox"/> SUBMISSION ORIGINAL	<input type="checkbox"/> REVISION	2/8/71		

- d) Healthier mothers and infants in pilot areas as shown by weight cards.
- e) Reduction in infant mortality in pilot areas.
- f) Alleviation of overcrowded conditions in maternity wards of Marie Madeleine Yemo Hospital.
- g) Development of increased capability of GOZ (FOMEKO) in the field of health services planning, specifically for MCH services.

### 3. Basic Assumptions.

- a) That sufficient numbers of trainable personnel will be available and, subsequent to training, will be retained in the jobs for which they were trained.
- b) That adequate programs of immunization, nutrition, and preventative medicine can be objectively measured.
- c) That the GOZ will evolve a positive statement on family planning and will give continued support, including partial financing, to such efforts within this project.
- d) That the women of Kinshasa (especially in the pilot areas) recognize their needs, and the needs of their children, sufficiently to seek out and use the services to be provided.
- e) That the location of small centers in pilot areas will alleviate the problem of relative inaccessibility of services, i.e. getting to the clinic, which was made in the HST report.
- f) That FX and sufficient local currency will be available.

### C. PROJECT OUTPUTS

#### 1. Outputs

- a) Verification of model as most effective MCH center most responsive to MCH requirements of women of Zaire.

AID 1025-1A (NARRATIVE DESCRIPTION) (7-71)		SUBMISSION (Number)		DATE	PAGE 4 of 14 PAGES	
PROJECT NO. 660-11-531-049		<input checked="" type="checkbox"/> ORIGINAL	<input type="checkbox"/> REVISION	2/8/71		

- b) Alleviation of overcrowded situation in MMY hospital.
- c) Development on the part of FOMECO of a capacity to administer MCH centers.
- d) Acceptance by the pilot population of FP and preventive medicine measures exhibited by the MCH centers.
- e) Acceptance by the pilot population of MCH services.
- f) Creation of a system for collection and analysis of data from which effectiveness of services can be measured.

## 2. Output Indicators

- a) Number trained and retained personnel in key areas of
  - 1) midwifery
  - 2) family planning services
  - 3) preventive medicine
  - 4) administration
  - 5) MCH education of public
  - 6) trainers of categories A - E above trained by project
- b) Capability of continued training.
 

Number of trainers trained who are effectively transmitting their knowledge by:

  - 1) course work
  - 2) OJT
- c) Increase in interval between births in population served by centers.
- d) Significant reduction of fertility rate in population served by centers.

PROJECT NO. 660-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION	(Number)	DATE 2/8/71	PAGE 5 of 14 PAGES
-------------------------------	--	----------	----------------	--------------------

- e) Number of children immunized.
- f) Decrease of incidence of communicable diseases in population served by centers.
- g) Nutritional effect on children involved as shown by weight charts.
- h) Increased percentage of target population of women of childbearing age accepting FP info and FP devices.
- i) Significant increase in age/parity ratio.
- j) Improved levels of personal and family hygiene practices in target population.
- k) Increased skin fold thickness and hemoglobin levels.
- l) Reduction of infant mortality rate.
- m) Decreased maternal mortality rate.
- n) Decreased incidence in complications of pregnancy
  - 1) ruptured uteri
  - 2) eclampsia
  - 3) vesico-vaginal fistulae
- o) Increased percentage of mothers receiving prenatal advice plus care.
- p) Increased percentage of mothers receiving obstetrical care of acceptable standard.
- q) Increased percentage of mothers receiving post-partum contraceptive measures.
- r) Decreased time interval between generation and recording of appropriate data and the utilization of these data for appropriate services.
- s) Increased capacity on the part of the GOZ to plan for the development of health services and health service delivery systems.

AID 1025.1A INARRATIVE DESCRIPTION (7-71)

PROJECT NO. 660-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION	(Number)	DATE 2/8/71	PAGE 6 of 14 PAGES
-------------------------------	--	----------	----------------	--------------------

Basic Assumptions

- a) That the GOZ (FOMECO) will be sufficiently satisfied by the improved health of mothers and infants and the reduced birth rate to continue to utilize outputs in trained personnel to staff an expansion of the pilot program to cover all of Kinshasa.
- b) It is possible to measure the output indicators listed.

PROJECT INPUTS

	<u>Units</u>	<u>Total</u>
1. Team of 5 experts		
1) Public Health/Family Planning physician/Team Leader - salary: \$30,000 p.a.		
2) Public Health Nurse/Midwife - \$20,000 p.a.		
3) Public Health Pediatric Nurse -- \$20,000 p. a.		
4) Public Health/Family Planning Educator - \$20,000 p.a.		
5) Sociologist/Cultural Anthropologist - \$25,000 p. a.		
	\$ 230,000 p.a.	\$ 520,000 C
	for 2 years 3 months	
2. Admin. and logistic experts in planning and development stage	75,000	95,000 C
	15 months each	

PROJECT NO. 660-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION	(Number) DATE 12/8/71	PAGE 7 of 14 PAGES
-------------------------------	--	--------------------------	--------------------

3. Local Zairois participants to be hired by hospital but training costs paid by project. Salaries of operating personnel to be paid by hospital fund	20 Zaires per participant per month -  6 months x 60 participants x 4 consecutive courses.	\$ 57,600 D
4. Construction of centers Ref. State 209067	\$1,000,000 x 2	\$2,000,000 F
5. Ambulances	10,000 x 3	30,000 E
6. Radio communications	3 x 600	1,800 E
7. Equipment of centers (a) Special equipment - \$55,000 per center  (b) Locally purchased equipment - \$45,000 per center (c) Initial drug supply - \$15,000 per center	115,000	230,000
8. Population info & devices		100,000 E
9. Operating expenses	50,000 p. a. per center	150,000 F
10. Nutrition supplements children 6 months to 3 years 2,000 per center 20,000 x 18 months, 360,000 nutritional months		\$ 460,000 E
11. Rencovation of 2 delivery rooms at general hospital		125,000 F
12. U. S. training Downstate N. Y. University French program	10 x 3 travel costs	30,000 D 12,000
13. Other training in U. S.	72 months	67,200 D

PROJECT NO. 60-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION _____	(Number) DATE 2/8/71	PAGE <u>9</u> of <u>14</u> PAGES
------------------------------	--	-------------------------	----------------------------------

14. Immunization	\$ 20,000 pa.	\$ 30,000 E
15. Peace Corps - logistic support expenses	20 volunteers 2 years @\$3,644 per volunteer p.a.	145,760 F
16. OPEX (for FOMECCO)	\$ 20,000 p.a.	40,000 C
17. TDY Consultants	12 man months	\$ 60,000 C
18. A & E Study on clinic buildings	5% of Const. Cost.	100,000 F

AID 1025.1A INAPPRATIVE DESCRIPTION (7-71)

PROJECT 660-11-531-049 SUBMISSION (Number) DATE 9  
 ORIGINAL  REVISION 2/8/71 PAGE 14 PAGES

ZAIRE-DOLLAR BREAKDOWN

	<u>TOTAL \$</u>	<u>\$</u>	<u>ZAIRE</u>
1.	520,000	400,000	60,000
2.	95,000	75,000	10,000
3.	57,600	--	28,800
4.	\$2,000,000	*	
5.	30,000	30,000	--
6.	1,800	1,800	--
7.	230,000	110,000	60,000
8.	100,000	100,000	--
9.	150,000	--	75,000
10.	460,000	445,000	7,500
11.	125,000	15,000	55,000
12.	42,000	30,000	6,000
13.	67,200	60,000	3,600
14.	30,000	5,000	12,500
15.	145,760	--	72,880
16.	40,000	25,000	7,500
17.	60,000	30,000	15,000
18.	100,000	90,000	5,000

Z 4,254,360

\$ 1,416,800

Z 418,700

\* Zaire - dollar to be determined by A&E study on clinic buildings.

PROJECT NO. 660-11-531-049	SUBMISSION <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> REVISION	(Number)	DATE 12/8/71	PAGE 10 of 14 PAGES
-------------------------------	--	----------	-----------------	---------------------

### 3. Basic Assumptions

- a) That adequate centers will not be found at appropriate locations and will have to be constructed.
- b) That nutritional supplement distribution will be handled by an appropriate outside agency.
- c) That the ambulances to be procured can be purchased from USG excess property.
- d) That the salaries for the participants will be borne by MMY Hospital.
- e) That sufficient Zaires will be available from GOZ for costs other than salaries.
- f) That the Women will accept the nutrition supplement.
- g) That appropriate land parcels will be available.
- h) That sufficient trainable personnel will be available.

### E. NARRATIVE STATEMENT

1. Within the goal of improving the lot of Zairoise women and children set by President Mobutu, the mission has selected this project, designed to establish a pilot MCH delivering system with family planning services, as our most attractive and feasible response to this goal. Other possibilities for improving the lot of women, such as women's education or assistance to small enterprises established by women not only fall outside existing missions priorities but also would not have the same potential impact on Zairois society.

#### 2. a) Economic considerations

The general economic situation in the Zaire is somewhat less rosy than in 1970. This should not, however, be a sufficient reason to delay or avoid commencement of the pilot MCH project which will call for little initial local investment in its pilot stage. Future copper revenues should be adequate to support appropriate expansions in MCH care subsequent to the pilot stage.

AID 1025.1A NARRATIVE DESCRIPTION (7-71)		SUBMISSION (Number)		DATE	PAGE 11 of 14 PAGES	
PROJECT NO.	660-11-531-049	<input checked="" type="checkbox"/> ORIGINAL	<input type="checkbox"/> REVISION	2/8/71		

b) Political Factors.

This project is predicated on the stated goal of President Mobutu to improve the lot of Zairoise women. In addition, success of the family planning aspects of the project depend upon a positive GOZ policy regarding family planning. Such a policy statement is expected.

c) Legislative Climate.

The legislation can be expected to endorse any program in the field of MCH care and FP services which has been approved by the president of the GOZ.

d) Financial implications of the project.

The GOZ presently has sufficient funds to cover the local currency costs and can be expected in its budgetary process to continue to provide adequate financial support.

e) Social/Cultural environment.

The city of Kinshasa is a burgeoning city with a 1970 African population of 1,289,000. This contrasts with a pre-independence figure of 370,000. Such population expansion brings with it all those problems one could normally expect in such a city; overcrowded medical facilities, unemployment, violent crime, inadequate housing, inadequate water and sewage service, etc.

A positive factor in the social environment is that considerable tribal mixing has taken place in the various communes of the city. There are few communes which could be considered "tribal strongholds"; consequently, there is little tribally generated tension in the city. This factor could have important benefits in the receptivity by the target population of the MCH/FP pilot project.

f) Ecological problems.

Ecologically, Kinshasa lies in a sandy, infertile basin, thus is chronically lacking on adequate food supply. Food, mostly manioc, must be imported long distances, and market forces work to maintain high prices. The nutritional level in Kinshasa is low, this being partially attributable to the ecological situation.

AID 1025-1A (NARRATIVE DESCRIPTION) (7-71)		SUBMISSION		(Number)	DATE	PAGE		PAGE	
PROJECT NO. 660-11-531-049		<input checked="" type="checkbox"/> ORIGINAL	<input type="checkbox"/> REVISION		2/8/71	12	of 14	PAGE	

g) Technological Problems.

This project should encounter no marked technological problems if it is kept firmly in mind that only simple, easily maintained equipment is provided. Local repair facilities can not be expected to cope with the repair of highly sophisticated hospital equipment, nor, in general, is the skill level of the Zairois employees sufficiently advanced to utilize such equipment.

3. Inputs other than those listed in section D, will include a complement of Peace Corps volunteers, and an OPEX type public health physician to serve on FOMECO staff as project coordinator. The Peace Corps volunteers will fill key positions in the clinics as doctors, nurses, midwives, logistic supply supervisors and public health educators during the pilot project in order to allow for the operation of the clinics prior to having a full complement of adequately trained Zairois staff. The OPEX type public health physician will work as a member of FOMECO to coordinate the project. His presence should enable FOMECO to commence institution building processes which will lead toward the development of an institution capable of supervising the entire health service delivery system of Kinshasa. Such institution building would bear fruit in later stages of the MCH program. Such a program of institution building would, of course, be coordinated with any such efforts in the Ministries of Health and of Social Affairs.

4. The mission has designed this project as a pilot project for two important reasons: (1) the urgent need for relief of overcrowded maternity wards in MMY hospital and (2) the need for a rational, experimentative approach in designing facilities and services which will be most appropriate to the needs as felt by the women of Zairois society. The alleviation of the conditions described in the first reason will be a direct and immediate result of this project.

In analyzing the second reason, it quickly becomes apparent that there will have to be an additional study taking place within the time frame proposed in the Prop. This study would be designed to establish a control area in a non-MCH clinic area and to generate base-line data in both the control area and in the pilot areas. Such data is critical if the evaluations projected mid-stream and at the end of the project are to be relevant. A second and perhaps more feasible way to generate the necessary data is to assist Dr. Pauls in establishing and operating a data-collection center within the existing MMY hospital.

There is also another study which will have to be undertaken, this one being for the architectural and engineering requirements of the 2 clinics buildings. It is expected to commence this study as soon as possible in order to confirm building costs and requirements.

#### F. Course of Action

1. X Approval of PROP and funding of Project (Jan. '72 = X month)
2. X + 1 PROAG & PIO/T for team of educators
3. X + 2 months - signature of contract for team
4. X + 2 months - selection of sites for centers
5. X + 4 months - construction of centers starts
6. X + 5 months - selection of team of educators and admin. and logistics experts.
7. X + 6 months - arrival of experts
8. X + 8 months - commencement training both in Kinshasa & U.S.
9. X + 9 months - study to establish control area and base-line data in control and experimental areas.
10. X + 13 months - completion & equipment of centers
11. X + 13 months - arrival of immunization, family planning and nutrition supplies.
12. X + 14 months - commencement of operation of centers
13. X + 14 months - commencement new classes of trainees
14. X + 20 months - in-stream evaluation of operation.
15. X + 20 months - commencement new class of trainees
16. X + 26 months - commencement new class of trainees

AFRICANA INFORMATION COLLECTION (7-71)		MISSION		DATE
PROJECT NO.	60-11-531-049	ORIGINAL	<input type="checkbox"/> REVISION	12/8/71
				PAGE 14 of 14 FACTS

17. X + 32 months -

Final evaluation - decision on model to follow departure team of 4 experts.

Appendices:

1. Maternal & Child Health Care Services in the Kinshasa Area.
- 2, Dr. Close's comments on the MCH Report
3. Special Equipment List - 40 Bed Maternity
4. 1971 - 12-1
5. Maternity Satellite - 40 Beds



## LOGICAL FRAMEWORK MATRIX - PROP WORKSHEET

Summary	Objectively Verifiable Indicators	Important Assumptions
<p><b>A.1. Goal</b>            Improve lot of Zairoise family through provision of adequate MCH and Family planning facilities.</p>	<p><b>A.2. Measurement of Goal Achievement</b>            1. Improvement notable by output indicators listed C-2 which will alleviate certain concerns felt by Zairoise women such as infant and maternal mortality, abortion, large families, high incidence of communicable diseases.            2. Pilot scheme will verify both the need for MCH/FP services and also the appropriateness of these two clinics in providing these services.</p>	<p><b>A.3. (as related to goal)</b>            That Zairoise women do feel concern about problems listed A-2 and will seek out services with view to improving their lot in Zairoise society.</p>
<p><b>B.1. Purpose</b>            Establishment of pilot MCH &amp; FP project in Kinshasa consisting of 2 clinics under the supervision of the MMY Hospital.</p>	<p><b>B.2. End of Project Status</b>            1. Establishment of 2 Pilot MCH/FP clinics.            2. Establishment of effective supervisory control from MMY Hospital.            3. Reduction of birth rate &amp; infant mortality in pilot areas.            4. Alleviation of overcrowding in MMY hospital.            5. Development of capacity on part of GOZ to plan future health service delivery systems.</p>	<p><b>B.3. (as related to purpose)</b>            1. Adequate number of personnel can be both trained and retained.            2. GOZ to issue positive statements on family planning.            3. Women of Kinshasa will seek out MCH/FP services.            4. Adequate funds available.</p>
<p><b>C.1. Outputs</b>            1. Verification of MCH Center appropriate type.            2. Alleviation of crowded conditions in MMY hospital            3. Development of supervisory capacity by FOMECO            4. Acceptance of IP and preventive medicine measures            5. Establishment of system of data collection.</p>	<p><b>C.2. Output Indicators</b>            1. Number trained and retained personnel            2. Capability of continued training            3. Wide range of standard medical &amp; family planning indicators to be used in evaluation (See Section C for details)</p>	<p><b>C.3. (as related to outputs)</b>            1. GOZ sufficiently satisfied by results to allocate Zaire to continue program after pilot project.            2. It is possible to measure output indicators listed.</p>
<p><b>D.1. Inputs</b>            1. US personnel on contract            2. Local personnel as participants            3. Peace Corps volunteers            4. Nutrition supplements            5. Immunization material            6. Family planning information and devices            7. Construction of clinics</p>	<p><b>D.2. Budget Schedule</b>            1. Budget \$4,254,000 - local costs in Zaires to be approximately 20% or #419,000            2. Schedules - Project to extend over 32 months            See section D for expansion of Budget &amp; schedule.</p>	<p><b>D.3. (as related to inputs)</b>            1. Salaries of Zairois to be paid by MMY hospital.            2. Appropriate land available            3. Trainable personnel available            4. GOZ Zaires available            5. Nutrition supplement satisfactory.</p>

#1

**MATERNAL AND CHILD HEALTH CARE SERVICES  
IN THE KINSHASA AREA  
République Démocratique du Congo  
Dates: June 27-July 27, 1971**

**A REPORT**

**Submitted by:** Mayhew Derryberry, Ph.D.  
Samuel W. Dooley, M.D.  
Elizabeth J. Leedam, M.P.H.  
Ruth H. Stimson, M.H.A.  
**University of California, Berkeley**

**Consultation carried out  
under APHA/AID Contract  
No. AID/csd,2604**

## TABLE OF CONTENTS

Authorization for this Consultation:

Letter TA/POP, May 27, 1971

	Page
I. Introduction	1
A. Concept of Maternal and Child Health	1
B. Data Base for the Study	1
II. Recommendations	2
A. Recommendations Regarding Health Care in General	3
B. Recommendations Regarding Maternal and Child Health Care In the Kinshasa Area	3
III. Present Facilities and Services for Mothers and Children in the Kinshasa Area	4
A. Hospitals	4
B. Other Facilities and Services	5
C. Family Planning Activities	6
IV. Rationale for the Development of a Decentralized and Coordinated System of Maternal and Child Health Care Services	7
V. Proposal for the Development of a Decentralized and Coordinated System of Maternal and Child Health Care Services	8
A. Function of the Proposed Maternal and Child Health Centers	8
B. Size	11
C. Location	11
D. Physical Facilities	12
E. Communication and Transportation	14
F. Drugs and Other Supplies	14
G. Food Service	14
H. Records	14
I. Eligibility for Care	15
J. Charges for Service	15
K. Administrative Organization	15

L. Suggested Staffing Patterns for the Centers	17
M. Recruitment, Training, Supervision, and Retention of Staff	18
N. Impact on the Marie Madeleine Yemo Hospital	23
O. Community Education	24
P. Financing	26
VI. Phases of the Proposed Program	26
VII. Evaluation of the First Ten Centers	27
VIII. Long-Range Considerations	29
A. Maternal and Child Health Centers as Part of an Overall System	29
B. Development of an Adequate Data Base for Planning and Evaluation	30
C. Long-term Financing of Maternal and Child Health Care	30
D. A Long-term Program for Education of Health Personnel	30
E. Development of a Comprehensive School and Community Health Education Program	31
F. A Final Thought	33

#### APPENDIX A – Some Characteristics of the Kinshasa Area

- A. Demography
- B. Physical Characteristics
- C. Sanitation
- D. Housing
- E. Nutrition
- F. Transportation
- G. Local Government Structure
- H. Economics of Health Care
- I. Medical and Paramedical Personnel
- J. Cultural Factors

#### APPENDIX B – Facilities Visited

#### APPENDIX C – Persons Interviewed

#### APPENDIX D – Deliveries at the Marie Madeleine Yemo Hospital During March 1971

#### APPENDIX E – Recapitulation of Resources Required for the Initial Phase of the Program

#### BIBLIOGRAPHY

- References Cited in Text
- Selected Additional References

JUN 1 1971

DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

May 27, 1971

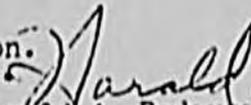
Dr. Malcom H. Merrill, Director  
APHA AID Contract  
1001 Connecticut Avenue, N. W.  
Room 832  
Washington, D. C. 20036

Dear Dr. Merrill:

The government of Congo, Kinshasa has requested a survey team consisting of a Public Health Physician, Public Health Nurse, Hospital Administrator and a Health Educator or Demographer. The team is being asked to survey existing health facilities in the Kinshasa area with particular reference to MCH services and facilities. The team will be expected to come up with recommendations for upgrading existing services and developing a comprehensive MCH/FP program for the area. The recommendations are to cover administration staffing, construction, financing and training requirements to achieve the recommended levels of service.

It is hoped that the mission could be available for duty in Kinshasa on or about June 21, 1971 for a period not to exceed 20 work days. The APHA will be expected to fund the entire cost including honoraria, international and local travel, per diem, and secretarial services required in the field. The team should be brought to Washington for predeparture briefing and for debriefing upon return.

Kindly give this your immediate attention.

  
Harald A. Pedersen  
Field Support Division  
Office of Population  
Technical Assistance Bureau

Enclosure: memo Prince/Boynton dated 5/24/71  
memo Baron/Belcher dated 5/5/71  
scope of work

## I. INTRODUCTION

In view of the rapid growth in population in the Kinshasa Area there is an obvious need to study maternal and child health in order to develop a plan for effective care throughout the area. (See Appendix A for discussion of some of the characteristics of the area.) At the request of USAID, the American Public Health Association arranged for such a study to be made by a group of four public health professionals—a pediatrician, a public health nurse-midwife, a health educator, and a hospital administrator. This report is the result of that group's study in Kinshasa during the first three weeks of July 1971.

The purposes of this study were threefold:

1. To obtain data on existing maternal and child health services in the Kinshasa Area.
2. To identify areas of need and demand for maternal and child health services in the Kinshasa Area.
3. To recommend action to improve these services.

### A. Concept of Maternal and Child Health

Maternal and child health services should be family centered and should include prenatal care, delivery, postpartum and interpartum care for mothers; postnatal care for infants; prevention and treatment of illness in mothers and children; immunizations as indicated; family planning counsel and contraceptive services to protect the health of mothers and children; nutrition education for mothers; provision of food supplements as needed; and, as feasible, special services for children with handicaps such as prematurity, neurological and orthopedic diseases, and cardio-pulmonary diseases. The central focus in maternal and child health must be on promotion of health with treatment available when preventive measures fail.

### B. Data Base for the Study

The study group made every effort to obtain reliable data from a variety of sources but found it virtually impossible to verify in an academically acceptable fashion most of the data obtained. The group felt frustrated at almost every turn by the scarcity of "hard" data, by the contradictions in information given them by various informed individuals, and by the time-consuming way in which information had to be obtained through conversations with many different individuals and from widely scattered written sources.

The group obtained data in three ways:

#### 1. Observation:

- (a) Visits to several hospitals, dispensaries, and other health facilities. (See Appendix B for list of facilities visited.)
- (b) An extensive tour through most of the communes of Kinshasa and particularly the "Cité", and a visit to the home and immediate neighborhood of a poor family on an eroded hillside.

(c) Visits to local markets.

2. Interviews

Interviews with over forty individuals, including government officials, physicians, nurses, recipients of maternal and child health services, and many others. (See Appendix C for a list of persons interviewed.)

3. Written materials

The major sources of written information are listed in the bibliography.

Unless there is a specific reference to a written document, data cited in this report must be regarded as opinion from informed sources.

## II. RECOMMENDATIONS

In a new country such as the Republique Democratique du Congo there is a valuable opportunity to plan creatively and to learn from the mistakes of others. However, if planning is to achieve its goals it must be based on reliable data. Such data, at least in the health field, are now almost totally lacking. Therefore, the RDC should give serious consideration to taking advantage as soon as possible of the assistance available through the United Nations for a nationwide census.

There is need to develop an overall health care plan for all the people. Since systematic long-range planning is essential to effective program development, the study group was pleased to learn that the government of the RDC is negotiating with the Development Fund of the European Common Market for assistance in the development of a health and medical care plan for the entire country. Also, at the present time Eurosixtem Hospitalier, a hospital consulting firm in Belgium, is preparing recommendations for FOMECCO on the organization and physical plant requirements of the Marie Madeleine Yemo Hospital.

The study group wishes to emphasize the importance of health promotion and prevention of illness to the people of the RDC. Unless the major controllable causes of illness and disease are attacked and overcome, the need for costly curative facilities and services will continue to grow faster than they can be provided. In setting national health priorities this must be recognized. It must also be kept in mind that planning for health care does not occur in a vacuum. If lives are saved and the average life span is lengthened, provision must be made for food, housing, education, employment, transportation, and so on for an ever increasing number of people.

The study group found it impossible to consider maternal and child health services without also considering health services for the entire family. They felt at a decided disadvantage to be asked to make recommendations for maternal and child health care in the absence of an overall health and medical care plan for the RDC and, more specifically, for the Kinshasa Area. Therefore, there are two sets of recommendations—one in the context of health care in general, and the other specifically for maternal and child health services in the Kinshasa Area. Although the latter is only a piece of the whole, it is hoped that the recommendations in this report will fit into whatever overall program of care is developed in the future.

## A. Recommendations Regarding Health Care in General

1. Increased emphasis on promotion of health and prevention of illness through such measures as improved nutrition, improved sanitation, a systematic ongoing program of immunization, and health education of the public.
2. Provision of a full range of decentralized personal health care services with adequate central control and supervision to promote quality and accessibility.
3. Joint planning of health services to delineate responsibilities of participating organizations in order to achieve the best possible use of resources.
4. Development of an effective system for collection and use of essential health data for decision making.
5. Increased emphasis on promotion of health and prevention of illness in the curricula of Congolese medical schools, nursing schools, and education programs for all types of health personnel.
6. Strengthening and expanding education and training programs for all types of health care personnel, and building into these programs a ladder for advancement from one level to another.
7. Increased incentives to attract and retain capable personnel.
8. Long-term financial support and overall commitment to the development of a phased program which in the long run will serve all Congolese and will be controlled by Congolese.

## B. Recommendations Regarding Maternal and Child Health Care in the Kinshasa Area

1. Development of an overall administrative mechanism with authority (a) to coordinate and evaluate existing and new maternal and child health services and facilities and (b) to develop and enforce realistic standards of performance in all facilities.

To be effective the administrative mechanism would have to meet these criteria:

- a. It should be a continuing organizational unit.
- b. It should have the confidence and support of the government.
- c. It should be able to enlist the support of all agencies—governmental and nongovernmental—providing maternal and child health care facilities and services.
- d. It should be able to foster cooperative planning by all such agencies.
- e. It should be capable of attracting high calibre, well-qualified health personnel.

2. Continuation of all existing maternal and child health facilities and services capable of meeting whatever performance standards are developed.

In Kinshasa at the present time the need for services far exceeds available resources. Among the many agencies now providing maternal and child health services are many that seem to be performing well. They should be continued, upgraded if necessary to meet new standards, and coordinated with other services.

3. Expansion and improvement of maternal and child health care through the development of a decentralized and coordinated system of small centers located throughout the Kinshasa Area and supervised by the Marie Madeleine Yemo Hospital. The study group sees these maternal and child health centers as extensions of the hospital in providing both preventive and curative services. (See Section V of this report for details of the proposed system.)
4. Eventual integration of maternal and child health services into a program of comprehensive health care for the entire family.

When an overall health and medical care plan is adopted for the Kinshasa Area, maternal and child health services should be integrated into the overall system so that there will be one point of entry for comprehensive care for all members of the family.

### III Present Facilities and Services for Mothers and Children in the Kinshasa Area

At the present time health care services for mothers and children in the Kinshasa Area are highly fragmented and for the most part consist of treatment rather than prevention. There is no evidence of an overall program of health promotion and prevention of illness. Although many agencies are providing services, there is little if any coordination among these agencies. As a result there seems to be a great deal of well-intentioned and, in many cases, constructive effort, but a woeful lack of organization to make the best possible use of the limited available resources, particularly skilled manpower. In the few weeks that the study group was in the Kinshasa Area they learned that the following facilities and services are available for mothers and children. Since the group had great difficulty in obtaining reliable information, there is no assurance that this list is either complete or entirely accurate. In each instance the responsible agency is indicated.

#### A. Hospitals and Clinics

##### Marie Madeleine Yemo Hospital (FOMFCO)

345 Maternity Beds  
226 Pediatric Beds

##### University Clinic Hospital (University of Kinshasa)

60 Maternity Beds  
? Pediatric Beds

##### Danish Red Cross Hospital (Danish Red Cross and Ministry of Public Health)

27 Maternity Beds  
22 Pediatric Beds

5

Kintambo Maternity Hospital (Ministry of Public Health)  
150 Maternity Beds

Kintambo Hospital (Ministry of Public Health)  
178 Pediatric Beds

Reine Elizabeth Clinic (Private Practicing Physicians)  
10 Maternity Beds  
10 Pediatric Beds

OTRACO Hospital (Office d'Exploitation des Transports au Congo)  
Information on number of beds not available to study group.

Kalembe-Lembe Pediatric Hospital (Congolese Red Cross)  
120 Pediatric Beds

Ndjili Health Center (World Health Organization and Ministry of Public Health)  
40 Maternity Beds

B. Other Facilities and Services

Public Dispensaries (Ministry of Public Health)

According to the 1970 Annual Report of the Ministry of Public Health's Chief Medical Inspector for Kinshasa, there are 51 dispensaries operated by the Ministry in the Kinshasa Area. A few serve special categories of patients, e.g., veterans, employee groups, prisoners, but most serve the general public (4, pp. 35-37).

In spite of repeated efforts, the study group was not able to arrange a visit to any public dispensary. The group was told that the services in these dispensaries are limited to curative medicine. It was not possible for the group to learn the extent of maternal and child health care provided, but there obviously is some. For example, mothers who are not able to pay the fees for delivery at the Marie Madeleine Yemo Hospital are said to be seen at the public dispensary in their commune and certified for free care at the hospital.

Family Protection Centers (Ministry of Social Affairs)

The Ministry of Social Affairs operates fifteen Family Protection Centers in the Kinshasa Area. The study group was told that since the first of these Centers opened two years ago they have served 15,000 mothers and children. These Centers provide prenatal and postnatal care and nutrition teaching for mothers; preventive care for children, including immunizations; food for children suffering from malnutrition; family planning counsel; and family planning services when supplies are available. One physician is in charge of all the Centers. He is assisted by a few "infirmières diplômées" but most of the direct care is given by specially trained "assistantes sociales".

### Protestant Mission Clinics (Eglise du Christ au Congo)

The Church of Christ in the Congo provides some outpatient services to mothers and children on a scheduled basis in various parts of the city. Family planning counsel and services are given upon request and as contraceptive supplies are available.

### Catholic Relief Service

Catholic Relief Service teaches nutrition to mothers and provides a high protein food supplement for mothers and children. It operates four preschool nutrition clinics at four public dispensaries and plans to open four additional clinics for families of members of the National Police.

### Private Dispensaries

Scattered throughout the area are private dispensaries which in mid-July were ordered closed by the Ministry of Health. It was not possible for the study group to learn the number of these dispensaries. (On the basis of observation alone it would seem there were over one hundred.) Neither was it possible to assess the extent, kinds or quality of service given to mothers and children.

### Mass Immunization Campaigns

From time to time there are separate campaigns to immunize the total population, including of course mothers and children, against smallpox, tuberculosis, cholera. In fact while the study group was in Kinshasa a mass immunization campaign against cholera was in progress.

## C. Family Planning Activities

Family planning counsel and services are apparently available to an unknown number of families through a variety of uncoordinated agencies. There is no official recognition of any such activities. Neither is there an official government policy for, or against, family planning.

The study team was told that various Protestant mission groups and also physicians in private practice have been providing family planning counsel and services. Apparently, the only government efforts in family planning are those of the Ministry of Social Affairs through the fifteen Family Protection Centers in Kinshasa. Contraceptives are said to be generally available without prescription at pharmacies. Some private dispensaries are also said to provide contraceptives.

The study group was not able to obtain any data on the types or amount of contraceptives used. In conversation with various individuals the following were mentioned:

**Pill**

**Injection (Depo-Provera)**

**IUD (Intra-uterine Device)**

**Condom**

Some financial support for the present limited family planning activities has come from Church World Service to Protestant missions, from the Pathfinder Fund, and from the Population Council (fellowships).

#### IV. Rationale for the Development of a Decentralized and Coordinated Program of Maternal and Child Health Care Services

There are several reasons why the study group is recommending that primary maternal and child health care services be provided in small centers operated under the direct supervision of the Marie Madeleine Yemo Hospital.

1. Ideally, preventive and curative maternal and child health services should be integrated and should be available through a single system. In the opinion of the study group the separation of preventive and curative services has in many countries worked to the disadvantage of mothers and children. In the Kinshasa Area at the present time there appears to be an opportunity to develop a system which will provide a full spectrum of care, including family planning, under the supervision of qualified health personnel.
2. Small centers, properly staffed and supervised, provide an ideal setting for health promotion and prevention of illness through teaching and service. Since the most significant gains in the overall health of mothers and children in the Kinshasa Area, undoubtedly, will be made through health promotion and prevention of illness, the health program should be structured to teach and encourage mothers to follow good health practices. Experience elsewhere has shown that teaching and follow-through are most effective where the teaching is personalized and where the services needed for follow-through, e.g., immunization, prenatal care, family planning counsel and services, are readily available. In the opinion of the study group family planning, information and services are part of health promotion and can best be provided in small centers where there is opportunity for ample discussion of all facets of family planning.
3. Basic services should be provided as near as possible to where mothers and children live. Because of inadequate transportation facilities in the Kinshasa Area, getting to a central location such as the Marie Madeleine Yemo Hospital can be, and frequently is, an insurmountable problem for mothers and children. The existence of hundreds of small private dispensaries throughout Kinshasa indicates that persons are accustomed to seeking care near their homes. Also, it must be assumed that many babies are born at home because hospitals are inaccessible. A study of the mothers who delivered at the Marie Madeleine Yemo Hospital during March 1971 showed that the proportion of mothers in each commune who delivered at that hospital was directly related to the distance of the commune from that hospital, or from some other acceptable hospital. (See Appendix D.) Insofar as pediatric care is concerned, the study group recognized that there are thousands of children who are getting little or no health care. Given the ratio of children under 15 (52.4 percent of the population) (3, p. 35) to the total population, the pediatric facilities at the Marie Madeleine Yemo Hospital should be overwhelmed, but apparently, they are not. Since there are very few other pediatric facilities available, enough health centers should eventually be developed to serve every commune. Location of centers within walking distance of the homes of patients should encourage families to use them for continued surveillance of mothers and children.

4. Something must be done to relieve the pressure on the maternity service of the Marie Madeleine Yemo Hospital. Congestion in the maternity wards of this hospital interferes with satisfactory delivery and postpartum service and makes education of the mother about care of the newborn and about family planning virtually impossible. It also prevents a systematic beginning of immunizations essential for the welfare of the child. Moreover, the present practice of three to four days of in-hospital postpartum and postnatal care for normal mothers and infants is less satisfactory than care for a slightly longer period in smaller and less congested facilities. In small facilities the possibility of cross infection is reduced, monitoring of the mother and infant can be done, and preventive services and education can be provided in an atmosphere conducive to learning and recuperation. An areawide network of Type I centers and district general hospitals or of Type II centers would relieve the Marie Madeleine Yemo Hospital of much of its present load of normal prenatal care and normal deliveries and free it to provide care only for complicated cases. (See Section V.) Experience has shown that normal deliveries can be managed safely by qualified midwives if there is a system of triage to identify mothers at risk and to have immediate help available if unforeseen complications arise.
5. Small centers staff by specially trained personnel with adequate supervision and back-up can be developed more rapidly than large hospitals. Construction is relatively simple. Thus new centers can be built one or a few at a time as funds and prepared staff become available.
6. In the long run the unit cost of care in small centers should be no more and well may be less than the same care in a hospital. Although cost cannot be measured accurately at this time, the study group believes that even if the unit cost per delivery, for example, were greater, the overall cost to society would be much less since an effective program of health promotion, including family planning and prevention of illness, would greatly reduce the future demand for expensive hospital facilities for treatment.

#### V. Proposal for the Development of a Decentralized and Coordinated System of Maternal and Child Health Care Services

The study group recommends that a decentralized and coordinated system of small maternal and child health centers be developed under the control and supervision of the Marie Madeleine Yemo Hospital. The program should be developed in two phases.

During the first phase, over a period of two years, two types of 14-bed maternal and child health centers should be created so that each may be evaluated in terms of its effectiveness. At the end of two years it is hoped that an overall plan for health and medical care in the Kinshasa Area will have been developed, and that evaluation of each type of center will have been completed. The second phase of the program will then be to build and staff enough Type I or Type II centers or both to serve mothers and children throughout the Kinshasa Area.

##### A. Function of the Proposed Maternal and Child Health Centers

Both Type I and Type II centers will provide a broad spectrum of basic maternal and child health services including family planning. The only significant difference

between the two types of centers is that during the first two years of the program, Type I centers will refer all mothers to the Marie Madeleine Yemo Hospital for delivery whereas, Type II centers will refer to that hospital for delivery only those cases with actual or anticipated complications. In the Type I centers mothers and normal infants will be transported from hospital to center approximately 24 hours after normal delivery.

Both types of centers will provide outpatient care for mothers and children. They will also provide inpatient care for normal mothers and newborns for an estimated eight days following delivery or until the infant's umbilical cord separates. Although this length of stay would be ideal for newborns, mothers generally have a strong desire to return home as soon as possible. Experience will determine what length of stay is desirable for infants and acceptable to mothers.

The two types of centers will provide the following services:

1. Maternal health services

- a. Evaluation of pregnancy and prediction of outcome (triage).
- b. Prenatal care including preventive education for mothers who may be expected to have a normal pregnancy.
- c. Referral to Marie Madeleine Yemo Hospital for prenatal supervision all first pregnancies and all patients for whom complications of pregnancy may be expected.
- d. Arrangements for delivery at the Marie Madeleine Yemo Hospital for *all* mothers coming to the Type I center for prenatal care.
- e. Delivery service at the Type II center for approximately three-fourths of the mothers receiving prenatal care there. (It is estimated that approximately one quarter of all pregnant women receiving prenatal care at Type II centers will be referred to the Marie Madeleine Yemo Hospital for prenatal care and delivery because of actual or anticipated complications of pregnancy. Only those deliveries that are expected to be normal will be handled in the Type II centers.)
- f. Postpartum residence in the center for approximately eight days for those patients with a normal outcome of pregnancy. The care will include surveillance for complications and education in child care, nutrition, hygiene, family planning, and overall family health. Mothers would remain in the center until the baby's cord separates.
- g. Interpartum care for all mothers, including contraceptive information and service.
- h. Disease prophylaxis and immunizations as indicated.
- i. Treatment of minor illness and injury and referral to the Marie Madeleine Yemo Hospital of those needing hospital outpatient or inpatient care.

## 2. Child Health Services

- a. Postnatal inpatient care at the center for all normal newborns for approximately eight days or until the umbilical cord separates, to reduce the hazard from tetanus.
- b. Surveillance of every newborn for detection of possible abnormalities and referral to the Marie Madeleine Yemo Hospital whenever abnormalities are suspected.
- c. Initiation of systematic immunizations of every newborn, e.g., smallpox, measles, DPT, BCG, polio.
- d. Continuation on an outpatient basis of immunizations, including boosters, for as long as needed to protect the child against communicable disease.
- e. Specific disease prophylaxis as indicated, e.g., malaria.
- f. Health surveillance (including weighing) of all children but especially from birth to 36 months of age.
- g. Diagnosis and treatment of minor conditions in children.
- h. Recognition of potentially serious conditions and immediate referral for needed care.
- i. Provision each month of supplementary food for children between six and 36 months of age, the period when the vicious cycle of malnutrition and infection is most prevalent. (It is hoped that distribution of food will serve as an added incentive for mothers to bring their children to the center regularly for health surveillance and needed care.)

Insofar as the study group knows, Type I facilities have not been developed anywhere. In an urban area such as Kinshasa the group feels that there may be a definite advantage in concentrating delivery services in a few well-staffed and well-equipped hospitals where risk is minimized but in providing normal prenatal and postpartum and postnatal care in small facilities near patients' homes. On the surface it would seem that Type I centers have the advantages of providing personalized care with an emphasis on teaching mothers during the prenatal and postpartum periods and at the same time arranging for deliveries in hospitals where there are fully qualified midwives and physicians in attendance at all times. Moreover, the cost of providing the proposed services in centers not staffed to handle deliveries will undoubtedly be lower than in centers staffed for deliveries.

If as a result of the one-year evaluation of the centers it is decided to build Type I centers in the Kinshasa Area, additional in-hospital facilities for normal deliveries will need to be provided either in new facilities or in existing facilities other than the Marie Madeleine Yemo Hospital.

Type II health centers with various modifications have been developed in several locations including Ghana, Kenya, and Nigeria. They are more commonly found in rural than urban areas. Although deemed successful by most observers, there is still a difference of opinion among health professionals concerning the safety and adequacy of delivery services provided by trained midwives without direct medical supervision and without immediate medical assistance if required. Nevertheless, because these centers have in general been successful, the study group feels that a few should be developed during the first phase of the program to determine how effective they are in an urban area like Kinshasa and to assess how effective they might be in rural areas of the RDC.

#### B. Size

The study group recommends that each center be planned to serve a population of 15,000. To serve that number of people each center would need to have 14 postpartum beds, and 14 to 16 bassinets. Type II centers would, in addition, have a labor room and two delivery rooms.

According to a 1967 demographic study the birth rate in Kinshasa at that time was somewhere between 50 and 60 per 1,000 population (3, pp. 65-67). Thus with a population base of 15,000 per center 750 deliveries may be expected in a year. In an estimated 20 per cent of these cases there will be abnormalities or complications which will require mothers and infants to remain at the hospital for postpartum and postnatal care. Therefore, with an estimated 8-day length of stay for postpartum care a center would need to have 14 beds to provide a total of 4,800 days of patient care for a total of 600 normal deliveries.

Insofar as pediatric services are concerned it is estimated that each center will serve approximately 3,200 children under five years of age (21.2 percent of the population) (3, p. 30) and approximately 4,700 children between the ages of five and 14 (31.5 percent of the population) (3, p. 30).

As for interpartum care of mothers, each center would be expected to provide services for approximately 3,000 women from 15 to 45 years of age (approximately 20 percent of the population) (3, p. 30).

Centers of the proposed size are in the opinion of the study team large enough to make efficient use of health personnel, yet small enough to provide personalized care and effective health teaching for patients.

#### C. Location

Selection of sites for the first ten centers and later for centers to serve all communes of the city should be a joint decision of the Marie Madeleine Yemo Hospital and the people whom the centers will serve. If consumers have a voice in deciding the location of the center, they are more likely to use it and support it.

In general, centers should be located, insofar as possible within walking distance for most of the people they will serve and should be placed where people congregate, e.g., a market area, the administrative center for a commune, a key point in the public transportation system.

The study group suggests that decisions on location of the first ten centers should be made with the following considerations in mind:

1. The centers should be located in communes where good maternal and child health services apparently are not available now.
2. The centers should be located in communes from which very few mothers now come to the Marie Madeleine Yemo Hospital to deliver.
3. The centers should be located in communes some distance from any hospital so that mothers will not be apt to bypass the centers to go directly to a hospital.
4. Communes with Type I centers should be relatively isolated from communes with Type II centers, and both should be relatively isolated from other communes. (This should facilitate evaluation of each type of center.)
5. The five Type I centers should be concentrated in one, or at the most, two communes with a total population of approximately 75,000. (The communes of Limete and Masina together might be selected. According to a 1970 census Limete has a population of 41,340 and Masina a population of 35,158.) (6, p. 6)
6. The five Type II centers should be concentrated in one, or at the most, two communes with a total population of approximately 75,000. (Either Matete or Ngaliema might be selected. According to the 1970 census Matete had a population of 63,369 and Ngaliema a population of 63,844. (6, p. 6). Another possibility would be to place most of the centers in the Matete commune, but to place one center in an area with approximately 15,000 population in the Kinsenso commune.)

The above recommendations are made on the assumption that the most important consideration is to place the first ten centers where services are minimal or nonexistent. On the other hand, if it is decided that the most important consideration is to relieve the overcrowding of the maternity service at the Marie Madeleine Yemo Hospital, the first ten centers should be located in communes from which a large proportion of mothers now go to that hospital for prenatal care and for delivery. (See Appendix D.)

#### D. Physical Facilities

The study group feels that it is advisable to leave the actual design and specifications for the centers to local architects, hospital administrators, and other health personnel who are in a good position to relate the plans to local conditions and requirements. The team also feels that insofar as possible the centers should be constructed and equipped with locally available materials.

Both types of centers will need to include the following:

One examining and treatment room for women

One examining and treatment room for children

Space for 14 postpartum beds

Space for 14 to 16 bassinets

Bath and toilet facilities for patients

Space for teaching patients and staff

A covered or enclosed patients' waiting room

A covered or enclosed children's play area

A small office area for registration of patients, business transactions, and record keeping

A small laboratory area for routine tests, e.g., hemoglobin, urine, stool

An area for storing and dispensing drugs

An area for storing and dispensing the food supplement

An area for storing clean linen and supplies

A laundry area if service is not provided from a central laundry

An area for family cooking for inpatients

Utility room

A safe water supply

Electric power

Provision for waste disposal

An off-street parking area for a vehicle bringing inpatients or supplies

Lavatory for staff

Living quarters on the grounds of the center but in a separate facility for one full-time resident member of the staff and his or her family

In addition to the above, the Type II centers would need to include one labor room which could accommodate several patients and two delivery rooms. Also, living quarters would have to be provided for one additional full-time resident member of the staff and his or her family.

The postpartum beds and facilities should be residential rather than hospital type. Insofar as possible all surfaces in the center should be smooth and easy to clean. Equipment should be as simple and easy to repair as possible.

## **E. Communication and Transportation**

The concept of decentralized services as extended arms of the hospital implies efficient communication and transportation.

A reliable communication tie-up among hospital, vehicles for transport of patients, and centers is essential. Since telephone service in the Kinshasa Area is not entirely reliable, the study group recommends installation of a radio network. The network must, of course, be properly maintained. The study group was told that the National Police have well-trained technicians to maintain their radio network. Perhaps arrangements could be made with the National Police to maintain the network or that organization could train maintenance technicians for the hospital system.

Transportation of patients following normal delivery will be to Type I centers each day. Also, immediate transportation of all emergency cases to the Marie Madeleine Yemo Hospital from both types of centers is essential if confidence in the centers is to be maintained. It is estimated that a minimum of three vehicles (U.S. Army type ambulances) would be needed to handle the transportation of patients between hospital and center during the first phase of the program. The study group recommends that these three vehicles be based, maintained, and dispatched from the hospital. One other vehicle will be needed to deliver drugs, biologicals, and other supplies to the ten centers. In addition, each of the educator-supervisors will need an auto in order to function efficiently.

## **F. Drugs and Other Supplies**

For reasons of safety and economy, it is recommended that a standard formulary of drugs and biologicals be developed listing only those items appropriate for the limited services to be provided at the centers. Also, a manual should be developed concerning the indications, dosage, and contraindications for each substance in the formulary. The center should have one week's supply of drugs and biologicals on hand at all times.

Supplies other than drugs and biologicals should be standardized for reasons of economy. Procurement, distribution, and inventory procedures should be developed so that no center is ever without needed items.

## **G. Food Service**

Food for the postpartum patients at both types of centers should be supplied by their families. Two considerations dictate this procedure. First, if the families provide the food, operating costs are reduced. But perhaps even more important is the opportunity family feeding provides for the staff to teach mothers about nutrition. If the staff are able to observe diet habits of families, they will be able to do more effective teaching. Provision of a food supplement for children between the ages of six and 36 months will provide a further opportunity for teaching and for the introduction of new foods into the family diet.

## **H. Records**

Several types of records need to be considered—patients' records, "business-type" records (payments, inventory, personnel, etc.), and whatever records will be

needed for evaluation of the two types of centers. The system for keeping records at the centers should be compatible with the system now being designed by Eurosixtem for the Marie Madeleine Yemo Hospital.

Effective and rapid transfer of information about a patient from center to hospital and vice versa is essential to quality service. In developing a patient record system it should be kept in mind that at many existing facilities in the Kinshasa Area patients are custodians of their own records. The study group was told by more than one informed person that almost all patients bring their records with them when they seek care. If Eurosixtem recommends that patient records be kept by the hospital, consideration should be given to also providing each mother with a summary of key information which she will keep in her possession.

#### I. Eligibility for Care

It is recommended that patients be required to enter the health center-hospital system through the centers. If patients bypass the centers and go directly to the Marie Madeleine Yemo Hospital for care, the system will break down. In the initial phase of the program considerable effort will have to put into informing people of the services available and how they may have access to them.

#### J. Charges for Service

The study group was told that most persons are accustomed to paying part of the cost of health care. The study group feels that some payment by the patient should be continued. However, if a patient is medically indigent, arrangements must be made to enable her and her children to use the center's services.

The system of payment for maternal and child health care should encourage proper use rather than act as a deterrent to seeking needed care. The study group urges that serious consideration be given to developing a system whereby one payment at the time of registration at the center would assure the mother of full prenatal, delivery, and postpartum service with no additional charges even if there are complications.

There should be no charge for interpartum family planning service, including contraceptives advice and supplies, if the mother has been registered for any other service at the center.

Insofar as child care is concerned, it is recommended that there be only one payment for each child to cover health supervision, food supplement, and all appropriate immunizations to the age of 36 months. From the age of three through adolescence there might be an annual charge for each child for health surveillance.

If charges are kept at a level which most persons can afford, income from patients will undoubtedly fall far short of meeting operating costs. Therefore, the centers will need to be subsidized in some way.

#### K. Administrative Organization

Since the maternal and child health centers will be under the direct control and supervision of the Marie Madeleine Yemo Hospital, all administrative

personnel, supervisory personnel, and other staff should be employees of that hospital and should be governed by its personnel policies.

Policy-making for the program no doubt will be the responsibility of the Chief of Obstetrics and the Chief of Pediatrics. However, a well-qualified physician, if at all possible, with public health training and experience in maternal and child health, should be added to the medical staff to serve as medical administrator of the program. Also, a small administrative staff under a qualified hospital administrator will be needed.

In addition to the above personnel there will need to be added to the hospital staff a professionally qualified educator-supervisor in each of the following areas: obstetrics and midwifery, child care, and health education. Consideration should also be given to adding a public health nutritionist to the staff.

The educator-supervisor in obstetrics and midwifery should be a nurse with public health teaching and supervisory experience in maternity care and, if at all possible, should have a master's degree in public health. The educator-supervisor in child care should be a nurse with public health teaching and supervisory experience in pediatric care and, if at all possible, should have a master's degree in public health. The educator-supervisor in health education should have a master's degree in public health education, and should have at least two years of successful health education experience.

It is absolutely critical to the success of the program that the medical administrator, the hospital administrator, and the three educator-supervisors be highly qualified. If the persons hired are expatriates, they will, of course, have to be fluent in French. All of these key personnel should be employed as soon as possible and should be on the job no later than one year prior to the opening of the first center to handle matters such as the following:

1. Development of medical guidelines which center personnel should follow in referring patients to the hospital for care (the triage function).
2. Preparation of a drug formulary.
3. Delineation of responsibilities and functions for each member of the center staff.
4. Development of criteria for hiring the various categories of personnel.
5. Developing the curricula for training center personnel.
6. Training the center personnel especially in diagnostic skills.
7. Developing the staffing pattern for each type of center to insure adequate coverage at all times.
8. Developing the program for each type of center to guide the architect in designing the center.
9. Selecting and purchasing the sites for the centers.
10. Hiring and working with the contractor who will build the centers.
11. Equipping the centers.

12. Deciding on criteria for eligibility and determining the schedule of charges to patients.
13. Determining what records should be kept and how they should be kept.
14. Working out the details of the communication, transportation, and supply systems.
15. Developing criteria for evaluating the two types of centers.

#### L. Suggested Staffing Pattern for the Centers

The most important but perhaps also the most difficult aspect of the proposed decentralized maternal and child health care system is obtaining and maintaining a qualified staff to cover the centers 24 hours a day, seven days a week.

In both types of centers consideration should be given to providing adequate staffing for outpatient services (prenatal care, child health surveillance, immunizations, family planning counsel and services, nutrition education, provision of food supplement) at times when patients are most likely to come to the center. Unless such services are available when patients are able to come, the centers will fall short of realizing their full potential.

Of course, in both types of centers there will need to be a qualified individual in attendance at all times for surveillance of mothers and newborns during the postpartum in-residence period. In addition, in the Type II centers, a qualified obstetrical nurse must be immediately available at all times to handle normal deliveries.

In addition to the supervisor-educators one or two nurses ("infirmière diplômée" with special training or experience in maternal and child health) will be needed to handle administrative and supervisory responsibilities for the ten centers to be operated during the first phase of the program. Later as additional centers are opened these responsibilities for groups of centers could be handled by an experienced "Infirmière auxiliaire" who has been in charge of a single center and who has completed additional training in administration and supervision, health education, nutrition, child care, midwifery, and family planning. There should be at least one supervisor for every eight to 10 centers.

The study group believes that the following types of personnel will be needed at the centers to carry out the duties indicated. The number required of each category on a given shift should, however, be determined by the supervisor-educators who will develop the staffing pattern.

Obstetrical Nurse ("Infirmière Auxiliaire-Accoucheuse" in Type I centers;  
"Infirmière Auxiliaire-Sage Femme" in Type II centers)

Administration of the center

Immediate supervision of the center staff

Prenatal triage

Prenatal, postpartum, and interpartum care of mothers

Normal deliveries (only in Type II centers)

Education of mothers on nutrition, child care, and family planning

Family planning counsel and services including insertion of IUD and issuance of other contraceptive devices.

Child Care Nurse ("Infirmière Auxiliaire de Santé")

Triage

Postnatal care of newborns

Supervision of immunizations

Child health surveillance

Treatment of minor illnesses

Education of mothers on nutrition and child care

Aide ("Garde Malade")

Routine inpatient care of postpartum mothers and newborns

Education of mothers on nutrition and child care

Immunizations on instruction from the child care nurse

Maid ("Fille de Salle")

Cleaning

Laundry

Maintenance Man ("Gargon de Salle")

Heavy cleaning

Minor repairs

Night Watchman

Protection of the center.

The individual in charge of each center should be an obstetrical nurse ("infirmière auxiliaire-accoucheuse" in Type I centers; "infirmière auxiliaire-sage femme" in Type II centers). She or a "relief" obstetrical nurse should be at the center at all times. The nurse in charge should, with her family, occupy living quarters at the center. In the Type II centers there should always be two persons present--"an infirmière auxiliaire-sage femme" and one other nurse or aide. Other personnel listed above should be scheduled as needed for adequate staffing on each shift throughout the week. At any one time there may well need to be several personnel of a given category in attendance.

#### M. Recruitment, Training, Supervision, and Retention of Staff

Probably the single most important element in creating and maintaining a good decentralized maternal and child health care system is a capable and dependable

staff. From the outset heavy emphasis must be placed on recruiting and training such a staff not only for the first phase of the program but also for the long run.

## 1. Recruitment

Responsibility for recruitment and hiring should rest with the Marie Madeleine Yemo Hospital. The study group was told that recruitment of health personnel to staff the first ten centers should not pose a problem. Emphasis should be placed on finding persons who are receptive to new ideas and who will continue to learn. Also, all staff engaged in any aspect of family planning education and contraceptive assistance must be supportive of the concept of family planning.

Health personnel selected to staff the centers should have the following qualifications:

Nurse supervisor for several centers

"Infirmière diplômée" in the first phase and experienced "infirmière auxiliaire" with additional experience in later phases of the program (See Grade V, page 39).

Obstetrical nurse-midwife

"Infirmière auxiliaire" with one additional year of training to qualify as an "accoucheuse" and further training to qualify as a "sage-femme"

Obstetrical nurse

"Infirmière auxiliaire" with one additional year of training to qualify as an "accoucheuse" and with experience in maternity care

Child care nurse

"Infirmière auxiliaire" with one additional year of training in public health and with experience in pediatric care

General nurse

"Infirmière auxiliaire" with basic hospital training

## 2. Training

At the present time in the RDC there are many different kinds of educational programs to prepare paramedical personnel. Insofar as the study group was able to determine, none of these includes adequate preparation in disease prevention, health promotion, education of the public, and family planning. Moreover, there apparently is tremendous variation in the quality of education and training for paramedical personnel. All of this makes it very difficult for an employing agency to rely on paper credentials as valid indicators of a health workers' capabilities. Every effort should be made by administrators of health care services in cooperation with the Ministry of Education to rationalize education for non-medical health personnel and to set standards so that a particular certificate will accurately reflect the educational preparation of the bearer. The various curricula should be expanded to include preparation in disease prevention and health promotion.

Given the present situation, the study group feels that it will be essential for all staff recruited for the centers to complete additional training which will enable them to provide safe and effective care without immediate

medical supervision. Since the centers will be an extension of the Marie Madeleine Yemo Hospital it would seem practical—at least during the first phase of the program—for that hospital to provide the necessary training for center personnel. Emphasis should be placed on prevention, health promotion, and family planning.

The program should be designed to provide training in a series of six-month units of study. Each unit should build upon previous training and should be self-contained so that study will be followed by a period of work at a level for which the individual has been prepared.

The first unit (Basic Health Care) should deal with prevention, health promotion, and family planning. Regardless of previous education, all center health care personnel should be required to complete that unit.

Upon completion of the first unit of training all personnel should be able to do the following:

Identify the factors which present health hazards to various family members, particularly, mothers and children.

Offer constructive advice or eliminate these hazards in a manner acceptable to the family.

Identify the factors underlying a family's practices in all health matters, including the interrelationships of culture, economics, environment, and access to information.

Understand how people learn and recognize the factors that inhibit learning.

Determine the level of a family's understanding and knowledge as a basis for sharing additional knowledge.

Determine priorities in individual cases for sharing specific knowledge—decide the appropriate time to provide an individual with certain information.

Share information by discussion rather than by didactic teaching.

Personally accept the principles of correct family spacing as a means for promoting better health for mothers and children.

Feel confident in discussing all aspects of family planning with other members of the health team, and with all members of a family coming to the center for service.

Give immunizations properly, recognize contraindications, and educate mothers regarding immunizations.

Set an example by good health practice, personally and professionally.

A suggestion for achieving some of the above educational objectives would be for teachers and students to visit homes of families in various socio-economic strata. First the teachers should visit, then the students. The visits would be followed by discussions between teachers and students of what the students learned or failed to learn about the health care needs

of individual families. Learning would continue through further observations, supervised practical experience, and additional discussion.

Other six-month training units should be developed to teach obstetrics and gynecology, midwifery, child care, nutrition, family planning, administration and supervision, and whatever else is needed to prepare personnel for work in the centers. The overall program should be designed so there will be a built-in career ladder which will enable an individual to advance through further education.

Insofar as training in family planning is concerned, it must be recognized that in almost all cultures sexual behavior, sexuality, and related items are emotionally charged subjects. Health workers who are shy or embarrassed to discuss family planning with mothers and fathers are likely to be ineffective until they have resolved their own attitudes and have overcome their reticence to discuss the subject. It is not enough to inform workers about the health advantages of delaying the first child and spacing subsequent children, about different contraceptives and how they may be used, and about methods of educating parents about family planning. There must be free and open discussion of the workers' feelings so that repressed reticence will not detract from their effectiveness. Workers, whose feelings of shyness cannot be overcome, should not have responsibility for the family planning activity in the centers.

In the overall training program, provision should be made for some Congolese to receive advanced training in midwifery and family planning in special courses taught in French outside the RDC, either in the United States (e.g., State University of New York, Downstate Medical Center, Brooklyn) or in some other country.

Although the number and content of the six-month training units for center personnel will have to be determined locally, the overall program for auxiliary nurses (*infirmières auxiliares*) might be something like this:

#### Training and Career Ladder for Auxiliary Nurses

Level	Content of Required Training Units	Responsibilities
Grade I	Basic Health Care	Provide routine care for mothers and children upon instruction
Grade II	Basic Health Care + Obstetrics and Gynecology	Provide routine pre and postnatal care for mothers and newborn infants
Grade II	Basic Health Care + Child Care	Provide routine care for children; treat minor illnesses
Grade III	Basic Health Care + Obstetrics and Gynecology + Deliveries (in Type II centers)	Provide pre and postnatal care for mothers; handle deliveries in Type II centers (or hospitals); provide care for newborns

Grade III	Basic Health Care + Obstetrics and Gynecology + Child Care	Provide pre and postnatal care for mothers; provide care for children
Grade IV	Basic Health Care + Obstetrics and Gynecology + Deliveries + Child Care	Provide care for mothers and children; take charge of a center when the supervisor is off duty; handle deliveries in Type II centers
Grade V	Basic Health Care + Obstetrics and Gynecology + Deliveries + Child Care + Administration and Supervision	Administer one or more centers; supervise all care in those centers

Persons who complete a training unit should be required to work in a center for at least six months before enrolling in another unit. Eligibility for further training should depend on successful job performance at the level for which the individual has been prepared.

Auxiliary nurses and other types of health personnel should be paid a salary while they are enrolled in the six-month training units. Without such a policy there would undoubtedly be great difficulty in recruiting and retaining competent individuals.

It is, of course, important that there be a job for everyone who successfully completes a training unit. Some manpower planning will need to be done to coordinate the training of various categories of staff with the personnel needs of the centers.

The study group would like to emphasize the importance of systematic inservice training for all categories of center staff. In many countries where the need for service is great but the number of adequately prepared personnel is limited, there is a tendency to provide initial training before a person is placed in a job but to neglect further regularly scheduled training. The result has usually been disappointing. The personnel render a poor quality of service because they encounter problems for which their basic training did not prepare them. Also, they often fall into a rut of doing procedures carelessly. Ongoing inservice training, which might include rotation from centers to the hospital and back to the centers, would tend to overcome difficulties in maintaining a high level of performance.

Assignment to the hospital from time to time, especially if presented as a reward for good service, should give the workers a feeling of being a part of a larger activity and not of being restricted to a small center.

Another way to build morale and provide good service in the centers is to use them as training facilities. Experience has shown that the presence of students and visits by faculty stimulate personnel to perform at a high level. Also, students need to be exposed to reality while they are in training.

These are only a few of the procedures that may be used to maintain staff morale and quality service in the centers. The study group cannot emphasize too strongly the continuing need to encourage staff in every possible way to perform at a high level. The success or failure of the proposed decentralized program will rest on the quality of service rendered by the staff.

### 3. Supervision

Without good supervision a decentralized system of care cannot succeed. To be effective supervision should be the "helping" rather than the "looking for what is wrong" type. It should be integrated with continued teaching of present staff and training of new staff. Supervisors should assist center staff to improve their diagnostic and treatment skills through review of care for specific patients and analysis of why care was, or was not, effective.

Supervisors should provide liaison between hospital and centers, and should be alert to, and active in, solving any operating problems that may arise. This means working closely with staff at the centers, hospital administration, and medical staff.

### 4. Retention of Staff

Every effort should be made to retain capable staff. Key factors in retaining personnel are good personnel policies, adequate pay, opportunities for advancement through satisfactory work performance and through further education, and a genuine interest on the part of superiors in developing and maintaining a good program of care.

## N. Impact on the Marie Madeleine Yemo Hospital

The study group recognizes the need for immediate relief from overcrowding in the maternity service at the Marie Madeleine Yemo Hospital. Last year, approximately 36,000 deliveries were handled in seven delivery rooms and 345 postpartum beds. The maternity facilities at that hospital are now so crowded that plans should be made to shift all normal deliveries to other facilities as soon as feasible. In the future, maternity care at the hospital should be limited to complicated cases requiring specialized care.

Both types of proposed centers will reduce the pressure on maternity beds at the Marie Madeleine Yemo Hospital during the first two years of the program by providing inpatient postpartum care at the centers.

It is difficult to predict how the five Type II centers will affect the number of hospital deliveries. On the surface it would seem that they would reduce somewhat the number of in-hospital deliveries by taking care of a considerable number of normal deliveries now taking place at the hospital. On the other hand, if the Type II centers bring many new patients into the system, those new patients with complications or anticipated complications of pregnancy will be referred to the hospital for care.

The five Type I centers very probably will increase the number of deliveries at the hospital since these centers no doubt will refer mothers to the hospital for delivery who in the past have delivered at home or elsewhere. In the first two years of the program, consideration should be given to setting aside a block of postpartum hospital beds for mothers admitted for normal delivery from the Type I centers. Since the length of their hospital stay will be only 24 hours, a separate unit for these mothers will facilitate admission and discharge and will probably result in more efficient utilization of maternity beds. Moreover, placing all mothers for Type I centers in the same unit should reduce misunderstanding as to why mothers from these centers remain in the hospital for such a short period of time.

To deal with some of the changes in patient load, the study group recommends that during the first phase of the program some of the hospital wards now used for postpartum care be renovated to provide additional delivery rooms. If necessary, inexpensive temporary prefabricated buildings should be built on the hospital grounds near the present maternity service to handle normal postpartum patients. Another possibility would be to arrange for normal deliveries at other existing facilities.

As soon as evaluation of the first phase of the program has been completed and a decision reached regarding the type of health centers best suited to the Kinshasa Area, plans will have to be made regarding how maternity facilities at the Marie Madeleine Yemo Hospital should be modified to provide only specialty care.

As far as outpatient maternity services are concerned the ten centers no doubt will reduce the load at the hospital.

Insofar as pediatric care is concerned, in the first phase of the program the Marie Madeleine Yemo Hospital will continue to care for all prematures and for all children who require inpatient care. However, the outpatient pediatric load should be reduced greatly since the centers will serve to reduce illness through immunization, provision of food supplement, education of mothers and health surveillance of children.

#### O. Community Education

The provision of comprehensive maternal, child health, and family planning services will not be successful unless there is community support for the program and the people accept the health behavior changes that such a program tries to stimulate. In every culture there are strong traditional patterns of child-rearing,

family reproduction, and food and eating habits. Changing these practices is not easy. It requires intensive individual and group education, not only of the mother, such as will be given in the proposed centers, but also, of all those in the family and community who influence the decisions and practices.

It has been the observed experience of the study group that in many countries where well-developed health services have been provided, the programs have failed to achieve their objectives because the people for whom the services were planned either did not make use of them or the individuals did not follow through on the actions that they needed to take. Even in situations where there have been extensive information programs through radio, movies, pamphlets, television, and other mass media, the cooperative participation of the vast majority of the people has not been achieved.

If changes are to be effected, it is essential that a careful diagnosis be made of existing habits and practices, and of the people's beliefs and attitudes towards change. In addition, one needs to determine who and what influences cause people to follow their present practices. Only on the basis of such carefully developed data can effective educational activities be developed.

All too often in new programs, facilities are built and service activities carefully planned without comparable systematic planning of the educational experiences of the people so that they will participate intelligently and cooperatively in improving their own health condition.

Therefore, the study group strongly urges the development of a plan for intensive education in the communities where the centers are to be placed. The educational planning should be focused not only on what the recipients of the service and their families need to know and do, but also on those factors that make the services acceptable to the people. Some of these are:

Do the services meet the *felt needs* of the people?

Are the services easily accessible in terms of location, hours of service, patients' ability to pay if payment is required?

Is the care provided, *as perceived by the clientele*, of high quality?

Do the staff members as they render service *preserve* the dignity of the individual and pay attention to his concerns as well as the health problem being treated?

Is a channel provided for people to express their reaction to the services and are their suggestions given consideration?

The study group was not able to ascertain the extent to which there were community education programs being conducted in the several communes. Some informants mentioned various types of adult education efforts but none were observed. Therefore, it is urged that part of the time of the health education supervisor be devoted to planning the educational program for the areas where the centers are to be built. It may be necessary to train some community

personnel to carry on the educational program or new personnel may be required. Regardless of what procedures are needed, it is essential that the educational aspects of the maternal and child health program be given the same emphasis as the service aspects.

In order to provide continuing direction and supervision to community health education activities as the program is extended to the entire city, the study group strongly recommends the recruitment now of a capable individual for graduate training at a school of public health that provides specialized training in health education. The candidate for the training should be either a physician or a graduate in behavioral science or education. A physician interested in prevention and education is to be preferred as the trainee. However, in view of the shortage of Congolese physicians, a highly capable non-medical trainee with interest and a desire to be of service would probably be able to discharge the educational responsibilities after training.

The health educator should be provided with such health educational aids, visual and written materials, as are required to communicate to the people. The study group suggests that simple aids such as flip charts, flannel graphs, teaching posters, slides and slide films be used in preference to the more complicated and sophisticated electronic communication devices. A good health education with the necessary materials and assistance of an artist can produce effective educational tools that appear more realistic to the people than visual aids imported from the outside.

#### P. Financing

The study group is not in a position to recommend sources of funding for the proposed program other than USAID. It was given to understand that the RDC is seeking funds from the European Common Market to develop the overall health care system. Also, it was suggested that support from the Office of the Presidency of the RDC and perhaps from other unnamed sources would be available to FOMECO for the development of a good system of maternal and child health care in the Kinshasa Area.

Because the study group was in Kinshasa for only three weeks and because information of all kinds was extremely difficult to obtain, there was no way in which a reasonably accurate estimate could be made of the costs of construction, equipment, supplies, and staffing.

The study group has attempted to provide a broad outline of a maternal and child health care program which in the group's opinion will provide a sound base for continuous improvement in maternal and child health care in the Kinshasa Area. The cost of this program will have to be calculated by individuals in Kinshasa.

#### VI. Phases of the Proposed Program

Once funding is assured, the study group feels that at least one year's lead time will be needed prior to the opening of the first center. That year should be devoted

to such matters as hiring key personnel as early as possible, developing policies and procedures, obtaining sites for the first ten centers, building and equipping the centers, hiring and training center personnel, obtaining supplies, beginning a program of community education, and so on.

During the first six months that the ten centers are in operation criteria for evaluating their effectiveness should be developed. Actual evaluation would take place during the next twelve months. This means that at the end of 30 months it should be possible to reach a decision regarding the type(s) of centers that should be developed to serve maternal and child health care needs in all of Kinshasa.

At that time a long-range plan will have to be developed not only for the maternal and child health centers but also for eventual integration of these centers into an overall plan for health care for the entire family. Hopefully, by that time, other consultants will have drafted an overall health and medical care plan for the RDC. At this point also, the training program should be expanded so that qualified personnel will be available to staff centers as soon as they can be built. Since it is estimated that the population in the Kinshasa Area will grow to two million in the near future, approximately 130 centers will be needed if one center is to serve a population of around 15,000.

One of the most important reasons for recommending that only ten centers be built at first and that they be carefully evaluated is the importance of not moving into a new program on a large scale without finding out first how acceptable and effective that program will be. There are too many examples all over the world of grandiose and costly programs and buildings that have proved unworkable. Because there is a good opportunity now to begin to develop a workable program of health and medical care in the RDC, the study group does not want, at this time, to freeze into bricks and mortar a program that will not adequately meet the people's needs or that is too complicated in relation to the resources available. The group feels strongly that it is better to start on a small scale and to learn through experience than to move immediately on a large scale with a heavy investment of scarce resources.

## VII. Evaluation of the First Ten Centers

An evaluation of the relative success of the two types of centers is an obvious necessity. However, a sophisticated evaluation will probably not be possible at the end of two years because of the limited time the centers will have been in operation, the scarcity of specialists trained in evaluation, the lack of adequate vital statistics, the difficulty in developing meaningful criteria for assessing the effectiveness of the centers, and the ever present problem of measuring the quality of patient care. Development of specific criteria for evaluation as well as decisions regarding what data will be needed as indicators should be left to those individuals who will be responsible for the evaluation.

The study group recommends that an expert in evaluative methods be brought in early in the planning stage of the program to develop measurement criteria, to arrange for collection of base-line data, to make sure that necessary program data are collected systematically, and to train persons to assemble the required data. At the end of the two-year period the consultant would analyze the data and develop an evaluative report. This report would form the basis for a decision regarding which type(s) of centers should be built throughout the Kinshasa Area.

Some of the possible criteria for evaluation are stated here as questions:

What proportion of eligible mothers use the centers' services repeatedly and regularly?

Do patients accept the centers as the point of entry for care?

Do mothers who never before have sought professional maternity care go to the centers?

Do patients come regularly to the centers for prenatal care?

Do mothers who have in the past delivered at the Marie Madeleine Yemo Hospital go willingly to the Type II centers for delivery?

Do normal mothers and babies who deliver at the Marie Madeleine Yemo Hospital return without a great deal of persuasion to the Type I centers for inpatient postpartum care?

Do mothers bring their children to the centers for the complete series of immunizations?

Do mothers bring their children to the centers for routine health surveillance, and for treatment of minor injuries and illnesses?

Do mothers come to the centers for information on nutrition, hygiene, family planning, and other preventive services?

Do people in the service area have a generally positive attitude toward the centers?

Are the guidelines for referring patients to the hospital effective?

Are normal deliveries handled safely in Type II centers?

Is the communication and transportation system effective in handling emergencies?

Would larger centers, essentially multiples of the 14-bed centers, be more efficient in areas of dense population?

Is the system satisfactory from the viewpoint of key professional personnel?

Do persons not eligible for care demand care at the centers?

Are the costs of this system reasonable in terms of the services rendered?

What, if any, serious problems are there in this system of decentralized care?

The study group is particularly interested in the Type I center as a model for maternal and child health services in an urban area such as Kinshasa where hospital facilities already exist. Type I centers, which provide basic services with a small staff, would seem to be an ideal place for preventive care, health teaching, triage, pre and postnatal

care, and treatment of minor illnesses and injuries at minimal cost. Since this type of center apparently has not been developed elsewhere, particular emphasis should be placed on evaluating its effectiveness.

In other countries Type II centers have been introduced successfully to replace home delivery by having the patient go to the midwife instead of having the midwife go to the patient. In the Kinshasa Area Type II centers should be evaluated, particularly with reference to whether deliveries can be safely handled by midwives, without direct medical supervision.

In the final analysis it will have to be decided whether in a decentralized maternal and child health care delivery system in an urban area it is better to handle normal deliveries in many small centers or in a relatively few fully staffed and equipped facilities.

## VIII. Long-Range Considerations

### A. Maternal and Child Health Centers as Part of an Overall System

The proposed maternal and child health care centers should be considered the forerunner of primary family health care centers. Ideally, the health and medical care system should also include programs and facilities for care at the secondary and tertiary levels and all three levels should be linked to provide for continuity of care.

It is expected that in the near future an overall plan for a health system for the RDC will be developed. Regardless of other elements of that system, the study group believes that relatively small health centers to provide primary care in the neighborhoods where people live are a basic element in good health care. As a matter of fact, in the United States today there is a movement to develop just such neighborhood health centers to meet needs which are being neglected. The study group strongly urges that the RDC not fall into the trap that the United States has fallen into, that of providing sophisticated care but neglecting the basic care which will lessen the need for highly specialized care. Also, the study group strongly recommends that careful attention be given to coordinating existing services so that in the overall system, services now provided by the Ministry of Health, FOMECO, various missionary groups, and others will be cooperatively provided.

Specifically, the study group recommends that in the long run the Marie Madeleine Yemo Hospital become a specialty hospital providing only tertiary care. If after the first phase of the maternal and child health care program has been evaluated, the decision is to build Type I centers throughout the Kinshasa Area, facilities for normal deliveries will have to be provided in other existing hospitals or in new district general hospitals designed to provide secondary care. It is assumed that plans for the overall health and medical care system for the Kinshasa Area will have to provide for such district general hospitals in various sections of the city. The study group strongly recommends that these be general hospitals providing secondary level medical, surgical, obstetric, and pediatric care and that they not be hospitals for maternity care only. The Type I centers then would need to expand their services to include the entire family. A group

of centers would become satellites of a district general hospital with back-up services from that hospital and from the Marie Madeleine Yemo Hospital for highly specialized tertiary care. A system such as this has met with considerable success in Puerto Rico, for example.

If after the first phase of the maternal and child health program has been evaluated, it is decided to build Type II centers, there would need to be maternity facilities at secondary hospitals and at the Marie Madeleine Yemo Hospital for only those mothers with complications or anticipated complications of pregnancy. Some pregnant women have unrelated pathology that may be adversely affected by pregnancy. Such women are in need of adequate laboratory and x-ray services and consultation from medical specialists other than obstetricians and gynecologists. Whichever type of center becomes the facility of choice for Kinshasa, there must be available to mothers and children not only a sufficient number of centers to provide primary care, but also the facilities needed to provide adequate supervision and treatment of the secondary and tertiary levels of care.

#### **B. Development of an Adequate Data Base for Planning and Evaluation**

Because of the almost total lack of reliable data at the present time, anyone planning or attempting to evaluate health care in the Kinshasa Area is faced with a very difficult task. Therefore, it is essential that immediate attention be given to the development of a data collection system. As mentioned earlier, a national census, perhaps with United Nations assistance, should be part of the system. Insofar as health data are concerned, there is a need to collect vital statistics, information on existing health services and facilities, and the extent to which they are used, numbers and types of health personnel, information about cultural patterns that would influence health and medical care, and the like. In developing the system for collecting data every effort should be made to avoid collecting data for the sake of collecting data, but rather to collect data that are essential to the solution of actual problems.

#### **C. Long-term Financing of Maternal and Child Health Care**

Before embarking on any program to provide new services, the individuals responsible need to think through the long-term financial requirements if the program is to be successfully implemented. As experience elsewhere has shown, it can be disastrous to raise people's hopes and expectations by promising something which is then not provided because funds are not available. If the first phase of the program described in this report is implemented and works well, there will have to be resources to meet the demands in all parts of the Kinshasa Area and eventually, throughout the RDC. It is essential, therefore, that a plan for long-range financing of the proposed new system of maternal and child health be developed at the same time that plans for the centers are drawn.

#### **D. A Long-term Program for Education of Health Personnel**

A long-range program to develop the kinds and numbers of health personnel required to staff health facilities is as important as long-term financing. It almost

goes without saying that there is a great need in the RDC for many more physicians, nurses, and other types of health personnel. Also, there must be a coordinated effort among the Ministry of Education, the Ministry of Health, and FOMECO to rationalize the various education, training and certification programs for all categories of needed personnel.

Consideration should be given to the formation of a nursing council to advise official bodies responsible for education, training, and certification of all types of nursing personnel. Such a council might (1) compile a list of all types of education and training in the RDC, (2) develop a framework (structure) for future education and training of nursing personnel, (3) evaluate past and existing education and training programs to provide guidelines for assessing an individual health worker's educational preparation, (4) assist in the development of curricula, certification examinations, and conditions of employment for all categories of nursing personnel, and (5) evaluate health facilities as to their suitability for education and training.

The study group was sorry to learn that the physician assistant program that had been developed shortly after independence no longer exists. In the United States, as in other countries, there is at present a realization that there may never be enough physicians and that other health personnel must be prepared to carry out some of the functions now being carried out by physicians. In the United States today there are a number of recently established programs to prepare physician's assistants. States are changing their medical licensure laws to enable this new kind of practitioner to assist the physician.

In all education programs for health personnel there should be considerable emphasis on ways of promoting health and preventing illness. As mentioned earlier, perhaps the greatest contribution to better health for the people of the RDC will come from preventive rather than curative medicine. Unless there are systematic efforts to reduce environmental hazards, to protect against communicable diseases, to improve nutrition, and to teach people how to protect their health, the demand for curative services will continue to grow, and there never will be enough money or qualified personnel to provide the services demanded.

#### **E. Development of a Comprehensive School and Community Health Education Program**

Many of the health problems in the RDC are directly traceable to present health practices of the people. Tetanus deaths of the newborn are most often due to infection through the umbilical cord; kwashiorkor and other nutritional disorders result from nutritional habits and ways of feeding members of the family; intestinal diseases arise from inadequate disposal of fecal wastes and failure to boil contaminated water before drinking; traumatic accidents result from undisciplined automobile driving; abortions are attempted when contraception has not been practiced; etc. Reduction in the prevalence and severity of such conditions is dependent on thorough understanding by the people of the causes of the problems and things that can be done to reduce hazards to health. It is also dependent upon a community attitude or climate that sanctions preventive behavior and does not condone unscientific practices, or reward the daredevil behavior of the individual who takes unreasonable health risks.

Many resources for educating the public to more rational health behavior are available provided there is a systematic well-planned educational effort to effect such changes. The most obvious channel for change is the schools. Certainly this resource for informing children and youth about better health practices needs to be used to the utmost. What is taught, however, needs public health guidance so that it will embrace the up-to-date scientific information, and also be compatible with information being communicated to adults in the community.

A second important resource is the health care facility and its staff. Usually, the priority concern in health care facilities is the treatment of the patient. Health education of the patient and his family is usually incidental. Even when given it is often limited to the condition being treated. Very few health care facilities have incorporated a systematic health education program as part of the service of the facility. Where educational experiences are planned to serve the patients and their families the results have been helpful in reducing the amount of inpatient care. In a country such as the RDC, where there is limited professional health manpower, inclusion of a well-developed health education program in the total health care system would seem to be particularly appropriate. To the extent that such a program prevents illness the demand for curative services will be reduced.

The study group strongly recommends the development of a health educational service as an integral part of the overall health system. It should be directed by a health educational specialist (an individual with a graduate degree in public health education) with such assistance as is financially feasible. The health educator would undertake the following functions:

1. Planning the educational components of health programs.
2. Collection of information about people's knowledge, attitudes, and practices relative to various health problems as a basis for planning the educational program.
3. Provision of planned and organized health education activities to foster success of various health programs.
4. Collection of information about resources for health education.
5. Assembling and/or developing basic health education materials for use in the health education program.
6. Provisions of orientation and training in health education principles and methods for health workers, school teachers, agricultural extension and community development workers, adult educators and the like who can assist in the health education effort.
7. Assistance in integrating health education into the schools, teaching training institutes and other institutions of higher learning.
8. Helping to plan, organize, and conduct community seminars, working conferences, and discussions for local leaders in order to enlist their participation in health programs.

Countries that have established a health education service as a special unit in their health care system, such as India, Iran, the Philippines, Singapore, and Japan, have found that the service makes a valuable contribution towards the realization of their health goals. The study group urges this development in the RDC as a part of its long-range health development. The initial step in formulating the service is the professional preparation of one or more health educators--perhaps one for the adult population and one for the schools as indicated on page 46.

#### F. A Final Thought

In reading background material related to this project the study group came upon two passages that seem particularly relevant.

The first is from a letter sent in 1526 by King Nzinga Mbemba of the Congo to King Manuel of Portugal:

"Your highness has been kind enough to write to us saying that we should ask in our letters for anything we need, and that we shall be provided with everything, and as the peace and health of our kingdom depend on us, and as there are among us old folks and people who have lived for many days, it happens that we have many and different diseases which put us very often in such a weakness that we reach almost the last extreme; and the same happens to our children, relatives and others owing to the lack in this country of physicians and surgeons who might know how to cure properly such diseases.....We have neither dispensaries nor drugs which might help us in this foriornness.....We beg of you to be kind and agreeable enough to send two physicians and two apothecaries and one surgeon...." (1,p.127)

This would seem to indicate that the action of the Congolese Government in initiating a study of maternal and child health services in the Kinshasa Area at this time reflects a long standing concern on the part of Congolese leaders for better health care.

The second passage is from a paper by René Dubos presented in 1966 at a conference sponsored by the Subcommittee on Government Research, Committee on Operations of the United States Senate:

"Another class of difficulties involves the distribution of medical care. How to identify and reach the persons most in need of attention; how to provide them with help in an acceptable form; how to keep professional services and facilities sufficiently flexible to be adaptable to changing conditions; all these constitute administrative problems that have not been solved anywhere in the world and that are hardly studied. It is certain that the solution will differ from one country and one economic group to another. The distribution of medical care cannot be the same in an undeveloped country as in an affluent urban center of Western civilization. Despite common belief, there is a great paucity of knowledge concerning the kind of medical help that will really prove effective in the underdeveloped parts of the world." (2,p.128)

It is evident from this statement that throughout the world there are many unresolved problems in the delivery of health and medical care services. The study group hopes that the suggestions and recommendations in this report will be of help in the development of an effective delivery system for all of the people in the Republique democratique du Congo. Also, if the proposed system proves successful, it may serve as a model for other countries.

## APPENDIX A

### Some Characteristics of the Kinshasa Area

In every instance, health services are directly related to various characteristics of the society in which they exist. Maternal and child health services in the Kinshasa Area are of course no exception. The study group tried within the constraints of limited data and limited time to learn about those aspects of Kinshasa life which seem to have a direct bearing on maternal and child health services.

#### A. Demography

The population of the Kinshasa Area is variously estimated at 1.4 million to 2.0 million. A census taken in July 1970 showed a population of 1,323,039 (6, p.5), but knowledgeable individuals seem to have some doubts about the reliability of this figure.

There seems to be no question that growth in Kinshasa has been very rapid since independence. Immigration from other parts of the RDC continues apace. In 1967 the overall rate of growth was calculated at around 10 percent per year (3, p.135).

Of the total number of persons in the Kinshasa Area in 1967 52.4 percent were under 15 years of age (3, p.35).

In 1967 the crude birth rate was estimated at 55 per 1,000 population and the crude death rate at 10 per 1,000 population (3, p.68). The infant death rate is probably somewhere between 50 and 100 per 1,000 live births. The study group estimates that the total number of births each year is somewhere between 77,000 and 110,000. Of these, approximately 35,000 take place at the Marie Madeleine Yemo Hospital. This figure is based on an actual count of 2,939 births during March 1971. (See Appendix D.) Also, one informed source told the study group that on the average there are 37 deaths per day in Kinshasa and that 29 of these are child deaths.

#### B. Physical Characteristics

Kinshasa is built on sandy soil on the south bank of the Congo River. In traveling about the city the study group noted many areas, particularly on the slopes of hills, where there was massive erosion. In many cases erosion threatened private homes and other buildings. Continuation of such erosion may force further movement of population from some sections of the city to others. Unless measures are taken to prevent erosion, placement of facilities in threatened areas would be a waste.

The population is now widely dispersed. Informed persons feel that it will be even more widely dispersed in the future. The direction of growth is, and probably will continue to be, toward the west.

### C. Sanitation

Although much of the city is served by water from the municipal water system, the water is not considered safe at all times. For safe drinking it should generally be boiled and filtered. In many parts of the city the only sources of water are open wells and streams. Collection of garbage and trash seems sporadic. In many sections of the city there is not adequate provision for safe sewage disposal. Insects cause malaria, which is considered endemic. There is considerable contamination of food because facilities for handling and storage are inadequate in many parts of the city. Much of the food is sold in open markets.

The more the population grows the greater will be the danger from these environmental hazards.

### D. Housing

Most persons live in single, privately-owned dwellings. These range from luxurious homes to one-room adobe shelters with thatched roofs. A head of a family who purchases a "parcelle" of land from the local government must begin to build on that land within two years or the land will revert to the government. For this reason there are many partly finished houses in all parts of the city. Also, for this reason, people tend to remain in the houses they build unless they are forced to leave because of erosion or until they are able to purchase a better dwelling. In the latter instance the first dwelling may be retained as rental property.

There is some public housing including units for members of the armed forces and their families, and for members of the National Police Force and their families.

The old part of Kinshasa, the "Cité", is very crowded. Even there, however, there is some new construction as old dwellings are renovated or replaced. The overall impression is that Kinshasa is a large, sprawling city with crowded sections but also with considerable open space.

### E. Nutrition

It is said, "The average Congolese diet, although sufficient in calories, lacks the vitamins, minerals, and proteins necessary for good health. Malnutrition thus characterizes the well over 90 percent of the population whose diet consists of cassava (manioc) and plantains, supplemented in some areas by corn, peanuts, rice, and palm oil. Protein deficiencies have particularly serious effects between the ages of one and four; many die and others are retarded for life because of the lack of protein" (7, p.20). Although this was written about the RDC as a whole, it seems to apply also to Kinshasa. Although many different kinds of foods are available, particularly in the larger markets, prices generally are quite high. Hence, manioc roots and leaves are the basic food for a large number of Kinshasans.

## F. Transportation

Although the population of Kinshasa is widely dispersed over a large geographic area which is rapidly expanding, there is not an adequate transportation system. During the daytime main streets are very busy with private automobiles, crowded passenger-carrying trucks and buses of many types, taxis, bicycles, and pedestrians. The study team was told that employees and patients find it difficult and in some instances impossible to reach health facilities. It was said that as early as 3:00 or 4:00 in the morning workers from outlying districts begin walking to their places of employment.

## G. Local Governmental Structure

Kinshasa is divided into 24 communes, each with its administrative center under the direction of a "burgomeister" appointed by the chief executive of Kinshasa. Every resident of a commune is required by law to be registered in his commune and to carry his identity card. If there is any tabulation of these registrations, the study group was unable to obtain it.

At the commune level there is some provision for health care and social services. There is also a social center where classes may be held in cooking, sewing and the like.

## H. Economics of Health Care

Employers are required by law to pay for personal medical and health services for employees and their families (7, p.16). The study team was not, however, able to determine the extent or nature of the coverage. It was said that there is considerable variation from one employer to another. Government employees, members of the armed forces and of the National Police Force and their families are covered by a form of health insurance. Nevertheless, apparently there are many residents of Kinshasa who do not have any health care benefits. The team was told that a medically indigent person could go to his local dispensary for care or for referral to a hospital, but just how this is handled is not clear. Each burgomeister is said to have a list of persons in his commune who are eligible for care without paying.

Over and over again the study team was told that regardless of coverage through employers, most persons with any money at all pay for at least a part of their health care. For example, even at a public facility a given treatment might be covered by insurance but the patient usually has to pay for drugs and for the medication required for an injection. Sometimes this is necessary because the drug or medication is not available and must be purchased by the patient. It was the study team's impression that most health facilities are unable to maintain adequate drug supplies for the treatments they are expected to give.

Of course many health care services are subsidized, at least in part, by the government, by various mission groups, or by particular organizations, e.g., FOMECO, OTRACO, and the Danish Red Cross.

## I. Medical and Paramedical Personnel

There is a wide variety of medical and paramedical personnel. Variations in content and quality of education and training within a single category, discontinuation of some forms of education and training, addition of new forms, and changes in certification, have all contributed to the confusion which makes it very difficult to determine who is adequately prepared to do what. Moreover, according to a recent study by the Ministry of Public Health, there are serious shortages of health personnel. Also, what personnel there are, are unevenly distributed. For example, of 728 physicians in the entire country in 1971, 261 are in the Kinshasa Area (5, p.5).

At the present time the following categories of health personnel are being formally educated:

Médecin (Physician)

Infirmier et Infirmière (Nurse)  
Diplômé (e)  
Auxiliaire

Pharmacien (Pharmacist)  
Diplômé  
Gradué  
Assistant en Pharmacie

Dentiste (Dentist)

Technicien de Laboratoire (Laboratory Technician)

Technicien de Radiologie (Radiology Technician)

Ingénieur Sanitaire (Sanitary Engineer)  
Technicien d' Assainissement

Gestionnaire d' Hôpital (Hospital Administrator)

Programs of education for the above categories of health personnel must meet criteria established by the Ministry of Education and must be approved by that Ministry.

## J. Cultural Factors

There is great diversity in language and culture among the Congo'ese. In the Kinshasa Area many tribes are represented. Moreover, tribal customs are subject to change under the conditions of urban life. Insofar as health is concerned there seems to be wide acceptance of modern medicine. This no doubt is due in large part to the highly developed system of medical care provided by the Belgians prior to independence. Although that system has been shattered, the demand for good health care apparently is strong. This is evidenced in part by the readiness of people to seek and to pay for care.

Insofar as family planning is concerned, the spacing of children in the past was apparently regulated by tribal custom which required the mother and her newborn baby to leave her own home and return to her parents' home while she was nursing her child. Although this custom frequently led to polygamy on the part of the husband, it did tend to space children and to provide adequate nourishment for the child until it was weaned around the age of two.

Some knowledgeable informants told the study group that at the present time some women in the Kinshasa Area request family planning counsel and service, but the extent of such demand could not be assessed. Since there apparently has been little, if any, recent anthropological research on family life and customs, it is difficult to predict what attitudes would be toward a program of family planning.

## **APPENDIX B**

### **Facilities Visited**

Marie Madeleine Yemo Hospital

Danish Red Cross Hospital

Kalembe-Lembe Pediatric Hospital

Ndjili Health Center

Family Protection Center of Ministry of Social Affairs

Madame M. Nsingani's Dispensary

Kimpese Hospital and School of Nursing

Institute of Medical Education

National School of Administration

## APPENDIX C

### Persons Interviewed

Ambassador Sheldon Vance	United States Embassy
Mr. Bayard King	United States Embassy
Mr. Hermon S. Davis, Jr., Mission Director	U.S.A.I.D.
Mr. Ray C. Malley	U.S.A.I.D.
Mr. Clyde Briggs	U.S.A.I.D.
Mr. James A. Graham	U.S.A.I.D.
Mr. Wright Hiatt	U.S.A.I.D.
Mrs. Joyce King	U.S.A.I.D.
William T. Close, M.D.	FOMECO
Mr. Peter Rout	FOMECO
Dr. Bazunga, Director	Marie Madeleine Yemo Hospital
Dr. Weaver, Acting Chief of Staff	Marie Madeleine Yemo Hospital
Dr. Ferdinand Pauls, Chief of Obstetrics and Gynecology	Marie Madeleine Yemo Hospital
Dr. Erik Jacobsson, Chief of Pediatrics	Marie Madeleine Yemo Hospital
Dr. Sabwa	Marie Madeleine Yemo Hospital
Medical Staff Executive Committee	Marie Madeleine Yemo Hospital
Miss Anne Melvold, R.N., Director of Nursing	Marie Madeleine Yemo Hospital
Miss Parker, R.N.	Maire Madeleine Yemo Hospital
Miss Viens, R.N.	Maire Madeleine Yemo Hospital
Mrs. Essence, R.N.	Maire Madeleine Yemo Hospital
Mr. Kalunda, Infirmier Diplome	Marie Madeleine Yemo Hospital
Dr. Tshibuabua	Ministry of Public Health
Dr. Yangba	Ministry of Public Health
Dr. Disu	Kalembe-Lembe Pediatric Hospital
Dr. Siebert	World Health Organization
Dr. Cittone	World Health Organization
Dr. Leon Phaka	Ministry of Social Affairs
Dr. Shelley	Kimpese Hospital
Dr. Evans	Kimpese Hospital
Miss Jansen, R.N.	Kimpese School of Nursing
Dr. Marie Louise Courbain Yoka	Physician in Private Practice
Miss Frances Beck, R.N.	Danish Red Cross Postgraduate School of Nursing

Miss Johnson, R.N.	Eglise du Christ au Congo
Madame M. Nsingani	Private Dispensary
Mr. Pierre Sayles	United Nations
Mr. Erodia	Council of Ministers
Mr. Balutila	Ministry of Education
Dr. Condi	Institute of Medical Education
Mr. François Riolacci	National School of Administration and World Health Organization
Father Boofé	National Institute of Statistics
Mr. and Mrs. Lawson Mooney	Catholic Relief Service
Dr. Ferdinand Pauls' cook, his cook's family and neighbors	
Professor David Rogers ) Professor Charles Slater)	University of Colorado Study Team on Manioc
Mr. Gilbert Hersh )	
Max Flemal, M.D. ) Walther Verniers, R.N. )	Consultants, Eurosixtem Hospitalier, Burssels

APPENDIX D

Deliveries at the Marie Madeleine Hospital

1 - 31 March 1971  
Deliveries: Communes

COMMUNE	NUMBER OF DELIVERIES	PERCENT
		13.5
1. Kalamu	308	9.0
2. Kinshasa	269	7.0
3. Ngiri-Ngiri	221	6.5
4. Dendale	194	6.0
5. Bumbu	189	6.0
6. Barumbu	187	6.0
7. Limete	173	5.0
8. Makala	158	5.0
9. Selembao	156	5.0
10. Saint Jean	152	4.5
11. Ngaba	140	4.5
12. Ndjili	133	4.0
13. Kimbanseke	128	4.0
14. Matete	128	3.5
15. Lemba	99	3.0
16. Masina	91	3.0
17. Kisenso	83	2.5
18. Bandal	74	1.0
19. Ngaliema	23	1.0
20. Mongafula	18	0.5
21. A.N.C.	16	0.5
22. Gombe	14	0.2
23. Camp Kokolo	7	0.2
24. Kingansani	7	0.1
25. Nsele	3	0.06
26. Binza	2	0.06
27. Camp Ndolo F.A.C.	2	0.06
28. Croix Rouge	2	0.06
29. Kintambo	2	0.06
30. Ndolo	2	0.06
31. Mosoaba	2	0.06
32. Yolo Sud	2	0.03
33. Camp Olsen	1	0.03
34. Katanu	1	0.03
35. Kidongo	1	0.03
36. Kingaboi	1	0.03
37. Kinkole	1	0.03
38. Maluku	1	0.03

Total: 2989

## APPENDIX E

### Recapitulation of Resources Required for the Initial Phase of the Program

#### A. Personnel

- 1 Medical administrator of program - expatriate
- 1 Hospital administrator - expatriate
- 1 Logistics administrator - expatriate
- 3 Educator-supervisors - expatriate
- 1 Expert in evaluation - expatriate
- 2 Part-time statistical clerks to gather and compile data - Congolese
- \* Obstetrical nurses, child care nurses, aides, maids, maintenance staff and night watchmen - Congolese

#### B. Training

Six months initial training in preventive health and family planning for \*  
obstetrical nurses, child care nurses and aides.

Training in family planning in the United States for obstetrical nurse trainers.

Twenty-four months training for one health educator trainee

#### C. Facilities

Construction and equipping five Type I centers and five Type II centers.

#### D. Supplies and Equipment

3 ambulance vehicles

1 supply vehicle

5 vehicles for official travel of expatriate staff

15 radio-sender units and necessary spare parts - (1 for hospital dispatcher, 10  
for centers, 3 for ambulances, 1 for supply vehicle)

Drugs, immunizing agents, syringes, disposables for deliveries, and nutrition  
supplements as program requires

Paper, easels, slide projectors, camera, and other materials required for visual  
aids and printed educational materials.

- \* Number depends on the employment policies of the RDC. Certain categories of staff,  
as described on page 33, must be on duty twenty-four hours a day for seven days  
a week.

## BIBLIOGRAPHY

### References Cited in Text

1. Davidson, Basil. *Black Mother: The Years of the African Slave Trade*. Boston: Little Brown and Company, 1961.
2. Dubos, Rene. "Opportunities and Pitfalls." *Research in the Service of man: Biomedical Knowledge, Development, and Use*. Proceedings of a Conference Sponsored by the Subcommittee on Government Research and the Frontiers of Science Foundation of Oklahoma for the Committee on Government Operations, United States Senate, October 24-27, 1966. Washington: U.S. Government Printing Office, 1967.
3. République Démocratique du Congo. Institut National de la Statistique. *Etude Socio-Démographique de Kinshasa 1967. Rapport General*. Kinshasa: Institut National de la Statistique, 1969.
4. République Démocratique du Congo. Ministère de la Santé Publique. Inspection Médical de la Ville de Kinshasa. *Rapport - Annuel des Services Médicaux de la Ville de Kinshasa 1970*.
5. République Démocratique du Congo. Ministère de la Santé Publique. Secretariat General. Commission de Planification. *Quelques Eléments pour la Planification du Personnel Médical et Paramédical pour las Période 1971-1976*. Avril 1971. Duplicated.
6. République Démocratique du Congo. Ministère de l'Intérieur. *Resultats Officiels de Recensement Général de la Population de la République Democratique du Congo*. 31 Juillet 1970.
7. U.S.A.I.D. *The Democratic Republic of the Congo - Congo (Kinshasa)*. Briefing Document. 1971. Duplicated.

### Selected Additional References

8. Abell, N. *General Statement on Family Planning in the Congo*. Revised. August 1970. Mimeographed.
9. *Africa South of the Sahara*. London: Europa Publications Limited, 1971. "Congo (Kinshasa)", pp.243-269.
10. Courbain-Yoka, Marie Louise. *A propos...de Contrôle des Nalssances en Killeu Urbain en République Démocratique du Congo*. Undated. Mimeographed.
11. Courbain-Yoka, Marie Louise. *Contraception*. Prepared for Conférence del'Association des Psychologues et Pedagogues Conglous. Kinshasa. 24 Fevrier 1970. Mimeographed.
12. Combain-Yoka, Mane Louise. *Développement Sexuel de la Femme*. Prepared for Conférence a l'Association Generale des Etudiants de Lovanium. Kinshasa. Mai 1969. Mimeographed.
13. Courbain-Yoka, Marie Louise. *Quelques Considerations sur le Contrôle des Nalssances*. Prepared for Conférence à la Société Médicale de Kinshasa. 24 Septembre 1970. Mimeographed.

14. Croix Rouge Danois. *Rapport des Activités Médicales de l'Hôpital d'Enseignement de la Croix Rouge pendant l'Année 1969.*
15. DeCraemer, Willy and Renee C. Fox. *The Emerging Physician: A Sociological Approach to the Development of a Congolese Medical Profession.* Stanford, California: Stanford University, the Hoover Institution of War, Revolution and Peace. 1968.
16. Derryberry, Mayhew and Annie Ray Moore. "Education and Training on the Health Aspects of Family Planning." *International Journal of Health Education*, Vol. XVI, No. 1, 1971, 2-22.
17. D'Heer A. (World Health Organization). *Notes for Use in Teaching Nutrition in an Native Culture Environment.* Luluabourg, Congo, July 7, 1969.
18. Duriez, J. "Developing Hospital Administrators in the Congo." *Program Notes.* Washington, D.C.: Association of University Programs in Hospital Administration, November 1969.
19. Duriez, J. "The Training of Hospital Administrators in the Congo." *World Hospitals*, Vol. 4, July 1968, 124-127.
20. Fox Renée C., Willy de Craemer and Jean-Marie Ribeaucourt. "The Second Independence: A Case Study of the Kwili Rebellion in the Congo." *Comparative Studies in Society and History.* Vol. VIII, No. 1, October 1965.
21. Houyoux, C. and J. "Les Conditions de Vie dans Soixante Families à Kinshasa." *Cahiers Economiques et Sociaux*, Institut de Recherches Economiques et Sociales, Université Lovanium. Vol. VIII, No. 1, March 1970.
22. Institut de Recherches Economiques et Sociales, Université Lovanium. *Enquête sur les Conditions de Vie à Kinshasa, Janvier 1969 - Janvier 1970.* Mimeographed.
23. LaFontaine, J.S. *City Politics: A Study of Leopoldville, 1962-1963* Cambridge: Cambridge University Press, 1970.
24. Llorens, Lela A. *Black Citizen and Child Development.* Prepared for presentation to psychology and psychiatry interns and residents Mount Zion Hospital and Medical Center, San Francisco, California, October 13, 1970.
25. Pauls, Ferdinand. *Education at the Marie Madeleine Yemo Hospital.* Kinshasa. June 8, 1971. Mimeographed.
26. République Démocratique du Congo. Institut National de la Statistique. *Etude Socio-Démographique de Kinshasa, 1967. Resultats par Commune du Sondage au 1/10.* Kinshasa: Institut National de la Statistique, 1969.
27. Taylor, Howard C. and Bernard Berelson. "Comprehensive Family Planning Based on Maternal/Child Health Services - A Feasibility Study for a World Program" *Studies in Family Planning*, The Population Council, Vol. 2, No. 2, February 1971.
28. U.S.A.I.D. *Economic Trends in the Congo and Their Implications for the United States.* U.S.A.I.D. Airgram. April 29, 1971. Mimeographed.

29. U.S.A.I.D. U.S. Economic Assistance Program. June 30, 1971. Mimeographed.
30. United States Department of State *Background Notes: Democratic Republic of the Congo*. February 1970.
31. Wachter, E. (World Health Organization). *Cours d'Education Nutritionnelle*. Undated. Typewritten.
32. Wachter, E. (World Health Organization). *Observations sur la Nutrition à Kinshasa*. Undated. Mimeographed.
33. Wachter, E. (World Health Organization). *Observations sur la Nutrition au Kivu*. Undated. Mimeographed.
34. World Health Organization. *Programme de Cooperation Technique des Nations Unies en République Démocratique du Congo*. 1 Janvier 1971. Mimeographed.
35. World Health Organization. Population Division. *Rapport Concernant le Programme de Planning Familial en République Démocratique du Congo*. New York. 1970.
36. World Health Organization. *Background Notes*. Prepared by Secretariat for Study Group on Health Education in Health Aspects of Family Planning. Geneva. December 1970. 15-21.
37. World Health Organization. *Health Aspects of Family Planning*. Technical Report, Series No. 442. Geneva. 1970.
38. Young, Crawford. *Politics in the Congo*. Princeton, New Jersey: Princeton University Press, 1965.

1197  
 B. P. KINSHASA I  
 Tél. : 30350 - 30011 - 31277

For this letter, please reply to :

ette correspondance, prière de répondre à :

Dispensaire O. U. A.

Mont STANLEY

B. P. 1197 KINSHASA I

République Démocratique du CONGO

Tél. : 59104 ext. 200

His Excellency Mr. VANCE

American Ambassador

KINSHASA

HGK/1127/71

Comments on the report on maternal and child health care by  
 the Berkeley California team.

à inclure dans la réponse

We would like to extend profound congratulations and gratitude for the excellent work done by this highly qualified and highly motivated study group in less than ideal conditions. We fully sympathize with and understand the <sup>problems the</sup> team had in the realms of communications, acquisition of reliable data, and staff studies, even in areas of major problems and responsibilities. We have had to face the same problems.

We are fully in accord with the teams concept of maternal and child health care as stated on page 1 § A :

"Maternal and Child health services should be family centered and should include prenatal care, delivery, postpartum and interpartum care for mothers; postnatal care for infants; prevention and treatment of illness in mothers and children; immunizations as indicated; family planning counsel and contraceptive services to protect the health of mothers and children; nutrition education for mothers; provision of food supplements as needed; and, as feasible, special services for children with handicaps such as prematurity, neurological and orthopedic diseases, and cardio-pulmonary diseases. The central focus in maternal and child health must be on promotion of health with treatment available when preventative measures fail."

The major question is how to arrive at this goal.

To arrive at any medical program which must have as its priority the prevention of disease, or more positively stated, the maintenance and improvement of a national health asset, requires a well-organized functional administration including budget planning related to the realities of national budget planning, adequate support services which must include the capabilities of supporting existing facilities and future capital investment projects, and a staff of reliable well-trained personnel.

The team might be encouraged to know that progress in these vital areas is being made in following ways :

- 1°/ The steady replacement of ineffective personnel inherited a year ago when the hospital was taken over by FOMECO and the recruiting of younger more teachable elements.
- 2°/ Some in-service training where cadre has been recruited for this purpose.
- 3°/ Organization of para-medical schools such as nurse-anesthetist, physiotherapy, and other medical and laboratory technician specialties.
- 4°/ A space reallocation program, administrative reorganization, and budget planning and control system, are being implemented following a 9 month study by experts in these fields including professionals from the U.S. working with Eurositran, a European-American firm specializing as Consultants in Hospital Management. Price Waterhouse is playing a major role in developing budget plans, procedures, new accounting procedures, and auditing.
- 5°/ A full year in-depth study financed by the Common Market to determine in the Health Care needs, and the economic and personnel implications for the city of Kinshasa and about 60 Km around it. Following this study we will have a program, to be realized over a ten year period for arriving at goals similar to those outlined by the team in its broadest elements.

Obviously, until more data is available planning for this huge city, and, following this, for the entire country can only be by guesswork. However, with the present situation existing at the Hôpital Marie-Madeleine Yemo, a 1400 bed general hospital responsible for the care of about 46% of the population of this city (about 2,000,000) and having at present only about 20% of the calculated facilities needed to face this load of medical care, an emergency program for the general hospital is critical and essential.

Teaching health care and prevention of disease is a goal which must be reached as soon as possible. However, the goal cannot be seriously undertaken if the greatest majority of the qualified staff both expatriate and national are submerged night and day by floods of severely ill and injured people. Thus, an immediate emergency program to renovate and in some critical areas (maternity and ambulatory care) innovate new ways of establishing simple preventative medical procedures, screening tests and primary and secondary care must be undertaken. Serious advance has been made in the planning stage of this emergency program, and we are now entering the phase of realization towards the end of this year, with programs to be implemented over the next three or four years. Training of personnel for these realizations depends upon qualified personnel availability, and of course budget.

The Government has produced at top level a draft policy statement concerning family planning which is a positive approach to this vital problem. We aim to have the policy document established and approved in the next few weeks. The Government is fully aware of the need in this especially in terms of educational facilities and jobs available in the years to come.

A serious study of endemic and epidemic diseases will, we hope, be undertaken starting next year in collaboration with the Armed Forces Institute of Pathology who have responded favourably to a government request for help in this area. Such a study could go some way towards meeting the needs stated by the team on page 4 :

"Unless the major controllable causes of illness and disease are attacked and overcome, the need for costly curative facilities and services will continue to grow faster than they can be provided".

Referring to the points raised on page 4 section A; the Nestlé Company has undertaken an in-depth study to define and solve nutritional deficiencies, with an initial effort starting in November this year aimed at three sites; the river populations using the hospital river boat; a lush hospital in the interior and the General Hospital. Equipment and personnel, including two Congolese now in training in Switzerland, will arrive to implement the initial studies done by Professor MAURON (Professor of Nutrition at the University of Fribourg in Switzerland, and chief bio-chemist for the Nestlé company) done earlier this year. Some logistical support will be provided by the Congolese Government, but with personnel and equipment provided by the Nestlé Company with minimal amendment in the R.D.C. This study will also analyse the nutritional values, especially in proteins, of both wild and cultivated foods now available to the population. The Nestlé Company will ship in large amounts of high protein nutritional supplements as an immediate beneficial fall-out for the population. Obviously, on the basis of this work, nutritional training programs, as well as serious indications to the Department of Agriculture will become possible.

Immunizations programs at the Hospital and on the hospital river boat have begun with some help from U.N. technicians, and considerable help from a vaccination technician from the Peace Corp who has taught Congolese staff the procedures. As more vaccine becomes available especially for small-pox, BCG (tuberculosis), and polio, the program will increase in volume.

Referring to point 2 on page 5 which states : "Provision of a full range of decentralized personal health care services with adequate central control and supervision to promote quality and accessibility". In this area a medical flight section with two aircraft and one helicopter, and a single-side-band radio network is under way. However, personnel is still the biggest need.

Referring to point 3 on page 4, a new six year medical school curriculum has just been elaborated by Professor DIOMI, the Dean of the Medical School, which shows considerable wisdom in its practical approach to preventative medicine, as well as to the training of Congolese doctors for service in the interior. Dr. Diomi together with the Minister of Education, have asked FOMECO to play a responsible role in this area. Studies are under way and include, at the request of the Minister of Education, medical technicians schools in many fields.

Referring to point 7 on page 5 which states :

"Increased incentives to attract and retain capable personnel".

We have already a system of bonuses established as a precedent at the Marie-Madeleine Yemo Hospital for para-medical staff doing sound and regular work. These bonuses must be earned each month and are dependant on the chief of department's evaluation of individual performance. An additional bonus for para-medical staff in the more responsible positions was passed by the Board of Governors two weeks ago. It is indicative of one of our problems that only about 50% of the pavilion or department headnurses or chief technicians have the qualifications or aptitude to qualify for this "responsibility bonus".

Referring to article III page 7 : the need for a central coordinating agency in the field of health services is shatteringly obvious to those working in these fields here in the Congo. A well-organized and adequately staffed Ministry of Health should fill these functions.

Referring to article C on page 10 concerning family planning activities : a Government policy paper on family planning is in the works : those who have learned the *modus operandi* in the Congo will appreciate the fact that high pressure, even salted by huge doses of goodwill and know-how, will not speed up the delivery of a formal government policy paper on this subject. Such pressure by over enthusiastic individuals and organizations could well destroy the tremendous strides already made.

Those working for the delivery of such a policy paper may be even more aware of its urgency and importance than experts from outside the country, since no individuals, medical or administrative, can stagger along under a child delivery load of 140 per day (average) without becoming acutely and constantly aware of the fact that "therein lies a problem".

Referring to page 14 : Type I centers (small centers without delivery facilities) and district general hospital would indeed be one solution. But, there are no adequate district hospitals. Type II units would relieve several of the major sources of congestion at the hospital by providing antepartum, delivery, and postpartum care, with health care education, family planning advise and equipment, as well as follow-up immunization and pediatric follow-up.

Referring to page 19 : there are indeed very slim if any chances of being able to build, maintain, and staff the additional in-hospital facilities for normal deliveries which would be required if Type I facilities (no deliveries done were undertaken).

Referring to page 22 § 6 : we are in total accord with the statement that the most important consideration is to relieve the overcrowding of the maternity service at the Marie-Madeleine Yemo Hospital. For this reason, Type II facilities (which include delivery services), would in our opinion be what is needed soonest. These should be in locations chosen where they can be easily supervised and supported by the general hospital staff until such a time as our support and administrative services are better trained and better staffed.

Referring to page 42 : we are in total accord with the team's following statement :

"The study group recognizes the need for immediate relief from overcrowding of the maternity service at the Marie-Madeleine Yemo Hospital. Last year approximately 36,000 deliveries were handled in 7 delivery rooms and 345 postpartum beds. The maternity facilities at that hospital are now so crowded that plans should be made to shift all normal deliveries to other facilities as soon as possible. In the future, maternity care at the hospital should be limited to complicated cases requiring specialized care."

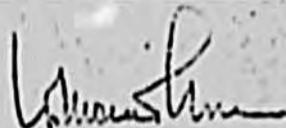
There is no doubt that Type I facilities would do nothing to relieve the crisis situation at the general hospital, and could well aggravated it by requiring more deliveries to be brought in from outlying areas. It could be that in two or three years, when and if "adequate district hospitals are available", Type I facilities would find a natural place.

We are most grateful and impressed with the ideas given by the team on the training of personnel and find these extremely useful and practical and could form the basis upon which further planning can be done together in this area.

Referring to page 45 in which the team brings out the need to find out the patients reaction to services available : a large part of the Common Market financed study starting in January of next year will be a psycho-social study by an industrial psychologist to try to determine the answers to the questions in § 3 :

- 1°/ Do the services meet the felt needs of the people ?
- 2°/ Are the services easily accessible in terms of location, hours of service, patients ability to pay if payment is required ?
- 3°/ Is the care provided, as perceived by the clientele, of high quality ?
- 4°/ Do the staff members as they render service preserve the dignity of the individual and pay attention to his concerns as well as the health of the being treated ?
- 5°/ Is a channel provided for people to express their reaction to the service and are their suggestions given consideration ?

Thus, in summary, we are most grateful for the work done by the Berkeley team and agree in principle with their broad observations and solutions. We feel that in some areas help and hope is under way which will permit more rational planning, budgeting, and personnel recruiting and training. We feel the immediate priority is to relieve the critical situation in the maternity and pediatric services of the Marie-Madeleine Yomo Hospital by developing several Type II units capable of handling a certain number of deliveries with adequate MCH care in all its aspects. We feel that these units should be close enough to the hospital to permit them to relieve the congestion at the hospital, and to assure close supervision and control by Marie-Madeleine Yomo Hospital staff. The size of the units should be small enough to permit the type of personal contact needed in MCH programs, if health education and family planning are to be done. An initial reflection is that the basic plant of the unit, that is, general services elements, support services, examining and delivery rooms with their annex services, could be big enough to support a 50 bed unit. However, during the initial period between 15-20 beds would be used. This thinking is in line with the hospital modular concept. Should the MCH staff feel that more beds can be adequately staffed and cared for, then the central core of the unit could have been made large enough to support extra-beds. The details are very much open to discussion, and our hope is that, with AID help, we could have our staff as soon as possible, four highly qualified professionals, as suggested by the team, who could work out programs and details with us.



William T. CLOSE, M.D.

(1) N°

Réf. n°

Annexe :

Objet :

SPECIAL EQUIPMENT LIST - 40 BED MATERNITY

Item	Catalogue N°	Quantity	Satellite price
1. Large sheets		400	\$ 2000.00 E
2. Draw sheets		200	1000.00 E
3. Pillow		50	250.00 E
4. Pillow cases		200	200.00 E
5. Kidney basin	13697-025	24	17.70
6. Rubber sheets		100	400.00 E
7. Hand towels		200	150.00 E
8. Thermometers	14600-012	24 doz	163.20
Thermometer container	14666 (24')	6	2.58
9. Sphygmomanometer Model	30415-030	22	1114.96
10. Stethoscopes	30410-030	35	1554.25
11. Stretchers	((60-128) series 1500)	24	15300.00
12. Eucato e (Siemens)		1	600.00
13. Fetal stethoscopes (Horn)		29	75.00
14. Fetal Teffs fetal stetho- scope		2	36.90
15. Cord clamps	(Hollister)	10.000	1200.00 E
16. Ident-I-Bands (dual)	10117-010	10.000	1473.50
17. Sanitary napkins		15.000 doz	600.00 E
18. Disposable plastic finger cotte	22830-040	125.000	4000.00
19. Disposable gloves (sterile)	22806-040	16.000	3330.00
			32,219

(1) N°

f. n°

inexe :

objet :

20.	Drums for sterile supplies		12	250.00 E
21.	Scale for weighing	62445	12	480.00
22	Baby scale	62460	8	440.00
22.	Waste receptacle	52700	12	232.80
23.	Albustix		50/000	1500.00
	Clinistix U 2386		10.000	166.00
24.	a) Haemoglobin meter (Spencer) B4521		2	139.00
	b) Test sticks for above		20.000	496.00
25.	Footstool	53115	10	141.50
26.	Lifting forceps-container		12	120.00
	Forceps jar	13934-04V	12	72.00
27.	Instrument tray with cover (deep)	13968-06P	12	69.60
28.	Instrument tray with cover (shallow)	13980-06U	12	81.00
29.	Kocher forceps	33177-055	200	1900.00
30.	Scissors-straight med.size	32511-055	100	750.00
31.	Speculum - large	40740-030	25	157.50
	- medium	40740-040	100	630.00
	- small	40740-060	25	202.50
32.	Hospital charts	58225	50	92.50
33.	Adding machine		1	250.00
34.	Typewriter		1	150.00
35.	Alcohol dispensers	12025	12	18.00
36.	Narcotic cabinet	12308	1	7.15
37.	Bed-pan	15504	24	252.00
38.	Vagkbasin	13754-048	12	66.60
39.	Graduated Measure	13854-108	2	14.80
40.	Dressing jar	14066-008	12	114.00

5,553

# HOMECO

HOPITAL M. M. YEMO  
 L. P. 169 - KINSHASA

(1) N°

réf. n°

annexe :

Objet :

41. Plastic bucket	14150	24	40.80
42. Disposable syringes 2 1/2 cc's		50.000	<del>250.00</del>
	15108-210 15108-250		
43. Glass syringes 10cc	15634-110	3 doz.	58.50
44. Needles # 21 1 1/2 "		6 doz.	13.68
45. Catheters (urethral) #16	20910-125	200	50.00
46. Instruments wraps	25900-070	10.000	80.00
47. Brush dispenser	29700-042	2	47.30
48. Episiotomy set		12	
49. Gomco circumcisions clamp		3	53.00
50. Vacuum-extractor		1	250.00
51. Fibre glass trucks	51875-016	6	618.00
52. Commercial clock		6	107.70
53. Examining lamps portable		6	60.00
54. Refrigerator		1	300.00
55. Wheel chair		6(local)	2400.00 E
56. Incubator		1	1345.00
57. Bulb syringes	15162-200	50	30.00
58. U standards	63000-025	5	300.00
59. Gowns for mothers	45260 - 5 series	200	
60. Brushes	29121-010	6 doz.	
61. suction machine	65710-010		119.00
62. Drapes			
63. Basin stands	63605-010	6	
64. Basins for placenta	13804-006	50	87.50
65. Soap dispensers	54311-	12	5.00 y
66. Containers for Marsin & ARGYROL		12	
67. Kreiselman Rousatinter		1	

# FOMECO

HOPITAL M. M. YEMO  
1. P. 169 - KINSHASA

(1) N°

réf. n°

Annexe :

Objet :

## MATERNITY SATELLITE

### MEDICATIONS

1000. cc 5 % D/Water	2500 Bottles
1000 cc Chlorure de Iodium	500 Bottles
Maemacal .	200
Procaine .	20 gr
MgSO <sub>4</sub> . 20 %	100 gr
Mepergine 0.2 mg	5000 amps
Syntocinon 10 units	2500 amps
Valium 10 mg	10000 amps
Penicillin 4.000.000 units	5000 vials
Streptomycin 5 gr	5000 vials
ASA 5 gr	20000 vials pills
Calcium	20000 pills
Ephedrine	100 amps
B Complex	500 amps
Caffeine	200 amps
Phenergan	100 amps
Imferon	400 amps of 20 cc
Nivaquine	50000
Reserpine	1000
Esidrex	2000
Pethidine 50 mg	500
Vit + Iron pills	300000

# FOMECCO

HOPITAL M. M. YEMO  
B. P. 169 - KINSHASA

(1) N°

Réf. n°

Annexe :

Objet :

## Additional supplies for maternity units

Blackboards	
Drapes for deliveries	
100 leggings	
100 under-buttocks drapes	
Cotton balls	50 kilo
Tape	100 rolls - 7 "
Gauze	50 kilo
Sanitary Belts or T-Binders	15.000
Suture	6 chronic - 500 packages
6 Jr. cath to suction baby	12
Dishes to feed patients	
60 bowls	
60 spoons	
60 cups	
Test tubes	36
Disinfectant	50 l.
Soap	500
Neo-Sabenyne	50 l.
Sterile water for injections	400 amps at 10 cc.
Alcohol	50 l.
Iodine and alcohol	20 l.
Argyrol	10 l.

Protection Infantile et Maternelle ( P. I. M. )

10.000 nouveau-nés/an = 900/mois = 30/jour

Visite à P. I. M. chaque mois entre 1 - 6 mois d'âge  
chaque deux mois entre 7 - 15 mois  
3 fois/an après 16 mois.

Selon cette estimation on arrivera dans la 4ème année après le démarrage à 150 visites/jour

250 visites/jour à 10 min. = 40 heures de travail  
à 15 min. = 65 heures de travail

c.à.d. 7 - 10 infirmiers à 6 heures de consultation/

Dispensaire

100 - 200 malades/jour dans la 4ème année.

100 malades/jour à 10 min. = 17 heures de travail  
à 15 min. = 33 heures de travail

c.à.d. 3 - 4 infirmiers à 6 heures de consultation/

On atteindra probablement bien plutôt le chiffre de  
200 à 300 malades/jour.  
Probablement ce sera sage de prévoir ce nombre.

<u>Personnels</u>	1 <sup>ère</sup> année	4 <sup>ème</sup> année
P. I. II.	3 inf.	10 inf.
<u>Dispensaire</u>		
Consultation	3 - 4 inf.	10 inf.
<u>Salle d'urgence</u>		
roulement de garde autre les heures de dispensaire	3 inf.	6 inf.
<u>Laboratoire</u>	1 - 2 inf.	2 - 3 inf.
<u>Thésaurie</u>	1	2
<u>Pour tout</u>	1-2 filles de salle 1-2 garçons de salle	2 1 - 2

E. Jacobsson.

Plan du Centre de Protection Infantile et Maternelle

Description	Selon DCMF		
	par pièce	par mois	par an
<b>Immunisations</b>			
Cartes sanitaires + cases plastiques 900 enfants/mois	0,6 n	5 n	30 n
Composition qu'on côute 700 d'our revêtement et que ce chiffre après 1 demi-an est réduit à 500 enfants.			
Centre de " Protection Infantile "	1,5 n	10 n	100 n
700 enfants/mois			
<b>Vaccinations</b>			
B.C.G.	fournis par 100 n n		
Varicelle	(ainsi que vaccins, seringues et aiguilles		pour tous les nouveaux-nés.
Diftherie (3 inj.)	3,6 n (3 = 1,2 n)	25 n	150 n
Polio (3 inj.)	6,0 n (3 = 2,0 n)	42 n	500 n
Rougeole 900 enfants/mois	30 n	250 n	3000 n

2700 n

Dépenses totales

+ guns  
Ref. = tel  
0.00 500 Z

E. Jacobson.

MATERNITY SATELLITE - 40 BEDS

**TOTAL**

	Midwives		Fille de salle	Cleaning Supervisor	Central supply sup.	Lab Tech.	Sec.	PHN Peds Nurses	Pharmacy
	DIP	AUX							
<b>IN PATIENTS</b>	6	31	42	1	1	2	2		2
<b>WELL BABY CLINIC</b>			2 *				1	5	
<b>PRENATAL CLINIC</b>	1	5	3				1		
<b>PEDIATRICS DISPENSARY</b>			3			1		4	
<b>SALLE D'URGENCE</b>			3					3	