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FINAL EVALUATION OF THE MCH TEACHING PROGRAM AT THE UNIVERSITY CENTER FOR HEALTH SCIENCES
(USAID/Yaoundé, Project 631-0531)

A Report Prepared By:
JOHN KENNEDY, M.D.
DAN LANTUM, M.D.
DOUGLAS PALMER

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C O N T E N T S

	Page
ACKNOWLEDGMENTS	i
EXECUTIVE SUMMARY	vi
ABBREVIATIONS	x
I. INTRODUCTION	1
Purpose of the Evaluation	1
Methodology	2
Itinerary and Work Schedule	3
II. BACKGROUND	9
III. OBSERVATIONS AND FINDINGS	12
Inputs from AID	12
A. Technical Assistance	12
1. Quantity and Types of Long-Term Technical Services	12
2. Timeliness of Services	12
3. Quality of Long-Term Technical Assistance	14
4. Backstop and Support Services on Harvard Campus	14
5. Effective Use of Technical Services	15
B. Participant Training	17
1. Long-Term Training	17
2. Short-Term Training	18
C. Scholarships for Non-Cameroonians	18
1. Medical Students	18
2. Nursing Students	18
D. Financial and Design Support for Construction of Family Health Outpatient, Pediatrics, and Maternity Wing in CUSS Community Teaching Hospital	19
1. USAID Grant	19
2. Status	19

Page

E. AID Commodities 19

F. Summary of Total Inputs, All Sources 21

Outputs 22

Output No. 1: Statement 22
Indicators 22

A. MCH Clinics Organized and Functioning 22

1. Yaoundé 22

a. Prenatal Clinic 22
b. High-Risk Pregnancy Clinic 23
c. Postpartum Clinic 24
d. Child-Spacing Clinic 24
e. Infertility Clinic 25
f. Well-Baby and Child Immunization Clinic 25

2. M'Volyé 28

3. Bamenda 31

B. MCH Instructional Objectives Defined 32

1. Background 32
2. Instructional Objectives for Medical Students 33
3. Curriculum for Medical Students 33
4. Proportion of Curriculum Devoted to Public Health 36
5. Instructional Objectives for Nursing Students 37
6. Harvard/CUSS Contributions to MCH Curriculum and Instruction 37

C. Teaching Activities of Harvard/CUSS Staff 38

D. Introduction of Innovative Teaching Methods and New Concepts 39

1. Maternal Services 39
2. Child Health Services 40

E. Research Activities 40

1. Medical Students' Theses 41
2. Independent Study Reports of Nursing and Midwifery Students 41

F. Instructional Materials, Training Aids, and Equipment 48

Page

G. The Community Nursing Textbook 49

H. Development of CUSS Faculty 50

I. Coordinating Mechanisms 51

1. Coordination Within CUSS 51
2. Coordination Between CUSS and the MOH 53
3. Coordination Between CUSS and Donor Agencies 54

Output No. 2: Statement 55

A. Status 55

B. The Physical Plant 55

C. Significance of Delay in Opening Community Hospital and Impact on Project Objectives 57

D. Future Plans 58

1. General Services 58
2. MCH Services 58

E. Conclusion 59

Project Purpose 60

A. Indicator No. 1: Number of Graduates 60

1. Medical School Graduates (Doctors) 60
2. Nursing School Graduates (CESSI) 61
3. Technical School Graduates (CETS) 61

B. Indicator No. 2: Utilization 62

1. Placement of CUSS-Trained Doctors 62
2. Placement of Graduates of Nursing/Midwifery School 62

C. Indicator No. 3: Feedback (Quality and Relevance of Service and Application in Field) 62

Project Goal Statement 65

IV. CONCLUSIONS AND RECOMMENDATIONS

Introduction 66
Overall Achievement of Project Purpose 66

Page

Overall Effectiveness and Impact of USAID/Yaoundé Inputs on Achievement of Project Purpose 67
Recommendations on CUSS Relationships with Current or Planned USAID/Yaoundé Projects 68

A. MEDCAM I 68

1. Background 68
2. Recommendations 69

B. Practical Training in Health Education (PTHE) 70

1. Background 70
2. Recommendations 72

C. Howard University/CUSS Collaboration 73

V. LESSONS LEARNED

Project Planning and Design 77
Project Management and Implementation 78
Health Development 79
Evaluation 79

APPENDICES

Appendix A: List of Persons Contacted

Appendix B: List of Documents Reviewed

Appendix C: Report of Stephen C. Joseph, M.D., MPH, CUSS Project Manager, USAID

Appendix D: CUSS Educational Objectives for Medical Students

Appendix E: Curriculum for CUSS Medical Students

Appendix F: English Summary of CESSI Instructional Objectives

Appendix G: "Engineering Issues for the CUSS Final Evaluation" by Mr. Siewe, Engineering Assistant

Appendix H: Terms of Reference

Appendix I: Bibliography for Harvard/CUSS Project

EXECUTIVE SUMMARY

The Assistant Director of CUSS, Professor Dan Lantum, USAID Project Manager Douglas Palmer, and an outside consultant, Dr. John Kennedy, spent approximately three weeks (May 16 - June 7, 1980) evaluating the USAID/Yaoundé-assisted University Center for Health Sciences (CUSS) Project. The evaluation team concluded that:

1. The project accomplished its main objective, which was "to develop an effective and viable MCH teaching program within CUSS."

2. A maternal and child health demonstration program was designed and is an integral part of the CUSS medical training service and research program (Output No. 1).

3. A family health outpatient and pediatrics facility has been built, but it is not yet an integral part of the CUSS teaching hospital (Output No. 2).

Despite its favorable conclusions, the evaluation team was not convinced that the goals were reached because USAID/Yaoundé provided assistance. Only after protracted delays was the new 150-bed CUSS Community Hospital built and opened, and there were other problems in completing the project.

The evaluation team found that USAID assistance was used ineffectively. For example:

1. Commodities ($85,000 value) were ordered, but they were made available too late to be of any use during the project.

2. Little participant training (originally planned for 15 person-years and funded for $150,000) was provided and, in some cases, it was inappropriate (i.e., it did not result in the development of CUSS faculty).

3. Short-term consultants were not used. The campus coordinator made three visits, and only one other short-term consultant was employed.

4. The funds which USAID provided for scholarships for foreign students were not needed. The World Health Organization (WHO) provided the scholarships.

5. USAID-funded technical assistance, provided under a contract with Harvard University (more than 20 person-years), was used primarily to develop service units (hospital-based inpatient and ambulatory services). Most of these Harvard/CUSS-created clinics and field training programs did not survive after the withdrawal of the Harvard consultants.

The Harvard/CUSS team members provided useful services as teachers, demonstrators, and tutors of medical students. Without question, this team was instrumental in conveying the proper principles and concepts to the approximately 200 medical students who were trained.

Apparently, the doctors who graduated from the CUSS program are performing well in the field and continue to be interested in and committed to MCH and community health programs. They have accepted their rural assignments without complaint or dissent.

The evaluation team was disappointed that the technical assistance services were not used to establish CUSS as an institution. This may be because the project design was weak. The team believed the project overemphasized pediatrics and obstetrical services, and paid too little attention to broader-based preparatory training in essential health services.

The periodic Harvard/CUSS reports were fragmented, submitted separately by the pediatrics and obstetrics teams. Usually, they were nothing more than a recitation of events and problems in each specialty. There was little broad analysis or synthesis of overall progress in achieving preplanned objectives. Little consideration was given to the impact that technical assistance was having in furthering institutional or instructional objectives.

Three different persons headed the Harvard/CUSS team in less than three and one-half years. The evaluation team believes that the Chief-of-Party should have been a general, broad-based public health specialist, and not an American board-qualified pediatrician. Given the criteria, the selection committee had to limit its recruitment and could not select an individual with the broad-based competency the position required. There was no continuity because of the turnover.

Despite the Harvard/CUSS team's qualifications, despite the efforts of the individual members, despite the availability of USAID-funded technical assistance services, a well-coordinated, cohesive effort did not result. Nor was CUSS strengthened as an institution.

The Nurse and Community Health, a textbook published as one of the products of the project during the last two years, was very well written and should become a useful reference for those instructing not only public health nurses, but also other paramedical staff in Africa. (The team was concerned, however, about the distribution and exposure of the English edition.)

The design and construction of the 150-bed CUSS Community Teaching Hospital posed serious problems. The hospital was scheduled for completion in 1974, but construction was not completed until May 16, 1977. Because of jurisdictional and other problems (e.g., defining the service area), the hospital has not operated to date. Furthermore, although the hospital was conceived as a simple facility, suitable for training rural medical practitioners, it is over-sophisticated. When it opens, it will have to face the nearly insurmountable problems of high operating expenses, large staffing requirements, and the need for engineering support services that are beyond available local capability. The construction of this overly elaborate hospital is inexcusable, given the recommendations and warnings of the architectural consultants who completed preconstruction feasibility studies with USAID/Yaoundé funds.

The mission was interested in CUSS's participation in current and projected USAID/Yaoundé health projects. The evaluation team recommended the following:

1. MEDCAM I

   a. Endorses collaboration with CUSS on management/administration courses for medical students (also recommended in MEDCAM I Draft Project Paper).

   b. Endorses use of CUSS medical graduates as managers or supervisors at MEDCAM project sites.

2. Practical Training in Health Education (PTHE)

   Recommends that project staff make a greater effort to create and perfect field training programs for fourth-year medical students of CUSS and second-year nursing students of CESSI in the Mefou region.

3. Howard/CUSS Collaboration Project

   Recommends broad-based, two-way collaboration.

Chapter I of this report is a summary of the objectives and methodology of the project. It also includes an itinerary. Chapter II is a summary of the University Center for Health Sciences--how it was created, whom it serves, etc. The evaluation team's observations and findings and conclusions

and recommendations are presented in Chapters III and IV. Chapter V is a summary of the lessons to be learned in planning, implementing, and evaluating similar health projects. It contains a description of the state of the art.

ABBREVIATIONS

AA/AFR	Assistant Administrator/Africa
AID/W	Agency for International Development/Washington
AMA	Atelier de Materiel pour L'Animation
APHA	American Public Health Association
CESSI	Le Centre D'Enseignement Superieur en Soins Infirmiers
CETS	Technical School (Component of CUSS)
CFA	Central Franco Africa
CIDA	Canadian International Development Agency
CLE	Editions CLE Yaoundé (publisher)
CUSS	Centre Universitaire des Sciences de la Santé
DASP	Zone de Demonstration en Action de Santé Publique
ENISFAY	National Institute for Nursing and Midwifery Training
FAC	French Technical Assistance Program
GURC	Government of United Republic of Cameroon
HCTD	Health Care Team Demonstration
MCH	Maternal and Child Health
MEDCAM	USAID/Yaoundé Rural Health Development Project
MEDEX	University of Hawaii Primary Health Care System
MLHW	Middle-Level Health Worker
MOH	Ministry of Health
Ob/Gyn	Obstetrics and Gynecology
OCEANC	Organisation de Coordination pour la Lutte Contre Les Endemies en Afrique Centrale
PHC	Primary Health Care

PIO-C	Project Implementation Order-Commodities
PME (PMI)	Protection Maternelle et Infantile (Protection of Mothers and Infants)
PP	Project Paper
PTHE	Practical Training for Health Education
PROP	Project Proposal
UNC	University of North Carolina
UNDP	United Nations Development Program
USAID	United States Agency for International Development
VHW	Village Health Worker
WHO	World Health Organization

I. INTRODUCTION

Purpose of the Evaluation

This is the final evaluation of the USAID/Yaoundé assistance project involving the Centre Universitaire des Sciences de la Santé (CUSS) at Yaoundé, Cameroon. The evaluation was based on the "Logical Framework" of the revised 1977 Project Paper. Seven other items were included in the "Terms of Reference" to provide a more complete picture of the project's successes and failures. The additional tasks were:

1. Assess the degree to which the CUSS and CESSI (Le Centre D'Enseignement Superieur en Soins Infirmiers) have become truly regional medical training institutions in central Africa.

2. Assess the benefits of AID-funded short- and long-term participant training.

3. Determine whether former CUSS graduates feed back to CUSS information that may be useful in curriculum modification.

4. Assess CUSS's needs for expatriate teaching staff and advise and suggest ways these needs can be met.

5. Describe how the delay in opening the CUSS hospital affected the achievement of project objectives.

6. Using the latest draft MEDCAM project paper, determine whether planned CUSS participation in the MEDCAM project is well planned and feasible.

7. Assess the extent to which the project-produced textbook, The Nurse and Community Health in Africa, is being used in Cameroon.

The first four items were components of the regular process of assessing inputs and outputs and other activity targets and quantifiable indicators specified in the "Project Logical Framework Matrix." Each of the last three items was addressed separately.

At the entry conference at USAID/Yaoundé, the mission expressed its hope that the evaluation team would provide some guidance and suggest what CUSS's relationship should be with other current and projected USAID health projects, particularly MEDCAM I, the Practical Training for Health Education

(PTHE) Project, and the centrally-funded Howard University/CUSS Collaboration Project. The team incorporated into the evaluation the mission's suggestions to assess future planning needs.

Although the team concluded that most of the objectives (or purposes) of the project had been fulfilled, it was unable to document the claim that USAID's inputs made it possible for the project to achieve the generally favorable results.

The team also recognized that CUSS was a new, experimental prototype university-level medical training institution, specifically designed to produce graduates with attitudes, skills, and knowledge appropriate to West and Central African settings. Based on an innovative philosophy, CUSS's institutional training objectives and organizational structure are quite different from those formed at university medical and nursing schools in Europe and the Americas.

The team appreciated CUSS's unique features. Aware of the wide interest in atypical training for health workers in countries with scarce resources, it tried to provide some insights into how a cross-cultural technical assistance project such as CUSS works. The evaluation team went somewhat beyond the "Terms of Reference" in trying to understand and objectively assess the considerable dynamic factors that tended to influence the project's eventual results. The team tried to balance the scheduled evaluation of AID's projects (a program requirement) with a broad-based, interpretive assessment that would be a useful chronicle of project activities and a report on "lessons learned" in a new type of institution for training health workers.

Methodology

To complete the evaluation, the team was required to:

1. Review relevant documents, including CUSS reports, contractor reports, USAID records, the MEDCAM I Project Paper, previous evaluation reports on CUSS and PTHE, and other selected reports and documents. (See Appendix B.)

2. Interview USAID/Yaoundé staff members; CUSS faculty and staff at Yaoundé, M'Volyé, and Bamenda; and seven medical graduates assigned to the Northwest Province (in Bamenda). (See Appendix A.)

3. Report on site visits to:

a. Pediatric, maternity, and newborn nursery units, and the CUSS public health pavilion at the Central Hospital in Yaoundé.

b. The new Community Teaching Hospital in Yaoundé.

c. The nealth centers and community health program in M'Volyé.

d. The DASP zones (Zone de Demonstration en Action de Santé Publique) in Bamenda, where training for fifth-year medical students and CESSI second-year nurses is conducted under the Health Care Team Demonstration (HCTD) Program.

4. Review instructional objectives for medical students and CESSI nurse-midwives and the curriculum for medical students.

5. Review and analyze 50 medical students' theses and CESSI nursing-midwifery studies.

6. Review the letter and report from CLE (publisher of The Nurse and Community Health in Africa) documenting sales of the French and English editions of the textbook to Cameroon and other countries.

7. Visit the CUSS Community Teaching Hospital and review the USAID engineering assistant's report on engineering issues (request of the team). (See Appendix G.)

Itinerary and Work Schedule

The team's schedule of work and itinerary were as follows:

- May 12, 1980 Washington, D.C.*

  A.M. Preliminary briefing and travel arrangements at American Public Health Association (APHA).

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* Dr. Kennedy only.

Briefing on tdy by Ted Bratrud, Jr., USAID/Yaoundé Evaluation Officer, AID/Washington.

P.M. Briefing conference, AID/Washington, with Rusty Anderson, AID Cameroon Desk Officer, and Janet Anderson, Health Representative, Regional Bureau for Africa, AID.

- May 13-15, 1980

Dr. Kennedy travels to Yaoundé

- May 16, 1980

A.M. Entry conference, USAID/Yaoundé: Dr. John Kennedy; Mr. Douglas Palmer; Mr. James Williams, Mission Director; and Dr. Richard Brown, Chief, Health, Nutrition and Population Office, USAID/Yaoundé.

P.M. Initial visit with Professor Dan Lantum, Deputy Director of CUSS, and members of the evaluation team.

- May 17, 1980

A.M. Discussion of CUSS evaluation plan, Professor Lantum's office.

P.M. Review of documents.

- May 18, 1980 (Sunday)

Review of documents and other related papers.

- May 19-20, 1980 (Cameroon official holidays)

Work on draft of evaluation plan and schedule of work; review of project documents (Palmer and Kennedy).

- May 21, 1980

A.M. CUSS, Yaoundé: Review and acceptance of "Plan of Evaluation" and "Schedule of Work."

Conference with Professor E. Eben-Moussi, Director, CUSS.

P.M. Meeting with Jeanne F. Carrière and Miriam Jato, two of the authors of the textbook, The Nurse and Community Health in Africa, to discuss the textbook and CESSI nursing services, training objectives, and curriculum.

Attendance at MOH Coordination Committee review of evaluation report on Practical Training for Health Education (PTHE) Project.*

- May 22, 1980

A.M. Site visit to Central Hospital, Yaoundé; interview with Dr. Boniface T. Nasah, CUSS Head of Maternal Health Services and Chief of Ob/Gyn at Central Hospital; tour of maternity and pediatrics units, including CUSS Pavilion.

Visit to child-spacing clinic in new CUSS Community Hospital; interview with Matilda L. Ndep, Midwife Chief of the clinic, and her staff.

P.M. Review of CUSS statistical records (provided by Office of the Secretary-General, CUSS).

Interview with Alice J. Collomb, WHO Nursing Consultant, CESSI.

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* Among those who attended the meeting were Dr. Jacques-Rene M'Bakob, Director of Preventive Medicine, MOH, and Project Director; Mr. Elias Joe, Chief of Health Education, MOH; and Dr. Darryil Candy, Chief-of-Party, University of North Carolina team.

- May 23, 1980

  A.M. Interview with Dr. Joseph Mbédé, Pediatrician and Director, CUSS Community Teaching Hospital, and CUSS faculty.

  P.M. Tour of CUSS Community Hospital with Dr. Mbédé.

  Interview with Dr. Jacob Ngu, Chief of Clinical Teaching Services and Head of Internal Medicine, CUSS.

- May 24, 1980

  Interview with Dr. Gladys E. Martin, Chief of Community Health Program, M'Volyé; review of documents on M'Volyé.

- May 25, 1980 (Sunday)

  Work on draft report (Dr. Kennedy).

- May 26, 1980

  Mr. Douglas Palmer: Air travel from Yaoundé to Douala; travel by USAID car from Douala to Bamenda.

  Dr. Kennedy: Site visit to M'Volyé Community Health Program with Dr. Gladys E. Martin; Dr. Oben Enoh-Tanya, a CUSS graduate and now Chief of Preventive Medicine at Nkambe, Northwest Province; and 11 third-year CUSS medical students.

- May 27-30, 1980

  Douglas Palmer: Site visits to Health Care Team Demonstration areas in Bamenda, including Bamenda Nursing and Midwifery School. Visits coordinated by Dr. Forching, Health Delegate, Northwest Province. Interviews with six CUSS graduate doctors in Northwest Province. (See Appendix A.)

- May 27-30, 1980 (cont.)

  Dr. Kennedy: Scheduled to join Mr. Palmer in Bamenda on morning of May 27; plane was cancelled on May 27 and May 28. Dr. Kennedy continued work in Yaoundé.

  May 27: Review of USAID project records on participants.

  May 28: Follow-up meeting with Ms. Alice Collomb, WHO Nursing-Midwifery Consultant, CUSS/CESSI, and Mr. Noumssi Andre, Monitor for Field-Training Programs in Nursing Care, CESSI/Yaoundé, to discuss nursing and midwifery instructional objectives and team field-training programs.

  May 29: Review with Professor Lantum of institutional philosophy, organizational and training objectives, and curriculum for medical school.

  Review of CUSS outputs, number of graduates by year, current enrollment, etc.

  May 30: Review of medical students' theses and CESSI nursing-midwifery studies; analysis of a sample (50) of each.

- May 31, 1980

  General team meeting at CUSS to exchange information, discuss format of report, identify additional information needed, etc.

- June 1, 1980 (Sunday)

  Work on draft report (Dr. Kennedy).

- June 2-5, 1980

  Preparation of draft summary report.

- June 6, 1980

  A.M. Review of USAID-furnished commodities from PIO-C, Record Office, USAID/Yaoundé.

  P.M. Presentation and discussion of draft report at USAID/Yaoundé, Mission Director James Williams and Health Chief Dr. Richard Brown.

- June 7-8, 1980

  Dr. Kennedy: Work on issues on Howard University/CUSS collaboration in response to Director Williams' questions.

- June 8, 1980

  Dr. Kennedy: Lunch with Mission Director James Williams to discuss verbal suggestions on Howard University/CUSS collaboration.

- June 9, 1980

  Dr. Kennedy: Departure from Yaoundé.

II. BACKGROUND

The University Center for Health Sciences (CUSS) opened in 1969. Built with the assistance of the World Health Organization (WHO) and the United Nations Development Program (UNDP), CUSS was conceived and designed as a new and innovative university-level institution where doctors, nurses, and other health professionals could be trained as a team in one center.

The multi-professional teaching program and institutional objectives are based on the problems and needs of Western and Central African countries, all of which share the problems of low income, scarce resources, a mostly agrarian economy, high incidence of disease, relatively high birth rates and high rates of death at an early age, and excessive deaths and complications in pregnancy.

As early as 1963, a number of countries in the area, including Gabon, Central African Republic, and Chad, had expressed an interest in a regional medical school designed to meet the needs of Central Africa. Chad, however, was unable to contribute financial support to the project and Gabon and the Central African Republic later opted to build their own medical schools. Although CUSS was designed as a bilingual (French and English) regional institution, it has never been fully used as such.

In 1968, in a joint Special Fund Preparatory Assistance Missions Report, WHO and UNDP recommended the establishment of CUSS to meet the needs described above. As specified in the WHO/UNDP proposal, CUSS would be created in three phases:

Phase 1 January-October 1969: Complete plans, develop curricula, and prepare architectural plans.

Phase 2 November 1969 - October 1972: Complete basic sciences buildings, initiate training, and begin construction of teaching hospital.

Phase 3 November 1972 - December 1975: Complete hospital construction, evaluation, and revision of objectives and curricula.

The recommendations were accepted by the Government of Cameroon, which made a formal request to the UNDP for assistance. The UNDP approved the project, and CUSS was created by presidential decree in June 1969. The first class of medical students began training in October 1969. The UNDP subsequently approved financial support for Phase 2 and Phase 3. The schedule for completing the three phases was revised, and the target date was reset for August 1977.

France (FAC) pledged support to build and equip the teaching hospital and to provide faculty support and student scholarships.

In November 1970, USAID was asked to contribute support for hospital construction, technical assistance, and faculty training. The request led to the commission of a project design--the original PROP (approved in October 1971). The project design had five basic components:

1. Construction of an outpatient department, maternity wing, and pediatrics wing in the teaching hospital.

2. Provision for 16 work-years of technical assistance to the CUSS maternal and child health (MCH) program.

3. Provision for CUSS faculty of 15 study-years of training in public health or clinical specialties in community medicine.

4. Involvement of the USAID Project Manager in monitoring CUSS project activities.

5. Use of short-term consultants in community health and medical education.

A Project Grant Agreement was signed in December 1971, and CUSS received from USAID the first $2.5 million of a projected $3.15 million.

The demographic, socioeconomic, and health setting and the conceptual rationale for the CUSS project are summarized in USAID Technical Assistance to the University Center for the Health Sciences/Yaoundé (Preliminary Information for Prospective Contractors), a paper prepared by Dr. Stephen Joseph in 1971. (See Appendix C.)

Following a delay in negotiations, a technical assistance contract was signed with Harvard University in 1973. The first members of the Harvard/CUSS contract team arrived in Cameroon in November 1973.

In 1972, the Canadian International Development Agency (CIDA) provided funds for the CUSS public health pavilion, which was built in 1973. CIDA has also provided technical assistance to the Public Health Division and funds for participant training.* CIDA assistance terminated in 1978.

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* Few of the funds for participant training have been used.

Construction of the CUSS Community Hospital did not begin until May 1974, because of delays in completing the design and contract negotiations. Construction was completed on May 16, 1977, five months after the scheduled completion date of December 11, 1976.

USAID contracted with Wolf and Company (Work Order Number 4, Contract No. AID/OTR-C-1381) to make the first project evaluation.

The three-member evaluation team concluded:

> CUSS is capable of and is training physicians, paramedical technicians and senior-level, postgraduate public health nurses in MCH techniques and research. . . .AID-financed, Harvard-executed technical assistance [has] played a catalytic role and was instrumental in shortening the time necessary to reach this capability.

The evaluation team also was critical of CUSS, pointing out:

--the delay in completing and occupying the new CUSS Community Teaching Hospital;

--the over-sophistication of the hospital;

--the over-utilization of Harvard technicians to deliver services;

--the lack of feedback from CUSS graduates;

--the apparent lack of inter-ministerial cooperation; and

--the ungainly organizational structure of CUSS.

The original PROP was revised and a new project paper was written and authorized by the Assistant Administrator for Africa (AA/AFR) on September 22, 1978. Because the paper was written late in the project, the team felt that it had to review the genesis of the project to put into proper perspective CUSS's development and implementation. The present evaluation is based on the revised project paper and its "Logical Framework Matrix."

III. OBSERVATIONS AND FINDINGS

Inputs from AID

A. Technical Assistance (Harvard University Contract)

1. Quantity and Types of Long-term Technical Services

The quantities and types of technical services exceeded the planned levels. The services can be broken down as follows:

	Planned[1]	Actual[2]
Pediatrician	60 w/m*	61 w/m
Obstetrician/ Gynecologist	36 w/m	40 w/m
Nurse-Midwife	66 w/m	80 w/m
Public Health Nurse	36 w/m	43 w/m
Nurse Text Editor[3]	18 w/m	18 w/m
TOTAL	216 w/m	242 w/m

2. Timeliness of Services

Figure 1 is a graphic illustration of the timeliness of contractor services. The fielding of the ob/gyn and nurse-midwife team was delayed one year. As a result, contract activities related to maternal health services were postponed. This unplanned delay was probably fortuitous

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* Work/Months

[1] CUSS Revised Project Paper, September 22, 1978.

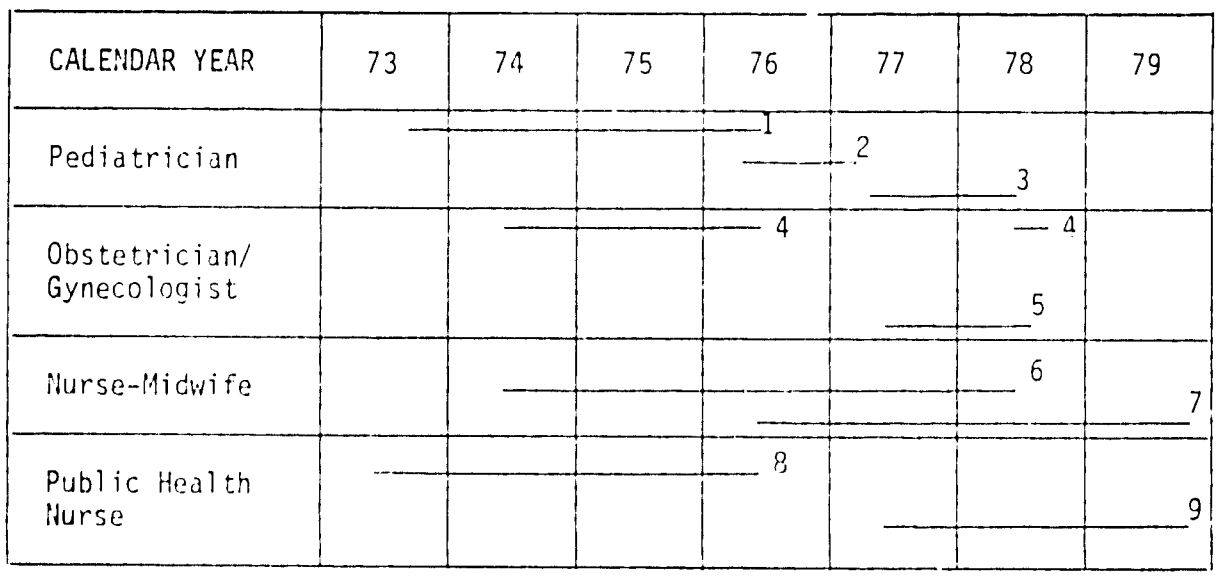
[2] Charles A. Janeway, M.D., Campus Coordinator, Harvard University Final Summary Report, April 23, 1980.

[3] One of the authors was a nurse text editor.

because it enabled the original team director, Dr. Guillozet, to arrange for housing, furniture, and other support services for the contractor's technicians.

Figure 1

TIMELINESS OF SERVICES



Code: [1] Dr. Noel Guillozet, Pediatrician, Team Director

[2] Dr. Rainer Arnhold, Pediatrician, Team Director

[3] Dr. Robert W. Chamberlain, Pediatrician, Team Director

[4] Dr. Pierre Drouin, Obstetrician/Gynecologist

[5] Dr. John J. Naponick, Obstetrician/Gynecologist

[6] Lise Cousineau, Nurse-Midwife

[7] Susan Colgate, Public Health Nurse and Midwife

[8] Nancy Garrett, Public Health Nurse

[9] Jeanne F. Carrière, Public Health Nurse, Team Director (final 18 months)

There was no continuous team direction after the departure of Dr. Guillozet in August 1976. Three different directors were appointed in less than three and one-half years.

There was a lack of continuity in the services of the obstetrician/gynecologist from mid-1976 to mid-1977.

The Harvard/CUSS campus coordinator had difficulty in recruiting well-qualified French-speaking physicians with the relevant experience for tours of two years or longer. This contributed to the problems described above.

Despite the deficiencies noted above, and considering AID's experience in filling French-speaking physician-specialist positions, the evaluation team did not consider the gaps in the contractor's technical physician services to be overriding deterrents to the accomplishment of the project objectives. The lack of continuity in team direction and other problems probably did more to slow progress or destroy effectiveness.

3. Quality of Long-term Technical Assistance

Without exception, the individual technicians had adequate and relevant educational qualifications and appropriate backgrounds for their assignments. All the technicians were fluent in the French language or acquired a sufficient command of the language after a few months at the post. Because most of the CUSS faculty and many CUSS students were at least partially bilingual (English and French), fluency in French, although desirable, was not essential.

These observations were based on:

--a report on a Wolf and Company evaluation, April 1977.

--reports by the Harvard campus coordinator; and

--interviews with relevant CUSS staff.

4. Backstop and Support Services on Harvard Campus

Dr. Charles A. Janeway, who was assisted by Mrs. Nancy Hurst, a secretary, served as Campus Coordinator during the Harvard contract. The continuity of backstop services was not interrupted. Dr. Janeway visited the Cameroon project three times. In the final year, his ability to travel was limited because of illness.

Although the use of short-term consultants had been anticipated in the original project agreement, only one such consultant (a Harvard hemotologist) was used. The use of more Harvard short-term consultants might have promoted more dynamic relationships between Harvard and CUSS. Backstopping services were limited to Dr. Janeway and his secretary, and no broad relationships between Harvard Medical School and CUSS developed.

As was noted in an earlier evaluation report,[1] contract technicians were not given an adequate pre-assignment orientation in their roles or in the strategy to interrelate and integrate individual inputs in child health and maternal services. The present evaluation team recognized these problems but believed they were related to interpersonal and coordination problems among the faculty or to questions about the direction of CUSS. Some of the difficulties were undoubtedly inherent in the process of changing existing patterns and concepts of health care in Cameroon.

5. Effective Use of Technical Services

Considering that 2[illegible] person-years of highly qualified technical services were expended on this project, the evaluation team concluded that the effective use of AID-furnished technical services was only fair to poor. The following are several reasons for the poor use of services.

- An inadequate project paper. The original project paper was revised in September 1978 (following the mid-term project evaluation in April 1977). Although the revised paper was based on a logical framework and on newer concepts of AID project design, it was written late in the project (after almost five years of activity) and was primarily a discussion of past events. It was also a justification for extending the project through the end of FY 1979 to complete a bilingual public health nursing text and to finance USAID's 25 percent share of the overrun costs ($845,000) for the CUSS Community Hospital.

- Lack of clarity about the purposes of the technical assistance; no clear understanding and advance agreement among USAID/Yaoundé, the Government of the United Republic of Cameroon (GURC), and CUSS on the roles of individual technicians and no long-term plans to coordinate and integrate inputs with overall CUSS policy and development objectives.

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[1] Herman L. Myers, MPA, Charles W. Dohner, Ph.D., and John L. Lucas, M.D., Evaluation of CUSS, Wolf and Company, April 1977.

The Harvard technicians were motivated by their professional interests, their relationships with their collaborators, the availability or lack of physical facilities, interpersonal relationships, organizational mechanisms, and administrative philosophy. Essentially, each technician worked on his own.

- Conflicting concepts, approaches, and methodologies. Conflicts among CUSS staff over the child care and pediatric elements of the Central Hospital at Yaoundé, where outpatient child health clinics were competing with other clinical services for extremely limited space and sparse resources, were intensive. There were problems with the organizational structure of MCH services and CUSS and MCH pediatricians split into two ideological groups, each headed by a senior pediatrician whose viewpoints differed from those of his colleagues.

  One CUSS faculty member, Dr. Nasah, was appointed by the Ministry of Health to head the Ob/Gyn service. Dr. Nasah and Dr. Drouin had an excellent working relationship from the beginning.

  Harvard technical services for maternity and child-spacing (family planning) services were more fully developed than child health services, at least at the Central Hospital in Yaoundé.

- Delay in constructing, equipping, and opening the new CUSS Community Hospital and long jurisdictional disputes over its control and operation. These disputes were not resolved until the summer of 1978. Although alternative facilities (including the CUSS Pavilion at the Central Hospital in Yaoundé, the CUSS Annex at M'Volyé, and the Bamenda Rural District Health Service) for teaching integrated MCH services were available, services, especially at the Central Hospital and at M'Volyé, posed numerous problems.

- Lack of interservice cooperation and collaboration between CUSS pediatric services and Ob/Gyn and pediatrics. The planning and development of integrated services for mothers and infants were hampered. These services were never successful, and Harvard's concept of an integrated team approach was not viable.

- Harvard technicians devoted much of their time and effort to providing direct services and teaching students at clinic sites. This may be because of the acute staff shortages within CUSS and a combination of other problems.

B. Participant Training

1. Long-Term Training

A sizable long-term participant training program for CUSS faculty was specified in the original project design. Planners estimated that $150,000 would be needed to support the program. They also thought the United States Medical School (the contractor for technical services) should be a base for some of the Cameroonian participant training.[1]

Wolf and Company reviewed CUSS and USAID/Yaoundé participant training records and noted in its mid-project evaluation that only three long-term participants had completed training in the United States as of April 1977. Among them were:

- One medical doctor specializing in animal physiology at Hunter College and the University of Pittsburgh. This person received a MPH degree and is a member of the CUSS Faculty of Basic Services.
- One nurse-educator who completed a year of training at Boston University and is working for a Ph.D. in nursing education. This person has not returned to Cameroon.
- One nurse-midwife who enrolled in a one-year general education course at Harvard University and who has MPH. This person returned early in 1980, but has not worked with CUSS.

The authors of the Revised Project Paper of September 1978 recognized that the long-term participant training program was inappropriate or at least over-programmed. The program was therefore modified and now includes short-term training, seminars and workshops, and visits to similar African training programs. Funding was reduced to $50,000.

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[1] Stephen C. Joseph, M.D., MPH, CUSS Project Manager, USAID Technical Assistance to the University Center for the Health Sciences/Yaoundé, USAID/Yaoundé, 1972.

2. Short-Term Training

Participant training had a limited impact on the development of CUSS faculty and has not expedited the achievement of project purposes. Only four participants received short-term training. Two nurse-midwives received 18 weeks of training in primary child and maternal health care at the Institute of Child Health, University of Lagos. One doctor received special training in the use of the laparoscope and research in the immunology of infertility at Harvard University and P. B. Brigham Hospital. The training lasted 90 days. The doctor is now chief of CUSS Ob/Gyn services. Another doctor spent approximately two months at Children's Hospital Medical Center, in Boston, studying advanced pediatrics. The doctor is now director of CUSS Community Teaching Hospital and will head pediatrics services.

C. Scholarships for Non-Cameroonians

Originally, $150,000 were allocated for scholarships; it was anticipated that approximately 25 percent of the CUSS graduates would be from other African countries. In September 1978, funding was reduced to $105,000 because of the low use rate reported in the April 1977 project evaluation. The availability of USAID scholarships had little effect on the outcome of the project.

1. Medical Students

Countries such as Gabon, Central African Empire, and the Congo indicated they would probably be interested in sending medical students to CUSS, but they later opted to build their own medical schools. Only seven medical students from other African countries thus attended the CUSS program. Of these, only five have been supported by project funds.

2. Nursing Students

More than half of the nursing students trained under CESSI have come from French-speaking countries in West and Central Africa.

Most of the scholarships for the graduate training of nurses from other countries were funded by WHO; no USAID funds were used. Continued support for these scholarships is not dependent on future AID resources.

D. Financial and Design Support for Construction of Family Health Outpatient, Pediatrics, and Maternity Wing in CUSS Community Teaching Hospital

1. USAID Grant

The USAID grant can be broken down as follows:

Original Grant	$1,925,000
25% of Cost Overrun	845,000
Design and Architectural Consultants	85,000
TOTAL	$2,855,000

2. Status

Construction of the hospital has been completed and equipment is being installed, but the hospital has not been officially opened.

E. AID Commodities

AID provided approximately $85,000 in commodities, including supplies and equipment for MCH demonstration clinics, laboratory supplies and equipment, books and teaching aids, and 120 fracture beds (surplus property). The funds can be broken down as follows:

1. First PIO-C

- Issued in 1976 $30,000
- Items ordered in 1977
- Arrived in Cameroon 1978
- Released to project 1978
- Contents: Equipment and supplies for MCH outpatient/demonstration clinic

2. Second PIO-C $20,000

- Issued in 1976
- Items ordered in 1977
- Arrived in country 1978
- Released to project first quarter of 1980
- Contents: Teaching aids (including movies, film strips, slides, and books) and small equipment (e.g., measuring tapes, Salter's scales, etc.)

Note: Items were not released to project for more than a year because CUSS failed to process the paperwork required to get items out of customs warehouse.

3. Third PIO-C $25,000

- Issued February 1, 1977
- Arrived last quarter of 1978
- Released to project first quarter of 1980
- Contents: Laboratory and outpatient supplies and equipment

Note: Items were not released immediately to project because CUSS failed to process the paperwork required to get items out of customs warehouse.

4. Fourth PIO-C $10,000

- Issued and ordered July 11, 1977
- Contents: 120 surplus fracture beds (paid freight only); 104 beds arrived summer of 1978 and promptly released; the remaining 16 beds which the shipper "neglected to put on the ship" arrived the first quarter of 1979, but have not been released. Dr. Mbédé is following up the problem.

Because of late orders and shipping delays, and delays in releasing items from customs, most of the commodities arrived near the end of the project period, too late to be of much use.

F. Summary of Total Inputs, All Sources*

The following is a summary of contributions from all sources.

WHO/UNDP $2,100,000

Faculty, training, scholarships, equipment

Canada (CIDA) $2,430,000

Construction of outpatient teaching facilities, Central Hospital, Yaoundé (CUSS Pavilion)

Faculty support

Construction of Public Health Unit building on CUSS campus

France (FAC) $6,870,000

Construction of CUSS Community Hospital	$3.4
Equipment for CUSS Community Hospital	3.3
Technical assistance	0.1

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* Project Paper (revised), September 1978, page 18.

TOTAL, Other Donors	$11,400,000
Inputs of Government of Cameroon	23,650,000
Life of Project Cost to AID	5,125,621
GRAND TOTAL, All Sources	$40,175,621

Outputs

Output No. 1: Statement

The CUSS maternal and child health demonstration program was launched and is an integral part of the medical training service and research program.

Indicators

A. MCH Clinics Organized and Functioning

1. Yaoundé

The following clinics were established in the Central Hospital in Yaoundé:

a. Prenatal Clinic

A prenatal clinic was first established in the CUSS Pavilion in 1974. In 1975 it was shifted to the offices of Dr. Nasah and Dr. Drouin, in the maternity unit at the Central Hospital. Dr. Drouin has left the hospital, but Dr. Nasah continues to direct the clinic.

The clinic provides routine prenatal care, health education, and family planning information. It gives women iron

and folic acid, identifies high-risk pregnancies, and immunizes pregnant women against tetanus to prevent neonatal tetanus in the newborn.

At the time of this evaluation, the clinic was still operating; attendance has been steady. The record of return visits is noteworthy. The clinic is an integral part of the teaching/training program in maternity services for fourth-, fifth-, and sixth-year students. The clinic operates daily during the hospital's regular working hours, 8:00 a.m. to 5:00 p.m.

b. High-Risk Pregnancy Clinic

Dr. Drouin and Dr. Nasah (Chief of the Maternal Health Services, CUSS) created the high-risk pregnancy clinic, opening it in the maternity unit of the Central Hospital in 1975.* The clinic has become an integral part of the teaching program for fifth- and sixth-year medical students and is used in the training and retraining of midwives. The clinic identifies and closely follows certain groups of pregnant women who are known to be high-risk patients when pregnant. Research studies showed that in non-prosperous patients, high-risk pregnancy occurs in 28.3 percent of all pregnancies and accounts for 66.4 percent of maternal mortality. The clinic made a major contribution by teaching medical students and midwives to properly identify, supervise, and manage high-risk pregnancies. Several other hospitals and maternity centers throughout the country have adopted the clinic's techniques.

CUSS medical graduates are instructed well in the concepts and methods of identifying and treating high-risk pregnant women. As these graduates gain more status and take on more responsibility for directing health services in Cameroon, it is expected that maternal and perinatal morbidity and mortality will be reduced.

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* High-risk patients have always been followed up, particularly in the midwifery clinics and maternity units in the area formerly known as West Cameroon. The term "high-risk" is itself new, having been coined in the United States approximately 10-15 years ago.

c. Postpartum Clinic

A postpartum clinic opened late in 1976 and became one of the regularly conducted clinics in the CUSS Pavilion of the Central Hospital. One of the service objectives of the clinic is to provide a gynecological checkup six weeks after delivery. The clinic was perceived originally as mainly a child-spacing and infant care clinic.

Although the clinic is still operating, it has never been as successful as other clinics, partly because it has not received much support from Cameroonian pediatricians. The Harvard technicians noted time and again in their reports the frustration they experienced when trying to coordinate the CUSS pediatrics and Ob/Gyn faculty.

d. Child-Spacing Clinic*

Despite the apparent pro-natalist policy of the Cameroon government and the concerns of some officials in the Ministry of Health about the political acceptability of family planning services, CUSS created, with the support of the Harvard technicians, a "child-spacing" clinic in the offices of Dr. Nasah and Dr. Drouin in 1975. In February 1978, the clinic was moved to the new CUSS Community Hospital, where it has operated to date. As of May 1980, the number of family planning acceptors was approximately 4,100. Continuation rates have been high. The clinic is conducted by five Cameroonian midwives, some of whom were trained by Ms. Lise Cousineau, a CUSS/Harvard midwife.

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* Considering the use of midwives alone, the family planning clinic could be thought of as an experimental service. In discussing what constitutes a "family planning" clinic, one must consider kinds of contraceptives accepted, kinds of patients, complaints following acceptance, reasons for adopting or changing contraceptive techniques, impact on family health, etc.

The clinic is now operating effectively without outside technical assistance. It is open three days a week and sees approximately 30 to 40 women at each session. Training services, including instruction, demonstration, and practice in IUD insertions, are offered to fifth- and sixth-year medical students. The students volunteer for training. Attendance is not required and only a few medical students (one or two a week) seek training in this clinic. Few senior medical students use the clinic because of scheduling conflicts. Some students have many responsibilities for acute medical care services. Moreover, it is a deliberate policy of Dr. Nasah to proceed slowly with family planning training and services so that progress in liberalizing policy and gaining official support for these activities is not jeopardized.

e. Infertility Clinic

Infertility among Cameroonians is a serious social problem. Prevalence rates of infertility are reported to be high in some parts of the country. The incidence of gonorrhea is high. Immunological factors also may be important.

Dr. B. T. Nasah opened an infertility clinic for males and females in 1972 and has continued it in his office in the maternity unit of the Central Hospital. Teaching and research activities, in which fifth- and sixth-year medical students participate, complement the family planning (child-spacing) program.

f. Well-Baby and Child Immunization Clinics

The first child health teaching clinic opened in October 1974 in the then newly constructed CUSS Pavilion at the Central Hospital. From the beginning it was

conceived as a teaching/demonstration unit offering integrated services for mothers and children, and not as a purely "under-five" or "well-baby" clinic. The teaching/training objective was to demonstrate to second- and third-year medical students and graduate nursing students the methodology and benefits of a comprehensive preventive program of family health services. Among services for the mother-to-be are supervision of pregnancy (antenatal care); immunization against tetanus (to prevent neonatal tetanus in the newborn); delivery; postpartum follow-up; and counseling in child-spacing. Child care services include nutrition and infant feeding; growth-weight curves; systematic immunization against diphtheria, whooping cough, tetanus, polio, and measles; and treatment of common, simple illnesses. The size of the clinic was limited so that the patient-load for the teaching program would be manageable. The bulk of MCH services is still provided through the heavily overloaded, non-integrated service of the PMI (Protection Maternelle et Infantile).

The concept implies active collaboration between Ob/Gyn and pediatrics services. Such collaboration never came about, reportedly because of a lack of interest and support from Cameroonian pediatricians and because there was virtually no inter-specialty cooperation.[1] Maternal services are offered separately in the maternity unit of the hospital.

The maternal and child health clinic gradually became a separate well-baby clinic offering immunization services. Despite the intention to keep the clinic small, the demand for infant services, particularly immunization, forced the clinic to enlarge, and specialists in other fields

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[1] Susan Colgate, Public Health Nurse-Midwife, Harvard Contract, Final Report of My Experience with the Project, September 1976 to December 1979.

complained that the large number of women (often 200-300) coming for child care and immunizations was disruptive. The CUSS Pavilion was perceived by most of the doctor-clinicians at Central Hospital to be a small referral clinic, to be used primarily for a limited number of consultations on unusual cases.

The specialists on the CUSS faculty viewed it as useful in teaching medical students about differential diagnosis and specialized treatment. The CUSS Pavilion was considered to be a teaching polyclinic, its facilities to be shared by all specialists.[1]

The CUSS/Harvard technicians who first occupied the Pavilion considered it to be primarily a facility for demonstrating and teaching the preventive aspects of MCH services. Given the different viewpoints about the Pavilion, conflicts over clinic schedules and complaints about the influx of large numbers of "normal" mothers and children were probably inevitable.

A compromise was reached eventually by holding the immunization clinic once a month on a Saturday morning when none of the CUSS professors was present. Immunization services, including vaccines, were provided by OCEAC (Organisation de Coordination pour la Lutte Contre les Endemies en Afrique Centrale), a Ministry of Health team. In 1978, the immunization clinic was moved to the new CUSS Community Hospital, where it now operates once a month. A Ministry of Health team directs the clinic.

The pediatrics staff of CUSS seldom attended the clinics, and services at the child health clinics in the Central Hospital were never integrated into the medical training services of CUSS.

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[1] Interview with Professor Jacob Ngu, Coordinator, Clinical Services, and Chief, Internal Medicine, CUSS.

2. M'Volyé

The CUSS Public Health Unit has been operating a family health program in M'Volyé, a suburb of Yaoundé, since 1972. A CUSS clinic offering maternal and child health services was located in a rented house in Efoulan, the largest village in M'Volyé. This clinic was near the Health Center/Maternity Unit of the Ministry of Health, but the so-called CUSS Annex operated as a separate functional unit. The Annex provided ambulatory care and preventive services to mothers and children. It did not provide inpatient services and depended on the MOH-operated Maternity Unit to deliver pregnant women and to refer high-risk pregnant women or women with obstetrical complications to the Yaoundé Central Hospital.

The M'Volyé program created a network of village health centers in existing structures (e.g., churches) and in simple buildings constructed by the villagers. The work of each of these centers was coordinated through a village health committee. Eleven such health centers and committees were established at different times and used to train third-year (and sometimes fourth-year) medical students and nursing students in community health.

In response to changing concepts and definitions of international health, the program was called "Family Health," "Community Health," and, more recently, "Primary Health Care." The basic approaches have, however, remained much the same. In recent years, the program has focused more sharply on village-level primary health services.

Partly because of their frustrating experiences in trying to establish preventive health services for children at the Central Hospital in Yaoundé, in 1974-1975, the CUSS/Harvard team (and particularly the pediatrician and public health nurse) began to concentrate on the M'Volyé program. They felt that integrated family health care could be provided more effectively in a defined, and more manageable, semi-rural community.

Despite a number of problems in establishing village committees and coordinating CUSS services with existing health centers and maternity units operated by the MOH, and despite the indifferent support of the CUSS pediatric and Ob/Gyn services, the M'Volyé program became a useful field-teaching/demonstration project for medical students and nurses.

In 1976, other problems emerged. With increased bus service between M'Volyé and downtown Yaoundé, excessive numbers of clients from Yaoundé flocked to the CUSS Annex at Efoulan. Large numbers of children were brought in for immunizations, and the caseload became unmanageable. This placed a strain on the CUSS staff, leaving them little time or energy for teaching. The Annex thus became a large-volume service unit, unable to provide child health services solely to a defined community with a limited population.

The man who rented the house for the CUSS Annex at Efoulan died in 1976. His widow wanted the house for other purposes and pressed CUSS for higher rents. In 1978 she began to build an addition, shutting off the only windows in the main room of the Annex. Finally, in June 1978, the Annex was closed.

Since 1972, health committees have been established in 11 villages. With the closure of the CUSS Annex at Efoulan, it was hoped that the community health teaching program would concentrate on village communities. This desire is expressed in Dr. Gladys E. Martin's 1977-1978 report on the M'Volyé program:[1]

> The closure of CUSS Annex M'Volyé is on one hand a good step, because it would cut down on the excess workload for non-residents and allow us to concentrate more on the four villages which are the farthest out, that have more old people and are more in need of our services. The students, on the other hand, will have more time and supervision in Primary Health Care, as well as some free periods for study.

Consistent with this change, Dr. Martin redefined the general objective of the redesigned program:

> To run a community-based service in such a way that students can acquire and apply knowledge, attitudes and skills necessary for the care of people in the community and also to undertake research. Since the emphasis has been on Primary Health Care in the past two years, a third objective was to assist the people to be more responsible for their health and live a healthy life.

In 1976, representatives of the 11 health committees in M'Volyé were asked to make available space for a health center and to select volunteers to be trained to assist with health-promoting activities. Only four villages (Ahala I and II and Nsimeyong I and II, the more remote areas) responded to the request. The M'Volyé Primary Health Care Teaching Program has concentrated on these areas since 1977.

The program involves third-year medical students and, to a lesser extent, nurses trained by the National Institute for Nursing and Midwifery

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[1] Dr. G. E. Martin, M'Volyé Family Health Project, Report for 1977-1978, University Center for Health Sciences, Public Health Unit.

Training (ENISFAY), which is outside the jurisdictional responsibility of CUSS. The nursing faculty of ENISFAY have occasionally participated in field-training activities. The nursing students of CESSI spend only three half-days in M'Volyé and, according to an interview with Mr. Noumssi André, the monitor for field-training, it is becoming increasingly difficult to get realistic experience there because the villagers are tired of answering the same questions and never getting a response to their expressed needs.

Sixth-year medical students have been posted to M'Volyé to help supervise and direct the activities of third-year medical students.

M'Volyé is essentially a demonstration area for teaching third-year medical students the principles and practice of community-based primary health care. The students learn to provide prenatal and well-baby care and immunizations,* to conduct nutrition demonstrations and other health education activities, and to visit homes. The third-year medical students are divided into three groups of about 15 each; they attend morning sessions that last 12 weeks. Students are assigned the families on which they prepare home-visit studies.

The M'Volyé community health program has suffered from a lack of sustained support from the more clinically-oriented staff on CUSS MCH services. Ob/Gyn faculty have been more supportive than pediatricians.

The M'Volyé activities have been conducted by the Dean's Office and the CUSS Public Health Unit, which is separate from the MCH unit. Public Health Unit staff and personnel of other services have had disagreements about the M'Volyé program, and relationships between the groups have been difficult. Conflicts have arisen because M'Volyé's place among field-training services has never been defined clearly.

In summary, the importance of the M'Volyé program has been in introducing third-year medical students to the concepts and methods of community health services. The program has not, however, fully realized its potential as a dynamic teaching demonstration area for comprehensive health care, including maternal and child health services. Its impact at this time is probably less than it was in earlier years. CUSS has not had complete control over its development, but certain problems could have been anticipated.

The success of the M'Volyé program has been hindered also by the common problem of defining a service population while trying to develop teaching/demonstration field programs in areas near urban centers. Furthermore, the community has been "burned out" or "blighted" by repeated processions

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* OCEAC provides the vaccines.

of students making health surveys. The villagers are becoming less and less inclined to cooperate.

3. Bamenda

With the cooperation and assistance of MOH preventive medical staff, the CUSS Public Health Unit has been operating a Health Care Team Demonstration (HCTD) training program in the Northwest Province since 1973.

Initially, all fourth-year (now fifth-year) students participate in a six-week HCTD program. The teams of students are assigned to health centers that serve a rural population of 5,000 to 20,000.

The stated basic philosophy of the HCTD program is "training of public health or community medicine workers together as a team will better prepare them technically and professionally to collaborate and achieve their common objectives of health care when they all qualify and are assigned to field duties." The objective of the HCTD program is to provide the training needed to acquire an understanding of and to develop the ability to organize and run integrated health services in rural areas.

The students are actively involved in the MOH health care system. They learn to provide elementary medical care (consultations); work in MCH clinics and laboratories; and analyze statistics.

The students train at one of the 10 established provincial health centers created for the HCTD training program. They help to operate a propharmacy; work with established village health committees; observe present primary health care workers; and acquire experience in communicable disease control (vaccinat , TB, and leprosy). They also acquire practical experience (assigned surveys) in the use of epidemiology and biostatistics.

This is a rather concentrated training program. The medical student serves as a member of a team composed of nursing, midwifery, and various other student health technicians. Teams are small (approximately four to eight students serve on a team), and their composition depends on the number and types of students available at a given time. The HCTD emphasizes team work. A required community project survey is completed, presented and defended, and graded as a team effort.

The HCTD is held in the Northwest Province and has the added advantage of being based in the most successful of the four operating DASP zones in the country. Extra MOH personnel and equipment are available and an active primary health care system has been established there.

The HCTD program is the best organized and most thorough field-training experience medical students obtain. All seven CUSS medical graduates interviewed by the evaluation team rated the training they received in Bamenda higher than that they received in M'Volyé and Mefou. Though satisfied with the "realistic" training, they thought they were expected to accomplish too much in the six weeks.* They had no difficulties training with other health students.

One member of the evaluation team who visited Bamenda conducted interviews on site, reviewed the literature, and talked with officials in Yaoundé. The HCTD appears to be an effective field-training program, and it is improving. Support from CUSS and in the Northwest Province is good. Most of the provincial medical supervisors for the HCTD are CUSS graduates themselves, and they understand and are committed to the HCTD program.

Much of the students' Bamenda training is in MCH. The Harvard/CUSS project staff did not help develop or evaluate the HCTD program.

B. MCH Instructional Objectives Defined

1. Background

CUSS was conceived to be and is an experimental model of a new type of health training institution that responds to the manpower needs and health problems of Cameroon and other African countries. It attempts to train health teams on one campus and often in the same teaching program. It operates under an integrated teaching system, often with great difficulty. Its research program is focused on the special health problems of a developing country in Equatorial Africa.

The organizational structure of CUSS is quite different from the traditional structures of faculties of medicine in Europe and the Americas. There are not typical departments or "chairs," and courses are not broken down into conventional subject areas (e.g., Internal Medicine, Pediatrics, Obstetrics and Gynecology, etc). All training elements are organized under three units: Bio-medical Sciences, Public Health, and Clinical Services. Although the organizational chart or organogram (Figures 2 and 3) shows that MCH services are organized under "Clinical Services," the Public Health Unit is responsible for most field instruction, which is

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* Actual field-training lasts approximately five weeks, sometimes less; transportation problems are common.

Figure 2

ORGANIZATION OF CUSS

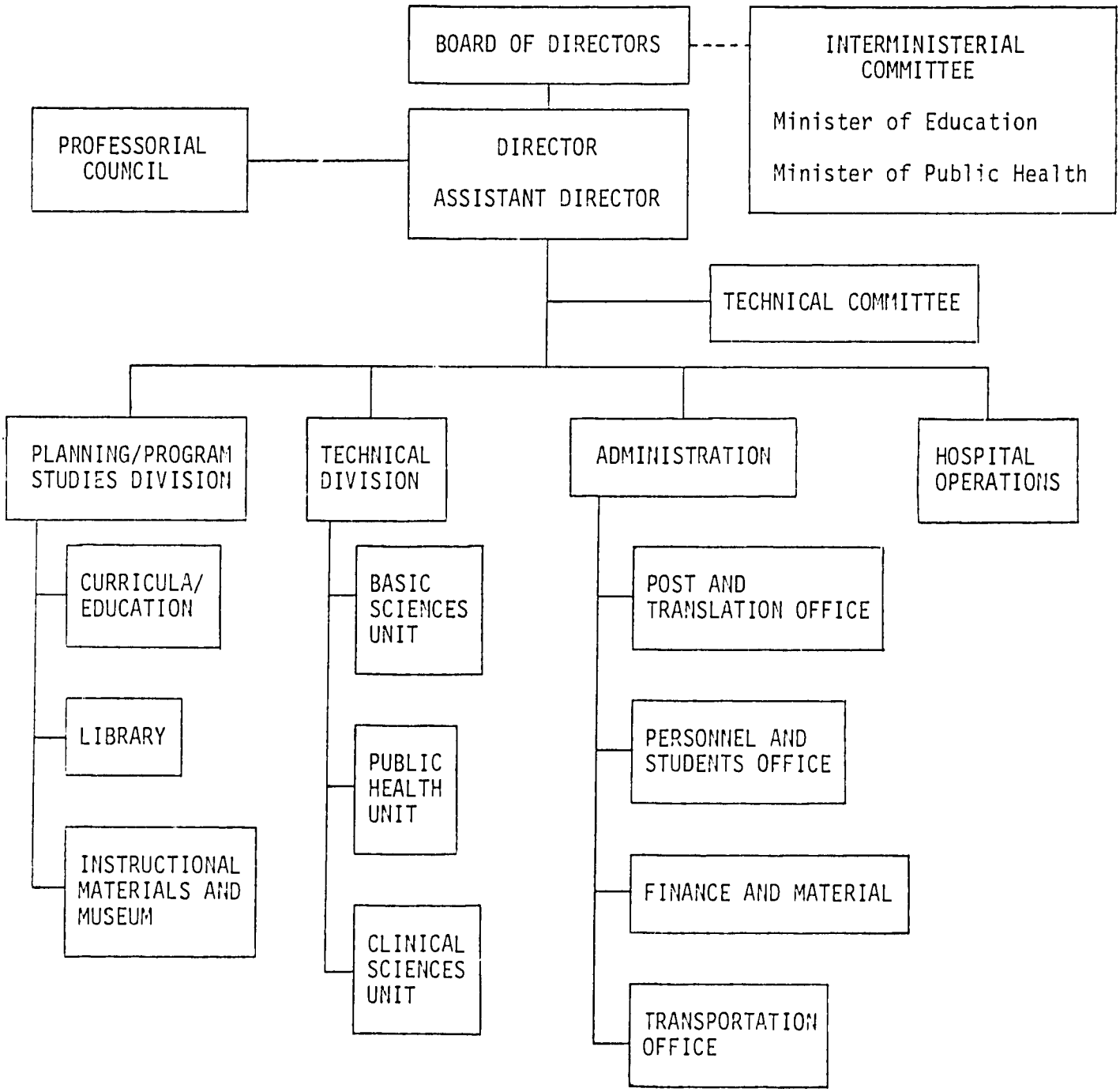
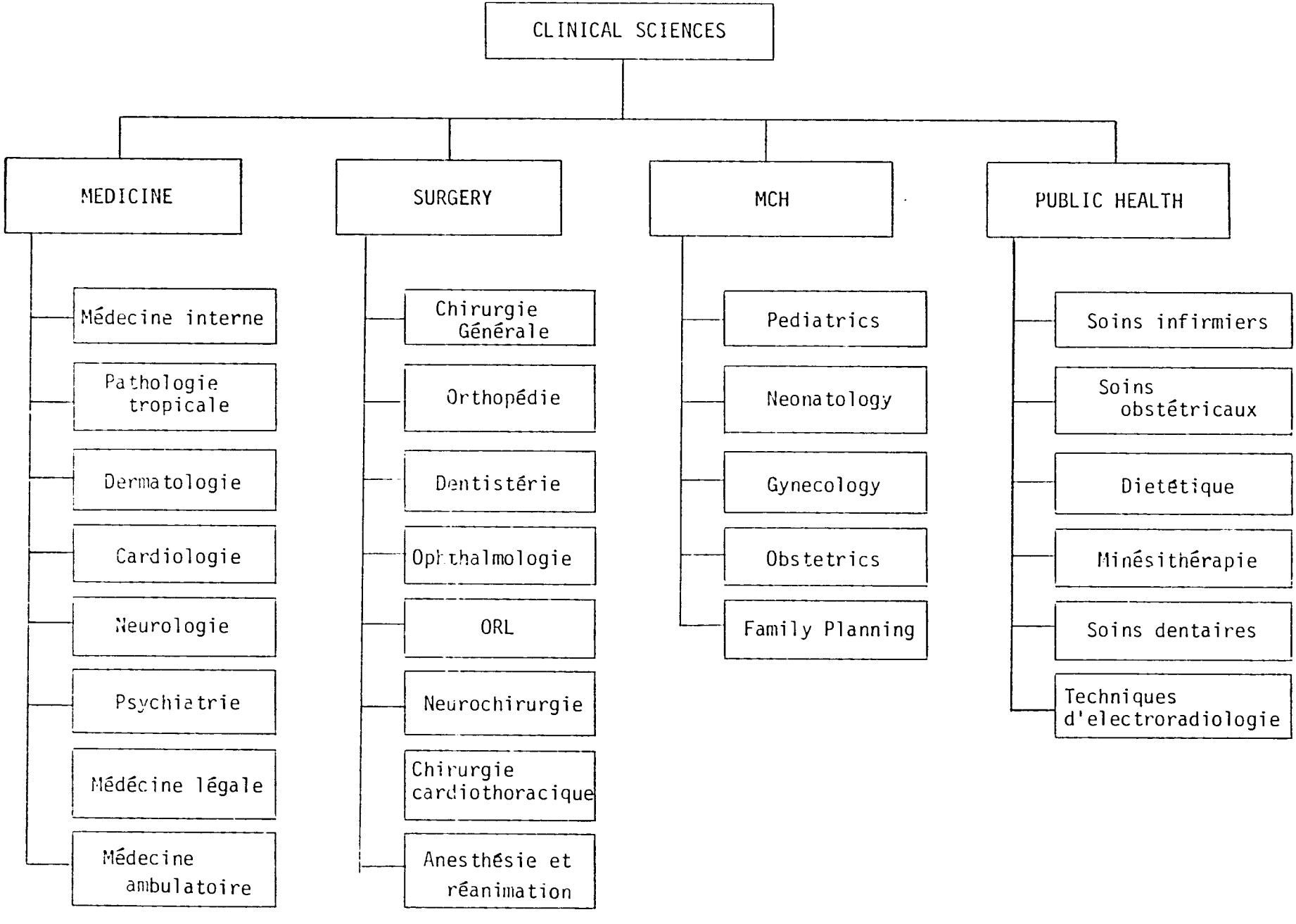


Figure 3

ORGANIZATION OF MATERNAL AND CHILD HEALTH SERVICES



correlated with instruction in the Bio-medical Sciences Unit. The health institutions operated and controlled by the Ministry of Health are responsible for most of the applied training.

Under this integrated system of training, MCH instructional objectives are consolidated with other training elements. However, since the major health problems in Cameroon and Equatorial Africa afflict pregnant women and young children, a large segment of the public health training program is devoted to MCH. The instructional objectives of public health reflect and include those of MCH. Moreover, the isolation of and emphasis on MCH as a teaching/training activity separate from the step-phased, integrated training of health personnel are not compatible with the institutional philosophy of CUSS.

CUSS is an experimental model. As with any experimental model, its precise instructional objectives and curriculum have tended to evolve rather than become fixed. However, overall training objectives have remained the same.

2. Instructional Objectives for Medical Students

The educational objectives for medical studies were defined in 1971 by Professor G. L. Monekosso, who was at the time the director of CUSS. Professor Monekosso defined the objectives after discussing them with members of the Council of Professors of CUSS and senior members of the Ministry of Health and Population, and after reviewing papers prepared by CUSS staff. The papers contain particularly interesting sections on the attitudes towards, skills in, and knowledge of public health. (See Appendix D.)

The team was impressed that the instructional objectives emphasized community health, preventive medicine, health assessment, and promotion.

3. Curriculum for Medical Students (Six-year Program)

The most recent ministerial order, Order Number 551/B1/619/MINEDUC/DES, September 19, 1977, specifies study programs, timetables, and examination dates. (See Appendix E.)

4. Proportion of Curriculum Devoted to Public Health

Within a broad curriculum (see Appendix E), the amount of time devoted to the study of public health, including maternal and child health, is as follows:[1]

Year of Study	Main Subject Areas	Hours
First Year (Total of 840 Hours)	Man and His Environment (10 themes)	240
	Medical Psychology and Sociology	30
	Nursing Care and First Aid	30
	Concepts of Health and Sickness	60
	Total	360
Second Year (Total of 870 Hours)	Health Education and Applied Statistics	90
	Anthropometry ("Examination of Well-Babies' Growth and Development")	90
	Total	180
Third Year (Total of 960 Hours)	Practical Clinical Work (Community Health, etc.) Total	400
Fourth Year (Total of 1,040 Hours)	Practical Work	
	--Pediatrics	140
	--Obstetrics and Gynecology	140
	--Community Health	140
	--Industrial Health	80
	--Mental Health	80
	Theory	
	--Mothers and Children	80
	Total	660

[1] Ministry of Education, Arrete No. 551/B1/619, September 19, 1977.

Year of Study	Main Subject Areas	Hours
Fifth Year (Total of 1,080 Hours)	Practical Work	
	--Community Medicine	140
	--Pediatrics	140
	--Obstetrics and Gynecology	140
	Theory	
	--Ob/Gyn	40
	--Pediatrics	40
	--Research Methodology	40
	Total	540
Sixth Year (Total of 12 Months, or 1,920 Hours)	Integrated Health	
	--Services in Rural Hospital (4 Months)	640
	--Pediatrics, Ob/Gyn (Central Hospital, Yaoundé)	220
	Total	860

5. Instructional Objectives for Nursing Students (Two-year Program)

The instructional objectives for CESSI, and for the nursing and midwifery training components of CUSS, are set forth in "Programme D'Enseignement (Training Program) Plan/CC/CESSI/NO.46/ST.H/SEPT/1975." (A summary, in English, of the relevant sections of this document is included as Appendix F.)

6. Harvard/CUSS Contributions to MCH Curriculum and Instruction

The Harvard/CUSS staff were not significantly involved in designing the curriculum. However, both Dr. Drouin and Dr. Guillozet had served on the CUSS Curriculum Revisory Committee. Their active involvement in the teaching program at Central Hospital and in M'Volyé undoubtedly helped to strengthen and reinforce practical training in MCH services (added to the 1977 curriculum). The emphasis on practical training in MCH is particularly evident in the fourth- and fifth-year of the medical student training program, when 420 hours of practical training in community health,

pediatrics, and obstetrics and gynecology are included in the fourth- and fifth-year programs lasting 1,040 hours and 1,080 hours, respectively.

C. Teaching Activities of Harvard/CUSS Staff

All members of the Harvard/CUSS team were involved in teaching/demonstration activities for medical students. Pediatricians and public health nurses concerned with child care conducted activities for third-year students; 400 hours were allocated to practical work in clinics and community health programs. This training was focused in the ambulatory services unit in the CUSS Annex in the Central Hospital in Yaoundé and in the M'Volyé Community Health Program.

Obstetricians/gynecologists taught third- and fourth-year medical students in the pre- and postnatal clinics and fifth- and sixth-year students in the high-risk clinics and delivery services ward at Central Hospital. At the CUSS Annex in M'Volyé, they also were active in teaching students about the maternal health aspects of the program.

In addition to improving the teaching program in maternity and ambulatory services for pregnant women, the nurse-midwife trained five Cameroonian nurse-midwives who are now operating the child-spacing clinics without external assistance.

Teaching activities reached a peak between CY 1974 and CY 1977. After 1977, teaching efforts were somewhat curtailed because time was needed to write the public health nursing text and to complete other activities. Each trimester, from 1974 to 1977, Ms. Colgate taught courses in the normal evolution of pregnancy, newborn examination, prenatal care, the use of growth-weight charts, and early infant development. Third- and fourth-year medical students (EM 3 and EM 4) attended her classes. Ms. Colgate also gave a 15-hour course in "Educational Psychology" and a 20-hour course in "Psychology in Nursing" in the first year of the CESSI program. Ms. Carrière gave each trimester four-hour lectures in "Studying a Family from a Health Viewpoint" and "Home Visiting." Nearly every week she accompanied EM 3 students to M'Volyé, where they participated in primary health care training exercises.

The pediatric public health nurses who were on the Harvard team committed much time and effort to child health teaching/demonstration activities for students in Yaoundé and M'Volyé. Unfortunately, many of the teaching/demonstration units they set up have become less active in the last few years. Nonetheless, the nurses' efforts have had an impact; the attitudes, knowledge, and concepts of the medical students who attended CUSS during this period are being passed on, and permanent improvements in maternal services have been made, thanks to the continuity in directing this service.

D. Introduction of Innovative Teaching Methods and New Concepts

There is little evidence that the Harvard/CUSS team introduced many new or innovative teaching methods. They did introduce (or reinforce existing interests in) several new concepts which have been incorporated into the regular MCH teaching and service programs at CUSS. The new activities are listed below.

1. Maternal Services

1. Identification and special management of high-risk patients in Obstetrics.

2. Use of the partogramme (Friedman Curves) to monitor closely the progress of labor and to reduce maternal and perinatal mortality.

3. Acceptance and promotion of the idea of child-spacing to reduce the number of unwanted pregnancies.

4. Introduction of the concepts and methods of examining and working-up males in the study of infertility problems.

5. Training and use of nurse-midwives to conduct family planning (child-spacing) services, including the insertion of IUDs.

6. Introduction of the concept of the post-partum clinic, where student doctors and midwives learn and practice postpartum gynecological skills; examination of the newborn; family planning counseling; and management of lactation.

7. Introduction of improved methods of re-suscitation and life-support measures for care of newborns in the delivery room.

8. Introduction of the "no-touch" method of IUD insertion.

9. Improved sanitary conditions and importance of asepsis in the delivery room.

2. Child Health Services

1. Introduction of the concept of well-baby clinics and the importance of preventive services for children and health education of mothers.

2. Use of the growth-weight curve to monitor infant development and early recognition and management of malnutrition.

3. Nutrition education by demonstration in well-baby, prenatal, and postpartum clinics.

4. Establishment and use of a small out-patient laboratory to support ambulatory services for mothers and children.

5. Use of malaria suppressives for high-risk mothers, infants, and young children.

6. Early use of oral electrolytes to treat diarrheas.

7. Introduction of the health team approach to community services for mothers and children.

E. Research Activities

The CUSS/Harvard team prepared either alone or with Cameroonian assistance 22 publications. (See Appendix I.) Approximately 250 theses were completed by medical students as a requirement of the medical education curriculum.

1. Medical Students' Theses

Fifty theses written between 1975 and 1979 were reviewed and classified by major subject area(s) and acknowledgment of assistance from Harvard/CUSS team members. The results are summarized in Tables 1-4.

2. Independent Study Reports of Nursing and Midwifery Students

The team examined a sample of 50 studies conducted by student nurse-midwives at CESSI. The results are summarized in Tables 5-7.

Table 1

SAMPLE OF MEDICAL STUDENT THESES
(Distribution of Sample by Year)

	Academic Year				
	1974-75	1975-76	1976-77	1977-78	1978-79
Number of Theses Sampled (50)	11	10	14	13	2

Table 2

MAJOR TOPICS OF MEDICAL STUDENTS' THESES

Major Subject Area	Number of Theses
Clinical or Biomedical	13
General Public Health Service	14
Maternal and Child Health	23
TOTAL	50

Observations

- 46 percent of medical students in sample selected a topic in MCH.
- 74 percent of the students selected a topic in either public health or MCH.

Table 3

MEDICAL STUDENTS' THESES: MCH TOPICS
(By Field of Interest)

Field of Interest/Topic	Number of Theses
Child Health:	
• Factors Related to Neonatal Deaths	5
• Epidemiology and/or Control of Communicable Diseases	5
• Nutrition or Related Subjects	3
Subtotal	13
Maternal Health:	
• Factors Related to Prenatal Period	5
• Factors Related to Delivery Period	2
• Child-Spacing and Infertility	3
Subtotal	10
TOTAL	23

Table 4

MEDICAL STUDENTS' THESES:
ACKNOWLEDGMENT OF HARVARD/CUSS ASSISTANCE

MCH Field	Number of Theses	Number with Acknowledgment	Percentage with Acknowledgment
Maternal Health	10	7	70
Child Health	13	5	39

Observation/Conclusion

Members of the Harvard/CUSS team contributed substantially to the preparation of medical students' theses.

NOTE: Higher acknowledgment in maternal health can probably be attributed to the close collaboration between Dr. Drouin and Dr. Nasah; in nearly every report, they were acknowledged together. In the reports on child health services, students acknowledged only individuals.

Table 5

CESSI FIELD STUDY REPORTS
(Sample Distribution by School Year)

Academic Year	Number of Reports*
1975-76	7
1976-77	24
1977-78	19

* Total Sample: 50 reports

Table 6

GROUPING OF CESSI FIELD STUDY REPORTS
(By Major Field of Study)

Major Field of Study	Number of Reports
Hospital- or Clinic-based Nursing/Midwifery	28
General Public Health	8
MCH Services	
Maternal Health	7
Child Health	8
TOTAL	50

Observations

- 23 (46%) of nursing-midwifery students selected a topic in general public health or MCH services.
- 15 (30%) selected a MCH-related topic.

Table 7

CESSI FIELD STUDY REPORTS ON PUBLIC HEALTH AND MCH:
ACKNOWLEDGMENT OF HARVARD/CUSS ASSISTANCE

Area of Study		Number of Topics	Acknowledgment
General Public Health		8	2
• Administration of Community Health Services	2		
• Manpower Assessments and Utilization	3	Ms. Carrière	
• Community-Based Nursing/ Midwifery Training	3		
Maternal Health		7	1
• Health Manpower Training and Utilization (Maternal Services)	3	Dr. Drouin	
• Obstetrical Care and Management of Delivery Services	4		
Child Health		8	1
• Well-Baby Supervision, including nutrition	5		
• Training and Utilization	2	Ms. Colgate	
• Immunization Program (sterilization of syringes)	1		
	Totals	23	4

Observations

- Subject areas reflect CESSI curriculum emphasis on planning, training, and administration of nursing and midwifery services and health manpower questions.

- Harvard/CUSS assistance acknowledged in 18 percent of the reports (4 citations in 23 reports); the percentage is lower than that for medical students.

CESSI: Subject areas less related to Harvard/CUSS technical assistance team's primary emphasis on teaching and demonstration in MCH service units.

F. Instructional Materials, Training Aids, and Equipment

The lack of appropriate teaching material, training aids, and demonstration/practice equipment has severely handicapped the project. The various items were ordered but arrived too late to be of use.

The CUSS/Harvard staff appreciated the problem and tried to use the funds available to them to develop appropriate teaching/demonstration materials. For example:

- Part of the project funds were used to purchase books on MCH for the CUSS library.
- Appropriate reference texts were chained in place in the students' on-call rooms in the maternity unit/pediatrics ward and at the CUSS Pavilion in Central Hospital.
- Equipment was purchased for a small student laboratory in the CUSS Pavilion.
- Flip charts for the MCH health education program were designed and printed at the M'Volyé AMA (Atelier de Materiel pour L'Animation) workshop. (These materials are now widely used at CUSS and in health service areas throughout Cameroon.)
- Simple teaching and health education hand-outs in MCH were designed and reproduced. Among them were:

  --clinic records;

  --course outlines for EM 3 students;

  --rules for protecting mother and child at time of labor and delivery;

  --immediate care of the newborn;

  --resuscitation of the newborn;

  --care of the newborn after resuscitation;

  --use of the partogramme; and

--instructions for women in the use of contraceptives and expected side effects of the different methods.

Among the more comprehensive, wide-reaching teaching materials produced were:

--The Nurse and Community Health in Africa, a textbook in French and English;

--a manual on maternal health care and family planning for African paramedical workers, written by Ms. Lise Cousineau, reportedly published with funds from Pathfinder; and,

--a text on material and child health care in the tropics, a joint project of Dr. B. T. Nasah, Dr. P. Drouin, Dr. J. Mbédé, and Dr. G. Martin (under revision).

G. The Community Nursing Textbook

The Nurse and Community Health in Africa* was written by Susan H. Colgate and Jeanne F. Carrière, members of the Harvard/CUSS team, in collaboration with Damaris Mounlom, Director of the National Nursing and Midwifery School in Yaoundé, and Miriam Jato, Community Nursing Instructor, CUSS. It was published in 1979 by Editions CLE Yaoundé. The 350-page textbook is presumed to be the only textbook in English and French written specifically for the community health nurse in Africa. The task of the evaluation team was to determine how widely the book has been circulated and used.

The first English and French editions (2,000 copies of each) were published in September 1979. USAID/Yaoundé sent approximately 1,000 copies, at no cost, to all other USAID missions in Africa. Editions CLE, the publisher, sent another 1,000 copies to nursing schools, medical schools, midwifery schools, ministries of health, etc., in Africa, Europe, and North America. In a letter dated May 28, 1980, Editions CLE reported the following additional sales on the commercial market:

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* The French translation is L'Infirmier et la Santé Communautaire en Afrique.

	French Edition	English Edition
Nigeria	2	3
Congo	10	
Gabon	3	
Ivory Coast	2	60
Togo	100	
Benin	50	
Cameroon	141	40
France	200	
Canada	1	
Total	509	103

Given its limited time and travel schedule, the evaluation team was unable to determine how well used the textbook is in Cameroon. The book is well regarded and has been adopted as an essential text in teaching programs for nurses and midwives. It appears, however, that Editions CLE has not widely distributed the English edition in the anglophone areas of Cameroon. Because Editions CLE is primarily a francophone company, it may not be accustomed to distributing its books to English-speaking areas. There is, evidently, an unmet demand for the English text in these areas. The price of the book, 1,800 CFA, does not appear to be discouraging its sale.

H. Development of CUSS Faculty

As of May 1980, 44 Cameroonians were serving full-time on the faculty. The breakdown of the faculty is as follows:

- Medical Schools (34)

Full Professors	13
Senior Lecturers	7
Lecturers	14

- Nursing School (CESSI)

(All Nursing Teachers)	6

- Technician School (CETS)

(All Instructors)	4

In addition, there are a number of part-time instructors in all programs.

The size of the faculty has increased significantly since 1970, when only seven faculty were serving the program. CUSS is at this time probably self-sufficient. The need for additional faculty can probably be met by providing continuing education for and developing graduates of the program.

I. Coordinating Mechanisms

1. Coordination Within CUSS

The organizational structure of CUSS is shown in Figure 2, page 33. The location of MCH within that structure is shown in Figure 3, page 34. Maternal and Child Health Services is part of the unit called Clinical Services. This section has no "Head" or "Chief." In fact, MCH services is nothing more than a series of teaching and service programs and a concept. MCH teaching/demonstration activities are offered at different training sites (e.g., CUSS Pavilion; Maternity Unit or other service wards in Central Hospital in Yaoundé; health centers in M'Volyé; health services in Bamenda; divisional and district hospitals throughout Cameroon). "Coordinators" who are not necessarily the nominal heads of the clinical or community health services in these various institutions conduct the teaching programs.

The idea of creating the teaching program was described by Dr. G. L. Monekosso in 1971 in "The Beginnings of the University Center for Health Sciences - Yaoundé, Cameroon."* Some relevant excerpts from this paper follow.

> The University Center for Health Sciences is not a traditional faculty of medicine, conforming to the well-known model that has served many technologically advanced countries for decades or centuries. The system of 'chairs' independent of local needs and not necessarily sensitive to local aspirations has been abandoned . . . .
>
> The Director of the Center has the status of a University Dean; he is assisted by a Deputy Director, like him a full University Professor and a Secretary General (a lay administrator). There are no Departments, so that all teaching staff

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* A copy of the paper was attached to the first project paper.

(Professors, Associate Professors, Lecturers, and Assistant Lecturers) form part of one pool of knowledge and skill. There are three main Divisions or Units, representing the attitudes and skills to be imparted in varying degrees to students, pursuing different courses; each is headed by a Coordinator who is responsible to the Director for the every-day supervision of the service personnel and equipment and also for the development of the Units. These are:

(1) Bio-medical Sciences Unit;
(2) A Community Hospital Unit; and,
(3) A Public Health Unit.

Each Unit is housed in a specifically designed building. All teaching staff, however, are responsible administratively to the Director.

The organization of teaching is in the hands of the Moderators who perform the tasks of deans. These Moderators consult with the most appropriate teachers for various aspects of the integrated teaching programs, act as conveners of the teaching committees, and collaborate with the coordinators of the Units in the implementation of the agreed timetables. They are also responsible to the Council of Professors for planning and organizing examinations.

The administrative structure has persisted with only minor changes. The word "coordinator" is frequently used in place of "moderator" to designate a faculty member responsible for a teaching program. Since most of the faculty are "coordinators" in this sense, the term, as it applies to the head of one of the three main units of the so-called Technical Division, has little meaning. Although a "Nominal Chief" heads the Technical Division, program coordinators usually take their problems directly to the director. Originally designed to be highly decentralized, the system has from the onset been strongly controlled by the central director. Curricular matters and questions about examinations are taken up by the Professorial Council. The Curriculum Education Section and the Planning and Program Studies Division do not in fact exist.

In 1975 and 1976, Harvard/CUSS obstetricians/gynecologists and pediatricians tried to set up an "integrated" program of maternal and child health services which called for direct collaboration among the chiefs of the two relevant clinical services at the Central Hospital in Yaoundé. Their plan violated the CUSS principle of coordinating all teaching programs through moderators; clash with the director of CUSS was, therefore, inevitable.

Donor agencies supporting or participating in CUSS projects or programs must fully understand and appreciate the dynamics of the administrative and management structures of CUSS. The orchestration of CUSS programs under the present system is extremely difficult; there is no conventional line of control or command, such as one might find in a classical western medical school. Most of the interpersonal conflicts between doctors and other senior staff are attributable to the system. Furthermore, the "lack of coordination or cooperation," noted in all the reports of the Harvard/CUSS staff, was probably inevitable. It is questionable whether the CUSS administration is manageable, and whether CUSS can maintain over the long term a well-qualified professional staff willing to forego the benefits and status usually associated with a teaching position at a university medical school.

2. Coordination Between CUSS and the MOH

There are a number of formal and informal mechanisms for coordinating CUSS activities with the Ministry of Health, as the following examples indicate.

- The Interministerial Committee is composed of representatives from the Ministry of Health, the Ministry of Education, and CUSS. It meets infrequently (usually once a year) to set the general policy carried out through the CUSS Board of Directors.

- Until recently, a senior member of the Ministry of Health was a permanent participating member of the Board of Professors (also called the Professorial Council) of CUSS. This person did not, however, attend any meetings of this board in the past year.

- CUSS uses MOH facilities and services throughout the country to train its students. The MOH often appoints a CUSS senior faculty member as chief of clinical and field services. For example, Dr. Nasah, CUSS Coordinator for Maternal Health Services, is also Chief of the Obstetrics/Gynecology Department of the MOH-operated Central Hospital in Yaoundé. Dr. Mbédé, CUSS Coordinator for Child Health Services, is also Director of the new Community Teaching Hospital and will be Chief of the Department of Pediatrics when the hospital opens. The hospital will be under MOH control.

- Ministry of Health field service personnel often serve as the instructors, supervisors, and collaborators of CUSS medical, nursing, and technician students engaged in field work (e.g., HCTD program at Bamenda).

- MOH personnel often attend and participate in seminars organized and conducted by CUSS (e.g., the Howard University seminar held in the fall of 1979).

- CUSS faculty often attend and participate in seminars organized and conducted by the MOH (e.g., "Seminar on Health Management," held each year for the last three years).

- Several MOH personnel are part-time CUSS lecturers or teachers mainly in nursing and technician training (e.g., laboratory, dentistry, nursing administration, environmental sanitation, industrial health).

- CUSS faculty members often serve on national study committees and commissions established by the MOH. Among these committees are:

  --National Nutrition Survey;
  --Abortion Committee;
  --Committee on Traditional Medicine; and
  --Committee for Practical Training in Health Education.

- Evaluations are often joint efforts. For example, MOH and CUSS staff completed the "Evaluation of Health Services Delivery" and the "Evaluation of CUSS Medical Graduates."

3. Coordination Between CUSS and Donor Agencies

The main mechanism for coordinating activities of CUSS and donor agencies was the Technical Committee. Most donors have completed their products or made their contributions, and the committee is at this time inactivated. (It was described as "dead.")

All Harvard/CUSS team leaders attended meetings of the Board of Professors. Other members of the Harvard team were also invited, depending on the topic under discussion.

The service units were responsible for collaboration among donor technicians and coordination of their activities.

Despite its atypical administrative structure and institutional training philosophy, CUSS has a substantial number of coordination mechanisms.

The formal organizational chart (organogram) does not accurately reflect the chain of command, or the interrelationships of the various units within CUSS. Nor is it useful in identifying the relationships among CUSS, the MOH, and donor agencies.

Each institution employs the other's staff. CUSS and MOH personnel provide reciprocal health delivery/teaching services or take part in joint studies, seminars, and evaluations. Collaboration and coordination are practiced and are more evident than formal structures would indicate.

Output No. 2: Statement

Family health outpatient and pediatric facilities have been built and have become an integral part of the CUSS Community Teaching Hospital.

A. Status

At the time of this evaluation, May 1980, the construction of the hospital had been virtually completed. The child-spacing clinic was operating three days a week in the outpatient services unit. It was reported that 300 to 400 children were being brought to the monthly immunization clinic operated by a Ministry of Health team.

Jurisdictional disputes were resolved by establishing a joint Ministry of Education, CUSS, and Ministry of Health Coordinating Committee. The Medical Director (Dr. Mbédé, a pediatrician on the CUSS faculty) has been selected, and he is working diligently to get the hospital in shape for operation. He is checking on the status of equipment, establishing housekeeping and maintenance services, planning for engineering plant support, etc.

B. The Physical Plant

There is no question that the hospital is too elaborate and too sophisticated. In no way can it be considered typical of the divisional or district community hospitals in which CUSS graduates will be working. As has been documented in other reports, the hospital is overly dependent on air conditioning, central suction, and steam and oxygen systems and has highly sophisticated laboratory and diagnostic equipment, as well as a videotape television network with projection for students in surgery, etc.

The Feasibility Report[1] submitted in 1971 or early 1972 included a section called "Program Philosophy, United States Project Scope." The author wrote:

> One of the more difficult problems that needs to be resolved under this category is the degree of sophistication which would be realistic to plan in the CUSS physical plant (i.e., the Community Teaching Hospital Unit), considering that the trained health personnel graduating from the school will be to a great degree practicing their professions in bush hospitals. This problem may or may not affect the physical plant, but the philosophy should be thoroughly understood by both the hospital consultants and the architect to see if any basic architectural, conceptual relationships need to be incorporated into the functional scheme.

The author of the report, Jerold Williamson, suggested that the AID mission monitor costs and carefully assess the engineering and maintenance requirements of the plant so that indigenous capabilities alone would be sufficient to maintain the hospital. Apparently, these points were overlooked when the hospital was being designed and constructed. Why these points were overlooked is unclear. Multi-source funding and the participation of various agencies in the planning and construction of the hospital may have been two reasons.

The service units for which AID was responsible--the ambulatory service and the inpatient maternity and child care units--are not overly elaborate. The main over-elaboration occurred in the support units of laboratory, intensive care, X-ray, the surgical block, and in the general design, which required air-conditioning for most of the hospital.

Building maintenance and housekeeping services appear to be good. The unit is not deteriorating

Additional information on the construction of CUSS Community Hospital can be found in a report by Mr. Siewe, Engineering Assistant, USAID/Yaoundé. (See Appendix G.)

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[1] Jerold E. Williamson, Feasibility Report on the University Center for Health Sciences, Final Report, AID Contract PIO-T 698-166-3-6113060; undated (probably submitted in 1971). Mr. Williamson, an architect, lives at 9220 Villa Drive, Bethesda, Maryland, 20054.

C. Significance of Delay in Opening Community Hospital and Impact on Project Objectives

At the entry conference, the director of the USAID/Yaoundé mission, James Williams, asked the team to determine to what extent the delay in opening the hospital has affected the achievement of objectives and to review the plans for using the hospital. The team's response follows.

The original CUSS design called for three on-campus teaching services: a Public Health Unit, a Community Hospital Unit (now known as the Clinical Services Unit), and a Bio-medical Sciences Unit. The Community Hospital, with 150 beds and expanded ambulatory care facilities, was to be the on-campus base for the faculty of the Clinical Services Unit, which would provide integrated curative and preventive services. Maternal and child health services were to be emphasized to foster a coordinated approach to clinical medicine and community health. In a broader sense, the hospital was to be a referral center not for the population in the immediate area, but for approximately 30,000 people who were living in isolated communities in the heart of the national territory.

To date, no one has been able to clearly define the service area. If services were to be limited to a geopolitical area of Yaoundé, how would they be limited to people from that area? If the hospital was to be a national referral center supporting rural field units, from what population or geopolitical areas would patients be referred? How would these areas be delineated? There may be no answers to these difficult questions.

The evaluation team believes the original planning concept was flawed. Questions about the service area were not answered; the technical problems in managing a complex, sophisticated unit were not considered; the hospital was built without sufficient regard for available staff or operating funds. (The operating budget will probably exceed $2,000,000 a year if the hospital is operated properly.) Construction and engineering problems are minor, compared to these problems, which have delayed the opening of the hospital.

The Community Hospital Unit was scheduled for completion in 1974. Because its opening was delayed, the project had to depend on other existing facilities, principally the antiquated and cumbersome Central Hospital in Yaoundé.

The Harvard/CUSS team had the difficult task of setting up demonstration/teaching facilities in the huge and over-burdened Central Hospital, the staff of which are primarily treatment-oriented. The team had many problems (described elsewhere in this report), many of which, the team believes, would have occurred even if the Community Hospital Unit had been operating in 1974.

The problems in coordinating teaching elements are closely related to the CUSS philosophy and to its administrative and management structures, which are atypical and tend to strain staff relationships.

Had the opening of the Community Hospital not been delayed, the more "progressive," public-health-minded pediatricians might have been isolated from the more "resistant," hospital-treatment-oriented factions. This is conjecture; the ideological conflict at Central Hospital only emerged during the project's life. In 1974, it is probable that similar conflicts would have erupted at the new Community Hospital.

The problem of defining the service area for the new hospital (Which 30,000 people? Where?) has not been resolved. It may not be worthwhile to try to solve it.

Because the more sophisticated new hospital was not available, CUSS students had to struggle within the existing hospitals in Yaoundé and the provinces. After completing their work in these hospitals, they were probably better prepared to cope with the realities of their later experiences.

D. Future Plans

Dr. Mbédé, the pediatrician who directs the hospital, outlined for the team the short-term plans for the Community Teaching Hospital.

1. General Services

Appropriate service facilities and basic equipment are to be used and the more sophisticated equipment set aside for later development to reduce the high cost of medical evacuation to France or other countries. Dr. Mbédé believes that the savings from medical evacuation to Europe of more complicated cases will offset the cost of operating certain well-equipped specialty units. He also thinks that, given the need for continuing education for a limited number of Cameroonian medical specialists, development of several highly technical units, although it would contradict the original purpose of the hospital, is justified. Dr. Mbédé believes that both activities are possible and can be undertaken without losing sight of the primary emphasis on teaching students to deliver basic health services in rural areas. He also believes that the physical facilities re adequate for conducting these activities. Dr. Mbédé did not try to define the service area.

2. MCH Services

Dr. Mbédé described the four-phased approach to providing MCH services.

Phase I: In Phase I, Obstetrical Services, including inpatient care and ambulatory preventive services (both under Dr. Nasah), be moved. The unit would open in three or four months.

Phase II: Pediatric ambulatory preventive services would be made available in four to six months. These services will come directly under Dr. Mbédé. He and Dr. Nasah (the two have a good relationship and have similar ideas) will work with the community health teaching staff to provide a program for mothers and children.

Phase III: Open services in general medicine and general surgery would be made available, perhaps within a year. No exact time has been set.

Phase IV: Specialized training units offering continuing education programs for a limited number of clinical specialists would be created during Phase IV.

E. Conclusion

The delay in completing and opening CUSS Community Teaching Hospital has caused considerable inconvenience, but it probably did not prevent project staff from accomplishing their objectives.

In view of the warnings of the architect who prepared the Feasibility Report, it is difficult to understand how the hospital, which was supposed to be a prototype facility in an African district, became so sophisticated. Because the architect's warnings were not heeded, the hospital must face serious problems, among which are high operating costs, complex maintenance of an overly sophisticated plant, and the dilemma of defining a service area with a population of 30,000.

Project Purpose

The purpose of the project was to develop an effective, viable MCH teaching program at the University Center for Health Sciences.

A. Indicator No. 1: Number of Graduates

1. Medical School Graduates (Doctors)

The number of students who graduated between 1975 and 1979 is as follows:

Year	Number Graduated
1975	32
1976	42
1977	47
1978	45
1979	45
	211

The present enrollment (Academic Year 1979-1980) of the medical school (by level of student) is as follows:

EM 1	44
EM 2	51
EM 3	66
EM 4	49
EM 5	49
EM 6	50
	309

The figures indicate that students drop out of the program usually at the end of the third year (EM 3). Most drop out because they are failing their courses.

Of the 44 EM 1 students, none is from a foreign country. It is CUSS policy to admit only Cameroonians to the medical program. The Deputy

Director explained that CUSS adopted this policy because of the high failure rate among foreign students, because foreign applicants usually cannot satisfy the educational requirements, because there is an excess of well-qualified Cameroonian applicants, and because most countries have built their own medical schools. In recent years few foreign students have applied to the CUSS program.

2. Nursing School Graduates (CESSI)

The present enrollment (Academic Year 1979-1980) of the nursing school is as follows:

CC 1	27
CC 2	25
	52

The average class consists of about 15 non-Cameroonians and 10-12 Cameroonians. The non-Cameroonians come from 11 countries, all francophone.

3. Technical School Graduates (CETS)

The present enrollment (Academic Year 1979-1980) of the technical school (by level of student) is as follows:

TS 1	33
TS 2	40
TS 3	48
	121

Varying numbers of students enroll in the different disciplines, which are

--Laboratory;
--Sanitation;
--Pharmacy;

--Physiotherapy;
--Dental Technician; and
--Radiology.

B. Indicator No. 2: Utilization

1. Placement of CUSS-Trained Doctors

About 85 percent of the doctors trained by CUSS have been assigned to hospitals or health units in rural or semi-rural areas. Of the 67 students who graduated in 1976, 56 (84 percent) have been assigned to rural or semi-rural health units; 8 have been posted to urban health units; and 3 are working outside the country. The pattern for graduates in other years is roughly the same.

Before being accepted for training, every Cameroonian medical student must agree to serve in Cameroon for 10 years. Two years must be spent in a rural or semi-rural installation (or outside Yaoundé). Training that is taken elsewhere (outside the country) must be authorized, and the student must agree to return to Cameroon to complete his/her service requirements.

2. Placement of Graduates of Nursing/Midwifery School

CESSI has begun its feedback study but could not provide specific information at this time.

C. Indicator No. 3: Feedback (Quality and Relevance of Service and Application in Field)

There is a lack of adequate objective information on the quality and relevance of training. The evaluation team reviewed a number of documents to obtain information.

1. Source: Stephen C. Joseph, M.D., Report of a Conference of the First Medical Graduates of the University Center for Health Sciences, Yaoundé, Cameroon, October 1976.

Because of poor communication and poor coordination among the Ministry of Health, CUSS, USAID/Y, and AID/W, the conference failed to produce much solid feedback.

In reviewing Dr. Joseph's report, the team had a strong impression that the attitudes and professional performance of the medical graduates are high; that few students complained about being posted in isolated rural areas; that most are looking forward to specialty training in another year or two; and that three or four had a strong desire to remain at their rural posts for another two to three years (beyond the minimum requirement).

Among the most frequent problems were:

--lack of familiarity with routine administrative work;

--need for better technical skills in surgery, anesthesia, and radiology; and

--lack of "acceptance" by senior physicians trained outside the country.

The graduates seemed to be favorably disposed to the idea of emphasizing primary care and preventive medicine (especially MCH) and of upgrading the skills of nurses and paramedics.

2. Source: GURC, Ministry of Health (a 1978 follow-up study on doctors who graduated from the classes of 1975, 1976, and 1977).

The questionnaire was not well designed and did not provide the feedback needed to assess and plan the curriculum.

Summary of Findings

The MOH expected 118 CUSS graduates to respond; only 77 returned the questionnaire.

In a self-appraisal of performance, about 81 percent rated his/her performance "good" or "better." Approximately 85 percent of the medical graduates' peers or supervisors rated the work "good" or "better." Approximately 85 percent rated as "good" or "better" satisfaction with work.

Approximately 40 percent of the surgical procedures performed are obstetrical or gynecological. Twenty-two graduates reported that they

were engaged in research. Eighteen were researching topics in public health and primary care; eight were researching topics in MCH.

3. Source: Seven CUSS graduates--all doctors--six of whom are working in Bamenda.

The sample is small and reflects an area bias. Nonetheless, the interviewees provided some insights into their training at CUSS and its subsequent application in the field.

Five of the seven physicians spent some time at the family planning clinic after being urged by Harvard/CUSS staff, Dr. Drouin, Nancy Garrett, or Lise Cousineau to do so. None of the physicians worked in health services, where family planning clinics are regularly conducted. Three said they offered limited family planning services on request. All of the physicians thought their ob/gyn training was more thorough than their training in pediatrics. Three observed that there were "personality conflicts" in the Pediatrics Department at CUSS. All of the interviewees noted the lack of cooperation between Ob/Gyn and Pediatric Services. Two said Dr. Mbédé had helped to introduce new ideas about the care of premature babies.

Interestingly, all of the physicians ranked the value of their field training at different sites about the same:

Site	Rating
Bamenda	"Excellent"
M'Volyé	"Good"
Mefou	"Fair to Poor"

They criticized the lack of supervision and clinical (i.e., medical-oriented) experience at Mefou.

The seven physicians all thought that the MCH training they received at CUSS adequately prepared them for their present job responsibilities. (Five are concerned primarily with deliveries or the supervision of MCH services.)

Nearly all said that Harvard/CUSS doctors or nurse-midwives had assisted them at the demonstration clinics and at the Central Hospital at Yaoundé, to a lesser extent at M'Volyé, but not at all at Mefou or in Bamenda. Two interviewees have attempted independent field research. One is studying the relationship of culture to nutrition; the other is making a field assessment of a leprosy treatment/control program with village volunteers. (The latter received a grant from ILED, the Swiss Leprosy

Campaign Unit, after submitting the findings from the field survey. He did this on his own initiative.)

None of the physicians has set up new MCH services and none offers special family planning services. However, the doctors do give family planning advice and services to high-risk patients. None of the medical graduates has seen a copy of the Harvard/CUSS nursing text. (The text is not available in the bookstores in Bamenda.) All thought that the new community hospital was too sophisticated but that it could provide relevant training if it balanced that training with longer periods of study in rural areas. All believed that a good referral hospital, associated with CUSS, was needed and desirable.

After reviewing the available information, the evaluation team concluded that, despite the weaknesses and problems in the CUSS teaching service, the medical graduates have been adequately prepared for their assignments.

Project Goal Statement

This project was expected to contribute substantially to the GURC's efforts to make the national health care delivery system more accessible. One of the objectives was to deliver preventive maternal and child health services to 80 percent of the population in 1980.

The evaluation team was unable to determine to what extent the achievement of that goal has affected the health status of Cameroonians. Only a few hospital studies are available and these purport to assess improvements in maternal mortality and/or neonatal deaths. The evaluation team judged these reports to be unreliable, questioning both the validity of the reported improvements and the factors that supposedly produced the results.

The evaluation team believes strongly that the integration of new CUSS graduates (particularly the doctors) into the rural health delivery system will have a significant long-term effect, benefiting primary health care in general and MCH in particular.

IV. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The "Terms of Reference" for this evaluation required that the team assess the extent to which the project had achieved its purpose, which was "to develop an effective and viable MCH teaching program within the University Center for Health Sciences." In addition, the team was required to evaluate seven other specific items, most of which were covered in the preceding chapter.

Chapter IV includes the team's overall conclusions and a number of recommendations on the involvement of CUSS in other current or planned USAID assistance projects.

Overall Achievement of Project Purpose

The team believes that, despite numerous setbacks, an effective and viable MCH teaching program was established within CUSS and that this program will not only continue but also expand. A self-sufficient Cameroonian faculty has been recruited. An adequate number of students are being graduated, and these students seem to be talented and capable. The medical graduates are remaining in Cameroon; 85 percent of them are being assigned to rural or semi-rural areas. A large amount of curricular time is given to MCH and community health subjects. Medical graduates in MCH and community health continue to show an interest in these specialties after they have been assigned to field units.

CUSS has not completely fulfilled the objective of becoming a regional health training institution for Central Africa. The medical school has been used primarily to train Cameroonian doctors. In 1979, CUSS decided to admit only Cameroonians to the medical school program.

CESSI's graduate education programs for nurses and midwives have, from the beginning, responded to the regional needs of Central Africa. All of the foreign students have come from francophone African countries. CESSI has become a resource for nurses and midwives from francophone African countries who need or want to pursue continuing or higher education. The availability of the CESSI programs is particularly important because the opportunities for continued relevant training have been limited in the African nations.

Within Central and Western Africa, CUSS has become the principal exponent of the development, exchange, and dissemination of applied technology and primary health care (PHC) concepts, particularly MCH. CUSS faculty have produced many relevant publications and have sponsored several seminars

and conferences in PHC. Health representatives of other African countries have frequently visited CUSS to observe the program. These activities (and CUSS's role in them) could be expanded.

Overall Effectiveness and Impact of USAID/Yaoundé Inputs on Achievement of Project Purpose

The evaluation team believes that USAID/Yaoundé's inputs, although of considerable magnitude, had little impact on the achievement of the project's purpose. Moreover, they have produced few long-lasting results The technical assistance (20+ person-years) provided under the Harvard/CUSS contract was committed largely to staffing and developing teaching/demonstration clinics at the Central Hospital in Yaoundé and at nearby community health training sites in M'Volyé. In concentrating on these activities, the Harvard/CUSS team created vital, dynamic teaching/demonstration sites for medical and nursing students. But after the team left Cameroon, many of these sites stagnated.

The evaluation team believes that the fundamental problem with the Harvard/CUSS-created clinics and services (with the exception of maternal health and obstetrical services at the Central Hospital) is that they have not been integrated into the existing MOH health facility and delivery system. For example, although the MOH unit, Protection Maternelle et Infantile (PMI), was in place in Yaoundé, the child health clinics at the Central Hospital were established and directed by the CUSS Annex. The MCH clinics and services at M'Volyé were established and directed by staff of the M'Volyé CUSS Annex, a rented house close to but separate from the MOH-operated dispensary/maternity. Although some interrelationships between the two units did develop, the CUSS clinics remained separate, as they had always intended to do.

The limited primary health care program at M'Volyé is not a vital, dynamic outreach program. It has not been incorporated into nor is it supported by the MOH, and it is doubtful that it will last much longer.

The Harvard/CUSS team did not give sufficient attention to its role in institutional-building. It failed to develop a close and lasting relationship between the Harvard Medical School and the medical school at CUSS. Few Harvard faculty were employed as short-term consultants, and participant training at Harvard was limited. Harvard/CUSS technical staff did not have a principal direct role in the development or modification of instructional objectives or in curriculum revision. Harvard/CUSS staff introduced few new teaching methods or techniques. The team leaders' and campus coordinators' periodic reports were largely recitations of activities and discussions of problems, most of which concerned the organization and operation of clinics. None of their reports addressed the question of

Harvard's role in developing CUSS as an institution and none contained a plan or strategy to develop or implement such a role.*

USAID-furnished commodities were ordered late, and, when they arrived, they were held at customs for periods exceeding one year. Few commodities were available for project use.

USAID-funded scholarships for non-Cameroonian students proved to be unnecessary because WHO provided most of the financial aid for students.

USAID-funded participant training had only a minor impact on faculty development.

The Community Teaching Hospital, built partly with USAID project funds, was not completed and opened until after the project ended. The 30,000-population service area for the hospital has never been defined (and the concept is probably impractical). The hospital is too sophisticated, the recommendations in the feasibility study to the contrary. This has created substantial problems, including recurrent costs for operations and the need, which cannot be met locally, for maintenance support for a complex engineering plant.

Recommendations on CUSS Relationships with Current or Planned USAID/Yaoundé Projects

A. MEDCAM I

1. Background

The six-year USAID/Y MEDCAM I Project is designed to significantly strengthen and expand the coverage of primary health care services in 12 divisions of three provinces, the North, the Northwest, and the East. It is expected that by the end of the project, 178 facilities in the 12 divisions will be adequately staffed, managed, and supported by the MOH and will be providing essential PHC services to 80 percent of the population in these areas (i.e., those within 15 kilometers of a health facility). The project, based on an adaptation of the University of Hawaii's MEDEX concept, will use appropriately trained

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* This task may not have been emphasized sufficiently in the contractor's scope of work.

middle-level health workers (MLHWs) to train and supervise four to eight village health workers (VHWs) to deliver PHC services to surrounding communities.

The MEDCAM I Draft Project Paper[1] refers to CUSS in Section 2.3.3, "Other GURC-Related Activities," as follows:

> The University Center for Health Sciences (CUSS) graduates 40 physicians annually. Each year, therefore, the availability of physicians in rural areas in Cameroon grows, providing additional and increasingly adequate human resources for training and supervising MEDCAM-trained MLHWs. During the MEDCAM project, the project may collaborate with CUSS in the development of a management training course for physicians while they are still in training at CUSS. Also, during the course of the project, short-term technical assistance from CUSS faculty members may be requested.

2. Recommendations

CUSS medical graduates working in rural areas indicated that they felt they had not been adequately prepared to assume administrative and managerial responsibilities for the delivery of health services. The evaluation team endorses the idea of collaborating with CUSS on management training courses for medical students. Such courses would, presumably, be based on actual conditions in Cameroon and would be fully applicable, at least within the MEDCAM provinces and divisions. CUSS and the MOH should carefully coordinate such courses, if Cameroon decides to initiate collaborative training. Adequate coordinating mechanisms exist to facilitate a collaborative effort.

The team does not think CUSS faculty should be expected to participate in the MEDCAM training programs, although the MEDCAM project could draw on CUSS expertise in designing training programs for MLHWs and VHWs and in organizing support services.

Many of the approximately 200 young physician graduates of CUSS have been assigned to rural areas in the North, Northwest, and East. They constitute a valuable pool of health service managers and supervisors. The team strongly supports their use as managers and supervisors in the MEDCAM I Project. The arrangements for this must be carefully coordinated with the

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[1] Draft Project Paper MEDCAM I, University of Hawaii, May 27, 1980.

Ministry of Health, at the national level, and with appropriate local health officials. CUSS graduates who are selected for supervisory or managerial duties should be given a thorough orientation in the philosophy and methods of the MEDCAM approach and in the project's support and management systems before they receive their assignments.

Appropriate CUSS faculty and directors must be given a thorough orientation on MEDCAM I and be kept up-to-date on the implementation and progress of the project.

B. Practical Training in Health Education (PTHE)

1. Background

The purpose of the PTHE Project[1] is:

> To develop and implement a nationally coordinated, practical training system of health education activities, responding to the needs of rural populations and other underprivileged groups in Africa. Initial project activities will take place in the Kadey and Mefou districts of Cameroon.

This MOH project is based on the concept of promoting self-help in rural communities by organizing village health communities using itinerant agents (similar to MEDCAM I VHWs, but not trained in the same way) and volunteers. Health center teams provide local support. To date, the objective of the activities has been to improve environmental sanitation (e.g., by improving water points and refuse disposal; constructing latrines or pens for animals; etc.). Limited work has been done in school health.

USAID/Y technical assistance is administered through a contract with the University of North Carolina (UNC), which by the end of the contract will have provided a total of 144 person-months of in-country, long-term technical assistance. This assistance has been allocated as follows:

1 Chief-of-Party	48 person-months
1 Training Technician	48 person-months
1 Community Organization Technician	48 person-months

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[1] "Logical Framework," PTHE Project.

An additional 37 person-months of back-stop support services will be provided at the University of North Carolina campus at Chapel Hill.

The Peace Corps has provided 24 volunteers and UNICEF 25 motorcycles.

The project is administered by the Health Education Division of the MOH and is directed by the PTHE team, UNC/MOH. A coordinating committee of representatives of the principal donor agencies coordinates the project. The committee meets every six months.

An important end-of-project objective is the establishment, development, and coordination of practical field-training programs in Kadey and Mefou districts. CUSS trains fourth-year medical students and second-year nursing students in CESSI at Mefou. CUSS medical graduates indicated that field-training at Mefou was unsatisfactory. They complained of poor supervision of teachers, non-medically-related studies, and poor administrative and logistical support.

The PTHE Project is behind schedule for several reasons. As the project evaluators[1] noted, the original project was too ambitious; there were unforeseen personnel problems (mainly with University of North Carolina long-term technical consultants; the original team leader was unsatisfactory and had to be replaced), as well as communication and conceptualization problems. In addition, administrative support for training activities and logistical support for the Village Health Committee Program were inadequate.

PTHE Output No. 4, "Program for the Health Sector Institutions: CUSS, ENISFAY, and OCEAC," specified as a relevant quantifiable indicator the training of 400 professional-level CUSS (and CESSI) students. As of March 1980, no students had been trained. A training program for 80 CUSS students began in April 1980.

An operational coordinating committee has been formed. Among the subcommittee members are staff of the training institutions and CUSS and MOH personnel at all levels (national, provincial, departmental, and district). These persons help to plan PTHE activities and to train personnel in the Mefou and Kadey districts.

The PTHE evaluation team's recommendation on improving Mefou as a CUSS field-training site is particularly interesting. The recommendation reads: "That the PTHE Project place top priority on three interrelated outputs: the Village Health Committee Program; the Program of Recyclage

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[1] Karen Gridley, P. L. Nzeusseu, and Jeannette Teunissen, PTHE Project (631-0009) Mid-Project Evaluation, March 27, 1980. The evaluation covers 18 months (September 1978 - March 1980) of project activities.

for Health and Other Workers; and the Program for the Health Sector Institutions, in order to create a viable field-training experience in the Kadey and Mefou [districts] for future classes of students from CUSS, ENISFAY, and OCEAC."

MEDCAM's long-range objective--eventual nationwide coverage--overlaps, and perhaps supersedes, the original, and perhaps overly ambitious, long-range purpose of the PTHE Project. Therefore, the PTHE Project must concentrate on intermediate, more circumscribed developmental targets. The PTHE evaluation team pointed out the inconsistency in approach on page 23 of its report (Section 18, "Purpose"):

> The Project Paper originally predicted possible extension of the PTHE Project nationwide. This idea preceded plans for MEDCAM, which to some extent, preempts and conflicts with plans for extension of the PTHE Project. Consequently, the Evaluation Team suggests that the establishment of field training programs for CUSS, ENISFAY, and OCEAC in the Mefou and Kadey districts, coordinated by the Ministry of Health, can stand alone as the critical measurement of project success.

Unfortunately, this statement was submerged in the body of the report and was not put forward as a definite recommendation. The MOH/PTHE coordinating committee subsequently reviewed the PTHE evaluation report* but did not discuss the recommendation, the significance of which went unnoticed.

2. Recommendations

USAID/Yaoundé should discuss with the MOH and other relevant agencies the original purpose of the PTHE Project and clarify the apparently conflicting long-range objectives and the overlapping activities of the PTHE and the MEDCAM projects.

Specific plans for developing the PTHE project sites in Mefou should be prepared. The plans should emphasize practical field-training programs for CUSS fourth-year medical students and CESSI nursing students (and perhaps ENISAY, OCEAC, and other MOH training units).

Better and more frequent coordination between PTHE project staff and the directors and faculty of CUSS is needed to improve the Mefou field-

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* The CUSS evaluation team attended the meeting.

training program and its administrative, logistical, and teaching support functions.

C. Howard University/CUSS Collaboration

AID has awarded a grant to Howard University to design a collaborative program with CUSS. The two institutions exchanged information on the program and discussed mutual interests at a seminar in Yaoundé on September 11-14, 1979. The various briefing papers presented at the seminar were compiled into a single volume, Howard/CUSS Seminar Papers,[1] which was reviewed by the team. The project was discussed at length with Professor Lantum, but with only a few members of the CUSS faculty.

The team believes that the two institutions can establish a long-term, fruitful relationship. The collaborative effort should be based on the concept of mutual or reciprocal assistance. In other words, CUSS should contribute something that will benefit Howard's programs and Howard should contribute something that will help CUSS. The two institutions must ask: What does Howard University need (and want) that CUSS can provide? What does CUSS need (and want) that Howard University can provide?

CUSS needs:

- Assistance in developing and improving programs in dentistry and dental health.
- Help in developing continuing education programs in common clinical specialties at CUSS Community Teaching Hospital.
- Assistance in using more sophisticated diagnostic equipment and in interpreting results.
- New and innovative teaching methods and teaching materials relevant to the Cameroon and African setting and consistent with CUSS's institutional training objectives and philosophy.

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[1] Howard/CUSS Seminar Papers, compiled by Professor Dan N. Lantum; unedited papers of Howard/CUSS Seminar, September 11-14, 1979, Yaoundé, Cameroon, Public Health Unit, CUSS/Yaoundé.

The team did not talk with anyone at Howard, but it believes the institution needs:

- An opportunity to provide students with field-training experience in community health in an African setting.
- An opportunity to undertake applied research studies in the delivery of health services to disadvantaged groups.
- Access to a wide range of clinical material, particularly on acute diseases, for selected training and research studies.
- Faculty and perhaps student exchange programs to promote the cross-fertilization of ideas, approaches, experiences, etc.

The two institutions should identify as soon as possible two or three areas of mutual interest in which to conduct joint, long-term research. Howard and CUSS might consider joint studies on:

- Anemias associated with pregnant women, young children, sickle cell syndrome, etc.
- Nutrition in infants and young children (breastfeeding; infant feeding; weaning foods; social, cultural, and economic factors; health education, etc.).
- Diarrheas in young life (prevention; health education; use of oralytes; management of severe cases; relationship to malnutrition, infectious diseases; etc.).
- Eye diseases, including Vitamin A deficiencies and xeropthalmia; onchocerciasis; eye injuries and infections; glaucoma, trachoma, cataracts; assessment of prevalence; and prevention and management.
- Endocrine and metabolic conditions (diabetes, goiter, arthritis, and gout).
- Comparative epidemiological studies of a variety of conditions (e.g., hypertension, peptic ulcer, child-growth patterns, malignant tumors, etc.) using paired samples of Cameroonian and Washington populations.

In addition to their scientific value, studies of disease patterns in black African and black American populations would stimulate the interest of the doctor-specialists in diseases in the community and would give the medical faculties of both institutions an opportunity to become involved in the project.

Among other subjects suitable for joint studies are:

- Neonatal management (improved measures in care of newborn, particularly premature infants; survival; prevention of disability during the neonatal period, etc.).
- Comparative cost-effectiveness studies of alternative approaches to essential health care, particularly among the poorer segments of the populations.
- Measures and patterns to promote and sustain community involvement and participation.

The above list is only illustrative. The faculties of both institutions should determine jointly the long-range studies on which they will collaborate. This will ersure that the studies they select reflect mutual interests and concerns. It is important, too, that the MOH of Cameroon be represented at such deliberations to ensure that the research studies reflect the priority concerns of the providers of health services.

The various departments of the two universities should be involved in joint projects. Involvement should not be limited to the staff of the two medical schools. The approach should be multidisciplinary; faculty in the behavioral and social sciences, in economics, and in other related fields should be asked to participate. By adopting a multidisciplinary approach and by involving experts in many fields, the universities can promote interest in the influences of cultural, social, and economic factors in health in a community.

It is important that the directors and faculties of the two institutions understand that concepts of and appreciate the subtle differences among "community medicine," "community health," and "primary health care."

In April 1978, 22 experts in community medicine (see Appendix I), from 14 different countries, spent almost a week defining community medicine and future perspectives. Their observations and discussions were edited by Dr. Willoughby Latham of the Rockefeller Foundation and

published in 1979.[1] In 1980, Professor Dan Lantum, a member of the evaluation team, summarized the different concepts, definitions, and organizational systems of community medicine and described how they are perceived in Africa and elsewhere.[2] A review of these papers would provide a clear understanding of the various interpretations of community medicine and correct semantic misunderstandings.

The team recommends that copies of this evaluation report be sent to officials and faculty at Howard University so that they can learn about and benefit from Harvard University's experience in the CUSS assistance program and more fully understand and appreciate CUSS's institutional objectives, philosophy, outlook on community health, and unique administrative organization.

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[1] Willoughby Latham (ed.), The Future of Academic Community Medicine in Developing Countries, Rockefeller Foundation, January 1979.

[2] Professor Dan Lantum (Head, Public Health Unit, CUSS), "What is Community Medicine?" The Cameroon Medical Journal, Vol. II, 1980.

V. LESSONS LEARNED

Project Planning and Design

1. USAID assistance was probably limited in its effectiveness because too much of it was concentrated or maternal and child health services. Some other critical needs were neglected, giving one the impression that USAID was opposed to developing other services. The institutional objective of CUSS was (and still is) to train a team of doctors, nurses, and other health professionals to deliver essential health services in the African and, in particular, the Cameroonian setting. The emphasis was on treating indigenous health problems.

   The most serious health problems in nearly every country in Western and Central Africa are those of young children and pregnant women. A broader approach supporting CUSS's general institutional objectives would have duly emphasized MCH services, but it also would have enabled the Harvard/CUSS team to take a larger role in the development of teaching and demonstration programs and of CUSS as an institution.

2. The Harvard/CUSS team leader probably should have been a broad-based health development administrator, and not a specialist in a clinical discipline.

3. Long-term participant training in the United States had little value for the health training institution specifically designed to respond to health problems in Africa.

4. The need for training aids and training materials should have been identified and emphasized when the project was being designed. Specific commodities (e.g., books, simple equipment for outpatient clinics and student laboratories, film strips, etc.) could have been specified in the original project paper and included as an appendix. USAID/Yaoundé staff could then have issued the PIO-Cs earlier and ensured their timely arrival.

   It would have been useful, too, to have built into the design a small (perhaps $10,000 equivalent) "slush fund" for the preparation of local training aids (e.g., pamphlets, posters, flip charts, etc.). A slush fund was created eventually, but it was not preplanned.

5. The "Terms of Reference" and "Scope of Work for Contractor of Technical Services" should have defined precisely the counterpart or collaborative arrangements and agreements between CUSS

and the contractor. (Given the structure of CUSS, this would have created many problems, however.)

6. The original project paper and project agreement should have been more specific about the scope and sophistication of the CUSS Community Teaching Hospital. USAID/Yaoundé should have been more alert in recognizing that the evolving hospital plans did not reflect the original concept of building a simple hospital appropriate for Cameroonian communities that could be operated locally, within the limits of available capabilities.

7. Insufficient attention was given to CUSS's uniqueness as an experimental institution and to its atypical administrative/coordinative philosophy and structure.

Project Management and Implementation

1. The contractor's technical staff should not become so involved with service delivery that they lose sight of their broader role, institution-building. The "Scope of Work" in contracts should anticipate this potential problem.

2. USAID should closely and continuously monitor complicated projects of this type to ensure that the project advances and to anticipate changes in project inputs or outputs.

3. Technical assistance contracts should require the contractor to submit periodic reports on the achievement of objectives, stated outputs, and progress. Fragmented reports on individual technician activities and problems should not be substituted for comprehensive assessments and analyses of progress in reaching goals.

4. Continuity in team direction must be a stringent requirement. In technical assistance contracts requiring highly qualified staff (e.g., doctors), a health development specialist should be recruited to head the team. Depending on the selection criteria (e.g., requiring that a clinical specialist be certified by an American board), continuity may or may not be assured, and the team director may or may not be capable of managing the project.

5. A contractor's technical staff must be thoroughly briefed on the institution's philosophy and administrative structure and understand the environment in which they are working.

Health Development

1. Mass public health preventive services should be delivered through a community base, even in urban areas. Usually, it is inappropriate to extend preventive services by expanding ambulatory services at a large overburdened urban hospital.

2. Rural health services training for medical, nursing, and paramedical students should be provided in communities outside the sphere of influence of the city in which the teaching institution is located.

3. Ordinarily, field-training services should not be created as a separate structure but should be integrated into the existing health delivery structure (e.g., M'Volyé experience in the CUSS project).

4. Logistics, supply, and management are essential to successful implementation.

5. In health training programs such as CUSS's, the ultimate product (i.e., the students trained) may be good, though the elements and process may be relatively poor. In other words, the whole may appear to be greater than the sum of its parts.

6. The service areas for urban-based medical and health units must be selected in advance. This is a difficult task, but it is essential to the proper planning and implementation of a program.

Evaluation

1. The interim evaluation of CUSS was done five years after the project began. For a mid-project evaluation to be useful in revising a project design or implementing the remaining phases of a program, it shoud be done no later than two years after a five- or six-year project begins.

2. AID's PES format is weak and should be critically examined. Evaluations must be more than quantitative assessments of outputs. Evaluators should try to examine the "whys" and the interacting dynamics of a project.

Appendix A

LIST OF PERSONS CONTACTED

Appendix A

LIST OF PERSONS CONTACTED

Office of Direction and Public Health Unit, CUSS, Yaoundé

Professor E. Eben-Moussi, Director, CUSS

Professor Dan Lantum, Deputy Director, CUSS, and Member, Evaluation Team

Professor Jacob Ngu, Chief, Internal Medicine, and Coordinator, Clinical Teaching Services, CUSS

Professor Gladys E. Martin, Chief, Preventive Medicine, Public Health Unit, CUSS, and Coordinator, M'Volyé Community Health Program

CESSI/CUSS, Yaoundé

Ms. Alice Collomb, WHO Nursing-Midwifery Consultant

Ms. Miriam Jato, Nursing Instructor*

Ms. Jeanne F. Carrière, Former Member, Harvard/CUSS (Public Health Nursing)*

Mr. Noumssi André, Monitor, CESSI Nurse Training Program

Central Hospital, Yaoundé

Dr. Boniface T. Nasah, Chief, OB/GYN Services

Staff of Various Maternal and Newborn Nursery Services

CUSS Community Teaching Hospital

Dr. Joseph Mbédé, Director and Pediatrician, Faculty of CUSS; Future Chief of Pediatrics, CUSS Community Hospital

Ms. Matilda L. Ndep, Midwife Chief, Child-Spacing Clinic

Staff of Child-Spacing Clinic

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* Co-author of nursing textbook.

M'Volyé

Dr. Gladys E. Martin, Chief, M'Volyé Community Health Program

Bamenda

Dr. Forching, Health Delegate

Ms. Fru, Director, Bamenda Nursing and Midwifery School

USAID/Yaoundé

Mr. James Williams, Mission Director

Dr. Richard Brown, Chief, Office of Health, Nutrition, and Population, USAID/Y

Dr. Boostrom, Chief, University of Hawaii Design Team, MEDCAM I

USAID/Washington

Mr. Ted Bratrud, Jr., Evaluation Officer, USAID/Yaoundé

Mr. Rusty Anderson, Desk Officer, USAID/Cameroon and AID/Washington

Ms. Lois Anderson, Health Office, Africa Regional Bureau, AID/Washington

Former Graduates of CUSS (Northwest Province)

Bamenda

Dr. Kouegoua, Provincial Chief, Preventive Medicine (1975 graduate)

Dr. Emmanuel Wonzi, Chief, Preventive Medicine, MEZAM Division (1977 graduate)

Dr. Ashu, General Practitioner, Specialist in Surgery, Bamenda Provincial Hospital (1975 graduate)

Dr. Philip Kum, Chief, Preventive Medicine, Mbengwi Division (1977 graduate)

Dr. souganyi, Chief, Preventive Medicine, Wum Division (1978 graduate)

Dr. Echïfor, Chief, Nkwen PMI, Bamenda, and Specialist in Obstetrics, Bamenda Provincial Hospital (substitute for Dr. Forching, and Provincial Health Delegate during Dr. Forching's absence) (1976 graduate)

Yaoundé

Dr. Oben Enoh-Tanya, Chief, Preventive Medicine, Nkambe, Northwest Province (1977 graduate)*

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* Accompanied Dr. Kennedy on site visit.

Appendix B

LIST OF DOCUMENTS REVIEWED

Appendix B

LIST OF DOCUMENTS REVIEWED

A. USAID/Yaoundé CUSS Project Documents

Noncapital Project Paper (PROP), University Center for Health Sciences (CUSS), Project No. 625-11-550-531, submitted May 7, 1971.

Project Paper (Revision) CUSS, Project No. 631-0531, authored by AA/AFRI, September 22, 1978.

Project Implementation Orders/Participants (PIO-P), CUSS Project, CUSS Project, USAID/Yaoundé Records Office.

Project Implementation Orders/Commodities (PIO-C), CUSS Project, USAID/Yaoundé Records Office

Project Implementation Order/Technical Assistance Services, CUSS PIO/T No. 625-531-3-20009, signed January 15, 1973.

Paper titled: "USAID Technical Assistance to the University Center for Health Sciences--Preliminary Information for Prospective Contractors," Stephen C. Joseph, M.D., MPH, CUSS Project Manager, USAID/Yaoundé, Professor of Pediatrics and Community Health, CUSS.[1]

Feasibility Report on University Center for Health Sciences, Jerold E. Williamson, Architect, 9220 Villa Drive, Bethesda, Maryland 20054; Final Report of Contract with AID, PIO/T 698-166-3-6113060, undated (presumably 1971 or early 1972).

Cameroon Country Development Strategy, Statement FY 82, January 1980, AID/Washington.

B. Documents Concerning Other AID Projects Related to CUSS

Practical Training in Health Education (PTHE) Project No. 631-009; Mid-Project Evaluation, May 27, 1980; Karen Gridley, P.L. Nzeusseau, and Jeannette Teunissen.

MEDCAM I Draft Project Paper, May 27, 1980.

Howard-CUSS Seminar Papers, compilation by Professor Dan N. Lantum; unedited papers of Howard-CUSS Seminar, September 11-14, 1979, at Yaoundé, Cameroon.

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[1] Paper included in the report as an appendix.

C. Documents Concerning Instructional Objectives, Field Training, and Curricula: CUSS and CESSI

Programme D'Enseignement (Training Program), CUSS/CESSI Plan/COO/CESSI/NO 46/ST.H/SEP/1975 (English abstract as Appendix F).

Medical Student Training Program Summary Paper in Howard-CUSS Seminar Papers, by Professor Dan Lantum.

Ministry of Education Arrete: No. 551/B1/619 of September 19, 1977.

La Médecine Communautaire a M'Volyé Programme Propose par Dr. Gladys E. Martin, 1976, CUSS Public Health Unit.

M'Volyé Family Health Project Report for 1977-1978, by Dr. Gladys E. Martin.

The Training Program for Fourth-Year Medical Students and CESSI Nurses at Mefou, Dr. Nchinda, Public Health Unit, CUSS, in Howard-CUSS Seminar Papers.

Integrated Team Training Program at Bamenda, Professor Dan Lantum, Howard-CUSS, in Howard-CUSS Seminar Papers.

D. Harvard/CUSS Contractor Reports (Contract No. AID/AFR 1049 CUSS)

Progress Report, Period from November 29, 1973, through June 30, 1977, Harvard University, Charles A. Janeway, M.D., Campus Coordinator.

Progress Report, Period from 1973 - 1975, September 10, 1975, Charles Janeway, M.D., with assistance from Dr. Noel Guillozet, Project Director, and Pierre Drouin, M.D.

Harvard Work Plan 1977-1978, Dr. Robert Chamberlain, Director, Harvard/CUSS Project, November 17, 1977.

Two Years' Academic Experience at the University Center for Health Sciences (CUSS), December 1974 - July 1976, Dr. Pierre Drouin, Obstetrician/Gynecologist, Harvard/CUSS Project.

Harvard-CUSS Project Report for Period from October 1977 to December 1979.

Progress Report, Harvard/CUSS Project, Academic Year of 1977-1978, Dr. Richard Chamberlain.

Maternal Section (1974-1978) (part of final report), Dr. Pierre Drouin.

Harvard-CUSS Project, Final Report on My Experience with the Project, September 1976 to December 1979, Susan Colgate, February 1980.

Final Summary Report for Period from November 29, 1973 through December 31, 1979, Submitted April 23, 1980, by Charles A. Janeway, M.D., Campus Coordinator, Harvard-CUSS Project.

E. Other CUSS Evaluation and Consultancy Reports

Evaluation of CUSS, Wolf and Company, April 1977; Herman L. Myers, MPA, Team Leader, Charles W. Dohner, Ph.D., John L. Lucas, M.D.

CUSS, Project Review (Construction and Engineering Aspects), Oudeu and Knoop Architects and Planners, Order No. AID/AFR 147-32, June 15, 1977.

F. Other Documents Reviewed

The Nurse and Community Health in Africa (nursing textbook prepared as product of the project) and the French edition.

L'Infirmier et la Santé Communautaire en Afrique, Jeanne F. Carrière, Susan Colgate, Miriam Jato, and Damaris Mounlom, 1978 Editions CLE, Yaoundé.

The Value of the Partogramme in the Management of Labor, Dr. Pierre Drouin, Dr. B. T. Nasah, and Dr. F. Nkounawa, OB/GYN NO 6 53:741-745, 1972.

La Surveillance Prenatale - Postnatale et L'Accouchement, B. T. Nasah and Pierre Drouin, L'Enfant en Milieu Tropical, Centre International de L'Enfance, Paris, 1976, No. 105.

Maternal Mortality - An Etiological Study of Maternal Mortality, Central Maternity, Yaoundé, and Two Private Institutions in the Northwest Province of Cameroon, Thesis for partial requirement of degree of Doctor of Medicine, October 1978, Magany Njie Martin.

Enquete National sur la Nutrition République Unie du Cameroun, AID/Washington.

What is Community Medicine in 1979?, Professor Dan Lantum, Cameroon Medical Journal, Vol. II, 1980, pp. 55-63.

Report of a Conference of the First Medical Graduates of the University Center for Health Sciences, Yaoundé, Cameroon, Stephen C. Joseph, M.D., October 1976.

Follow-up Study of CUSS Graduated Doctors, Classes of 1975, 1976, and 1977, Ministry of Health, GURC, 1978.

The Future of Academic Community Medicine in Developing Countries, Willoughby Lathem (ed.), The Rockefeller Foundation, January 1979.

Appendix C

REPORT OF STEPHEN C. JOSEPH, M.D., MPH,
CUSS PROJECT MANAGER, USAID

USAID TECHNICAL ASSISTANCE
TO THE
UNIVERSITY CENTER FOR THE HEALTH SCIENCES/YAOUNDÉ

Preliminary Information for Prospective Contracts

Stephen C. Joseph, M.D., MPH
CUSS Project Manager, USAID
Professor of Pediatrics and Community Health, CUSS

90

USAID TECHNICAL ASSISTANCE
TO THE
UNIVERSITY CENTER FOR THE HEALTH SCIENCES/YAOUNDE

Preliminary Information for Prospective Contracts

Background

Cameroon and the other countries of Central Africa have health problems typical of low-income, largely agrarian, developing nations. These include high levels of endemicity of infections and parasitic disease, high infant and maternal mortality and reduced life expectancy, high fertility, and population growth rates in excess of 2-2.5 percent per year. To offset these burdens (estimates of infant mortality = 76-100/1,000 live births; under-five death rate = 150-200/1,000; expectation of life at birth = 46 years), there is a health system that suffers from the classic severe shortages of money, manpower, and facilities, especially in the rural areas outside the main population centers. This health system has, in the past, devoted the majority of its resources to curative functions rather than to public health. Of the Government of Cameroon's total 1970-1971 health budget of $11 million (9 percent of government expenditures, representing a per capita health investment of approximately $2), 20 percent was devoted to public health and preventive medicine.

One of the highest priority health needs in developing countries is for the development of a system of appropriately trained and motivated health manpower that can work effectively within the problem-context at hand. Unfortunately, such training is not readily available at existing institutions--neither in terms of numbers of personnel that can be produced, nor in the types of training and orientation that they receive. Further, the standard specialty-focused medical training available in most European, American, and in many African institutions, in fact, increases the trained manpower drain from countries such as Cameroon and its neighbors. They create, in effect, a "trained incapacity" of graduates to be sensitive to, and expert in, the high-priority health care needs of developing countries; public health and preventive medicine (including child-spacing as a component of maternal/child health services); the "health team," with heavy dependence on the use of lesser-trained paramedical workers; and the organization and delivery of services under severe resource constraints.

The University Center of Health Sciences in Yaoundé (Centre Universitaire des Sciences de la Santé, CUSS) has been developed as a model project to demonstrate solutions to some of the fundamental needs in the development of health services in the context of African developing countries (and in other resource-scarce areas). These needs include: (a)

91

the production of appropriate health manpower to staff a health infrastructure, (b) the development of basic health services by which, under conditions of extreme resource scarcity, optimum health care for the mass of the population can be disseminated, (c) an emphasis on public health, preventive medicine, and primary health care services, rather than on more expensive and over-sophisticated specialized facilities and techniques, and (d) the attempt to link child-spacing and family planning services to the provision of generalized maternal and child health services and family health care.

The CUSS Project

In 1967, the Government of Cameroon and the WHO began planning a radically new method of training health personnel, which represented a sharp break with the existing system. The outgrowth of this planning, the newly developed University Center for Health Sciences in Yaoundé, is conceived as a regional institution for training physicians and other health workers in a fashion relevant to the African setting, with much greater emphasis on integration of public health, preventive medicine, and clinical medicine, and implications for extending to all the population low-cost methods of health protection and improvement.

The CUSS has developed as an integrated tripartite institution for training in the bio-medical sciences, in public health, and in clinical medicine. The CUSS will utilize a defined community of approximately 30,000 people in the Yaoundé metropolitan area as a central base for research, training, and service delivery, along with the corresponding development of rural areas in basic health service pilot demonstration zones.

This multilateral project is supported by the Government of Cameroon, the World Health Organization, and the technical assistance agencies of France, Canada, and the United States of America.

The first class of medical students entered CUSS in the fall of 1969. As of September 1972, there will be four classes in the six-year curriculum. In September, 1972, a training center for advanced nursing will be opened in conjunction with CUSS; training of environmental health workers, laboratory technicians, pharmacists, and other members of the health care team is scheduled to begin in 1973. The curriculum of CUSS is structured in an integrated fashion, with themes built around organ systems and problem areas rather than divided into traditional subject areas. The multinational faculty, rather than being divided into departments, is constituted into three "Unités," i.e., Bio-medical Sciences, Clinical Sciences, and Public Health. Medical students are exposed to concepts of community health from the first year of the six-year program; in the third year, they begin clinical training in both hospital and community contexts. The fourth year comprises clerkships in hospitals, at a semi-urban focus,

and at a rural health project designed as a problem-solving health care team exercise in which medical students work alongside nursing and other personnel. The fifth year is a clinically based experience, and the final (sixth) year, an internship, including both urban and rural health care settings.

The CUSS central facilities comprise (as of May 1972) a newly constructed multidisciplinary laboratory building and a newly constructed facility, housing administrative, library, lecture-amphitheatre and other functions. Current clinical and public health functions are carried out at the Yaoundé Central Hospital (a facility of approximately 400 beds) and at community health facilities two miles from the CUSS campus. Rural health activities will begin in 1972, in a pilot zone two hundred miles from Yaoundé.

Facilities-in-planning include an Institute of Public Health (financed by the Canadian Government and planned to open in 1973) and the Community Health Complex, a combination 150-bed hospital and large health center to serve the defined 30,000 population. (The Community Health Complex is financed by the Governments of Cameroon, France, and the United States of America, and is planned to open in mid-1975). Emphasis in the complex will be on ambulatory care and generalized in-patient services.

Project of USAID Assistance to CUSS

The USAID project, which totals $3.5 mullion over five years, is composed of several program elements. These have as their purposes the development of the institution and its program, assistance in the areas of maternal and child health, and the integration of child-spacing into the maternal and child health program. The program elements are:

1. Assistance in construction of the Community Health Complex ($1.9 million);

2. Provision of United States faculty team in community pediatrics and OB/GYN ($1.2 million); and,

3. Advance training of Cameroonian faculty in the United States and other countries ($150,000) and scholarships for non-Cameroonian African students at CUSS ($150,000).

In addition, monies are provided for short-term consultant support.

In early 1971, USAID provided a project manager to fill the dual roles of developing the program of United States assistance and serving

on the CUSS faculty. It is planned that he will be replaced in mid-1973 by a USAID administrator to fill the project management role and a contract faculty team, with a chief-of-party to fill the professional technical role.

After eleven months of project development, a grant agreement of assistance to CUSS was signed in December 1971 between the Government of Cameroon and the USAID.

Technical Assistance Contract for United States Medical School Faculty Team

In mid-1972, USAID will begin the process of selecting a United States medical school to provide technical assistance to CUSS under a four-year contract with USAID. In outline, USAID is seeking a four-man faculty team, composed of a pediatrician, a public health nurse or pediatric nurse-practitioner, an obstetrician-gynecologist, and a nurse-midwife. One of the physicians will serve as chief-of-party, and should be able to arrive in Cameroon in May 1973, perhaps along with one or more other team members. All members of the team should be oriented towards community health and ambulatory care. They will serve as full-fledged members of the CUSS faculty at appropriate rank and the chief-of-party will sit on the school's technical committee. Basic knowledge of French is necessary, especially for the chief-of-party, but full fluency is not required at the start; the CUSS is a bilingual institution, and courses are conducted in either French or English. Previous experience in a developing country is desirable, preferably, of course, in Africa. A partial list of looked-for qualifications of team membefs includes: (a) expert technical competence in their discipline, (b) orientation and experience in community health, (c) experience in a developing country setting, (d) French language ability, (e) flexibility and enthusiasm for innovation and adaptation under conditions of resource scarcity and newly developing institutions, (f) personal good health and self-reliance.

The contracting United States medical school must be prepared to provide an in-depth back-up technical and administrative support system with minimal reliance on technical, administrative, and logistical resources of USAID in the field. It would be desirable for the United States medical school to serve also as a base for some of the Cameroonian participant training.

Opportunities for university-linked research and perhaps fellowships and student short-term training are many, but the United States school should see the program primarily as one in assistance in institution-building; its proposed program and personnel should strongly emphasize this aspect.

The period of faculty assistance is planned for four years (sixteen man-years), beginning in May 1973. Arrival of team members may be staggered over the first six months to one year of operation, but the chief-of-party must be available either for a preliminary visit of several weeks or to take up "permanent" assignment in May 1973.

Appendix D

CUSS EDUCATIONAL OBJECTIVES FOR MEDICAL STUDENTS

Appendix D

CUSS EDUCATIONAL OBJECTIVES FOR MEDICAL STUDENTS

Attitudes

The newly qualified Doctor of Medicine should be able:

1. To demonstrate a well-developed critical faculty and a high sense of responsibility;

2. To establish quite rapidly excellent relationships with his patients, the local authorities, and members of the community he is called on to serve;

3. To cooperate with his professional colleagues and be able to lead an effective health team;

4. To undertake further education (self-education, if necessary) to keep abreast of progress in medical science or study in depth a special branch of medicine; and,

5. To cooperate with his senior colleagues in the improvement of the health services of his country.

Skills

Public Health

1. To collect basic demographic, sociological and health data, present them clearly, and use simple statistical methods in assessing their importance;

2. To assess the health aspects of the physical environment and undertake practical methods (including interpretation of special tests) of ameliorating environmental sanitation;

3. To assess the prevalence of infective agents and apply practical methods of eradication or control of infections in small communities;

4. To assess the nutritional value of local foodstuffs, apply practical methods of improving the dietary intake, and ensure acceptable standards of food hygiene;

5. To organize and manage community health units, including administration and education of subordinate staff, financial control, care of equipment, and supervision of basic clinical services; and,

6. To undertake health promotion activities, including health education, mass health examinations, immunizations and chemoprophylaxis, family health protection, etc.

Knowledge (Pertaining to Public Health)

1. To enumerate and describe the physical, biological, and social factors in the environment in which man lives, and show how these influence the functioning of the organism;

2. To enumerate and describe bacterial, viral, and parasitic agents and animal vectors of human disease;

3. To analyze the interrelationships of hereditary and environmental factors in determining the bio-medical phenomena and the national history of disease in the population of a given geographical area;

4. To enumerate, describe, and analyze the major factors which determine epidemicity and describe the principal methods of epidemiological investigation;

5. To enumerate, describe, and analyze the principal legislative measures undertaken for the protection of the individual's and the community's health, and the ethical responsibilities of a physician;

6. To describe the clinical effects of the major injuries affecting man, how they are treated, and the methods of rehabilitation applicable;

7. To describe the clinical effects of the major nutritional disorders, how they are treated in the individual and how they are prevented in the community;

8. To describe the clinical effects of the major familial and genetic disorders, how they are treated in the individual and how they are prevented in the family;

9. To describe the clinical effects of major infections and parasitic diseases, how they are treated in the individual and how they are prevented in the community;

10. To describe the clinical effects of important intoxicants (domestic and industrial), the emergency case of poisoning, and preventive measures against intoxicants and addicting drugs;

11. To describe the clinical effects of neoplastic disease, how to recognize neoplasms early, and methods of treatment and prevention;

12. To describe the clinical effects of psychoneurotic and mental disorders, the importance of mental hygiene, and appropriate methods of treatment, especially in the community; and

13. To describe the clinical problems which may arise in association with human reproduction, how these are managed, and how they can be anticipated and prevented, and, finally, how this affects the relationship of planned parenthood to family health.

Appendix E

CURRICULUM FOR USS MEDICAL STUDENTS

Appendix E

CURRICULUM FOR CUSS MEDICAL STUDENTS

Six-Year Program

FIRST-YEAR MEDICAL STUDENTS (EM 1)

Integrated Phase - Curriculum Emphasis is:

Introduction to the Health Sciences.

The medical students begin their studies in common courses for all types of health personnel trained at CUSS. In the morning, the medical students are taught the traditional basic biomedical sciences: Anatomy, Physiology, Pharmacology, Immunology, Parasitology, Biophysica, and Biochemistry.

In the afternoon, the following courses (called themes in CUSS) are taught to all trainees (medical students, senior nurses, pharmacists, technicians, etc.):

1. Introduction to Population Studies;
2. Introduction to Medical Sociology;
3. Principles of Health Education;
4. Introduction to Ecology;
5. Introduction to Medical Genetics;
6. Introduction to Public Health Principles and Concepts;
7. Nutrition;
8. Biostatics;
9. Introduction to Nursing Practice;
10. First Aid;
11. History of Medicine;
12. Introduction to Traditional Medicine;

13. Introduction to Immunology; and,

14. Introduction to Psychology.

In brief, the philosophy of the first-year program can be typified as: the study of the application of the physical, biological, and social sciences to medicine and public health by student members of a health team to fuse them together in common learning situations in order to dissolve the interprofessional barriers which often impede cooperative team efforts in the planning and execution of health services when students are taught separately in the traditional medical schools, nursing schools, and similar institutions.

Note: Because most of the nursing and other nonmedical students are francophone and at the onset speak little or no English, these first-year joint classes must be conducted in French.

SECOND-YEAR MEDICAL STUDENTS (EM 2)

Integrated Phase - Curriculum Emphasis is:

Healthy Human Beings.

The major concentration is in the biomedical sciences, in the traditional medical school pattern of studying the norms of the human body. Nevertheless, emphasis is also given to the norms and patterns of humans collectively in a social context, i.e., as members of a community in social groups.

The following public health themes are taught:

1. Principles of Health Education, including Community Structures, Organization, etc.;

2. Organization of School Health Programs;

3. Visits and Surveys in Local Schools; and,

4. Anthropometry and Standardization of Normal Ranges of Physiological and Anatomical Parameters in Communities.

THIRD-YEAR MEDICAL STUDENTS (EM 3)

Integrated Phase - Curriculum Emphasis is:

Sick Human Beings.

During the third year, the medical students learn general clinical medicine according to the systems. Their field training in public health and community health is conducted in the Out-patient Preventive Services at the Central Hospital (Maternal and Child Health Services) at the Village Health (now called Primary Health Care) Program at M'Volyé.

FOURTH-YEAR MEDICAL STUDENTS (EM 4)*

Integrated Phase - Curriculum Emphasis is:

Integrated Health Care.

The medical students are immersed into the health care system at different levels, including the Clinical Services and Preventive Services of the hospitals in Yaoundé The principal emphasis from a public health viewpoint is the posting of students in a community of Mefou, some 30 kilometers from Yaoundé, for a period of 4 weeks. The medical students are divided into 9 groups of 5 to 6 students per group. (Since Academic Year 1977-1978, CESSI nursing students have participated in this program, usually in the months of March and April.) The emphasis of this program is on primary health care in a rural setting. The aims and training objectives for the Mefou program are described below.

Aims of the Mefou Community Health Program

At the end of the program, the student should be able to:

--organize basic health services to meet the health needs of a rural community; and,

--undertake a simple community health study to assess the morbidity status of a community.

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* The Community Health Program for Fourth-Year Medical Students of the UCHS, Yaoundé, Dr. T. C. Ncinda, September 1979, Howard-CUSS Seminar Papers.

Instructional Objectives of the Mefou Community Health Program

At the end of this program, the student should be able to:

--describe the principles underlying the organization of various activities comprising the basic health services within the Cameroon health context;

--organize basic health services for a given community and be able to:

- describe the activities generally carried out within the basic health service;
- describe the health personnel of the appropriate categories needed to carry out these activities, as well as their job descriptions;

--draw up an organizational chart to show the basic organizational arrangement, lines of authority, and the supervisory and referral network within the basic health services;

--organize the collection of simple and accurate health statistics;

--describe the budgetary allocation and its operation for the basic health services;

--describe how the various data necessary for planning and evaluating health care for rural populations can be obtained (demographic data, health center records, health surveys, school surveys, etc.); and,

--participate in community health surveys and mass revaccination campaigns.

The program, in terms of its aims and objectives, is very responsive to the six public health skills previously noted under the overall instructional objectives for medical students. However, there have been a number of implementation problems, mainly with the logistical and supervisory aspects of the field work and a number of weaknesses in the existing health structure.

Note: Mefou is one of the areas where the USAID-supported Ministry of Public Health PTHE (Practical Training in Health Education) Project is being developed with technical assistance from AID, through a contract with the University of North Carolina and participation of members of the Peace Corps. Although present activities are mainly limited to environmental health (wells, pit privies, garbage disposal, control of animals), the PTHE Project has broader objectives, including self-help projects, village health committees, and itinerant health workers.

This project, therefore, has relevance to CUSS training activities in the future, and the recently completed mid-project evaluation emphasized this point.*

FIFTH-YEAR MEDICAL STUDENTS (EM 5)

Integrated Phase - Curriculum Emphasis is:

First Year of Two-Year Rotating Internship, Including Team Participation in Basic Rural Health Services.

In addition to progressive learning and practice in the major clinical disciplines, the students have to do a field public health exercise. This is called the Health Care Team Demonstration (HCTD) Program and is conducted at Bamenda, some 500 kilometers from Yaoundé, in the western part of Cameroon.

The fifth-year medical students go to Bamenda in groups of 6 to 8, where they stay for 6 weeks. At Bamenda, they are divided further into groups of 2 or 3 students, do a selected field study, and prepare a report as a team.

SIXTH-YEAR MEDICAL STUDENTS (EM 6)

Integrated Phase - Curriculum Emphasis is:

Second Year of Two-Year Rotating Internship, Including Four-Month Tour in a Department or District Hospital Area.

This year is divided into three stages:

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* PTHE Project (631-0009) Mid-Project Evaluation March 27, 1980, Karen Gridley, P. L. Nzeusseu, Jeannette Teunissen.

--Four months in acute medical care, coordinated by Unit of Clinical Sciences;

--Four months in applied biomedical sciences, coordinated by the Unit of Biomedical Sciences; and,

--Four months in integrated medical services, coordinated by the Unit of Public Health and preparation of a thesis.

Appendix F

ENGLISH SUMMARY OF CESSI INSTRUCTIONAL OBJECTIVES

Appendix F

ENGLISH SUMMARY OF CESSI INSTRUCTIONAL OBJECTIVES*

Health Planning

At the end of the two-year training course, the student must be able to:

A. Organize the collection and formulation of information concerning:

1. The state of health of a community;
2. The health resources available (personnel, equipment, health activities, etc.); and,
3. The factors influencing the state of health of the community.

B. Propose the most effective and efficient (in terms of cost) techniques in nursing and midwifery consistent with the planned program.

C. Direct the development of an active plan for nursing and midwifery care.

Planning and Administration of Nursing Care

At the end of the course the student must be able to:

A. Establish, coordinate, and supervise the planning and execution of nursing care for all types of health and related facilities, including home care and health education.

B. Help civil authorities to select the most effective and the least expensive techniques to eliminate the factors which adversely affect the health of the community.

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* Source: Programme D'Enseignement PLAN/COO/CESS/NO 46/ST.H/SEPT/75.

C. Supervise midwifery and nursing care activities in other related activities which fall under his (or her) responsibility.

D. Keep the authorities of training institutions informed about manpower gaps and needs.

E. Show that it is possible to apply scientific methods in carrying out investigations in collaboration with nurses and midwives.

Planning and Execution of Training Programs

At the end of the course, the student must be able to:

A. Define the educational objectives for the training of the different categories of personnel in nursing and midwifery care.

B. Apply the most appropriate techniques for teaching concepts, skills, and attitudes in addressing the educational objectives formulated.

C. Define the most suitable means for measuring students' progress.

D. Make logical and valid conclusions from the results obtained in studies.

E. Establish a plan of action for the development of activities in a nurse and midwifery training institution.

Appendix G

"ENGINEERING ISSUES FOR THE CUSS FINAL EVALUATION"
BY MR. SIEWE, ENGINEERING ASSISTANT

Appendix G

MEMORANDUM

Date: June 2, 1980

From: Mr. Siewe, Engineering Assistant (PDO)

To: Mr. Douglas Palmer, Project Manager, CUSS Project (631-0531)

SUBJECT: Engineering Issues for the CUSS Final Evaluation

As recently requested by your office, I went to the CUSS Community Hospital on Friday, May 30, 1980, and met with the Director, Dr. Joseph Mbede. The purpose of the meeting was to discuss issues, related to the completion of the hospital. Discussion was based both on the 1977 Oudeu's evaluation and C. Griffith's draft maintenance plan and recommendations. Many new issues have been identified since the above reports were discussed. A general inspection of the hospital's blocks was made to determine problem areas and to determine recommendations.

The 1977 Oudeu's report seemed to be unknown to Professor Mbede. While the Architect's Draft Annex G(2) - page 1 to 6, included in the Revised Project Paper, September 22, 1978, did not specify in detail the recommendations and modifications to be performed on the Pediatric and Maternity Units, Professor Mbédé thought that the main construction issues had been resolved since they were not raised by Mr. Griffith at his subsequent consultative visit.

Concerning the procurement of medical equipment mentioned in Oudeu's report, a part was delivered to the hospital on Thursday,

March 29, 1979. With regard to the center's improvement requirements to date, the most recent document was C. Griffith's evaluation of the maintenance plan and his recommendations on twenty points to be solved prior to the opening of the hospital. From this last report, a first draft-answer was sent to our office on September 26, 1979, including the proposed maintenance plan and comments on the main items needing close attention. These items were discussed once again during our meeting. The Maintenance Department situation has now become critical because of the departure of the high-level assistant electronics specialist, who was temporarily assigned to manage this service. Also, the senior-level electronics specialist is no longer available. For the time being, the maintenance of equipment is done by outside contracted services, which constitutes a temporary solution. From the discussion of C. Griffith's recommendations, the following were observed:

1. Activation of climate control in all areas:

   Completed - The central air-conditioner is functioning quite perfectly without any serious problems, except the occasional cut-offs.

2. Checking of all equipment for humidity damage:

   This is undertaken as the equipment arrives and is installed.

3. Housekeeping program, including washing of all painted surfaces:

   The low-level maintenance staff is now undertaking a wide program of floors and fixtures, periodic washings and cleanings, and painting (washable oil painting of all internal walls of Administrative and Health Service Departments). On inspection it was found that the walls running along the stairs were omitted. It was recommended that these areas be cleaned and covered with washable paint, since they are inevitably exposed.

4. Installation of alternative incoming water lines·

This problem has not yet been resolved. A single line carried regular service and emergency water. Frequent breakage of the water line has occurred and this breakdown deprives the hospital of its water supply. The malfunction always occurs at the connection of the hospital's line to the public water network and is probably due to pressure forces. As reported by C. Griffith in his last report, additional lines are necessary to prevent this type of incident during the functioning of the hospital.

The solution of the problem at the connection level must be found. One possibility is to to provide, upstream of the hospital's line, a system of reducing valves and/or charge-breakers to reduce water-pressure forces. It has been recommended that SNEC or another qualified service be contacted to propose an adequate solution to the problem. Even if a solution is found to the problem at the connection, it will be quite difficult to follow the existing single line with one additional pipe.

The existing pipe is enclosed in a trench, containing all the distribution and evacuation network. No space is available around the single line and additional piping systems following this track would not be possible without serious destruction and restorations. Another alternative might be to provide an independent water supply line. In any event, an adequate solution to the problem should be found prior to the opening of the hospital.

5. Stability of the eyebrow over the emergency entrance door:

This structure has shifted from its original position. The actual thickness of the eyebrow is 30 - 40 cm (why?). Presently, the settlement seems to be stable. Measurements have been made to verify possible continuation of the movement.

6. Fencing of the property with gate to secure hospital:

Many actions are underway to solve this problem. Cost estimates of this work have been recently prepared. It is estimated that an average length of 1 km of fence at a total cost, varying between 30 and 50 million Central African Francs, is needed. A request for allotment of funds is expected from the FY 1980-1981 budget.

7. Construction of access road for delivery of supplies to the lower level:

The access road to the lower level is too narrow for big

trucks. Space is available nearby for widening the road. Because the hospital is expected to extend from this side, it has been decided to postpone enlarging of the access road until after the design of the hospital's extension is known. The supplies can still be delivered to the center, in spite of some handling problems.

8. Construction of a fenced area to contain garbage:

This is a very important matter, from an environmental standpoint. The competent municipal service has been contacted and an adequate area has been designated for its implementation. Corresponding work is expected to start soon.

9. Construction of partition walls at lower level:

Some spaces have already been partitioned. Professor Mbédé is expecting to turn all empty spaces into workshops and storage areas. Some empty spaces are also available in the hospitalization wing. These will be designed to provide offices for personnel, etc.

The idea of locating maintenance service offices at these levels has been rejected because of noise constraints. The maintenance department will be contained entirely in a separate building to be constructed at the south of the hospital beyond the road.

10. Plumbing for minor operating room emergency department to handle application of plastercasts:

Completed.

11. Signs (for glass door attachment) controlling restricted areas, operating rooms, etc.:

Positive actions are in progress.

12. Purchase and placement of additional fire extinguishers:

Fire protection services have been contacted to solve the problem as soon as the extinguishers are available.

13. Posted (framed) signs outlining fire drill instructions: (site directional signs) -

Fire protection services are supposed to provide these elements, because they are an integrated part of their contract. A great deal of effort needs to be put forth, however, to provide the hospital with qualified personnel able to intervene in critical cases. A solution to this important question is being studied.

14. Access gate to accounting office:

    Completed - although not perfectly.

15. Protection of Gynecology waiting area from inclement weather:

    Completed.

16. Position of the Maintenance Chief Engineer:

    A maintenance chief engineer has not yet been found. The previous assistance chief engineer left the hospital for salary reasons. A positive action has been undertaken by Professor Mbede to obtain improvement of the future assistant chief engineer's position.

    It is expected that a new assistant engineer for the Maintenance Department will be hired in July/August, 1980.

17. Obtain manual for all equipment;

    The manuals are not yet available but they have been requested.

18. Avoid involvement in outside contracted services:

    The actual solution of involvement in outside contracted services is due to force majeure. It constitutes only a temporary solution, given the critical condition of the Maintenance Department. A training program of hospital staff is foreseen for the maintenance of all medical equipment during a transition period. But this training cannot be effective before the engineers are available at the hospital.

19. Procedures developed to ensure isolation of infectious cases:

    These procedures were not taken into consideration during the design of the hospital, so that it appears very difficult now to find an immediate solution. It is expected that provision for isolation should be considered with the extension of the hospital.

20. A mandatory, safe system of disposal of highly infectious waste solids:

    A dust destructor is available.

In addition to these items, new issues were discussed concern-

ing:

--The availability of space for the nursing station. Its location is foreseen at the lower level; and,

--The allocation of printing services:

The department at the hospital has estimated the cost of a separate building for printing services to be approximately 100 million CAF. Funds are expected from the FY 1980-1981 budget.

General observations were made on the schedule of the opening of the hospital which has been facing many delays, due to lack of personnel. The staff was installed one week ago, and actually, a revised opening schedule is necessary. Professor Mbédé is hoping that the opening of the Gynecology and Bio-chemistry and Hemotology laboratory sections will be effective in June/July, 1980.

Conclusions and Recommendations

From the general inspection of the hospital's facilities, it appears that the architectural compatibility with the environment and the structural framing of the buildings is, on the whole, acceptable, with some restrictions on the emergency entrance roof. The grounds surrounding the hospital have been well designed, with all green areas laid out, but some stagnant water is still seen in certain areas. The rainwater receptacles have been observed. The water drops from the roof onto quarry stone collectors on the ground. It has been recommended to provide adequate chains to lead water slowly to the ground level, in order to avoid water splashing, which inundates the veranda floors of some areas at the lower level.

Finally, it is recommended that solutions be found to some

outstanding problems, such as equipment maintenance, safe water supply systems, and security of the hospital itself.

Appendix H

TERMS OF REFERENCE

Appendix H

MEMO: Health Department Officer
Douglas W. Palmer
April 8, 1980

TO: CUSS Project Evaluation Team

FROM: D. W. Palmer, Project Manager

THROUGH: R. C. Brown

SUBJECT: Terms of Reference for the CUSS Final Project Evaluation

Following completion of seven years of AID's participation in the CUSS Project, December, 1979, AID will participate in a final evaluation of the project to assess progress made towards achieving the project's objectives.

The Evaluation Team will use, as a basis for the evaluation, the Logical Framework, included in the Revised Project Paper of 1977.

Specifically, the Evaluation Team will:

1. Assess to what extent the project purpose has been achieved: "To develop an effective and viable MCH teaching program within the University Center for Health Sciences." To make this assessment, the Evaluation Team will review progress towards or achievement of each Objectively Verifiable Indicator, using the means of verification given in the Logical Framework.

2. Specifically, an assessment must be made as to what extent:

   a. "CUSS Maternal and Child Health demonstration program developed and functioning as an integral part of the medical training service, and research program."

   b. "Family Health Out-patient and Pediatric facilities built and functioning as an integral part of the CUSS Community Teaching Hospital."

3. The evaluation team will assess the timeliness and completeness of donor and GURC Inputs to the project.

4. When the Evaluation Team has determined, in detail, achievements towards the project purpose, an in-depth assessment will be made and written into the evaluation report, giving achievements towards each of the Objectively Verifiable Indicators, measuring project goal and sub-goal.

In addition to the above evaluation criteria, from the Project Paper's Logical Framework, the Evaluation Team will assess the following items to provide a more complete, overall picture of project successes/failures:

5. Assess the degree to which the CUSS and CESSI have become truly Central African Regional medical training institutions.

6. Assess the benefits of both short- and long-term participant training provided by AID funds within the project.

7. Assess whether a feedback mechanism exists, from former CUSS graduates back to CUSS, providing information that may help in curriculum modification.

8. Assess continuing need at CUSS for expatriate teaching staff, and advise suggested solutions, if this situation exists.

9. Assess the degree that the delay in opening the CUSS Hospital has had on achieving project objectives.

10. Using the latest draft MEDCAM Project Paper (and if MEDCAM will, in part, incorporate the CUSS or CESSI graduates), assess whether planned CUSS participation in the MEDCAM project is well planned and feasible.

11. Assess the degree to which the project - produced textbook, The Nurse and Community Health in Africa, is being used in Cameroon.

Appendix I

BIBLIOGRAPHY FOR HARVARD/CUSS PROJECT

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Carrière, J., S. Colgate, M. Jato, and D. Mounlom. L'Infirmier et la Santé Communautaire en Afrique. Yaoundé, Cameroon: Editions CLE, 1979, 384 pp.

Colgate, S., J. Carrière, M. Jato, and D. Mounlom. The Nurse and Community Health in Africa. Yaoundé, Cameroon: Editions CLE, 1979, 350 pp.

Cousineau, L. Companion de L'Agent de Santé. (In preparation as a manual)

Drouin, P., B. T. Nasah, and F. Nkounawa. The Value of the Partogramme in the Management of Labor." Ob. Gyn. 53(1979)6, pp. 741-745.

Garrett, N. and V. Ada. Infant Feeding, Beliefs, and Practices: A Study of Cameroonian Health Care Personnel. (In preparation)

Garrett, N. A Study of Feeding Practices in Hospitalized Cameroonian Children. (In preparation)

————. "Teaching Immunization Is Not Enough: A Survey of Tetanus Vaccination in Health Sciences Students in Cameroon." (Submitted for publication)

Guillozet, N. and H. Nyame. "La Rougeole en Milieu Tropical: Ses Complications Coût et Prevention." Med. d'Afr Noire, Vol. 22, 1975, pp. 717-725.

Guillozet, N. and J. Mbantankhu. "Congenital Hypoplastic Red Cell Anemia of Childhood (The Blackfan-Diamond Syndrome): Case Report, Diagnosis and Management." EA Med. J.

Guillozet, N. "Drugs and Their Risks in Pregnancy." CUSS Journal, Vol. 16, June 1975, pp. 24-30.

————. Cameroon Provides Relevant Training." JAMA 232(1975)4, pp. 409-410.

————. "The Dilemmas in Child Health Care in Tropical Africa." Clin. Ped., Vol. 15, 1976, pp. 530-538.

————. "Succeeding in MCH Services: The Practice of Childhood Immunization." CUSS Journal, Vol. 20, 1976, pp. 16-22.

————. "Paralytic Diseases of Childhood in the Tropics." J. Tropical Pediatrics and Environmental Child Health 22(1976)6, pp. 294-303.

———————. "Sickle Cell SS Genotype and Paralysis in Children." J. of Ped., Vol. 89, 1976, pp. 605-607.

———————. "Measles in Africa: A Deadly Disease." Clin. Pediatr., Vol. 18, 1979, pp. 95-100.

———————. "Paralysis de L'enfant et Anemie à Hematies Falciformes SS." Médicine d'Afrique Noire.

———————. "Medical Education: Team Training of Physicians in Cameroon." J. of Tropical Pediatrics and Environmental Child Health. Vol. 22, 1976, pp. 225-231.

Janeway, C. A. "Caring for Mother and Child in Cameroon. I. Setting up a Program." Harvard Medical Alumni Bulletin. November/December, 1975.

Jato, J., D. Mounlom, S. Colgate, and J. Carrière. "Livre Adaptés aux Besoins des Infirmiers Africains." Developpement et Santé, Vol. 14, 1978, pp. 7-10.

Nasah, B. "Caring for Mother and Child in Cameroon. II. Running the Maternity Service." Harvard Medical Alumni Bulletin. November/December, 1975.

Nasah, B. T. and P. Drouin. "The Management of Pregnancy." Children in the Tropics, Vol. 105, 1976, pp. 3-41.