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REPORT ON THE FINAL EVALUATION OF THE HEALTH IMPROVEMENT FOR YOUNG CHILDREN PROJECT (NO. 532-0040)

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EXECUTIVE SUMMARY

The Health Improvement for Young Children (HIYC) Project, (No. 532-0040), which began in November 1977, and concluded on June 30, 1981, was designed as a logical follow-on activity to the early involvement of the Agency for International Development (AID) in the training and deployment of community health aides (CHAs) in Cornwall County, Jamaica, and as a logical complement to Jamaica Population Project No. 2 (JPP II). The changing health sector priorities of the Government of Jamaica (GOJ) and the financial constraints of the Ministry of Health (MOH) did not permit the project to be implemented as it was conceived originally. The project did, however, manage to make an impact on both inservice training of primary health care workers and other objectives which are now being addressed by the new Health Management Improvement Project. The other objectives include development of information, management, manpower development, and training systems for the health sector.

This final evaluation of the Health Improvement for Young Children Project was undertaken in February and March of 1982. It entailed three weeks of documentation review, interviews, and travel to the sites of project activities in Cornwall County. The evaluators noted that, although the project appeared to be well-designed to suit Jamaica's health sector needs in early 1976, by the time implementation of the project began (in 1978), these needs had been modified. New Ministry of Health policies, especially those to centralize training in the new Training Branch, and the decision to implement the Ministry's primary health care (PHC) system nationally, before further testing was completed in the pilot region of Cornwall County, led to considerable change in the scope of work in the technical assistance contract that had been signed with Johns Hopkins University (JHU). The inability of the Government of Jamaica to finance and staff the project as planned and the erosion of selected working relationships among parties to the contract led to a further reduction of the role of Johns Hopkins University. Eventually, it evolved that the university only provided two long-term technicians who were part of an effort to develop Jamaica's inservice training program for primary health care workers.

The JHU contractor assigned to the MOH's Training Branch in Kingston had not expected to work there, and he had to spend several months establishing a role for himself. Eventually, he was able to contribute to the Training Branch's support of the inservice training approach being pioneered in Cornwall County. In contrast, the contractor assigned to work with the Cornwall County Health Administration (CCHA) stepped into a role that had been waiting for her for at least two years, and she was able to be especially productive. Because of her tireless commitment to the project, Cornwall County was able to establish a working inservice training system, with a multidisciplinary team of inservice training coordinators working in each parish, and a functional regional Training Coordinating Committee.

Halfway through implementation of the project, a decision was made to contract with the University of the West Indies (UWI) to undertake several studies of the primary health care system in Cornwall County. These studies were undertaken by two students working toward a masters degree in science (M.Sc.) who were supported by the Department of Social and Preventive Medicine (DSPM/UWI). They were not able to demonstrate the impact of the primary health care system in the pilot districts.

From the evaluators' point of view, both Johns Hopkins University and the University of the West Indies performed well as project contractors, considering the changing priorities with which they had to contend. The project was able to demonstrate the effectiveness of having full-time staff specifically assigned to coordinate training in Cornwall County and of providing inservice training to develop teams to deliver primary health care services. It is hoped that the experiences acquired in this project will prove to be valuable to Jamaica, and especially to the MOH as it implements the new Health Management Improvement Project.

ABBREVIATIONS

AID/W	Agency for International Development, Washington (Headquarters)
APHA	American Public Health Association
BUCEN	Bureau of the Census (Information Systems Development Project)
CCHA	Cornwall County Health Administration
CHA	Community Health Aide
CHT	Center Health Team
CMO	Chief Medical Officer
DSPM/UWI	Department of Social and Preventive Medicine, University of the West Indies
GOJ	Government of Jamaica
HIYC	Health Improvement for Young Children
HPN	Health, Population, and Nutrition
IBRD	International Bank for Reconstruction and Development
IDRC	International Development Research Centre
IMR	Infant Mortality Rate
INSA	International Nursing Services Association
JHU	Johns Hopkins University
JPP II	Jamaica Population Project No. 2
LDC	Less Developed Country
LTA	Long-Term Adviser
MCH	Maternal and Child Health
MCSR	Monthly Clinic Summary Report

MOH	Ministry of Health*
MOH	Medical Officer for Health
MOHEC	Ministry of Health and Environmental Control**
NPA	National Planning Association
PAHO	Pan American Health Organization
PES	Project Evaluation Summary
PHC	Primary Health Care
PHI	Public Health Inspector
PHN	Public Health Nurse
PIO/P	Project Implementation Order, Participants
PIO/T	Project Implementation Order, Technical
P.L.	Public Law
PMO	Principal Medical Officer
PP	Project Paper
PROAG	Project Agreement
RFTP	Request for Technical Proposals
SMOH	Senior Medical Officer for Health
STD	Sexually-Transmitted Disease
TGM	Technical Group Meetings
USAID/J	Jamaica AID Mission
UWI	University of the West Indies (Mona)

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* Same as MOHEC.

** Same as MOH.

I. INTRODUCTION

This document presents the findings of the final evaluation of the Health Improvement for Young Children (HIYC) Project (No. 532-0040). Sponsored by the Agency for International Development (AID), the project began in November 1977, and concluded in June 1981. The evaluation was performed by two short-term consultants in collaboration with USAID/ Jamaica and Government of Jamaica (GOJ) personnel. It was conducted in February and March, 1982, approximately eight months after the project ended.

The project provided three years of assistance to develop Jamaica's primary health care (PHC) system and supported two long-term technicians. It involved approximately ten weeks of short-term consultation, participant training, three research studies, inservice training, field placement of medical students, and the purchase of selected commodities. The total cost to AID was $372,000. The project was largely implemented through two separate university contracts, one with Johns Hopkins University (JHU) and one with the University of the West Indies (UWI). It is hoped that the experience acquired while working with this project will prove to be valuable in implementing the Health Management Improvement Project (No. 532-0064), which is about to begin.

II. BACKGROUND

For the purposes of health services administration, the island of Jamaica and its two million people are divided into four regions and fourteen parishes. Most of the activities of the HIYC Project pertain to the development of the primary health care system in one of the regions, Cornwall County, which has five parishes and a population of 497,000.

The key features of the primary health care system, which was introduced in 1977, are the Types I, II, and III (Type IV will not be addressed) health centers which are staffed by a mix of traditional workers in changing roles and new kinds of health workers. For example, the Type I centers are staffed by a midwife who supervises two community health aides (CHAs). This three-person team is responsible for providing the basic minimum of services (both clinic- and home-based) and health education, all of which are primarily oriented to maternal and child health (MCH), to as many as 4,000 persons in the service radius.

The Health Improvement for Young Children Project was involved primarily in the training of health workers who staffed the centers. The emphasis was on team-building, development of supervisory capabilities, improvement of skills in communication, and upgrading of knowledge and technical skills.

There appear to be two main streams of activity which can be documented which led to the development of the HIYC Project. The most important of these is the evolution of the Jamaican basic health services delivery system. The other is the concurrent development and expansion of the use of community health aides as part of this system.

Early Efforts to Provide Primary Care

In the 1960s and early 1970s, Jamaica was committed to the development of comprehensive basic health services for its predominantly rural population, and it adhered to the priorities that most less developed countries (LDCs) share and which are confirmed each year at the World Health Assembly in Geneva, Switzerland. These priorities included emphasizing preventive care over curative care, enhancing the roles of health personnel who are not physicians, and integrating vertical programs into comprehensive services that are available to the people either near or in their homes.

In 1975, the GOJ entered into an agreement with the World Bank to collaborate in the development of a tiered health services delivery system in Cornwall County. As stipulated in this agreement, the World Bank was

to provide funds for the construction and repair of rural health centers throughout the county, vehicles, equipment, and a training coordinator. However, there were no funds in the World Bank-supported Jamaica Population Project No. 2 (JPP II) to train the personnel needed for the new facilities.

At the time, USAID/Jamaica was interested in expanding its activities in the health sector and, while exploring these interests with the Ministry of Health and Environmental Control (MOHEC), the mission was invited to collaborate in the development of a project which would complement JPP II by providing support to the inservice training efforts needed in Cornwall County. Inservice training for rural health centers was needed primarily for district midwives and CHAs.

Development of CHA Program

The second stream of antecedent activities involved the development of a CHA program in Jamaica. CHAs were first trained by the Department of Social and Preventive Medicine of the University of the West Indies (DSPM/UWI) in 1967. In 1969, after an encouraging period of experimental CHA employment near the university, more CHAs were trained and they began to serve in pilot CHA project areas of Cornwall County, including the parishes of St. Elizabeth, Hanover, and St. James. In 1972, the GOJ assumed responsibility for the CHA program and shortly thereafter CHA training was expanded rapidly, the objective being to employ CHAs to reduce Jamaica's unemployment problem. More than 1,200 CHAs are working in Jamaica at this time.

At about the time the GOJ took over the CHA program from UWI, Cornell University became involved in evaluating CHAs' effectiveness in using nutrition outreach activities to combat malnutrition and to lower infant mortality. The work, done in Hanover Parish in Cornwall County, involved Cornell medical students as sources of technical guidance for CHAs and researchers. Cornell reported a 50 percent drop in infant mortality and a 75 percent reduction in the prevalence of malnutrition in children. AID supported Cornell's work and requested an evaluation team to confirm the claims of reduced infant mortality and malnutrition.

In 1976, Dr. Carl Taylor and Mr. Robert Armstrong reported findings consistent with the Cornell claims, and they went further, making recommendations for future AID programming in this area. Their recommendations included, inter alia, careful functional analysis of the role of the CHA and frequent inservice training to meet the needs of the newly analyzed role; training of other health workers to provide supervision to CHAs; and development of an improved information and management system for Jamaica's rural health services. These recommendations influenced the design of the Health Improvement for Young Children Project. In addition

to providing for improved basic and inservice training of health workers in Cornwall County to complement JPP II, the new project was to contribute to the development of improved health care in Cornwall County by strengthening the management of the primary health care delivery system and improving the management information system.

Because the new project was designed to provide a long-term technical assistant for curriculum development and training, JPP II decided against employing (as originally planned) a training coordinator. Like JPP II, the Health Improvement for Young Children Project did not include a budget to support the operating costs of inservice training, although the documentation indicates that the GOJ would have borne such costs.

Design of the HIYC Project

The Health Improvement for Young Children Project was designed in early 1976. The Project Paper (PP) was submitted and approved in August 1976. The Request for Technical Proposals (RFTP) was distributed, and proposals were received from Johns Hopkins University and Meharry University in 1976. The project's records indicate that an inordinate delay followed, during which the Agency for International Development in Washington (AID/W) failed to proceed with the selection of a contractor and execution of the contract, despite repeated pleas from USAID/Jamaica and increasing pressure from the GOJ and the World Bank, which were concerned that the training, which was to complement JPP II, was not yet in progress in Cornwall County, although many of the newly prepared health centers were going into service. Finally, Johns Hopkins University was selected as the contractor and a contract was signed in November 1977, seventeen months after the project had been approved.

Johns Hopkins University was surprised to learn of its selection, because AID/W had not awarded it a contract following submission of a revised proposal in January 1977, and it assumed that the project had been dropped from AID's agenda. JHU was fortunate in being able to provide the same field personnel it had proposed, even after so long a delay in selection.

The principal features of the JHU proposal and the subsequent contract were the provision of two long-term technicians who would help to design a primary care curriculum and to train health workers in Cornwall County, and short-term specialist technical consultants who would collaborate in the development of information and management systems for the country and conduct functional analyses of the roles of health care workers. Circumstances eventually precluded JHU's involvement in all activities except inservice training.

Policy and Other Changes

In early 1978, before the two JHU long-term technicians arrived, the Ministry of Health and Environmental Control sponsored a workshop to determine how well the "pilot" efforts to develop primary health care services were proceeding in Cornwall County. At this workshop, it was decided that the GOJ would change from a regional, or pilot, approach to primary health care to a national program. One of the first results of this change in policy was a decision to centralize training at the MOHEC and to assign JHU's primary health care curriculum design specialist, Mr. Mark Gross, to the new MOHEC Training Branch in Kingston instead of Cornwall County. This decision was made after Mr. Gross was en route to Jamaica with his family, and it caused him great personal difficulty. It also created financial problems for the project, because funds had not been budgeted to cover the increased costs of sustaining a long-term technician in Kingston.

Other important changes were made in the scope of work of the project following MOHEC decisions that were taken just as project technicians were arriving in Jamaica. These changes included, inter alia:

- A decision to postpone a functional analysis by JHU of the roles of primary health care workers until the rural health centers were fully staffed and the health workers were performing their intended roles. (Dr. Kenneth Standard at UWI was already working on an analysis, supported by the International Development Research Centre (IDRC), of CHAs in Type I health centers. It was felt that his study should be analyzed before similar assessments were undertaken.)

- A decision to postpone JHU's involvement in efforts to strengthen health management until the JHU long-term technicians were in place long enough to determine the need for short-term consultants. Subsequently, this part of the project was deferred altogether, because it seemed that the Pan American Health Organization (PAHO) was providing such assistance.

- A decision to postpone the services of JHU short-term consultants who were to help develop a health management information system. This decision resulted in the deferment of this part of the JHU contract also. In part, the decision may have been made because the MOHEC felt that it was already receiving similar assistance from the AID-supported Information Systems Development Project of the Bureau of the Census (BUCEN).

These changes meant that, with the exception of Dr. Dennis Carlson, who provided short-term consultations in inservice training, the role of

JHU's short-term consultants was limited to making initial exploratory visits during which it was determined that the MOHEC was either not interested in or not prepared to receive their services.

Changes in Roles and Staff Constraints

The project's records are full of expressions of mutual admiration for and by Johns Hopkins University and the University of the West Indies. It is clear that it was the wish of the School of Public Health that this project would result in close collaboration with the University of the West Indies' Department of Social and Preventive Medicine, particularly in the performance of the special contract-related studies (the functional analyses, the studies of the effectiveness of inservice training, and the evaluations of the efficiency of the primary health care services system). For reasons which are not clear from the project's records, this inter-university collaboration did not materialize, and USAID/Jamaica ultimately contracted directly with UWI, from 1979 to 1981, to conduct the studies required by the project.

Under the contract with UWI, work was done in Cornwall County to evaluate the effectiveness of training personnel in Type I health centers, to assess the efficiency of primary health care services, and to devise methods that could be used regularly to measure the effectiveness of primary health care services. (These studies are discussed elsewhere in this document.)

Because JHU's involvement in project activities was reduced, the university's ability to make an impact was lessened also, limited essentially to the contributions of its two long-term technicians: Mr. Mark Gross, the primary health care curriculum design specialist assigned to the MOHEC Training Branch in Kingston, and Mrs. Willie-Mae Clay, the clinical training specialist assigned to Cornwall County.

One result of the last-minute decision to post Mr. Gross in Kingston, instead of Cornwall County, was that his role in the Training Branch was not defined when he began his work. In fact, the Training Branch had not expected him, and it was still trying to define its own role as a newly created element of the MOHEC. The outcome was that Mr. Gross initially was employed as "just another pair of hands" in the understaffed Training Branch, and he did not establish a productive role for himself until more than six months of his twenty-one months of employment had elapsed. Ultimately, Mr. Gross was very effective in helping to develop and implement training-of-trainers workshops to prepare multidisciplinary teams of in-service training coordinators for all of Jamaica. He also conducted PAHO-funded supervisory management workshops to prepare midwives for their roles in the primary health care system, especially as supervisors of CHAs.

Mrs. Clay stepped into a situation in Cornwall County quite unlike that of Mr. Gross in Kingston. The senior medical officer for health (SMOH), Dr. Anthony D'Sousa, had a strong interest in, and had played a major role in the design of, the project and had been waiting years for help in setting up an inservice training program. He put Mrs. Clay immediately to work. Mrs. Clay was extremely effective in setting up a system of inservice training coordinators at the parish level and in designing and conducting inservice training for all levels of primary health care workers, despite the almost total lack of funds to support such training. Her contract in Jamaica was extended until December 1980.

Funding and Operational Constraints

The operating costs for training were to have been funded by the GOJ, according to the original project design. At the MOHEC, the principal proponent of the project and an important contributor to its design was Mr. Glenn Vincent, the permanent secretary. Mr. Vincent died before implementation of the project began, and when it appeared that the GOJ might have difficulty funding its share of project costs, the new functional project manager for the MOHEC, Dr. Patterson, wrote to AID to request funds for training. Dr. Patterson's request led to an exchange of letters between USAID/Jamaica and AID/W. AID/W invited JHU to submit a formal request for additional funding, as outlined in Dr. Patterson's letter. The university did submit the request, but, to its knowledge, the request was never processed. In the interim, USAID/Jamaica began negotiations with the GOJ to have funds generated by the sale of P.L. 480 foods made available to development projects such as Health Improvement for Young Children.

In 1978, USAID/Jamaica signed its first agreement with the GOJ on the use of "counterpart funds" generated by the P.L. 480 food program. The Health Improvement for Young Children Project was to receive substantial support ($463,529 during the first six months of the agreement) for training and other costs associated with the JHU technicians. Unfortunately, the mechanism that would have made these funds available to the project was never developed. The funds went into the general budget of the Ministry of Health and were lost to the project.

In the latter stages of the project, it became apparent that the project's budget was not being expended as rapidly as had been anticipated, and USAID/Jamaica therefore used project funds to provide direct support for inservice training activities and the field placement of UWI medical students in Cornwall County.

Many of the issues that have been cited in this chapter are elaborated in other parts of this report. Suffice it to say here that, although the project was originally designed as a pilot, or demonstration,

effort (and in many ways portions were used in that fashion), the twenty months that elapsed between the time the project was designed and the time it was implemented were a period of change in Jamaica that ultimately required modification of the purpose and conduct of the project.

III. METHODOLOGY

This evaluation is the end-of-project evaluation. It is intended to provide USAID/Jamaica and GOJ health officials with an assessment of the degree to which the purposes and goals of the project were achieved, and to identify those elements of the project and lessons that have been learned that might be applied to the Health Management Improvement Project which is now under way.

In the project implementation plan, three joint evaluations were scheduled. The third was to have taken place during the final month of the project. A review of project documents revealed that at least one joint evaluation was held, in December 1978. A Project Evaluation Summary (PES) was written in April 1979. A rating of contractors' performance was completed in July 1979. Johns Hopkins University submitted an end-of-year project review in February 1979, and a final report in May 1981. The DSPM/UWI evaluated two project components and submitted interim reports and a final report in March 1982. According to the quarterly project reports, two additional evaluations are outstanding: one from JPP II and one from Dr. Barry Wint.

This evaluation was conducted over a period of three weeks (two days in Washington, D.C., and Baltimore, Maryland, and twenty days in Jamaica) by two consultants employed through the centrally-funded USAID contract with the American Public Health Association (APHA).

No basic research was undertaken during this evaluation. The findings on the effectiveness and inservice training of primary health care workers derive in part from findings from research conducted by the University of the West Indies as part of this project. Other findings derive from the evaluators' observations, previous experiences, and an analysis of available documentation on the project.

The evaluation is based on:

--a thorough examination of project documents, reports, and correspondence (see Bibliography);

--site visits in Kingston, Montego Bay, Sav-la-mar, Georges' Plain, Town Head, and Cornwall Mountain;

--briefings, interviews, and meetings at APHA, AID/W, USAID/Jamaica, and the Ministry of Health and with JHU and UWI personnel formerly employed in the project (see Appendix A);

--attendance at meetings of the senior health administrators of the Cornwall County Health Administration (CCHA) and the Cornwall County Inservice Training Committee; and

--interviews with personnel from two other funding agencies in Jamaica (PAHO and the International Bank for Reconstruction and Development (IBRD)).

IV. EXTERNAL FACTORS

Chapter II of this evaluation and the discussion of external factors in the 1979 Project Evaluation Summary (see pages 3-5) identify factors that inhibited initiation of the project and reduced the scope of work as it was presented in the project plan.

This section identifies eight major external factors that contributed to difficulties in implementing the project as planned. It contrasts the validity of the assumptions made in 1976 with the realities of 1978, when the project began operations in Jamaica.

Major External Factors

A. Change in Health Leadership and Priorities

In the interim between design of the project (1976) and project implementaiton (1978), Mr. Glenn Vincent, permanent secretary of the Ministry of Health (MOH) and an architect of the plan to deliver health services by region, died (late 1977). The regional plan contained a provision for a pilot effort in Cornwall County (the Western region) from which the lessons learned would be applied to the other regional programs. Both JPP II and AID's Health Improvement for Young Children Project were intended to be sources of support and technical assistance for this effort. In early 1978, the MOH decided to implement the primary health care plan island-wide, and not to wait for the outcomes of the pilot project in Cornwall. This change significantly modified and redirected project activities (see Chapter VI).

B. Project Modifications by Ministry of Health

The Ministry of Health modified the project, eliminating the proposed JHU consultants' contributions to management, evaluation, development of information systems, and functional analysis. The latter was intended to provide a foundation for inservice training curricula and to identify the information that management and supervisors need. It was expected that after field-testing in Cornwall, a modified functional-analysis technique could be used by the MOH in the national program. However, by the time the project got under way, the DSPM/UWI was conducting an assessment of the CHA program; this, it was thought, would satisfy the need for a functional analysis in Cornwall. And, in the interim between 1976 and 1978, a PAHO management consultant was providing guidance

to the MOH in management and supervision. The evaluation component was contracted to the DSPM/UWI.

C. Delay in Project Implementation

The project was approved in 1976, the contract was signed in late 1977, and the two long-term advisers arrived in early 1978. As noted above, in the interim, the GOJ's plans and priorities shifted.

D. Centralization of Training

The MOH's decision to centralize primary care inservice training led to expansion of the MOH Training Branch with the addition of training officers. In 1977, a training chief was appointed and by 1978 two training officers were in place. Island-wide training needs were assessed during two large conferences in 1977, after which an inventory was developed and a training schedule was established. Partly because of the magnitude of the training tasks and partly because of the earlier decision not to focus the project's efforts exclusively on Cornwall, one technician for the project was assigned to the Training Branch instead of the CCHA. The Training Branch was not expecting this person, and he had to begin his work without a formal job description. He had to make a job for himself.

E. Lack of Inservice Training Funds in Cornwall

The funds to support inservice training in Cornwall were to have been derived from P.L. 480 funds released by the Ministry of Finance to the Ministry of Health and then to the CCHA. These funds never materialized. The results were frustrations, delays, and revisions in Cornwall's inservice training plans and programs. In contrast, the then chief of the Training Branch reported no shortage of training funds for the national programs.

F. Staffing Shortages

In certain categories, Cornwall lacked 50 percent of the personnel it needed in 1978. Although CHA strength was not a problem, there was lack of depth in management and supervision, which made it difficult to field and train health teams and to provide and sustain a strong management and supervisory focus for training. The MOH's expectation that

the training-of-trainers' workshops would provide a cadre of trainers who would effectively extend the Ministry's planning and training capacities was, it seems, somewhat unrealistic. The trainers were already fully employed in their categorical jobs and, despite staffing shortages, had to ensure acceptable levels of service provision.

G. Economic Deterioration

Between 1976 and 1980, the economic situation in Jamaica deteriorated seriously. Foodstuffs and other commodities were in short supply; unemployment was high; there was large-scale out-migration to Canada and the United States, as well as violence; and the sources of foreign exchange were significantly reduced. The government cut back ministry budgets, which resulted in shortages of staff and equipment and restrictions on travel. Lacking foreign exchange, the government was unable to purchase medical equipment and supplies. The result was that far fewer allocations than were planned were made to the counties, including Cornwall, to implement primary health care services.

H. Working Relationships

Given the implementation of an island-wide primary health care system under predictable pressures and strains and in a period of economic decline, it is not surprising to find that the documentation on the project (correspondence, the quarterly report dated April 1979, working notes, and memoranda) reveals that certain working relationships impaired smooth implementation of the project. Relationships were established between USAID/Jamaica and AID/W; USAID/Jamaica and JHU; USAID/Jamaica and UWI; JHU and UWI; among the divisions of the Ministry; between the MOH and the CCHA; and, perhaps, between the MOH and JHU. No one institution or agency was any more at fault than another for the problems, according to the documentation. However, it is probable that the effects of impaired working relationships resulted in failure to achieve the inter-university collaboration originally sought by JHU and UWI. In addition, the JHU campus administrators became increasingly isolated from the project, dealing at a distance with changing priorities, a much reduced scope of work, and erosion of interest in the project itself by the MOH and USAID/Jamaica.

Neither from documentation on the project nor from interviews does one gain the impression that all the players felt they were on the same team.

Validity of Assumptions

The eight factors described above bear directly on the validity of assumptions to achieve targeted goals in the Logical Framework of the Project Paper. The achievement of goals, as set out in the Project Paper, was impeded by many assumptions that were no longer valid in 1978; therefore, it is not surprising that the project as it was conducted bears little resemblance to the project described in the early plans.

The assumptions and estimates of their validity are presented below.

Assumptions Made in 1976	Estimates of Validity During the Life of Project, 1978-1981
1. The GOJ continues to place high priority on health programs.	High, although the GOJ budget allocation to the MOH did not entirely reflect the priority assigned to health.
2. The GOJ and the MOH continue to carry out plans to provide health care delivery systems island-wide.	High.
3. The target group is receptive to basic health care provided by non-medical personnel.	High. This was validated in the DSPM/UWI study on CHAs published in 1979.
4. Trained personnel have remained in place. They are: --CHAs; and --administrative staff in Cornwall.	High in reference to CHAs; otherwise, variable, depending on category of administrative staff.
5. A related IBRD loan will supply materials and technical resources required by this project.	Medium. For example, only one-half of the number of vehicles purchased for the CCHA ever arrived. Some audiovisual equipment and educational materials were provided. It is not clear whether planning and evaluation assistance through the MOH was provided to Cornwall.

6.	The MOH continues to budget and allocate funds at planned levels to Cornwall County	Low. Inservice training funds were not made available. Certain staff slots were not filled and operating expenses were cut.
7.	The MOH continues with plans to decentralize.	Low. Training and procurement of supplies were centralized, not decentralized.
8.	The GOJ will carry out non-project inservice training to upgrade existing or to qualify new personnel for center health teams (CHT).	High. For example, the MOH did provide training to midwives and training coordinators.
9.	The MOH carries out plans to improve entire record system.	Low. The Monthly Clinic Summary Report (MCSR) was introduced one year ago, and it is still under revision. This is only one component of a record system.
10.	The GOJ supplies required personnel.	Low. The CCHA was reported to be 50 percent short of required staffing for certain categories at the parish and district levels. No training personnel were assigned to the CCHA.
11.	AID funds the project for three years.	High. AID did provide funding from November 1977, to June 30, 1981.
12.	The GOJ makes available required funding, necessary personnel, and logistic support.	Low. The GOJ never made special funding available to the project; nor did it provide counterpart personnel or logistic support in Cornwall.

Nearly one-half of the assumptions made in 1976 were invalidated by external factors, both in the two years that preceded implementation of the project and during the conduct of the project. Because the assumptions became invalid, the focus had to be changed and the scope of work was reduced considerably. In its final form, the project had three components:

--training (inservice, medical, and participant training, and training evaluation);

--commodities; and

--special studies.

The scope of work for Johns Hopkins University was confined to the provision of inservice training. The university's proposed contributions to management, evaluation, development of information systems, and functional analysis were deleted from the scope of work. PAHO, and not JHU, provided management consultation; the University of the West Indies, and not JHU, conducted evaluation studies; and BUCEN and others provided assistance in some aspects of information-system development. The proposed functional analysis was never conducted.

The purpose of the Health Management Inprovement Project is to strengthen the ability of the MOH to plan, implement, and evaluate primary health care and nutrition programs. Consequently, it is in the final analysis that USAID's contributions to manpower development and training and health information systems will be made.

V. INPUTS

Use of Funds

The Project Paper Logical Framework does not present a breakdown of how AID expected the $375,000 in U.S. grant funds to be used, nor how the GOJ's contribution of $2,600,000 would be expended. This information is available, however, from the budget tables. Table 1 shows that, in spite of the remarkable shifts in circumstances which caused considerable modification of the plans for implementation, the actual AID financial inputs conformed closely to those outlined in the Project Paper. Incomplete actual and planned analysis is presented for the GOJ's contribution; however, it is clear that the GOJ was unable to commit funds specifically earmarked for the support of this project. The GOJ's contribution was indirect, defined by the salaries of the health workers who worked on inservice training in Cornwall County and in the Training Branch of the Ministry of Health.

Although it was initially expected that the bulk of AID technical assistance funds would be used to support the JHU contract, the reduction of the scope of work of the JHU contract, which was occasioned by changes in the Ministry of Health's priorities as the project was being implemented, led to reduction, by $127,155, of the original amount specified for the JHU contract. A total of $59,600 was used to support the UWI contract to evaluate selected aspects of the project in Cornwall County; the remaining funds were used to support inservice training and other primary health care activities in Cornwall County which were directly relevant to the project's objectives.

With the exception of the GOJ funds, which were particularly important for support of the inservice training program in Cornwall County, and the initial delay in the arrival of all AID inputs, because AID/W took almost one year to select the contractor, the project's inputs appear to have been delivered on time and to have been of appropriate quantity and quality.

Effects of Constraints on Activities

In 1978, the GOJ signed a formal agreement with AID to provide the most important part of project support from counterpart funds generated from P.L. 480 food sales. In fact, the mechanics required to identify these funds in the Ministry of Finance, have them transferred to the Ministry of Health, and allocate them to the project were never worked out. Neither the project's technician, CCHA staff, nor USAID/Jamaica were able

Table 1

PROJECT FINANCIAL INPUTS
($000s)

Budget Category	AID Project Paper	AID Actual	GOJ Project Paper	GOJ Actual	Budget Category
Technical Assistance	310	316.7	2,200	?	General Salaries
Participant Training	16	3.8	100	0	Salaries for Project
Commodities	05	15.8	100	0	Commodities
Medical Students	00	25.0	--	--	
Other Costs	--	5.7	200	0	Operating Costs
Contingency	44	--	--	-	
TOTAL	375	372.0*	2,600	?	

* $372,000 equals the full amount of AID funds obligated for this project.

to resolve this problem, and the project's training activities suffered as a result.

This constraint aside, the JHU long-term advisers were extremely resourceful, as were their immediate colleagues, and a remarkable number of training activities (see Appendix B) was undertaken. Transportation was borrowed; the participants fended for themselves; and materials often were improvised. The success of the inservice training program is a testimony to those who were willing to sacrifice so much to implement this activity, a critical element in the effort to develop primary health care services.

At the time the Johns Hopkins University contract was signed, it was expected that the short-term technical consultants would spend a considerable amount of time in Jamaica (twenty-eight months) working on the development of the health information system, the management system, functional analyses of the roles of primary health care workers, and the project's evaluation and research activities. With the exception of Dr. Carlson, who visited the country more than once and was able to make valuable and appreciated input into the development of the inservice training program, the JHU technical consultants were limited to making only initial exploratory visits. This was because the GOJ was not prepared to have JHU provide more assistance in information systems, management, functional analyses, or evaluation at that time. During the life of the project, the university's consultants were in Jamaica less than three months.

The inputs specified under the UWI contract (i.e., research assistant's and supervisors' time) were made, as required.

Other Inputs

Other inputs, such as support of medical students assigned to Cornwall County, provision of inservice training, direct operating costs, and support for the development of a manual (guidelines) for Type II and Type III health centers, resulted from the identification of these activities as priority areas for project support after implementation of the project had begun. In producing the manual, the objective of redirecting project inputs was not achieved. Only one chapter of the proposed manual, "Role of the Staff Nurses in Types II and III Health Centers," was delivered.

Summary

In summary, the delivery of project inputs usually occurred as planned. The absence of GOJ funds specifically allocated to the project had a negative impact on activities, but reflects economic realities in

Jamaica. Other problems which confronted the project were not the result of poor performance in delivering inputs.

VI. OUTPUTS

The Project Paper lists seven specific output objectives and suggests methods for determining whether or not these objectives were achieved. These outputs are discussed below. It should be remembered that changing priorities and a deteriorating economic situation in Jamaica forced subsequent changes in the project's output objectives.

Outreach

> 1. *Implementation of outreach services with the capacity to contact 90 percent of households quarterly.*

The primary health care system in Cornwall County employs more than 500 CHAs who work out of rural health centers. These CHAs definitely represent the capacity to visit every household quarterly; in fact, their objective is to make a visit each month. Although there is some unevenness in the level of CHA activity from district to district, and although documentation of CHAs' activities is incomplete, it would appear that this output objective is being met, both in practice and in capacity.

Decentralization

> 2. *Implementation of the decentralized management, supervisory, and support services of the Cornwall County health care system.*

The financial constraints on the MOH have precluded the delegation of fiscal and manpower development authority to the county. Nonetheless, work is proceeding within the confines of severe budgetary and personnel constraints, and an ongoing program has been established in Cornwall County to develop staff skills in planning and managing local health programs.

Functional Analyses of Staffing

> 3. *Functional analyses of the roles of the community health team (CHT) members and further elaboration of the responsibilities of paramedical and administrative personnel responsible for community health care services.*

Shortly after implementation of the project began, the MOH decided that it would not be worthwhile to conduct the functional analyses until the rural health facilities were sufficiently well staffed that health workers would be performing the roles for which they were employed. Furthermore, it was thought that the University of the West Indies would be performing an analysis of the role of CHAs, and that this assessment should be completed before functional analyses of the roles of other categories of health workers were undertaken. The objective of conducting functional analyses subsequently was dropped from this project.

Although a functional analysis was not made of the roles of primary health care workers, the respective responsibilities of these personnel were examined and revised constantly. Changes are evident in the inservice training programs which were developed during the project (see discussion of the outputs of the Johns Hopkins University technicians).

Regional Training Unit

> 4. *A training unit, established and functioning in the Cornwall County Health Office, developing and coordinating initial and inservice training of the community health team members (i.e., medical officers (MOs), public health nurses (PHNs), district midwives, auxiliary nurses, community health aides, public health inspectors, (PHIs) and nurse-practitioners).*

The GOJ was unable to create the expected staff slots for a regional training unit. (Creation of the unit is still strongly recommended.) However, as a direct result of the activities of the project's contract technicians, particularly the technician assigned to Cornwall County, selected health workers from each parish were appointed as inservice training coordinators. They received special training in the new responsibilities

which this title carried. Representative inservice training coordinators were named to represent the parishes on the regional Cornwall County Inservice Training Coordinating Committee; this multidisciplinary group functions as the training unit defined in the project design.

The level of professional commitment and energy demonstrated by the Cornwall County Inservice Training Coordinating Committee is remarkable, when one considers that all of the members have many other primary duties. Their other roles, however, do prevent them from giving enough time to inservice training, and inservice training in the county has slackened somewhat since the departure of the project technician. Documentation of and reports on the development of inservice training have almost completely ceased.

Expansion of Personnel Training

> 5. *Trained personnel for key administrative and support staff posts in the county and parishes in position and functioning.*

The project did not undertake basic training, opting instead to focus on inservice training. Financial constraints prevented the county from significantly expanding its staff of health workers during the life of the project.

Development of Management Information System

> 6. *Initial design for an improved information system encompassing client, personnel, service, and cost records intended to facilitate use of program information in decisionmaking at each level of supervision and health care.*

This output objective was deleted from the project. However, the GOJ received assistance from PAHO and BUCEN, and a primary health care management information system is being developed. The Monthly Clinic Summary Report system has been installed and is in operation; data on facility service and some outreach programs are being collected, consolidated, and reported back to the field after only a two-month delay. Manuals are being prepared to help rural health personnel use the data in program planning.

CHA Census

> 7. *CHA census completed annually in project area and results tabulated and available within three months of completion of collection of the annual census data.*

The early CHA inservice training sessions developed under this project included training in census-taking, but this activity has not occurred and no good census data are available for much of Cornwall County.

Design of Project

The Request for Technical Proposals emphasized these seven outputs. The technical contract was awarded to Johns Hopkins University, whose proposal stressed four basic aims: design of a primary care curriculum and training; functional analysis of the roles of health workers; improvement of information systems; and improvement of management systems.

Initially, the Ministry of Health viewed the HIYC Project as being complementary to the World Bank-sponsored JPP II. This project would provide the inservice training component which was intended to complement management, construction, and other features of JPP II. The inclusion in the Health Improvement for Young Children Project of information-system development, management-system development, and functional analyses of health workers' roles probably reflected the interests of the USAID/Jamaica health officers and the designers of the original project. The GOJ accepted the "expanded" design, but later, when implementation was to begin, it restricted Johns Hopkins' activities to inservice training.

The inservice training activities of JHU's Jamaica-based team were undertaken in Cornwall County and in the Training Branch of the Ministry of Health. The latter had been expanded in 1978 and was intended to be the focal point for all training activity in the MOH.

The long-term adviser assigned to the Training Branch was not in fact an adviser. Rather, he became another staff member, contributing to the plans and programs of the Training Branch, which included the training-of-trainers workshops and the workshops on supervision by midwives. For at least the first six months of his assignment, the consultant attempted to establish a position for himself. Thereafter, his role became clearer, as did his contributions. By working with the long-term adviser in Cornwall, he was able to apply Cornwall's inservice training experiences in designing and executing programs for the Training Branch.

It is the evaluators' and Dr. Wint's impression that this transfer of experience would not have occurred to the degree that it did had JHU's long-term advisers not been in place.

Other activities in which Johns Hopkins University had expected to be involved are described below.

A. Functional Analysis

A decision was made to defer this activity until the UWI could complete its study of CHAs in 1978. This study was completed and the results were reported in December 1979. The study was not a thorough functional analysis and it has not resulted in modification of the curriculum.

B. Information System

The objective of improving the information system was eliminated from this project, although it was addressed in the AID-supported BUCEN consultation. Continued development of the primary health care information system is to be supported in the new Health Management Improvement Project.

C. Management System

This activity also was deleted from the project and from the scope of work for JHU, but it was addressed in the technical assistance contract with PAHO and will be the principal focus of the new Health Management Improvement Project.

D. Evaluation Studies by JHU

Johns Hopkins University had hoped to undertake a series of evaluation studies on the effectiveness of inservice training and the efficiency of primary health care services in Cornwall County. The documentation indicates that JHU had hoped to establish good inter-university collaboration by conducting these studies jointly with UWI. However, for reasons which remain unclear after a review of the documentation and interviews with many of the individuals involved in the project, this collaboration failed to materialize. In fact, JHU did not undertake the studies; a new contract for the evaluations was executed with UWI.

E. UWI's Role in Evaluation Studies

Specifically, the UWI contract called initially for three outputs, each of which is discussed below; the fourth output was later added.

1. *To evaluate the training of personnel serving in Cornwall County health centers and to assess further training needs.*

This evaluation was undertaken by a UWI M.Sc. student. Working in Cornwall County, the student attempted to determine the impact of inservice training on the knowledge of midwives and CHAs and on the application of that knowledge. Using a survey instrument to which all the interested parties had had an opportunity to contribute, the student completed his study, reporting the following findings:

- On a test of topics on inservice training, there was no significant correlation between the test score for total knowledge and the total number of inservice training sessions attended. Unfortunately, this finding was presented in such a way that many people thought the author was saying that the study demonstrated little, if any, utility in inservice training. No topic- or session-specific comparison was made of the test performances of those who had had inservice training and those who had not had inservice training.

- There was no significant difference in test performance between health workers from pilot districts and health workers from other districts. Again, many people misinterpreted this finding as evidence that inservice training was ineffective, even though both comparison groups had received inservice training. The objective had been to demonstrate that additional material and supervisory support in the pilot areas would result in higher scores on tests of knowledge and application, but no such demonstration was possible.

- For certain topics, levels of functional knowledge were low. This finding was thought to be the most significant by the inservice training coordinators in Cornwall County. These coordinators reacted immediately by planning their future training programs to emphasize those areas in which additional knowledge and skills were needed.

2. *To devise methods for continuing use in measurement of the effectiveness of primary health care services.*

This study also was undertaken by a UWI M.Sc. student and involved the comparison of pilot districts with non-pilot districts. The study, which used extracted postpartum, antenatal, and environmental indicators from health center records, was unable to demonstrate any difference between pilot districts and non-pilot districts. Perhaps this was because the pilot districts had been established only two and one-half years earlier. The study did highlight a number of problems which were common to both pilot districts and non-pilot districts. Among these problems were material needs, reference books, and training requirements.

3. *To assess the efficiency of the primary health care services.*

During the twenty-one months that it was under contract to the Health Improvement for Young Children Project, UWI was unable to identify a methodology for an efficiency study of primary health care services. The lack of data on costs, processes, and benefits precluded such a study.

4. *To examine the validity of statistics on the infant mortality rate in Cornwall County.*

This study was added in the first amendment to the UWI contract; it is discussed in Chapter X.

Other Outputs

Additional "outputs" of the project which were not part of the original project design but which were delivered over time are discussed in Chapter X. They include, inter alia, the establishment of multidisciplinary teams of inservice training coordinators in every parish in Jamaica and support of UWI medical students during field placement in Cornwall County. An additional "output" which it was hoped would be added to the project in its later stages is cited in the August 1979, Amendment (No. 3) to the JHU contract. This output is the "development and production of policy and procedure manuals for Type II and Type III centers as well as a general reference manual." One JHU technician was able to stimulate a series of technical group meetings (TGM) to define the role of staff

nurses in Type II and Type III centers, but this work was not carried on after the technician's departure and the manuals were not developed.

Summary

In summary, the principal output of this project has been the establishment of standing multidisciplinary committees of inservice training coordinators, first in all five parishes in Cornwall County, and ultimately throughout the country. These parish-level committees and their regional counterpart at the Cornwall County headquarters are the result of a tireless investment of energy by the JHU technician assigned to Cornwall County as the clinical training specialist. This person, working with the committees to develop and implement inservice training programs for rural health workers in Cornwall County, was remarkably effective in establishing a team attitude toward the delivery of primary health care services--an attitude which is still reflected in the work of the committees. That the technician was able to accomplish this in so little time is also a testimony to the commitment of the Cornwall County health workers to push ahead with the development of primary health care services, despite the many constraints, and the willingness to accept the JHU technician as a colleague.

Other outputs, most of which are discussed in Chapter X, contributed to the development and spread of the approach to inservice training begun in Cornwall County. The experience and training materials were collected and published by the JHU technician in Cornwall as Casebook of Guidelines for In-Service Training of the Primary Health Care Team. This document was distributed to the technician's colleagues after she left.

VII. PURPOSE OF THE PROJECT FOR EVALUATION

Specifications in the Project Paper

As stated in the Logical Framework, the purpose of the project was "to improve the Cornwall County primary health care system." This statement does not distinguish between the subgoal and the purpose, except to insert the word "primary" in the latter. However, the narrative in the Project Paper goes further, pointing out that the project will emphasize services to high-risk groups of children under six and women of childbearing age. The achievement of the "end-of-project status" sought in the Project Paper is discussed below.

> 1. *67,000 (80 percent) rural families have utilized primary health care and are contacted once per quarter by CHAs and PHIs (compared to 40,000 in 1975).*

Because of the lack of GOJ funds which would permit full staffing and development of a functioning health information system, it is not possible to assess the degree to which the Cornwall County population is covered by the primary health care system. It does not appear that all homes are being contacted as frequently as once each quarter.

> 2. *295,000 (70 percent) women of childbearing age and children under six received the minimum level of health care (compared to 175,000 in 1975).*

Data do not exist to assess this indicator. Nor is it clear to what the project's designers were referring (i.e., contact at a health center or home visit).

> 3. *Increase of staff levels over 1975 to those projected in Cornwall health plan.*

The staffing projections in the 1976 Cornwall health plan are not included in the documentation on the project. However, it is safe to say that the deterioration of Jamaica's economic status (see Chapter IV) made

it impossible for Cornwall County to achieve its manpower goals, and considerable manpower shortages still exist in certain categories throughout the county.

4. *Data collected, analyzed, and utilized in Cornwall County and made available to MOHEC for use as basis for central MOHEC decisions.*

The objectives to develop management information systems were abandoned during the early phases of implementation. PAHO and BUCEN, however, helped the MOH to develop the Monthly Clinic Summary Report system in which data are gathered and sent to the Ministry. Analysis occurs centrally, and it is expected that the data will be used by the counties and parishes once local health workers become familiar with and are trained to use the monthly computer printout sheets which they have begun to receive.

5. *Uniform method of projecting manpower needs, county level, and training is responsive to these needs.*

The expression of this objective is not clear; however, the evaluators can definitely say that a uniform method to project manpower needs has not been developed. The financial constraints of the county have precluded training for which need has been identified.

Technical Assistance Contracts

The basic Project Paper was not amended, even though the objectives of the project were modified significantly after the Project Paper was approved. By the time the technical assistance contract with Johns Hopkins University was signed, the principal objectives had been modified to focus on the training and management needs of the health services system of Cornwall County. These objectives were modified still further when difficulties arose during implementation. The scope of work for Johns Hopkins University was reduced further, a small research contract was negotiated with the University of the West Indies, and provision was made for direct support through the senior medical officer of the county. (These changes in objectives and attainment of the new objectives are discussed in Chapter VI.)

Conclusions

It is the evaluators' impression that the project resulted in several improvements in Cornwall County's primary health care system. The inservice training activities begun by the project's technical assistants led to development of a team approach toward delivery of primary health care which still is evident in Cornwall County. The project also stimulated adoption of a systematic approach to inservice training which continues to develop at this time, in spite of the remarkable financial constraints on the entire system.

VIII. GOAL AND SUBGOAL OF THE PROJECT IN RELATION TO EVALUATION

Goal

The Health Improvement for Young Children Project was designed to contribute to development of "a national health care delivery system integrating curative and preventative, personal and environmental health services designed to reach the rural population of Jamaica." As stated in the Project Paper, it was not expected that this overall sector goal would be attained during the life of the project. Regardless of the difficulties cited in Chapters II and IV of this report, it is the impression of the evaluators that Jamaica is making slow and determined progress in achieving this sector goal and that the HIYC Project has made a significant contribution.

Subgoal

The Project Paper states that the subgoal of the project was "to improve the health care delivery system in Cornwall County" as a prototype for replication in Jamaica's other two counties. The Project Paper goes on to list a number of subgoal indicators which were to have been reached by 1980.

The target indicators reflect AID's commitment to identifying "objectively quantifiable indicators" of project success, but these were not realistic. A data system did not exist at the time the project was designed to permit identification of a baseline and reference levels, and the system has not been sufficiently developed in the interim to determine current levels. For example, as part of the evaluation of Cornwall County's health care delivery system, the percentage of women receiving adequate antenatal care and the percentage of children receiving adequate preventive health services, including adequate immunization, were to have been calculated. In no instance was an effort made to define what "adequate" meant, and there is neither sufficient census data to establish numerical service targets nor sufficient reporting from rural health workers to attempt to estimate service coverage of the population. This said, it is not necessary to elaborate why it was also unrealistic for the project's designers to have expected to be able to document changes in Cornwall County's mortality and morbidity data. Even if the data had existed, the time in which the pilot project had been operating--two and one-half years--was probably insufficient for there to have been a demonstrable impact on these health indicators.

Thus, it is not possible to conduct an "outcome" evaluation of the achievement of subgoals without simultaneously undertaking special, time-consuming studies that would go beyond the current capacities of the GOJ's information system. The evaluation team was able to perform a rough "process" appraisal of the Cornwall County systems (described above) which indicates that progress is being made in achieving the sector subgoal.

IX. BENEFICIARIES

The largest number of direct beneficiaries of the project is health personnel in Cornwall County. Cornwall's primary health care system itself gained a functioning training component; this would not have been possible, according to Dr. Wint, if Mrs. Willie-Mae Clay, the long-term adviser in Cornwall, had not "rolled up her sleeves" and worked full-time.

According to available documentation--and it is not complete--at least 950 persons were trained in Cornwall County. Among these, twenty-five were trained to be trainers. Thus, the project had a built-in multiplier effect on indirect beneficiaries.

UWI's evaluation of inservice training benefited the CCHA and the Cornwall Inservice Training Committee. Baseline data on training needs were provided that ultimately will benefit the population of Cornwall County because inservice training programs are planned around the deficits of knowledge and skills identified in the study.

Approximately 100 third- and fourth-year UWI medical students benefited directly from the project through support (food, lodging, transportation, and stipends) for their field placement in St. James and Hanover parishes. Both the health staff in the parishes' Types II and III health centers and the patients who received care at those centers benefited from the technical guidance the staff received and the clinical services the students performed. In addition, the students provided a modicum of inservice training to Type I personnel and, through their community research projects, they indirectly benefited the populations of Hanover and St. James parishes, the CCHA, and health care personnel by identifying needs for community health education and gaps in services.

Three CCHA health personnel (Stennett, King, and Lowe) directly benefited from participant training in the United States, where they spent fifteen person-weeks.

Island-wide, 340 midwives benefited from workshops in supervision sponsored by the MOH and PAHO which used the project's long-term advisers as planners and resource persons. The two training-of-trainers workshops in which the project's long-term advisers participated directly benefited thirty-six parish-level training coordinators and indirectly benefited hundreds of county, parish, and district staff who subsequently received inservice training.

The staff of the MOH Training Branch benefited directly from the assistance provided by the project's Kingston-based technician, who helped to design, implement, and evaluate the training programs sponsored by the MOH.

The project directly contributed to implementation of the inservice training components of the Primary Health Care Plan (see Primary Health Care, the Jamaican Perspective, pages 39-42); thus, it benefited the Ministry of Health in overall implementation of the primary health care system. Indirectly, the people of Jamaica were aided; their health status will be improved through improved, expanded, accessible, available, and organized health services.

In summary, the project provided for the inservice training of, or collaboration with, at least 1,400 health workers who are the direct beneficiaries of the project. All the other health workers on the island can be included among the indirect beneficiaries, because their inservice training benefited from the efforts of the project's technicians. Ultimately, the entire population of Jamaica will benefit from the improved knowledge and skills of health care providers in the primary health care delivery system.

X. UNPLANNED EFFECTS

The unplanned effects of the project are, for the most part, a reflection of activities that were not planned; that is, activities that were not identified in either the Project Paper or the revised Technical Proposal. There were six major unplanned effects which are discussed below.

Support of Field Placement for Third and Fourth Year Medical Students

The available documentation indicates that approximately 100 medical students received field training in Hanover and St. James parishes between April 1979, and June 1981. USAID/Jamaica reimbursed the CCHA for support of these students, the total amounting to U.S.$17,702.29 for direct support and U.S.$9,215.00 for the Bronco vehicle and its insurance and license. Although the students did not provide supervision to health center personnel, they did provide clinic services and technical guidance, thereby expanding the service capacities of the health centers. They also conducted community projects which enabled the CCHA to better identify health education and service needs. The transport of the students to their field sites was eased considerably following USAID/Jamaica's purchase of a Bronco vehicle.

According to the documentation on medical students' support, field placements in rural settings would, it was thought, encourage medical students to remain in Jamaica following graduation, and thereby stem the flow of physicians from Jamaica to the United States, Canada, and other parts of the Caribbean. It is not known whether this purpose was achieved. Dr. Wint stated that, to his knowledge, the drain of physicians remains a problem. In the short run, the services provided by the medical students filled a gap in the availability of physicians serving the population attending Types II and III health centers in St. James and Hanover parishes. One result was that several of the students applied for internships at Cornwall Regional Hospital.

Documentation of Under-Registry of Infant Deaths

The DSPM/UWI conducted three studies under the auspices of the project. Only the study on the rate of infant mortality (IMR) was not identified anywhere in the project's designs.

Documentation on the project gives the impression that the study was undertaken after a budget review revealed a shortfall in project expenditures. The study is somewhat related to the study of the effectiveness of services which was conducted by the DSPM/UWI. This study used selected data from clinic records to assess the availability and coverage of child health and antenatal services. By inference, if coverage and availability of services were improved, data on the trend in the infant mortality rate, it was thought, might reflect that improvement.

Another purpose for the study was to assess the reliability of infant mortality data. There was reason to believe that published IMRs were too low (e.g., 7 in Hanover for 1978 and 6 in Trelawny for the same year, and 3 for each parish in 1977) and, therefore, could not be used with confidence as health indices. Infant mortality rates had been the subject of a consultation visit in 1976 by Taylor and Armstrong,* who had been asked to verify the claim of a 50 percent drop in infant mortality in Hanover Parish. After their investigation, the consultants supported the claim. Thus, the remarkable declines since the 1976 report also led to an investigation.

The study which took place between January and March, 1981, in St. James, Hanover, and Trelawny parishes revealed that only 31 percent of infant deaths in 1980 were registered. This significant finding caused the CCHA to attempt to improve the reporting of infant deaths by CHAs through a new card-report system. Had this study not received support from the project, the benefits that will accrue from a more reliable health index--infant mortality rates--would not be on stream.

Posting of Research Investigators in Cornwall County

Messrs. Hanna and Melville currently serve as nutrition officers in Cornwall County. As a result of their research efforts in Cornwall as UWI students, they know the county, its health personnel, and its primary health care service system. Similarly, the health personnel know them, because they have been involved in the evaluation of inservice training and the studies of the effectiveness of services. Both officers are extremely interested in the outcomes of nutrition intervention and the causes of malnutrition. Because both are employed to improve and supervise nutrition interventions in clinic and home settings, the county has derived an unexpected benefit from the project's support of their research: It has gained two experienced and research-oriented nutrition officers.

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* See Taylor and Armstrong, Report on Consultation, Hanover Parish-Jamaica, February 1976.

INSA Inservice Training and On-the-Job Follow-Up

Through the Sister Cities organization, two one-week health care planning and communications workshops were held for twenty-eight Cornwall health personnel on May 19-30, 1980; a follow-up was conducted in February 1981. The support for the health personnel's participation was funded by the HIYC project. Although the inservice training topics were entirely consistent with the project's purpose, the idea of using a member of Sister Cities (establishing a relationship, for example, between Montego Bay and Atlanta, the headquarters of the International Nursing Services Association (INSA)) to obtain technical assistance was not in the project design. Both the relationship which was established and the positive outcomes of the inservice training and follow-up were unplanned, beneficial effects which, from interview data, appear to be the subject of future planning in Cornwall.

Direct Support for Inservice Training

Neither JPP II nor the HIYC Project intended to support the costs of training, although JPP II did provide some educational materials and audiovisual equipment. However, because the P.L. 480 funds were never released (see Chapter IV) and Cornwall's training plans were well under way and accelerating, support had to be found. The project provided U.S.$2,717.69 for the costs of materials and participants' subsistence and travel, as well as funds to purchase commodities (films, audiovisual equipment, and a typewriter). Without this assistance, the inservice training efforts in Cornwall would have been hampered severely.

Interdisciplinary Training Teams

The project called for the training of health personnel as teams to develop a team approach to the provision of health care, but the design did not identify what is one of the most significant achievements of the project. In Cornwall County, and later in the training-of-trainers workshops, the concept of parish-level interdisciplinary teams of inservice training coordinators was brought to life. In Cornwall, the parish teams, with five, six, or seven members, are composed of public health inspectors, staff nurses, public health nurses, nutrition assistants, and health educators who plan inservice training, construct budgets, identify and arrange for resource persons, and are themselves trainers. They meet as a county group every quarter. Although for all the team members training is an add-on to their full-time jobs, the teams are the training focus in the parishes; without them, training activities would falter.

The concept of using interdisciplinary training teams will be applied in the Health Management Improvement Project. Currently, it is being used in the training-of-trainers workshops sponsored by the Training Branch of the MOH.

The placement of Mrs. Clay in Cornwall and Mr. Gross in the Training Branch in Kingston had the unplanned effect of directly using the Cornwall County "pilot project" approach to formulate designs for national training programs.

Summary

In summary, despite the departures from the Project Paper, which caused disruption, frustration, and impaired working relationships, the unplanned effects of the project were serendipitous and salutary. They will be of lasting benefit to the Cornwall County health care system and to the improved delivery of primary health care services in Jamaica.

XI. OTHER OBSERVATIONS

This evaluation report follows a format which is a blend of the AID Project Evaluation Summary (PES) format and the format used by the APHA. A number of specific concerns expressed by USAID/Jamaica (Kingston 10112, dated 27 November 1981) which have not been addressed directly in preceding chapters are quoted and discussed below.

Assessment of Effectiveness and Efficiency of Services

> 1. *Assessment of the degree to which the project contributed to the effectiveness and the efficiency of the outreach services and decentralized management of Cornwall County and the national health care system.*

The attempt to improve the management system of Cornwall County and Jamaica was abandoned as an objective of the HIYC Project, but it is part of the effort of the new Health Management Improvement Project. Ultimately, the outreach services of Cornwall County will probably be improved by the inservice training program initiated during the HIYC Project. However, the UWI studies failed to show an improvement in effectiveness of services, and the absence of reliable data precluded even the development of a methodology to study the efficiency of primary health care services.

Improvement of Information System

> 2. *Assessment of the degree to which the project assisted in general improvement in the health information system in Cornwall County and nationally.*

The national health information system is being developed slowly, at times with assistance from AID, and sometimes with assistance from other agencies, such as BUCEN, but without input from the HIYC Project, as was originally planned. The Monthly Clinic Summary Report system is in operation, and it may be that the inservice training conducted with assistance from the project has resulted in more accurate reporting in Cornwall County. However, this is not likely, because, despite the expectations, CHAs are not conducting census activities at this time, and the UWI

research has shown that only 31 percent of infant deaths in Cornwall County were registered before the new reporting system was put in place. This new infant mortality reporting system in Cornwall County is the project's only direct contribution to the health information system.

Functions and Achievements of Training Unit

3. *Assessment of the functions and degree to which the Ministry of Health's Training Unit was able to carry out its functions as outlined in the project document.*

It is assumed that the "project document" is the Project Paper, but the training unit referred to in the Project Paper is in Cornwall County, and not in the Ministry of Health. The Ministry of Health's Training Branch was not mentioned in the Project Paper, because it was not expected to be a major participant in the project. However, because the GOJ's priorities changed, one of the long-term technicians eventually was assigned to the Training Branch and did contribute to its development. This development has been hampered by a shortage of staff and operating funds. These problems are being addressed now by the new Health Management Improvement Project.

The Project Paper did call for the establishment of a training unit in the Cornwall County Health Administration, but this was not achieved because funds were not available to staff the unit. Nevertheless, the Cornwall County Inservice Training Coordinators Committee was formed. This committee meets quarterly and has assumed many of the functions and responsibilities of the proposed training unit. The existence of this regional multidisciplinary committee and of similar, but smaller, committees in the parishes is a direct result of the project. The performance of these committees is impressive, when one considers that they have no full-time members and their programs must be planned and executed with an absolute minimum of funds.

Assessment of Contractors

4. *Assessment of the project's contractors (Johns Hopkins University and the University of the West Indies) and the technical assistance they provided.*

Johns Hopkins University's involvement in the Health Improvement for Young Children Project preceded the signing of the contract to provide

technical assistance. A senior faculty member of the JHU School of Public Health was on the team which evaluated the Cornell CHA project, and the recommendations of this team led to the design of the HIYC Project. Another member of the same department participated in the project design as a member of the Project Paper design team.

This early involvement may have contributed to the original design of the project, which included activities which were of great interest to JHU but which proved to be premature, given the immediate priorities of the Ministry of Health of Jamaica. For example, Johns Hopkins University was looking forward to the involvement of its experienced international health staff in the functional analyses of health workers' roles--an activity which would have led to the development of role-specific curricula, management systems, and information systems and the conduct of research on the effectiveness and efficiency of primary health care training and services. In contrast, it appears that the MOH expected the project to provide the training that would complement the much larger JPP II. These differing expectations and a shortage of GOJ funds led to a marked reduction in the scope of work in the JHU contract and concomitant frustration on the part of JHU faculty specialists who were anxious to contribute to the development of primary health care in Jamaica.

The evaluators feel that Johns Hopkins did a very good job of fielding and supporting good long-term technicians and of making qualified short-term technical consultants available to the GOJ for its purposes. Considering the high quality of the technical assistance resources of the International Health Department of the Johns Hopkins University School of Hygiene and Public Health, it is unfortunate that so many of the original objectives of the project had to be deferred and that JHU's role was limited to providing logistical support to the two long-term technicians.

The contract with University of the West Indies was not executed until the scope of work in the JHU contract was reduced and it was clear that the Ministry of Health did not intend to deal with several of the original objectives of the project. It is not clear why the activities in the scope of work of the UWI contract were not conducted in collaboration with JHU, especially because both institutions frequently expressed a wish to establish a close collaborative relationship.

UWI's fulfillment of its specific contractual responsibilities was discussed in Chapter VI. In summary, three of the four studies were undertaken, but the fourth (the evaluation of the efficiency of primary health care services) was considered to be so difficult that a practical methodology could not be designed. UWI had financial and staffing problems which precluded the timely reporting of its contract activities, which ended on June 30, 1981. To date, USAID/Jamaica has received all the routine progress reports required under the contract, including the contractor's final report; however, two of the three scientific reports containing the results of the studies in Cornwall County have yet to be

prepared in final form and submitted. Preliminary reports on these studies were included in the routine progress reports.

Except for delayed reporting, UWI appars to have performed well in delivering qualified personnel and adequate logistic support to the HIYC Project.

Cost-Effectiveness of Project

> 5. *Assessment of the cost-effectiveness of the project (i.e., the degree to which the project was an effective low-cost system for the delivery of integrated health care services to the rural population in Jamaica).*

Even if the data were available for a cost-effectiveness analysis (the Department of Social and Preventive Medicine at UWI could not imagine how to do such an analysis in twenty-one months), the project was not a system for the delivery of integrated health care services. At most, it was an attempt to establish an effective inservice training program as an important part of such a system.

Effectiveness of Delivery Approach

> 6. *Assessment of the effectiveness of the new approach to health care delivery in Cornwall County and nationally.*

UWI's attempt to assess the effectiveness of primary health care services in Cornwall County was discussed elsewhere in this report. The study was unable to demonstrate any difference in the effectiveness of primary health care services in pilot and non-pilot districts of Cornwall County, the assumption being that the additional resources available to the pilot districts could have resulted in more effective delivery of primary health care services there than in the non-pilot districts. The weakness of this study was failure to recognize that both pilot and non-pilot areas are attempting to implement the new approach to health care, and that the pilot areas had been in existence for only two years before the study was undertaken. Given the difficulty of studying this issue at the regional level, no attempt was made to study it at the national level. The findings of the UWI study, which showed that infant mortality in Cornwall County was under-registered by 69 percent, confirm the fallacy of attempts to evaluate the effectiveness of health care services in Jamaica

with health statistics from an underdeveloped and unreliable health information system.

Use of Medical Students as Preceptors

7. *Assessment of the effectiveness of using medical students as medical preceptors in Cornwall County (supervision and training of health workers).*

The medical students did help to train health workers, and they probably helped to supervise other health workers, but their involvement in these activities was not the reason for their placement in the field. Medical students are assigned to Cornwall County as part of their training to make them more familiar with primary health care delivery in rural Jamaica. While in the field, the medical students have primarily clinical responsibilities in Types II and III health centers and in the clinics in Cornwall Regional Hospital. It has been noted that when medical students are working in a clinic or center, the number of patients who are referred to higher centers for care declines. This would indicate that the medical students probably are able to take care of more complex cases than their non-physician colleagues in their facilities, and that the other health workers probably learn from the medical students by working with them.

In addition to clinical responsibilities, each group of medical students does a group community medicine research project of its own design. These projects have covered current public health problems in Cornwall County, and the findings have been very useful in planning future primary health care services for this area. Cornwall Regional Hospital has also found that working with these medical students is an excellent way to recruit candidates for its internship program.

XII. LESSONS LEARNED...AGAIN

The transfer of experience from one development project to another is difficult to manage. No one would doubt the utility of applying past experiences, but institutional memories are short and new staff are eager to put their own stamp on a project's operations.

The evaluators' observations of the lessons learned during this project are not at all original; they have been recorded many times in the past. At the risk of making an issue of the obvious, they are again discussed in the following pages.

1. *Be wary of long delays between project design and implementation.*

The HIYC Project was designed in 1976, and field operations were begun in 1978. In the interim (seventeen to twenty months), much change took place in Jamaica. And it is this change which accounted for the discrepancy between the early plans for the project and the eventual outcomes. The evaluators observed that flexibility was exercised during the conduct of the project which enabled the Ministry of Health and the CCHA to address needs that were within the scope of the project. However, the intended contributions of Johns Hopkins University were severely truncated, and it is now felt that it might have been wiser to redesign the project in 1978 to make it more responsive to the situation at that time.

2. *Do not design projects which depend on P.L. 480-generated counterpart funds, unless the recipient country has an established performance record in delivering these monies.*

The lack of counterpart funds caused the Cornwall County inservice training program undue difficulties. There were no funds to cover the costs of conducting the extensive series of programs that had been planned. Even though the programs were conducted in spite of budgetary constraints, the frustration which the Cornwall trainers suffered and the program revisions that had to be made might have been avoided had a lesson learned many times in the past been remembered.

3. There is no substitute for good people and good timing.

The evaluators were told repeatedly that Mrs. Clay was hard-working, energetic, talented, committed, and indispensable to the inservice training program in Cornwall County. Although the evaluators did not have an opportunity to see Mrs. Clay in action in Cornwall, they had an extended conversation with her in Baltimore, Maryland, during which she demonstrated a full grasp of the context and content of her assignment and unstinting devotion of talent and energy. These observations are supported by documentation on the project and by persons in Cornwall County, where she is highly regarded. Mrs. Clay's high level of performance, in spite of obstacles and frustration, exemplifies what can be accomplished when technical assistance is both appropriate to the situation and timely.

Similarly, the contributions of Mrs. Clay were made in an environment which was supportive, pro-active, and responsive. The CCHA had requested technical assistance to accomplish specific jobs. The leadership of the CCHA was not threatened by change; quite the opposite. There were seasoned, flexible people in positions of leadership in Cornwall who made it possible for the technical assistance to be well targeted. Had this not been the case (and, indeed, the other long-term adviser did not enjoy such conditions), Mrs. Clay's talents would have been underused and her contributions would have been far fewer than they were.

To illustrate what can happen when good people are employed but timing is poor, the PES writer noted that the JHU short-term consultations were disappointingly lacking. The Ministry of Health took no initiative in requesting assistance, undoubtedly because it felt no need for such help, and the projects which the consultants wanted to do did not interest the Ministry, at least at the time of negotiations for the consultants' services. The evaluators have no reason to believe that the competence of the short-term consultants was ever an issue.

4. Inservice training is not a panacea for problems in the systems of management, supervision, coordination, and planning.

Technical assistance in management, information, and planning systems, was to have accompanied the inservice training component of the project, but the Ministry of Health never requested such assistance.

It is unrealistic to expect that two-day workshops will resolve basic insufficiencies in infrastructure. The need to work simultaneously on training and infrastructure was recognized in the project plan, but the project never undertook to do this. It may be argued that PAHO was

providing ongoing technical assistance in management, that BUCEN was helping to develop the information systems, that a person was seconded from the National Planning Association (NPA), and that the expanded Planning and Evaluation Unit undertook planning; nevertheless, this assistance was not formally coordinated with project training activities, nor was it focused on Cornwall. The effects, therefore, were dispersed rather than cohesive, resulting in no discernible improvements in the management, supervisory, planning, and coordination systems. This is not to say that there were no improvements in individuals' capacities to plan, coordinate, supervise, and manage. These capabilities were improved through inservice training. It has been observed often that as a result of inservice training, deficiencies in management and interpersonal relations are highlighted because trainees become more aware of the need for a strong and supportive system.

Up and down the line in Cornwall, the attempts to strengthen supervision, coordination, and joint problem-solving were impressive, even though the management information system is underdeveloped, staff turnover is high, and budget shortages hamper the best-laid plans. The evaluators were impressed with what happened during the short time the project was in operation. They were impressed with the extent to which basic concepts of inservice training, including use of quarterly inservice training committee meetings to plan and evaluate training programs, carried over and were retained in Cornwall.

One member of the Training Branch of the MOH, the acting chief, is responsible for training at this time. This person came from Cornwall and is committed to certain of the approaches used there, including localization of training, use of local resource persons when available, and use of groups of parish training coordinators. It is proposed that a central training facility be constructed under the Health Management Improvement Project. Whether this will encourage the acting chief to act on the lessons he has learned about the value of localization is conjectural. When interviewed, he stated that he would attempt a mix of training locales: central (Kingston), parish, and district.

Technical assistance in management information systems, training, and manpower development will be provided under the Health Management Improvement Project. It is not felt, therefore, that the expectations for inservice training in the new project will be as high as the expectations that characterized the HIYC Project.

5. *Why use changes in basic health indices as measures of project achievement?*

Changes in health indices are repeatedly employed as measures of a project's outcomes, but neither the maturity and fastidiousness of most LDCs' vital statistics collection systems nor the achievements of earlier

projects justify continued use of data on infant and maternal mortality and morbidity as "objectively quantifiable indicators" for short-term, low-input projects.

In the Health Improvement for Young Children Project, the rates for infant and maternal mortality and morbidity could hardly have been expected to respond to project interventions, either as planned or conducted. In addition, in the absence of target population figures, data on service coverage have limited value. Neither the short time (three years) allocated for the project nor the budget ($375,000) justified the expectations for it. Other interventions (JPP II and central-level inputs) were being applied in the project area; thus, in the absence of a sophisticated research design and well-trained investigators, conclusions could not be drawn about the direct effects of the project's interventions. This discovery was made by UWI investigators who could neither support nor invalidate the claim that inservice training improves knowledge and skills.

6. *There is a need for flexibility during periods of internal change, uncertainties, and shifting priorities.*

It is evident that the final outputs of the project differ markedly from what was envisaged at the time the project was designed; yet, in conducting their activities AID and the contractors showed a laudable degree of flexibility in responding to the changing economic and political background in Jamaica. It has long been an established AID policy that the project evaluation process should be ongoing and should result in the kind of feedback that will stimulate continuous adjustments in project design to ensure maximum benefit for intended beneficiaries.

The contractors for this project were faced with considerable obstacles to reaching their objectives, yet they confronted those problems in a way that enabled them to make some significant gains for primary health care in Jamaica and that paved the way for continued collaboration between AID and Jamaica in the Health Management Improvement Project. In similar circumstances, AID might have elected to terminate the contracts with Johns Hopkins University and the University of the West Indies for "nonperformance" or "convenience," ignoring the fact that both the institutions and their representatives were attempting to carry out their responsibilities in the face of drastically changing signals from the Jamaican government. Those who were involved in the project chose to work together to solve the problems at hand. Consequently, a relatively inexpensive AID grant helped Jamaica to take a major step toward developing an inservice training program for primary health care workers.

XIII. RECOMMENDATIONS

1. *Establish the post of regional training coordinator.*

The evaluators did not examine training operations in other regions, but it is evident in Cornwall County that employment of a full-time coordinator for inservice training is well-justified.

A coordinator would not only give impetus and focus to planning, design, implementation, and evaluation efforts, but (s)he would also be a locus for the documentation of such efforts. In addition, the coordinator could provide the Training Branch of the MOH with the region's requirements for centrally-sponsored training programs and also identify requirements for printed material (e.g., posters, pamphlets, brochures, and booklets) that need to be developed both for training and community education.

The post of coordinator in Cornwall, unfilled since Mrs. Clay's departure, is a critical vacancy. Opportunities are being missed, or are being acted on in part only, because of the lack of a full-time person and because of the impending opportunity (through the proposed expansion of the Training Branch) to accelerate and document training efforts in Cornwall.

2. *Re-examine the findings from the UWI evaluation of training.*

Most persons whom the evaluators interviewed feel that the findings from the UWI study show that inservice training has no effect on job performance and knowledge.

This impression is inaccurate. The findings show no correlation between inservice training and knowledge, but neither do they show that training has no effect.

For example, a topic-specific analysis of the data was conducted by the evaluators. It showed that, for some topics, there was a strong correlation between knowledge and attendance at workshops. For other topics, there was an inverse relationship. These findings are consistent with the conclusion that the inservice training methodology used for some topics is much more effective than that used for others. However, the research investigators concluded that staff knowledge came from many sources and that the other sources may have been more important than the inservice training to the survey results.

As for interviewing, in which low levels of knowledge were demonstrated, in spite of 100 percent attendance at inservice training sessions on the topic, the findings do not necessarily indicate low functional abilities.

The evaluators hope that after the preliminary reports have been put in final form by UWI, a discussion will be held about ways to improve both training and evaluation techniques. For example, interviewing is a functional skill which, when not performed at a high level, impairs the capacity of health workers to obtain and disseminate information. By asking questions about interviewing, one may test knowledge of basic do's and don'ts, but consistent application of what is known will provide a more accurate assessment of skill level. This is also true for interpersonal relations, communications and, perhaps, management. When this matter was discussed with the research investigator, he said that he was constrained by time and a methodology to assess application of knowledge.

3. Apply lessons learned to the Health Management Improvement Project and to other projects now under way.

As the evaluators pointed out in Chapter XII, the lessons learned in one project often can be applied, with beneficial results, to another project.

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* Nos. 1-4 contain appendices.

Appendix A

LIST OF CONTACTS

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Miss MacKenzie, Community Health Aide

Georges' Plain: Type II Health Center

Mrs. Williams, Nurse Practitioner

Miss Hammond, Public Health Nurse

Miss Linton, Midwife

Miss Lewis, Community Health Aide

Miss Holness, Community Health Aide

Cornwall Mountain: Type I Health Center

Miss Brown, Midwife

Mrs. Binns, Community Health Aide

Mrs. Dockery, Youth Services Worker

Appendix B

LIST OF TRAINING ACTIVITIES, 1978-1981

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LIST OF TRAINING ACTIVITIES, 1978-1981

This list is derived from reports submitted by Willie-May Clay and Mark Gross. It is arranged chronologically. Cornwall Workshop Curricula and other information are contained in Clay's Casebook (9).

1978

Clay	April-October: Twenty-nine two-day workshops* on team-building, management, supervision, and inter-personal relationships; 687 persons.
Gross	August: Public health inspectors' workshop on role definition.
Gross	October: Three one-day workshops on supervision and leadership.
Clay and Gross	October: One-day workshop on primary health care training programs.
Gross and Clay	November: One-day familiarization workshop, 59 persons; and seminar for postpartum staff nurse on rationale for inservice training, 25 persons.
Clay	November: Seminar for public health inspectors on management of poisons, accidents, and burns; 30 persons.
Clay	November: Practicum for public health inspectors on bandaging and applying splints and blood pressure techniques; 30 persons.

1979

Gross	January-February: Ten-day training-of-trainers workshop.

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* These workshops are detailed in Appendix 5 of JHU's final report (22).

1979

Clay	January-August: Inservice training sessions on learning objectives for senior nursing administrators.
Clay	January-December: Monthly inservice training committee meetings.
Clay	January-August: Inservice training on computer processing for MCH programs.
Clay	February-June: Visual aids workshops.
Clay	February-June: Workshops on reporting and recording; 100 persons.
Clay	February-June: One-day seminars on nutrition and dentistry; 100 persons.
Gross	March-April: Five four-day supervisory workshops for midwives; 340 persons.
Gross	March: Three-day supervisors' workshop for senior public health inspectors and senior public health nurses.
Clay	March-June: Family planning update workshops; 100 persons.
Gross	April: Ten-day training-of-trainers workshop; 28 persons.
Gross	June and July: Training officers' development course of the Ministry of Public Service.
Gross	June and July: Nursing administrators' course, Ministry of Health.
Clay	June and July: Development and preparation of problem-solving teams to provide technical assistance to pilot areas.
Clay	June and July: Practicum on emergency primary care and first aid; 16 persons. This course carried over into 1980.

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Clay	January-August: Inservice training on computer processing for MCH programs.
Clay	February-June: Visual aids workshops.
Clay	February-June: Workshops on reporting and recording; 100 persons.
Clay	February-June: One-day seminars on nutrition and dentistry; 100 persons.
Gross	March-April: Five four-day supervisory workshops for midwives; 340 persons.
Gross	March: Three-day supervisors' workshop for senior public health inspectors and senior public health nurses.
Clay	March-June: Family planning update workshops; 100 persons.
Gross	April: Ten-day training-of-trainers workshop; 28 persons.
Gross	June and July: Training officers' development course of the Ministry of Public Service.
Gross	June and July: Nursing administrators' course, Ministry of Health.
Clay	June and July: Development and preparation of problem-solving teams to provide technical assistance to pilot areas.
Clay	June and July: Practicum on emergency primary care and first aid; 16 persons. This course carried over into 1980.

1980

Clay	January-December: Monthly inservice training committee meetings.
Clay	February-March: Five two-day workshops on family planning update and a practicum.
Clay	May-October: Technical group meetings for development of "Role of the Staff Nurse in Types II and III Health Centres."
INSA	May: Two one-week workshops on health planning and communications; 28 persons.
Clay	July: Two-day workshop on sexually-transmitted disease (STD); 42 persons.
Clay	November: Three one-day practica on use of the mobile film unit; 26 persons.
Clay	November: Workshop on systematic course design.
Clay	February-August: Four-week course on medical records and statistics; 15 persons.

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INSA	February: On-the-job follow-up, and five-day health planning and communication workshop; 21 persons.