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PROJECT FOR STRENGTHENING
HEALTH CARE IN HAITI

Health Manpower Component for the
Development of the
Administrative Systems Improvement Plan

5210070006201

PREFACE

This report, in the form of a memorandum, represents the component for Health Manpower as described under contract deliverable item I.C.1.g(ii), "Component reports for the development of the administrative systems improvement plan." This memo was first presented to Dr. Midy on April 26, 1977. (It was also translated into French.) This report contains the important observations of Westinghouse Health Systems and represents the crucial direction setting analysis for this component area.

Appendices A and B to this report include tables on Haiti's Health Manpower and calculations of costs associated with various program options.

Subsequent to this report in July 1977, the DSPP initiated a comprehensive survey of its personnel resources. Results of this survey are to be found in the DSPP's "DeFay Report". A brief description of the DeFay survey and selected summary tables are included here in the Appendix C in order that the reader may find in one place updated figures concerning DSPP health manpower resources.

The reader is also directed to additional information concerning DSPP personnel and recommendations concerning health manpower training and development to be found in Jonathan Meyer's "Institutional Analysis of June 1978". This analysis is included in the Financial Component Reports for the Development of the Administrative Systems Improved Plan.

MATRIX
OF
CONTRACT ARTICLES
AND
PROJECT REPORTS

CONTRACT REF.	CONTRACT DESCRIPTION	REPORTS																
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
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1.c(1)	AN EVALUATION OF THE EXISTING DATA SYSTEM							●										
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2.g.	A RPT. OF ACTIVITY BY EACH CONSULTANT/SPECIALIST																	●

* A CONTRACT MODIFICATION IS IN PROCESS AT THIS TIME TO CHANGE I.C.1.f. TO READ:

AN INTEGRATION PLAN FOR THE TRANSPORTATION SYSTEM OF THE NATIONAL SERVICE OF MALARIA ERADICATION INTO THE MOH.

** A CONTRACT MODIFICATION IS IN PROCESS AT THIS TIME TO CHANGE I.C.1.d. TO READ:
PREPARATION OF AN OUTLINE AND PROCEDURES FOR A NATIONAL HEALTH PLAN FOR

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From : Sharon Russell
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Date : 22 April 1977
Subject:

To: Dr. Evariste Midy, Chief, Bureau of Health Planning: Evaluation, DSPP
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INTRODUCTION

The following observations are based on work in progress under Westinghouse Health Systems contract to provide Technical Assistance to the Bureau of Health Planning and Evaluation of the Division of Public Health and Population (DSPP). As part of that contract effort, since 20 March 1977, the author has been engaged in conducting an analysis of Haiti's health manpower situation in general and of needs within the DSPP in particular.

These first three sections of the following material are completed drafts of sections of the technical analysis and consequently contain more detail than is of interest to AID at this point. The material beginning, Haiti's Health Manpower: Overview represents summary notes prepared expressly for input to a project paper.

DATA FOR HEALTH MANPOWER ANALYSIS AND PLANNING

Data Sources for Planning

As has been noted in numerous other consultant reports, and as the DSPP is well aware, the kind of precise data desirable for rational health manpower planning are generally not routinely collected in Haiti. While, as is often the case, some data exist in raw, untabulated form, these data are not of a uniform format, not all desirable information is included, and reporting may be sporadic and incomplete. Such sources of information are inadequate for the

ongoing national health planning process. It is, precisely, to remedy this situation that plans for the design and execution of a health manpower inventory are being developed within the Bureau of Health Planning and Evaluation (BHP/E) in conjunction with the Westinghouse Health System contract, as part of baseline data collection activities. In addition, contract activities to strengthen management information systems reporting and statistical analysis will address the ongoing health manpower information needs.

Data Sources and Methodology for this Report

Existing raw data sources do, however, in some instances, provide a level of information which permits construction of interim indices. These are useful for developing a strategic overview of the health manpower situation and for moving beyond "generalities" to a more precise level of problem identification. Thus, for example, the National Budget (Le Moniteur): the record book of all DSPP personnel hires; dossiers of "changements du Personnel" by year; a folder of reports from an undetermined number of health establishment officers reporting names, occupations and location of employees (all to be found in the DSPP personnel office); and records of the Nursing Bureau, are among the types of sources which have been used in the preparation of this report to develop such indices as DSPP labor turnover, absenteeism rates, and salary figures.^{1/}

Other data used in this preliminary health manpower analysis have been collected by the Westinghouse Health Systems team during the information gathering visit. Health manpower institution enrollment data and the derived attrition rates for projections are examples of this type. In many instances, raw-form data for cursory analysis do not exist at present, or time has not permitted the type of data collection and analysis necessary to enable even a rough quantification of the desired indices. For this type of information (e.g., health manpower outmigration, actual number of DSPP personnel^{2/}), the experience and impressions of DSPP officials and foreigners active in Haiti's health section, other consultant reports, published documents, and unpublished sources

1. See Appendix A, Table IV and Appendix B, Tables VI, VII.

2. Apperdix A, Tables III and IV

have been used. Wherever it is deemed particularly relevant, specific data sources are referenced in this report.

Potential Data Sources

It should be noted in passing that some data collection activities currently underway represent potential sources of health manpower information which might be useful to the BHP/E in its planning activities. Principally, inventories are being conducted in the North and South Regions by Health District officials and Pan American Health Organization (PAHO) in connection with administration of the Inter-American Development Bank (IDB) loan projects. An inventory of all DSPP Nursing personnel has been ongoing for a period of time under the auspices of the Nursing Bureau of the DSPP.^{3/}

GENERAL LABOR FORCE DYNAMICS: CONTEXT FOR THE HEALTH MANPOWER SITUATION

The Haitian Institute of Statistics (IHS) and the Area Handbook for Haiti were the principal data sources for information on the general labor force of Haiti.

Calculations using IHS data show 1,933,183 persons over 14 years of age in the labor force, with 83 percent of those concentrated in agricultural and commercial (including individual vending) activities. The total labor force represents 44 percent of the total population, according to IHS data. International Labor Organization (ILO) data reported in the area handbook places the population participation figure at about 57 percent. By comparison, the ILO Latin American average is estimated to have been 31 percent in 1970.

This relatively high rate of labor force participation (which is particularly notable given estimates that 41 percent of the population is under 14) has been attributed in large part to the active participation of women in the labor force. Women comprise between 45 percent (IHS) and 46 percent (ILO estimate) of all employed persons. Further calculations indicate that 65 percent of the

3. Data from the 1977 DeFay Survey of DSPP personnel and facilities are included in Appendix C to this report.

Women and 88 percent of the men over 14 years of age are employed. Haitian cultural traditions, which generally are supportive of female participation in the workforce, together with male outmigration and family unit patterns, partly help to explain the observed female participation rates. However, of greater note, for purposes of explaining female participation and for understanding the dynamics between the general labor force and the health manpower situation--is the fact of widespread "underemployment", reflected in low salaries and multiple job holding. Underemployment, together with limited opportunities in the developing private sector, combine to put tremendous pressures on the Haitian Government to provide employment opportunities.

The fact that the Haitian Government is probably the "employer of first resort" helps to explain some of the conditions of personnel and employment within the DSPP which will be discussed elsewhere in this report (eg. growth in the size of the DSPP and low labor turnover, despite low salaries).

Policy options and solution strategies available to the DSPP in its effort to solve personnel problems must be considered in light of the political and economic constraints imposed by the general labor force phenomena sketched here.

GENERAL EDUCATIONAL AND TRAINING CONTEXT

Overview

Both the Government and private institutions (many with religious affiliation) sponsor schools for general education at the elementary and secondary levels. Urban general education is the responsibility of the Department of National Education. The system of rural schools is under the auspices of the Department of Agriculture. The Department of Social Affairs is also active in the "recycling" (continuing education or retraining) of workers and in sponsorship of vocational education programs. The office of Adult Education in the Department of Education and the Department of Agriculture have sponsored adult literacy programs in both urban and rural areas.^{4/}

Data on enrollment ratios by educational level and adult literacy program enrollments are available from the statistics divisions of the various departments, but have not yet been received for analysis by the Westinghouse Health Systems team at this writing. It should be noted that there is no apparent difficulty in finding qualified applicants for health occupations training among the population completing school. On the contrary, all health training institution directors interviewed in Port-au-Prince reported being flooded with applicants. Because field visits were not made during this information gathering visit, and before analysis of rural enrollment data, it is difficult to assert that this availability of qualified applicants extends to rural schools. The observation that the greater proportion of entrants to Port-au-Prince health training institutions are from the city appears to result more from proximity and recruitment practices, than from any major "bottle neck" or unavailability of qualified rural-resident applicants.

The picture may be somewhat different for rural residents, particularly out-of-school adults who can read or write, for entry into proposed basic level health worker training. Without rural literacy program or school enrollment data, it is difficult to project objectively what the availability or unavailability of such persons might be. Aggregate national literacy data and anecdotal evidence from the Croix des Bouquets and Petit Goave training programs suggest that literate community residents are fairly numerous. The one bottle neck reported at Petit Goave was the availability of literate females; and in this case, both

4.

See Appendix A, Table I, for Typical Patterns of Haiti's Educational System; See Table II for literacy data.

illiteracy and socio-cultural norms regarding the entry of young women into the program were factors in the recruitment difficulties encountered.

Availability of Specialized Training of Relevance to DSPP

Needs

The Westinghouse Health Systems team is in the process of compiling for the BHP/E a list of health related educational and training institution resources available locally in Haiti. This effort has been undertaken, first of all, because of its usefulness which albeit more useful to expatriots than to Haitian Officials, who are intimately familiar with such resources. Secondly, it has been the team's impression that consultant reports have tended to generalize about a "lack of qualified people" and a "need for training". While in some instances this may be true, and a need for overseas training is then justified, in other cases it would appear that generalization has led to a misspecification of the problem. For example, people trained and qualified in general administration or clerical skills or auto mechanics are prepared in local institutions and are readily available for hire--but not at the wages offered by the DSPP. In a number of health skill areas there are persons trained in excellent (and ongoing) programs conducted by PVOs. Many of these people would be available to the DSPP even at existing wages. However, DSPP budget and/or personnel conditions (discussed in subsequent sections) mitigate against hiring, and as a consequence retraining or recycling of existing workers will be necessary. Again, many of those training resources can be found locally. A policy of support for local training resources, wherever and whenever feasible can be made explicit. These observations concerning "the training situation" form the backdrop for discussions of more specific training needs which appear elsewhere in this report.^{5/}

5. See Appendix B Attachment to Table V: Notes on Cost Calculations.

The location of Health Manpower Training Institutions in Haiti's Educational Structure.

While virtually all of the Departments active in education and training (education, agriculture, social affairs) have been or are currently involved in training workers who have some health skills preparation, the DSPP has authority and control over health manpower preparation. The legal responsibility for formal training of health workers (physicians, nurses, auxiliary nurses, etc.) is shared jointly by the Department of Education and the DSPP. The medical and nursing schools and related health manpower training programs are funded by or through the LSPP. It is also the DSPP which has effective determination over curriculum and program development. The Council for Training in Health Sciences (Le Conseil de L'Enseignement des Sciences de la Sante), which includes representatives of the Department of Education, and is the formal council to be consulted regarding program plans and modifications, is legally situated within the DSPP. Thus while some interministerial responsibility and multi-ministerial activity in the health manpower development area is evident, this does not appear at present to constitute "overlap" or duplication of effort. Policy decisions regarding health manpower can be and are readily taken and effected through the DSPP.

HAITI'S HEALTH MANPOWER: OVERVIEW

Introduction

Precise information concerning each type of health manpower is not presently available. Information concerning the total national stock of health manpower, in governmental, private, and other subsectors should be provided under surveys carried out as part of the health planning process. Even prior to the availability of such resource data, more detailed calculations of the flow of persons from health training institutions will be presented as part of the technical manpower analysis. Comments here are limited to a summary of initial findings and a discussion of key issues.

Supply

Previously published reports of Haiti's National health manpower stock conform so closely to the number of personnel of these types in the DSPP, that it is likely that what has been reported reflects only the governmental sector. However, even these reports indicate uncertainty about the exact numbers of persons in given categories. The following table presents several alternative estimates.

TABLE A
Health Manpower in Haiti

	<u>IDB Project Paper Oct., 1975, p.7</u>	<u>1975 National Health Plan DSPP Only</u>	<u>IDB Project paper Oct., 1975 p. 27 presented as DSPP only</u>
Physicians	400	207 (fully qualified) <u>221</u> (residents) 428	530
Dentists	60	33 (fully qualified) <u>24</u> (residents) 57	65
Professional Nurses	500	273 (licensed) <u>211</u> (resident) 484	485
Auxilliary Nurses	990	219 (licensed) <u>870</u> (non-diplomas) 1089	1068

As has been repeatedly noted and as detailed analysis of available distribution patterns bears out, all health manpower types are geographically concentrated to a greater or lesser extent in Port-au-Prince (eg., 13 percent of population and 84 percent of physicians are in the capital city.^{6/})

Physicians

Physicians have been graduated from the School of Medicine at the rate of about 65 per year until 1973 and about 100 per year after 1973. According to the 1971 National Law (Loi Organique), all health manpower receiving training in state institutions are required to spend two years in social service prior to licensure. In recognition of Haiti's need for health manpower expertise suited to the country's health problems, the medical school has recently proposed a new residency program intended to provide a meaningful structure for the period of social service. The proposed program will offer residencies in general medicine and rural medicine with a community health orientation, as well as hospital-based residency. Implementation of the proposed program would require development of the Department of Community Medicine, as well as continued strengthening of the basic sciences curriculum.

Out migration of physicians has, in the past, been estimated to be as high as 50 percent of those graduated. The rate of outmigration now appears to have lessened markedly in the past year or two, because of the restrictions on foreign medical graduates imposed by the United States. The increased medical school class sizes in Haiti since 1973, coupled with reductions in outmigration in recent years, have resulted in sufficient graduates that some physicians are now unemployed. The DSPP, which is the principal employer of Haiti's health training institution graduates, is unable for budgetary reasons, to absorb all the physicians who must complete this social service. Beckles has already noted that some 60-80 percent of graduates who have completed social service are now unemployed, although other observers in the DSPP place the number at closer to 30.^{7/} In any event, the medical school may be advised to consider enacting a policy to reduce intake.

6. See Appendix A, Table III

7. Beckles, F.N., M.D.; Haiti: Health Sector Analysis, April, 1975

Nurses

Within the past several weeks, all nursing schools have been placed under the responsibility of the Dean of the Medical School and are now part of the University.

Professional Nurses

Professional Nurses (RNs) follow a course of study in a 3 year program at the National Nursing School (l'Ecole Nationale des Infirmières). The principal campus at Port-au-Prince graduates approximately 65-70 students per year. The small campuses at Cap Haitien and Cayes graduate approximately 15 students per year. Preliminary analyses indicate that an average of 36 percent of any entering class will drop out during the training period. Nurses, like physicians, are required to serve two years in social service prior to licensure.

The nurse outmigration rate was reported to be 40 percent. Within the past year or two, and again, linked to the changing climate of receptivity to foreign medical personnel by U.S. institutions, nurse outmigration has dropped to the range of 10 percent to 20 percent. The DSPP, as the principal employer, is able to absorb only about 50 percent of the nurse graduates for their social service obligations. The number of nurses reportedly unable to find work either in the government or in the private sector is thought to be substantial.

The nursing school is taking steps, with technical assistance from PAHO, to orient its curriculum toward community health programs.

Auxiliary Nurses

Auxiliary Nurses (practical nurses) are formally trained in an 8-1/2 month program at The National School of Auxiliary Nurses (l'Ecole Nationale des Infirmières Auxiliares Polyvalents). The main campus at Port-au-Prince in recent years has produced an average of 75 graduated annually, after an average drop out rate of 20 percent. The smaller program at Cayes produces about 30 Auxiliary Nurses annually and a third training program, planned

to commence at Cap Haitien (with impetus from the IDB/PAHO regional development loan project) is expected to produce another 30 Auxiliary nurses yearly. Curriculum development at the auxiliary nurse level has been geared toward strengthening the community health orientation and work toward this objective is expected to continue under the IDB/PAHO training-assistance activities.

Other Types Of Health Manpower Prepared By Institutionalized Training Programs

Pharmacists are prepared in a 3 year post baccalaureate program in the School of Medicine. Post-graduate training at the masters or doctoral level is not available.

Midwives are prepared in a 2 year post-basic obstetrical nursing program sponsored by the medical faculty.

Public Health Nursing training is available in a 9 month post-basic Public health nurse (Infirmière Hygieniste) program under the auspices of the Division of Public Health. This program has reportedly been accepted under CIDA* sponsorship, to be developed into a program in community health nursing. This program will prepare RNs in comprehensive community health. Recruitment will give preference to nurses already working in the regions.

Medical Technicians are prepared in a number of technical areas in practical programs attached to the University Hospital. A small number of students are accepted after the Baccalaureate degree program or 2 years of training.

Environmental Sanitation training is conducted under the Division of Public Hygiene in programs leading to: Health Officer Sanitarian, Health Inspector, and Auxiliaries.

* CIDA - Candian International Development Agency

Training of Health Manpower under non-institutionalized programs

A number of training activities developed under bi- or multi-lateral assistance have prepared a finite number of special types of community health workers. The variety of these types and the variability of their levels of qualifications should not lead the casual observer to construe this multiplicity as undesirable duplication or fragmentation. Rather, these characteristics would seem to result from the fact that Haiti has seized the opportunities of assistance to experiment with various types and levels of community workers in order to choose the model most appropriate for the basic health worker. Looked at from this perspective, Haiti's Department of Health has built up an impressive body of experience in the design and implementation of rural community health worker training. At the same time, the several divisions within the DSPP which have been the principal sponsors of these training initiatives have shown every willingness to halt those programs in which graduates have been found to be less useful or unacceptable to the community.

Plans are now underway to consolidate resources into the formation of a basic level rural community health worker. At this moment, it will suffice to say that a set of desirable characteristics for the basic level health worker has begun to emerge. The person should be an individual drawn from the community, with minimal if any formal qualifications (i.e. possibly no more than the ability to read and write). Expected functions would include: health promotion and health education; reporting of births, deaths, illness and referral to government health services; and the provision of simple curative services. For the most part, it is envisioned that the basic worker would be an employee of the DSPP at the minimum salary of \$40/month; they would be responsible to the auxiliary nurse (s) who staffs the dispensary, but would themselves be based in the community. The possibility of recruiting basic health workers, at least, in part, from among traditional Haitian health practitioners has been under discussion.

This is an issue on which there is not consensus. There have been a few experiences with the recruitment of such practitioners into some past training programs, and traditional midwives (matrones) continue to be trained for the improved performance of their usual functions. Undoubtedly, the DSPP will review and conduct more thorough evaluations of these experiences as it defines plans for the extension of health services coverage.

Summary Of General Health Manpower Issues And Implications For AID Policy And Programming

This overview has focused on a description of conditions and issues which pertain to health manpower supply. The "adequacy" of institutional output, or health manpower "needs", cannot be measured against "demand" as estimated by standard ratios to population. Even "demand" as estimated by deficiencies in staffing patterns of existing health establishments cannot be measured. The absence of a precise inventory is only part of the problem. Demand in the Haitian context must be estimated by the budgetary capacity of the DSPP to absorb the products of its health training institutions. By this criterion and for reasons which will become more apparent in the following section, the output of existing formal training institutions may be considered "adequate".

A policy of support to strengthen existing formal institutions is entirely justified. DSPP recognizes the need for community oriented health workers at all levels. The unanimity around the objectives of extended coverage and community health on the part of the directors of formal training institutions and DSPP officials is impressive. These factors suggest that support for existing training institutions, be it in the form of assistance in carrying out projected program improvements and/or in the sponsorship of specialized training--such as for community health nursing educators, will be well applied. But "strengthening" of these institutions should not be construed to mean "expansion". On the contrary, future analysis is likely to provide rationale for recommending

reduction of medical school class size and recruitment of DSPP employees to fill existing training slots whenever possible.

The readiness of the DSPP to embark on plans to develop rural health services through the training of basic level health workers, together with the fund of previous experience in this area points to the desirability and probable efficacy of support to further such activities. ' As part of this effort, the funding of "recycling" or in-service training for the currently employed auxiliary nurses who are likely to interface with the basic health workers would be desirable.

DSPP CURRENT STATUS AND ORGANIZATIONAL ISSUES

General Conditions

Emphasis will now be given to delineating some of the prevailing conditions which operate as constraints or factors to be weighed in choosing solutions to the evident problems.

Briefly, the DSPP is impeded in the effective execution of its regular functions by: the absence of personnel in certain key administrative positions; the limited task-related training in particular skill areas at the operational levels; occasionally, the presence of an underqualified incumbent in a given position; the absence of clearly prescribed -- or, alternatively, envisioned -- objectives and specified tasks to give work units and their directors a clear mandate as to their bureaucratic roles and functions; and, finally a prevailing lack of the physical resources (paper, ink, file cabinets, transportation, rapid tele-communication modes) which are the fundamental requisites of orderly and effective administration and management.

The problems have been identified, both by Haitian officials and expatriot advisors, with varying degrees of boldness and specificity. As a context for consideration of solution options, certain key points concerning the DSPP should be clarified.

First, no one knows precisely the number of personnel employed by the DSPP. The Moniteur specifies by title and salary, budgeted job slots for about 4860 persons. Yet, several DSPP officials, independently of one another, have placed the actual number of personnel well in excess of 8,000 people. Salaries of DSPP personnel are notoriously low, to which fact, low performance motivation is attributable. Examination of absence reports (by no means a random sample nor carefully prepared records) suggested absenteeism ranging from 6 percent to 35 percent (average 19 percent) of the staff on any given work day. Yet, despite the low salaries, the DSPP has continued to grow at the rate of 4.7 percent between 1975 and 1976, and at 6.4 percent annually during the present year. This growth is the result not only of hires in excess of terminations,

but of the relatively low labor turnover -- between 2.2 percent and 3.8 percent depending upon the base figure used. Salaries presently account for somewhere between 60 percent and 80 percent of the operating budget.^{8/}

These conditions, when considered as background to the problems enumerated earlier, have at least two sets of implications for manpower development policy and programming.

- 1.) The DSPP can afford hiring only a few key positions. In these instances, filling key positions may require overseas training to develop specialized skills. Often, however, qualified people can be found "on the market" -- but they cannot be hired at the salary being offered. In the latter case, salary supplementation and active recruitment are indicated. Care should be taken to ensure that supplementary salaries do not result in salaries which are totally out of line with those of other workers at proximate levels of responsibility. The difficulties now being experienced integrating the National Society for Endemic Disease (SNEM) and the Division of Family Hygiene into the DSPP emanate partly from foreign donor salary supplementation.
- 2.) DSPP cannot absorb more than a few new key employees. They also need to develop skills at the operational levels. This indicates the appropriateness of in-service and on-the-job training or work-release for brief periods of local institutional training for existing workers. Low levels of educational attainment among certain cadres of employee (e.g. statistical clerks and garage mechanics) should not be construed as impediments to potentially good job performance. Training simply must be task specific and must build from existing cognitive skills.

Current Activities in Organizational and Manpower Development

Two principal sets of activities are currently ongoing in the sphere of manpower and organizational development at the level of the central DSPP. Under AID sponsorship, Westinghouse Health Systems is working with the newly created Bureau of Health Planning and Evaluation to establish that unit. This project will identify and propose remedies for administrative and organizational dysfunctions, particularly as they pose impediments to the planning process. PAHO, in its technical and executive capacity,

^{8.} See Appendix A, Table IV for DSPP Size, Growth and Turnover data.

in relation to the IDB loan, has responsibility for the detailed articulation of work-unit objectives, task descriptions, and procedures manuals for the DSPP operating divisions. Specific mechanisms for ongoing collaboration between these two efforts are, at this writing, being established by DSPP officials.

Specific Manpower Development Requirements

In a review of organizational and manpower development issues, Westinghouse has identified a number of requirements amenable to AID support. It should be noted that, with the exception of some training and salary supplementation specifically associated with development of a rural health delivery system project, manpower development recommendations in this memorandum are confined to specific needs which are clearly apparent at the central operating level. Without precise definition of the region(s) in which program activities will be undertaken and without a detailed inventory of personnel engaged in direct health services, definitive training requirements at the regional levels cannot be specified at this time. A block of funds may be earmarked for allocations once the required background information is available.

The calculations pertaining to manpower development needs for accounting and budgeting, statistics, transportation, supply and logistics and maintenance are summarized in the attached Appendix B. The manpower needs for the BHP/E and Central Administrative Division leadership and the personnel section of that Division are discussed in greater detail below.

The Bureau of Health Planning and Evaluation

During the course of this consultancy, a proposed set of objectives and activities for the BHP/E was developed, and the skills necessary to implement these activities have been identified. A matrix has been developed, which permits the BHP/E and its consultant team to review the skills available in present staff members, and to determine skills which have yet to be obtained. On the basis of initial observations it has been suggested that persons with skills, at the technical/analytic level, in the areas of health economics, budget analysis, performance evaluation,

health planning and policy analysis will prove desirable additions to the staff. The memorandum which details these is currently under review by existing BHP/E staff. Assuming, however, that some overseas training will be necessary for the people with the analytic skills required, provisions have been made in the manpower development requirements summary. (Salary supplements for the BHP/E are presumed to be covered by existing AID programming and therefore are not considered in the summary table.)

Central Administrative Division and Personnel Section

As has been noted at several points earlier, there is, at present, no incumbent in the position of Director of the Administrative Division. The reason appears largely to be that qualified candidates will not agree to work for the base salary available. The need for a salary supplement has been recognized and funds may already be available. However, continued salary supplementation should be anticipated and, given the other investments in organizational development, a supplement to allow hiring of an executive assistant would be a prudent expenditure.

The personnel section, which presently consists of a chief of section, a secretary and a typist, will require development not only through establishment of clear cut objectives, activities and procedures, and institution of a personnel management information system, but, also through some staffing alterations. Salary supplements will permit hiring of an administrative level person experienced in personnel administration. This person could supervise institution of the new procedures and information system and the tabulation of data. This also would free the chief of personnel to make field supervisory visits. Salary supplementation to transfer 2 clerks to maintain personnel data is also indicated.

Coordination of Manpower Development Activities

The volume and complexity of the manpower development recommended here and in the other consultant reports will necessitate an improved coordinating capability within the Central DSPP. Eventually, a unit of Manpower and Organizational Development may be envisioned, to handle

these functions. At the present time, it is recommended that the section of Medical and Paramedical Training (Section d'Enseignement), one of the special services sections attached to the office of the Secretary of State, expand its functions to include coordination of administrative and direct services personnel training. To accomplish this, at least one other staff member will have to be added to the Training Section. This person should have experience in training, methodology, administration, and conference management. In addition, the objectives and activities of this unit must be more clearly specified than at present.

VI APPENDICES

APPENDIX A

General Health Manpower Data, 1977

TABLE I

TYPICAL PATTERN AND TERMINOLOGY OF
HAITI'S GENERAL EDUCATIONAL SYSTEM^{1/}

<u>Specific Name of Level</u>	<u>General Name of Level *Points of Certification</u>	<u>Duration</u>	<u>Age of Child</u>	<u>Comparable American Grade</u>
Jardin d'Enfant ^{2/}	"Primaire" *Certificat (d'Etudes Primaies)	2	3,4	Nursery
Enfantin		1	5	K
Preparatoire I et II		2	6,7	1,2
Elementaire I et II		2	8,9	3,4
Moyen I et II	"Secondaire" *brevet elementaire ^{3/} *brevet superior *Baccalureat 1 ^{ere} partie *Baccalaureat 2 ^{eme} partie	2	10,11	5,6
6 ^{eme}		1	12	7
5 ^{eme}		1	13	8
4 ^{eme}		1	14	9
3 ^{eme}		1	15	10
2 ^{eme}		1	16	11
1 ^{ere} Rheto		1	17	12
(0) Philo	1	18		
Training Programs Vocational Schools Professional Schools University Facultes	Other Educational and Training Systems: Levels of Education Required Vary with Program			

1/ pattern and terminology may vary in private school system.

2/ Children must complete and know how to read and write before entering Enfantin.

3/ "brevets" are conferred to girls only, optional upon successful completion of a state exam. May qualify for normal school (teacher training) and/or vocational school.

Scheme developed by Russell and Veillard

TABLE II

PERCENTAGES OF HAITIAN POPULATION
WHO ARE LITERATE
 (BY AGE GROUP)

<u>Age</u>	<u>% Literate</u>
5 - 19 years old	30%
18 and over	24.7%
20 - 30 years old	27.7%
35 - 49 years old	17%
50 - 74 years old	14.1%
65 + years old	10.4%

Source: Division of Statistics
 Department d'Education
 Nationale

TABLE III

MANPOWER SUMMARY STATISTICS -- HAITI

Number and Geographical Distribution of DSPP Health Service Personnel

<u>Type</u>	<u>Total No.</u>	<u>% Port-au-Prince</u>	<u>% Other Regions</u>
MD	207	84	16
Additional MDs in Social Service			
Year 1.	99	-	-
Year 2.	77	- (distribution not available)	
Year 3.	45	-	-
NURSES (Professional)	273	52	48
Additional Nurses in Social Service	211	50	50
AUXILIARY NURSES:			
With Diploma	219	54	46
Without Diploma	870	38	62
DDS	33	42	58
DDS in Social Service	24	17	83
TECHNICIANS: Laboratory	137	64	46
Anesthesiology	16	81	19
Radiology	30	40	60
SANITARIANS:			
Officers	38	8	92
Inspectors	91	8	92
Auxiliaries	39	69	31
PHARMACISTS	10	60	40
GEOGRAPHICAL DISTRIBUTION OF TOTAL POPULATION		13	87

Sources: Plan de Santé 1975
Rapport Annuel des Activités Hospitalières 1974

Calculations: S.S. Russell

TABLE IV

DSPP PERSONNEL INFORMATION:
SIZE, GROWTH, AND TURNOVER
 (ALL CATEGORIES)

SIZE

Number According to Budget (Le Moniteur) : Approximately 4860
 Actual Number According to DSPP Officials : 8000 -- 10,000

GROWTH

	<u>Nominations</u>	<u>Cessations</u>	<u>Net</u>	<u>%</u>
1 October 1975 -- 30 September 1976	400	180	+220	4.7 (on 4640)
1 October 1976 -- 20 March 1977 (6 Months)	244	89	+155	3.2 (on 4860)
Projection 1 October 1976 -- 30 September 1977	(488)	(178)	(+310)	(6.4)

TURNOVER

Number Cessations as % All Employees

Using 4860 est: 3.8%
 Using 8000 est: 2.2%

Source: "Changements du Personnel",
 Folder in DSPP Personnel Office

Calculations: S.S. Russell

APPENDIX B

Training and Manpower Development

Cost Calculations: 1977

TABLE V

MANPOWER DEVELOPMENT INPUTS - COSTS SUMMARY*
(TOTAL "PROGRAM" COSTS IN U.S. \$)

DSPP Work Unit	Training Types				
	Overseas	Local Institutional	Short Inservice Courses	On the Job Training	Salary Supplement (Yearly)
BHP/E	17,000				
Division of Administration					5,400
Personnel Section				600	840
Auxil. Nurses In Dispensaries (RHDS)			(over 58,860 3 yrs)		33,360
Budgeting and Accounting	25,500				
Special Services Section and Training					4,200
Supply & Logistics (Central Only)	17,000	3,780	(over 9,600 4 yrs)		
Transportation		1,200		4,500	47,115
Statistics (Central and Regional)		825	116,750		72,000 (Regional) 9,504 (Central)

(Other Manpower Development Activities are not able to be specified or costed at this time:

- Med. School Devel.
M.D. Residency Program
- Direct Service Personnel Development

* Cost calculations for these inputs are attached.

Attachment to Table V

Notes on Calculations for Table V: Manpower Development Inputs - Costs Summary*

1. BHP/E: Overseas training to develop further analytic skills or to train two additional technical analysts assuming U.S. \$850/month for academic program: 2 persons x 10 months x U.S. \$250/month = \$17,000

2. Division of Administration: Salary Supplements to attract and retain qualified personnel for the following positions:

1 Director @ \$250/month x 12 months = \$3000 annually
1 Assistant Director @ \$200/month x 12 months = \$2400 annually
\$5400

3. Personnel Section:

On the Job Training: One Haitian instructor/advisor to train personnel section staff in maintenance and handling of files and records.

1 instructor @ \$200/month x 2 months = \$400

Materials @ \$100/month x 2 months = \$200
\$600

Salary Supplement: Annual supplements to attract and retain qualified personnel for the following positions:

1 Administrator @ \$50/month x 12 = \$600

2 Clerks @ \$10/month x 12 months = \$240
\$840

4. Auxiliary Nurses in Dispensaries (RHDS): The following assumptions were applied to derive estimates of annual costs associated with training and maintaining auxiliary nursing personnel of DSPP to supervise the cadre of Basic Health Workers proposal under the Rural Health Delivery Systems Project (RHDS):

In-service Training for auxiliary nurses who are responsible for dispensaires and who will supervise Basic Health Workers. It is assumed that 278 auxiliary nurses (2 nurses for each non-IDB project dispensary) will be trained. It is rather assumed training sessions are each 5 days in length, each involving six

* All cost estimates in U.S. dollars.

auxiliary nurse-trainees; with 4 training cycles per month, auxiliary nurses can be trained at the rate of 24 per month or all 278 in 12 months.

Based on the above assumptions, monthly training costs have been calculated as follows:

● 1 PH. Nurse (full time) - Instructor	\$130/mo.
● 1 Member of Basic Health Worker Training Team - Instructor	\$125/mo.
● 6 Auxiliary Nurses @ \$40 to "cover" Dispensaries for Trainees	\$240/mo.
● Per Diem for Trainees @ \$5/day x 5 days x 24 trainees/mo. x 24 (6/wk)	\$600/mo.
● Transportation @ \$10 R/T within a Region x 24 trainees/mo.	\$240
● Materials	\$300
	<hr/>
	\$1635/mo.

For purposes of the cost-input summary table, it has been assumed that three series of training sessions will be required over 3 years.

- 1) When Basic Health Worker training is being planned.
- 2) When BHW is being trained and introduced into service.
- 3) Follow-up after introduction of BHW.

Thus each auxiliary nurse who will supervise basic health workers will receive a total of 3 weeks of supervisory training in the proposed 3 year period (one week per year). Based on this assumption, total training costs are:

$$\$1635 \text{ per month} \times 36 \text{ months (3 years)} = \$58,860$$

Salary Supplements: It is anticipated salary supplements will be required to compensate auxiliary nurses for assuming additional tasks related to supervising basic health workers. Assuming 2 nurses in each of 139 dispensaries:

$$278 \text{ nurses} @ \$10/\text{month} \times 12 \text{ months} = \$33,360 \text{ annually}$$

5. Budgeting and Accounting Section of DSPP.

To strengthen the analytic and managerial capability of the Budgeting and Accounting section, provision is made for overseas training of DSPP personnel (or for appropriate preparation of new employees). For purposes of circulation, it is assumed 3 persons would each attend non-academic programs of 10 months duration. If shorter programs prove more suitable, more individuals could be trained.

3 people @ \$250 per month cost x 10 months = \$25,500

6. Special Services Section of DSPP - Training Section.

Provision is made for salary supplements to compensate the existing chief of the section and an additional staff member (recommended to be hired). It is recommended that functions of the section be expanded to provide more comprehensive coordination of Manpower Development and Training Activities.

1 Chief @ \$200/mo. x 12	=	\$2400
1 Dir. non-med training @ \$150/mo. x 12	=	<u>\$1800</u>
		\$4200

7. Supply and Logistics (Central Only)

Overseas training: It is recommended that 2 persons be sent for overseas training in logistical systems.

2 persons x 10 months x U.S. \$850/mo. = \$17,000

Local Institutional Training: For 16 warehouse, purchasing and inventory personnel (4 each year for 4 years) to be trained at local vocational schools* in business methods, accounting, record keeping, inventory control, systems analysis.

16 persons x \$20 Tuition x 9 mos. = \$2880

For 5 medical equipment and maintenance personnel to be trained at Ecole Damier au Pilote in electronics, electronic controls, electricity, small motors, and general mechanical repair.

5 persons x \$20 Tuition x 9 mos. = \$ 900

Total \$3780

* Centre Pilote Administration School

In service training: Short, task-based in service courses are expected to be required, particularly given that a number of supply and logistics personnel do not have the educational attainment prerequisite to entering institutional programs.

2 Instructors @ \$200/mo. each x 6 mos. each
Instructor x 4 years = \$9600

8. Transportation

Local Institutional Training: for 12 mechanics, 5 months of training each (over 2 years), at L'Ecole JB Damier or Auto Dealer Mechanics Training-skills upgrading.

12 people x 5 months x \$20/month tuition = \$1200

On-the-job training: for 30 mechanics (particularly those unable to meet institutional entry requirements) - skills upgrading

1 instructor @ \$200/mo. x 3 months full time equivalent
each year = \$600/year x 5 years = \$3000

Materials \$1500
\$4500

Salary supplements: The following staffing figures prepared by Jean Veillard and submitted to USAID, Port-Au-Prince on 25 April, 1977, projects the salary supplementation required to facilitate merger of DSPP garage with that of SNEM.

In as much as changes have occurred at the DSPP Garage, a plan has been worked out under which no additional personnel are needed under the merger with SNEM. The number of employees remains the same. Only a salary adjustment is required for those actually with the DSPP.

The adjustments by category follow:

	<u>Number of Personnel</u>	<u>Salary Required</u>
Chef de la section de transport	1	287.50
Mouvement des Vehicules	1	230.00
Chef de Transport (Asst)	1	220.00
Emplo. du mouvement des vehicules	2 (@ 127.50)	255.00
Operateur de Pompe a essence	3 (@ 56.50)	169.50
Chauffeur d'Actobus	4 (@ 100.00)	440.00
Chauffeur Sr.	4 (@ 95.00)	380.00
Chauffeur Mecanicien	60 (@ 91.00)	5,460.00
Chauffeur Jr.	12 (@ 85.00)	1,020.00
Assistant Administratif	1	185.00
Mecanicien en Chef	1	220.00
Clerc de Garage	1	122.50
Inspecteur Mecanicien	2 (@ 157.50)	315.00
Mecanicien Gr.	16 (@ 137.50)	2,200.00
Aide Mecanicien	15 (@ 89.00)	1,335.00
Inspecteur de Vehicules	2 (@ 127.50)	255.00
Soudeur Gr.	1	127.50
Apprenti	14 (@ 45.00)	630.00
Soudeur	5 (@ 110.00)	550.00
Reparateur Cavoiserie	2 (@ 110.00)	220.00
Responsable des outils	2 (@ 93.00)	186.00
Graisneur	1	103.00
Peintre	3 (@ 127.50)	382.50
Magasinier	1	167.50
Aide Magasinier	3 (@ 120.00)	360.00
Depaneurr	8 (@ 60.00)	480.00
Survdillante	2 (@ 50.00)	100.00
Travailleurs	10 (@ 45.00)	450.00
Electricien	2 (@ 100.00)	200.00
Menuisier	1	60.00
Charpentier	1	60.00
Technicien	3 (@ 60.00)	180.00
	<hr/>	
TOTAL	185	\$17,351.00
SNEM	52	
DSP/P	133	
Annual Total under the Merger		\$225,563.00
Current:		
DSP/P		\$ 95,572.00
SNEM		83,876.00
		<hr/>
SUB-TOTAL		\$178,448.00
Total amount needed from USAID for Salary Supplement		\$ 47,115.00
(Annual required total, less current DSP/P + SNEM allocations)		

9. Statistics (Central and Regional)

Local institutional training:

5 persons from central statistics section to be trained
in data handling.

5 persons x 3 months x \$55 per month = \$825

In-service short courses:

300 clerks in hospitals, health centers and dispensaries
in two week courses to introduce revised statistical system
for planning and management = \$116,750

Salary supplements:

300 regional administrative personnel - bonus paid only
for performance on reporting requirements x \$20/month x
12 months = \$72,000

24 central staff for improved reporting

24 people x \$33/month x 12 months = \$9,504

TABLE VI

DSPP OPERATING COSTS - SALARIES

(IN U.S. \$)

	<u>Personnel</u>	<u>Monthly Salary</u>	<u>Yearly Salary</u>	<u>No. of Personnel</u>	<u>Yearly Total</u>
A. DISPENSAIRE					
	2 Aux. Nurses	\$ 50	\$ 600	2	\$1200
B. HEALTH CENTER, Without beds					
	1 Physician resident	120	1440	1	1400
	1 Dentist resident	100	1200	1	1200
	1 Nurse resident	40	480	1	480
	4 Aux. Nurses	50	600	4	2400
	1 Lab technician	60	720	1	720
	2 Sanitary Inspectors	60	720	2	1440
	2 Male aides	40	480	2	960
					\$8640*
				SUB-TOTAL	
C. HEALTH CENTER, With Beds					
	1 Medical Director	\$180	\$2160-3000	1	\$2160-3000
	1 Physician resident	120	1440	1	1440
	1 DDs resident	100	1200	1	1200
	1 Infermiere resident	40	480	1	480
	8 Aux. Inf.	50	600	8	4800
	1 Lab technician	60	720	1	720
	1 Statistician	60	720	1	720
	2 Sanitary Inspectors	60	720	2	1440
	1 Administrator	100	1200	1	1200
	1 Chauffeur	70	840	1	840
					\$15,000
				SUB-TOTAL	

*IDB estimates of operating costs for the Health Center Without Beds as: \$15,360 Gross minus \$8640 personnel
als 20 per ar . 560 pe ontl

TABLE VII

INFORMATION FOR RHDS COST CALCULATIONS

1. N.B. Number of personnel needed to fully staff existing health establishments not known until after complete DSPP manpower inventor.
2. Salary Costs of Fully Staffed Health Establishments Using Staffing Pattern Objectives in 1975
Plan De Sante: see Table VII.
4. (IDB Estimates of Operating Costs) - Westinghouse Salary Costs Estimates = Yearly Net Operating Costs

Dispensaries

New: (In U.S. \$)	\$4140	-	\$1200	=	\$2940
Improved:	\$2292	-	\$1200	=	\$1092

Health Centers Without Beds

New:	\$15,360	-	\$8640	=	\$6720
Improved:	\$13,512		\$8640	=	\$4872

Health Centers With Beds

New:	\$25,960	-	\$15,000	=	\$10,960
Improved:	\$24,112	-	\$15,000	=	\$ 9,112

TABLE VIII

SALARY COSTS OF MAINTAINING NEW CADRE OF
BASIC HEALTH WORKER AT DISPENSARY LEVEL

<u>Number Dispensaries</u>	<u>Salary Supplement For Existing Aux. Nurse To Supervise @ \$10/mo = \$120/yr/Aux</u>		<u>Salary for Basic Worker @ \$40/mo/worker = \$480/yr/worker</u>	
	<u>With 1 Aux</u>	<u>With 2 Aux</u>	<u>Projected With 2 Workers</u>	<u>Projected With 4 Worker</u>
DSPP + Mixed: 139	\$16,680	\$33,360	\$133,440	\$266,880
New IDB: 17	1/ -	1/ -	\$ 16,320	32,640
	<u>\$16,680</u> (a)	<u>\$33,360</u> (b)	<u>\$149,760</u> (c)	<u>\$299,520</u> (d)

2/
Minimum System: All Dispensaries with 1 Auxiliary + 1 BHWS = (a) + (c) = \$166,440/yr

2/
Maximum System: All Dispensaries with 2 Auxiliaries + 4 BHWS = (b) + (d) = \$332,880/yr

1/ covered by IDB thru 1980

2/ assumes IDB does not cover costs of basic workers in North and South Regions and assumes no other change in Auxiliary salary levels.

TABLE IX
PERSONNEL COSTS IMPLICATIONS
 OF IDB LOAN PROJECT

(1) Estimated Cost of Additional Personnel Required For Staffing of Regional Projects From IDB Project Paper, October 1975, Page 27.

	<u>Additional Numbers</u>	x	<u>Monthly Salary</u>	x	12	=	<u>Yearly Additional Cost</u>
MD's	18		\$180				\$38,880
MD's in Social Service	25		120				36,000
DDS in Social Service	23		100				27,600
Professional Nurses	9		80				8,640
Nurses in Social Service	24		40				11,520
Auxiliary Nurses	242 *		40				145,200
Health Officers	33		60				23,760

(1) SUB-TOTAL US \$291,600

* Number of new Auxiliary Nurses to be trained especially for the Regionalization Project; cf. work plan, 7 April 1977.

(2) Salary supplements to "responsibles" - to be assumed by DSPP in 1980 cf. work plan, 7 April 1977

Central Office Administration	6,000
Regional Office Administration, North	3,240
4 Chief, Health Center, with beds; North Region	3,360
2 Chief, Health Center, without beds; North Region	1,200
20 Dispensary	2,400
Regional Office Administration, South	3,240
7 Chief, Health Center, with beds; South Region	5,880
6 Chief, Health Center, without beds; South Region	3,600
25 Dispensary	3,000

(2) SUB-TOTAL US \$31,920

RECURRENT BUDGET IMPACT OF IDB PROJECT AFTER 1980 (1 + 2) US \$323,520

APPENDIX C

Revised Manpower Data from
De Fay Report: 1977-78

HEALTH MANPOWER SURVEY

During the summer of 1977, a survey of health manpower in the health facilities of Haiti was conducted under the leadership of Dr. Claude De Fay, Director of Division of Public Hygiene. The results of the survey are summarized in this Appendix. Dr. De Fay was advised and assisted by Westinghouse Health Systems field team members:

Dr. D. K. Freedman, Chief of Party;

Jean Veillard, Program Specialist;

Jacques Saint-Surin, Biostatistician; and

Nicholas Fusco, Westinghouse Health Systems Project Manager

SUMMARY OF ANALYSES

The following items are a summary in highlight form of the data and analysis from the De Fay survey. Additional details are contained on the following pages.

1. 830 doctors for 5 million inhabitants or
1 doctor: 6,000 people
2. 205 doctors in rural districts = 25% of all doctors.
3. 625 doctors in metropolitan Port-Au-Prince = 75% of all doctors.
4. 312 medical residents and 518 licensed doctors.
5. 152 interns at the University Hospital.
6. 679 registered nurses for 5 million inhabitants or
1 nurse: 7,500 people.
7. 198 nurse residents and 481 licensed nurses.
8. 1,903 auxiliary nurses for 5 million inhabitants or
1 auxiliary nurse: 2,600 people.
9. 304 medical technicians for 5 million inhabitants or
1 medical technician: 16,500 people.
10. 92 dentists for 5 million inhabitants or
1 dentist: 55,000 people.

TABLE X

DSPP FACILITY INVENTORY

<u>DISTRICT</u>	<u>DISPENSARY</u>	<u>HEALTH CENTER WITHOUT BEDS</u>	<u>HEALTH CENTER WITH BEDS</u>	<u>DISTRICT HOSPITAL</u>	<u>TOTAL</u>
Belladere	3	1	0	1	5
Cap-Haitien	32	1	0	1	34
Cayes	11	1	1	2	15
Gonaives	7	0	0	1	8
Hinche	6	0	0	1	7
Jacmel	15	0	1	1	17
Jeremie	10	0	0	1	11
Petit-Goaye	8	0	4	1	13
Port-Au-Prince	24	17	1	5	47
Port De Paix	10	0	0	1	11
St. Marc	6	1	2	1	10
TOTAL	132	21	9	16	178

FIGURE 1

NUMBER OF DSPP FACILITIES, BY TYPE

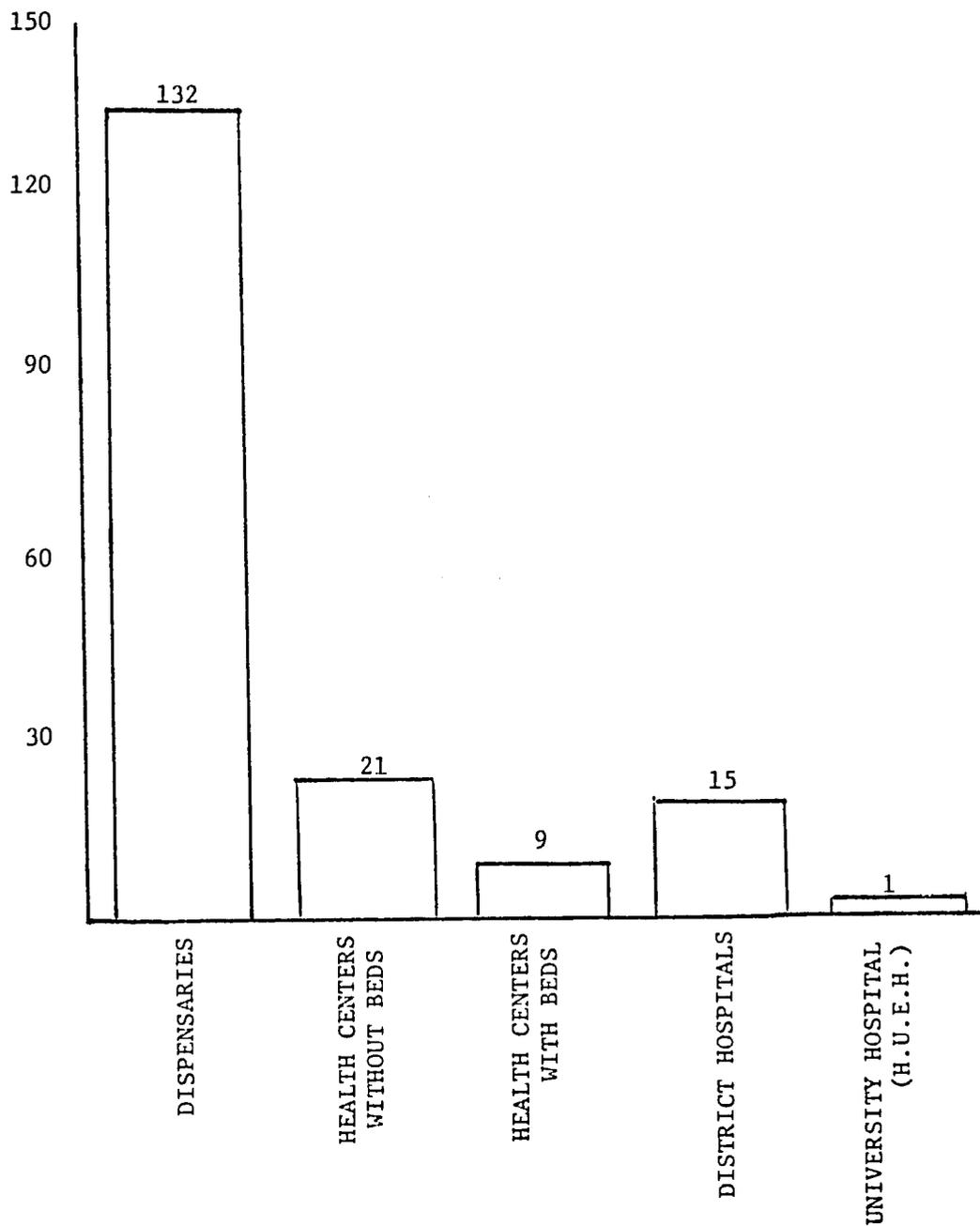


TABLE XI

DSPP PERSONNEL BY FACILITY TYPE

	DISPENSARY	HEALTH CENTER WITHOUT BEDS	HEALTH CENTER WITH BEDS	DISTRICT HOSPITAL	TOTAL
Doctors	58	88	27	321	494
Dentists	12	23	6	22	63
Pharmacists	5	7	0	5	17
Registered Nurses	49	38	21	303	411
Auxiliary Nurses	150	126	50	484	810
Laboratory Assistants	0	33	8	49	90
Radiologists	0	0	0	13	13
Anesthesiologists	0	0	0	21	21
Sanitation Officers	35	98	13	49	195
Others	304	344	143	933	1724
TOTAL	613	757	268	2200	3838

FIGURE 2

NUMBER OF DSPP PERSONNEL, BY TYPE

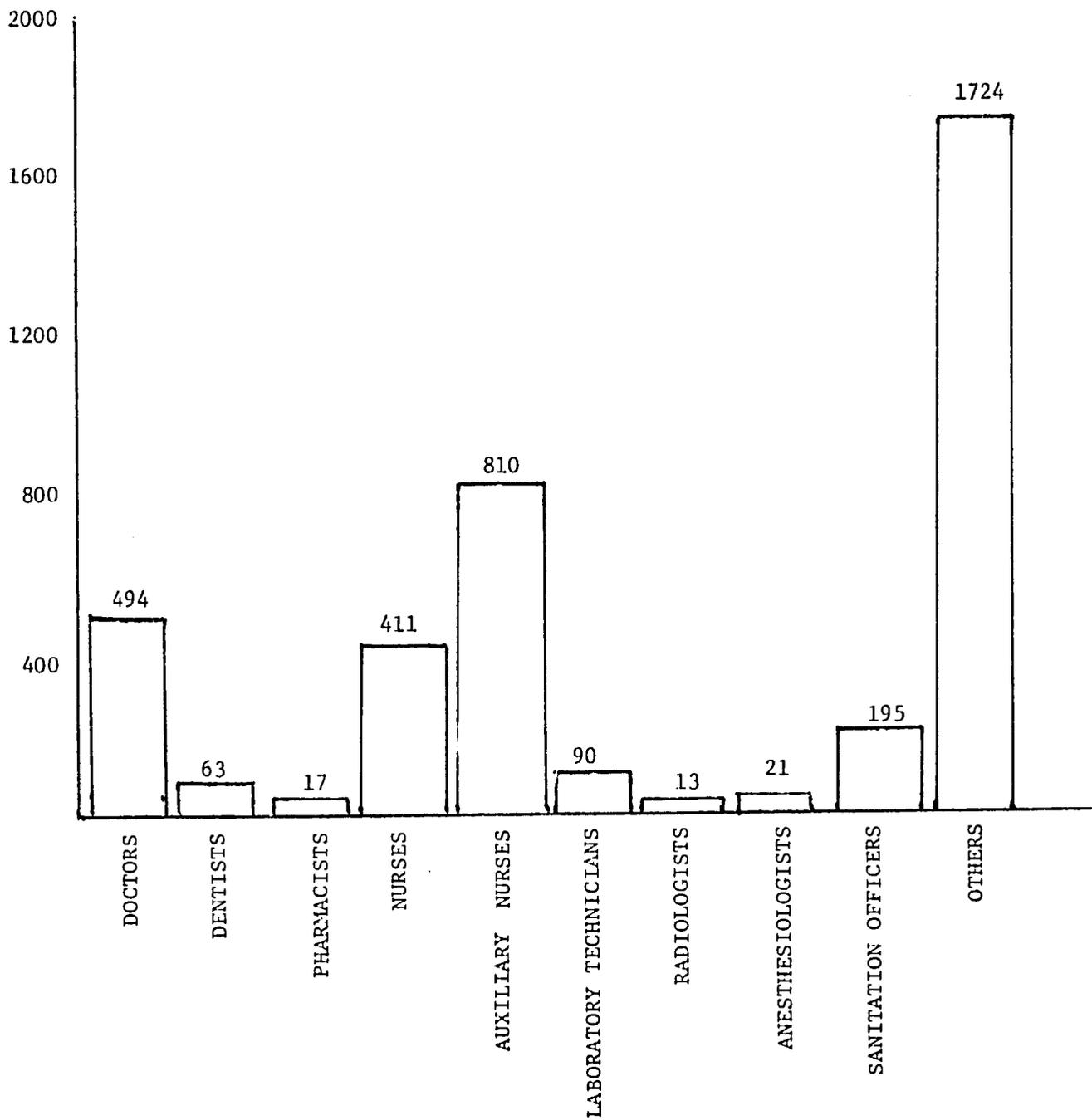


TABLE XII
DSPP PERSONNEL EXPENDITURE, BY FACILITY
 (GOURDES)

	DISPENSARY	HEALTH CENTER WITHOUT BEDS	HEALTH CENTER WITH BEDS	DISTRICT HOSPITAL	TOTAL
Doctors	626,400	950,400	291,600	3,466,800	5,335,200
Dentists	83,520	160,080	41,760	153,120	438,480
Pharmacists	30,000	42,000	0	30,000	102,000
Registered Nurses	294,000	228,000	126,000	1,818,000	2,466,000
Practical Nurses	450,000	378,000	150,000	1,452,000	2,430,000
Laboratory Assistants	0	108,900	26,400	161,700	297,000
Radiologists	0	0	0	42,900	42,900
Anesthesiologists	0	0	0	69,300	69,300
Sanitation Officers	126,000	352,800	46,800	176,400	702,000
Others	729,600	825,600	343,200	2,239,200	4,137,600
TOTAL	2,339,520	3,045,780	1,025,760	9,609,420	16,020,480

FIGURE 3

EXPENDITURES FOR DSPP PERSONNEL, BY TYPE
(IN GOURDES)

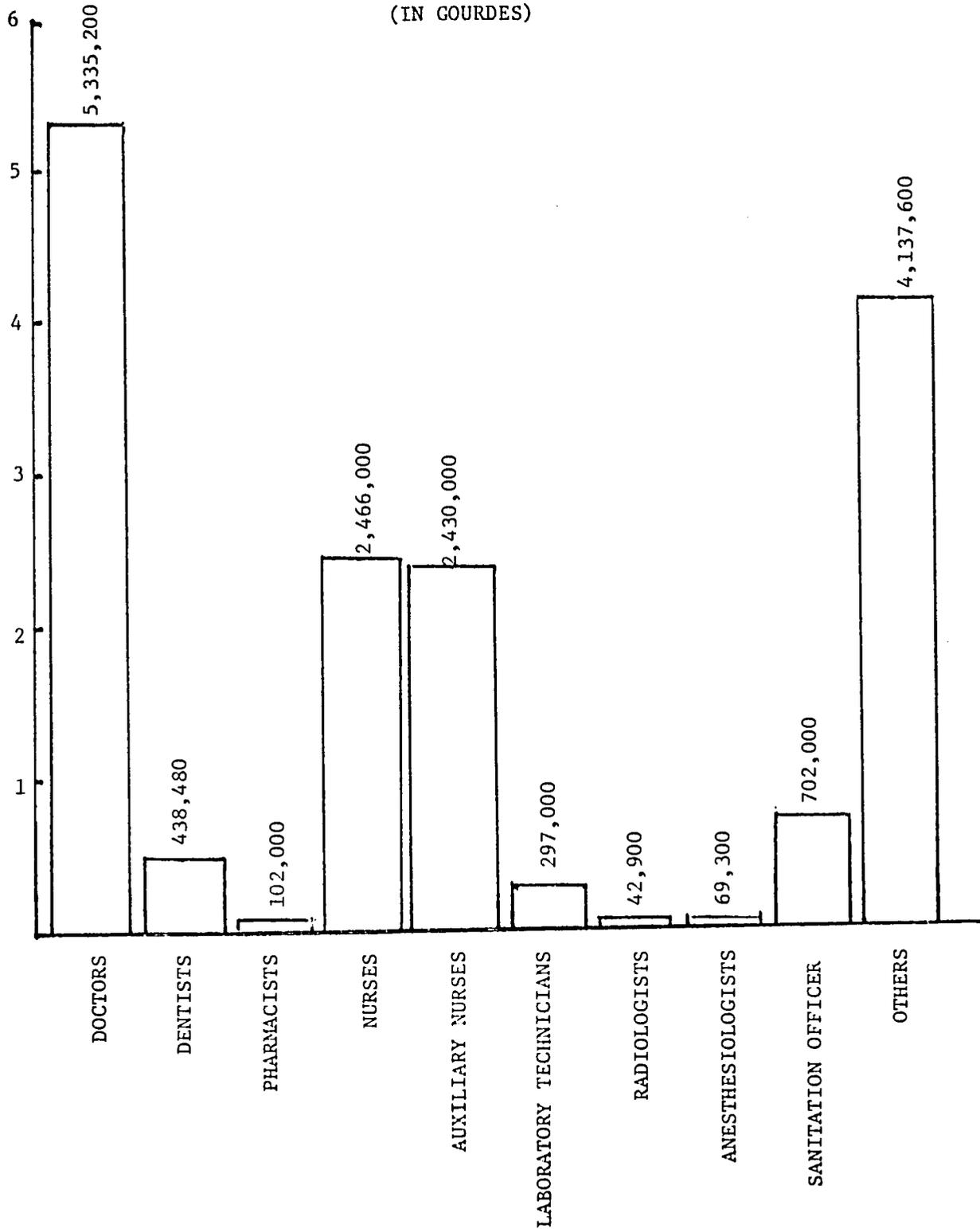


TABLE XIII
DSPP HEALTH SERVICES EXPENDITURES, BY DISTRICT*
 (GOURDES)

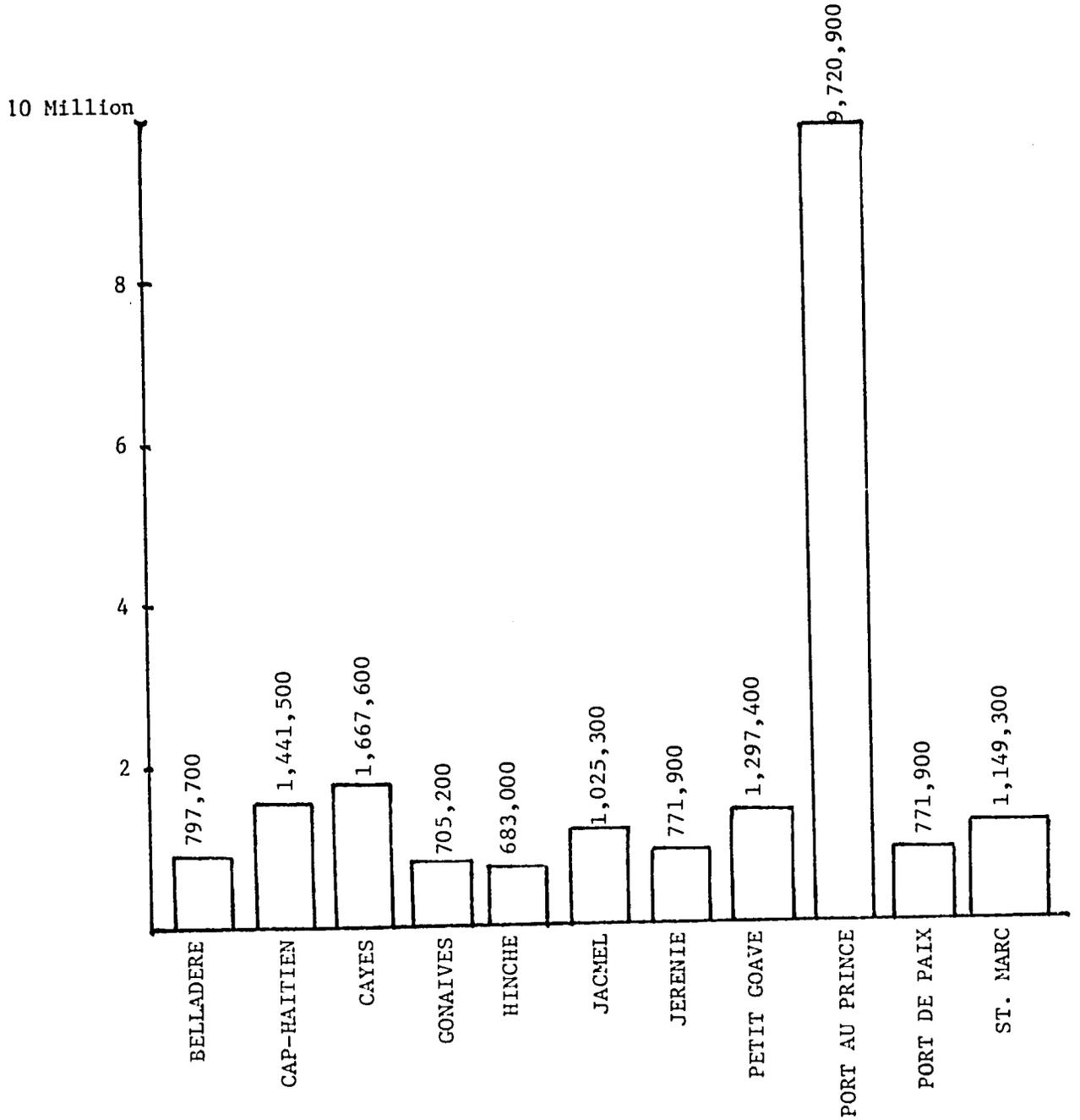
<u>DISTRICT</u>	<u>EXPENDITURE</u>
Belladere	797,700
Cap-Haitien	1,441,500
Cayes	1,667,600
Conaives	705,200
Hinche	683,000
Jacmel	1,025,300
Jeremie	771,900
Petit Goave	1,297,400
Port-Au-Prince	9,720,900
Port De Paix	771,900
St. Marc	1,149,300
TOTAL	20,031,700

* Includes only expenditures from Budget de Fonctionnement (Operating Budget)

FIGURE 4

DSPP HEALTH SERVICES EXPENDITURES, BY DISTRICT*

(GOURDES)



*Includes only expenditures from Budget de Fonctionnement (Operating Budget)

TABLE XIV
ANNUAL OPERATING COSTS FOR DSPP FACILITIES, BY TYPE
 (GOURDES)

<u>FACILITY TYPE</u>	<u>AVERAGE COST</u>	<u>NUMBER</u>	<u>TOTAL COST</u>
Dispensary	22,200	132	2,930,400
Health Center Without Beds	181,300	21	3,807,300
Health Center With Beds	142,500	9	1,282,500
District Hospital	549,800	15	8,247,000
HUEH	3,764,300	1	3,764,300
TOTAL			<hr/> 20,031,500

FIGURE 5

ANNUAL OPERATING COSTS FOR DSPP FACILITIES, BY TYPE

(GOURDES)

