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MONITORING AND EVALUATION
OF THE
LAMPANG HEALTH DEVELOPMENT PROJECT
(DEHS/THAILAND)

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MONITORING AND EVALUATION OF LAMPANG HEALTH DEVELOPMENT PROJECT

1. Introduction

Since 1974, a cost-effective integrated health delivery system has been developed and tested in a rural Thai province 600 km. north of Bangkok. "Lampang Project" will be fully implemented by 1979, and at least two-thirds of the children under age six and women of child-bearing age will be provided with maternal child health, family planning, nutrition and other basic health services. If the innovations and key features prove to be successful, regional or nationwide replication could ensue to benefit rural people of the Kingdom.

The purpose of this report is to provide documented facts on the planning, implementation and complications of the "internal evaluation system" of one of the health development programs currently (1978) undertaken in Thailand.

2. Project Background

2.1 Historical

Since 1948, The Ministry of Public Health of Thailand has launched several specific health projects (1) which eventually prove to be effective in prevention, control and eradication of some communicable diseases such as smallpox, plague, and yaws. For twenty-five years, malaria, leprosy and tuberculosis Projects have been partially integrated into the existing basic health services such as maternal and child health, environmental sanitation, health education. Previously, preventive public health and curative medical services were administratively separated by the Thai government; in 1972, they were integrated within the Ministry of Health.

The pilot project in Saraphi District emerged in 1970, deploying the Village Health Volunteers and village committees in the integrated health services at Saraphi, in Chiang Mai Province. The project was jointly planned and implemented by the Ministry of Public Health and Chiang Mai University School of Medicine. It was the first time that the concept of community participation in the health care system was officially tested and accepted in Thailand.

2.2 Logical Framework

As evident in the Project Log-Frame (Appendix I), the inputs consist of the regular government resources and the Project budget. The immediate result (output) is the integrated health system structure and function which will be capable of rendering the cost-effective integrated health services, reaching at least 66% of the target population (effect). Ideally the impact will be the improvement of the health status of the population (600,000) in the Project area.

2.3 Institutional Framework

The administrative set-up of the Project is composed of both central and field units as shown in Appendix II.

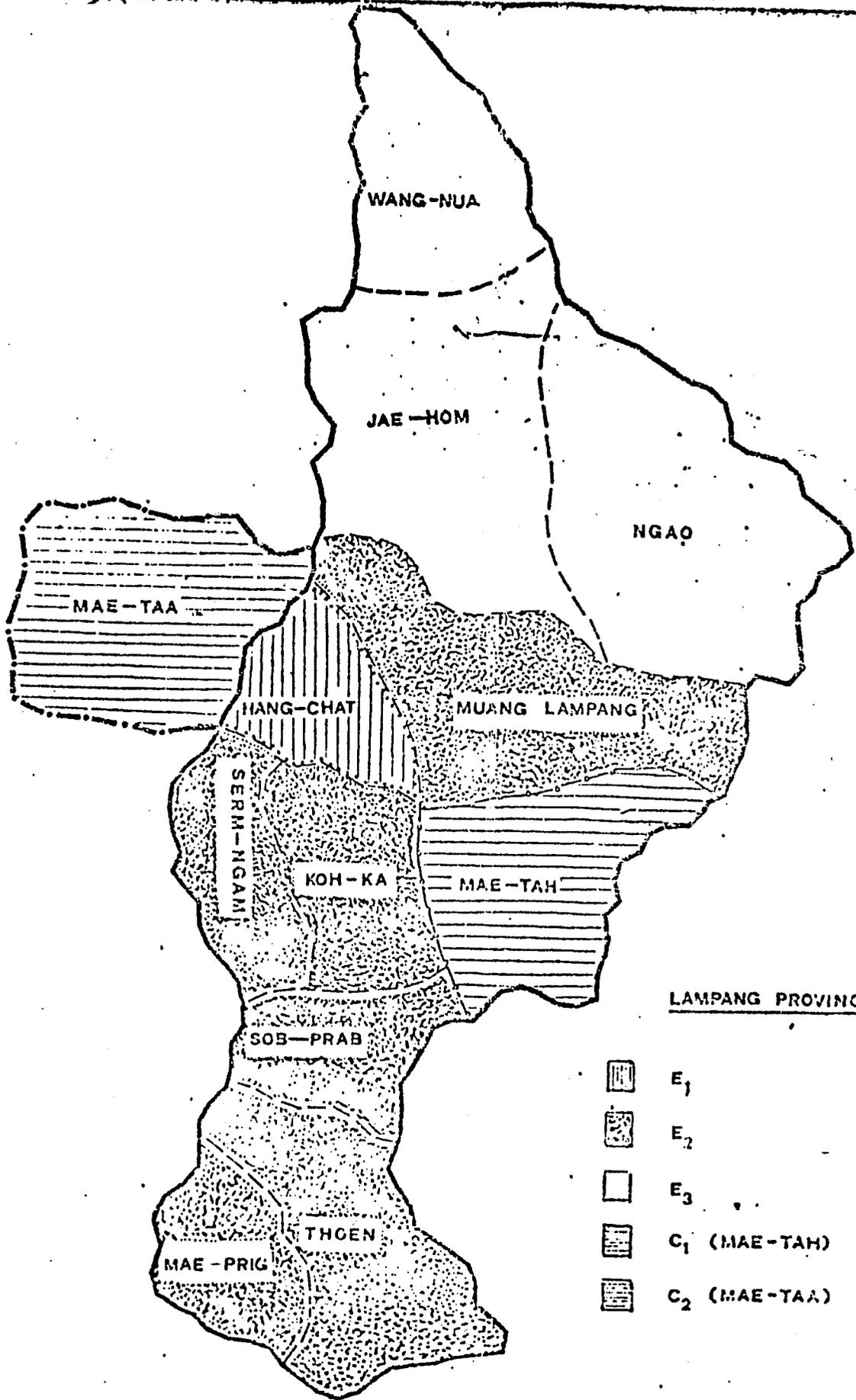
The Project Director is given the authority in the overall administration of the Project while the Field Director is autonomous in field operation. The Division Chiefs coordinate the planning and implementation of programs. Decision-making authority is also delegated to the field workers and the villagers for the selection of the trainees.

In order to achieve increased coverage from the initial 15-20% to the projected 70% the Project employs strategies with the following key features and innovations:

- A. Reorganization of health system structure and strengthening of management practices for integrated health services.
- B. Development of community health paraphysician (i.e. "wechakorn")
- C. Development of village health volunteers for primary health care.
- D. Development of community and private sector involvement.

In the first two years, 1974-1976, implementation occurred in a pilot district, Hang Chat (see map of Lampang Province) which has a population of nearly 50,000. Following assessment and modification of the interventions and methods employed in the pilot district (E₁), an improved delivery system is being extended to six additional districts (E₂), over the period 1977-1978, and to the rest of the province (E₃), for completion in 1979.

The overall organization of the project evaluation and monitoring system includes a number of functional units (see Appendix III) with specific roles and various collaborative arrangements as described below:



Division of Research and Evaluation

The Division of Research and Evaluation is vested with the responsibilities of providing processed information which will be useful to the Project in planning, management, and evaluation of the system's performance and achievements relative to the targetted goals and objectives. This Division also tests innovative information systems applicable to an integrated health delivery system which could be effective and replicable. Division offices are located at the Project site in Lampang.

The personnel of Division of Research and Evaluation are as follows:

1. Chief -- responsible for planning, directing, coordinating, and evaluating the work of the Division. He is also the Chairman of the Project Evaluation Board.
2. Statistician/Epidemiologist -- responsible for training and supervising the personnel of the data collection system, coordinating the overall activities of the data collection system personnel, providing field and central office statistical services and implementing all statistical activities at the Project site.
3. Medical Anthropologist -- responsible to advise and assist the Board, Component Heads, and data collection system personnel. Such activities include: finalizing the precise wording of questions in the survey instrument, analyzing the community health survey instrument pre-test, designing and undertaking some special studies such as the role of the traditional midwives in the experimental areas.
4. Assistant Statisticians (2) -- responsible for assisting the Statistician/Epidemiologist under his supervision.
5. Field Manager -- responsible for enforcing the work schedule of the component studies, coordinating the activities of the field supervisors and data collectors, giving daily briefings to the field supervisors and data collectors, arranging for the logistical support required for the data collection, providing reports on the progress of data collection, arranging meetings, keeping accurate accounts of expenses and reimbursements, and -- most important -- for insuring field quality control of the data collection system by (a) controlling the flow of questionnaires, (b) checking for completeness and accuracy on completed forms, (c) organizing the completed forms, and (d) closely supervising the data collection personnel.
6. Field Supervisors (2) -- responsible for supervising data collectors, under the direction of the Field Manager.

7. Data Collectors (12) -- responsible for collecting data for the respective components of the evaluating system, working under the direct supervision of the Field Supervisors and the general supervision of the Field Manager.

8. Coders (8) -- responsible for converting the collected data into a form suitable for key punching.

Evaluation Board

The Project Evaluation Board plans, implements, and coordinates the overall evaluation system and has the authority to make technical and administrative decisions required to facilitate the evaluation system. The Board is composed of the following members:

1. Chief of the Division of Research and Evaluation -- Board Chairman
2. Statistician/Epidemiologist of the Division of Research and Evaluation
3. Sociologist Consultant from NIDA
4. Statistician Consultant from NIDA
5. A Senior Project Staff Person from the Division of Planning and Programming
6. UHSPH Resident Project Staff

Collaborative Arrangements with NIDA

The National Institute of Development Administration provides major collaborative services to the evaluation system. In addition to computer facilities for conducting the evaluation, NIDA also provides several key personnel to assist the Evaluation Board and the Division of Research and Evaluation. These personnel are the following:

1. Statistician Consultant -- assists in the design and methodology of evaluation studies and supervises NIDA personnel who are involved; he also participates as a regular member of the Evaluation Board.
2. Sociologist Consultant -- assists in the design and methodology of evaluation studies, is a member of the Project Evaluation Board, and supervises NIDA personnel who assist in the evaluation.
3. Data Processing Consultant -- plans, implements and coordinates the data processing system, and advises the Board and Component Heads about data processing system requirements.

4. Computer Programmer -- under the supervision of the data processing consultant, responsible for the computer programming.
5. Head of the Administrative Analysis Component -- plans, implements and coordinates the related studies of the Administrative Analyst.
6. Heads of Task and Cost Analyses -- plans, implement and coordinate the related studies of the Task and Cost Analyses.

Additional Collaborative and Cooperative Resources

In addition to the above-mentioned institutions and experts working in the evaluation system, there are a number of short-term consultants available from other major institutions who have provided, or will provide, technical assistance to the evaluation effort. These institutions include:

1. Chiang Mai University
2. Chulalongkorn University in Bangkok
3. University of Hawaii in Honolulu
4. Johns Hopkins University in Baltimore

2.4 Overview of Evaluation Strategy and Objectives

An extensive Evaluation Plan views the Project as a quasi-experimental study employing a pre-test, post-test control design. There are two control areas (see map of Lampang Province): one district (C₁, Mae Tah) inside the Province and one district (C₂, Mae Taa) in the adjacent province of Lamphoon. These two control districts are generally comparable except they are under different provincial health administrations.

The major objectives of the evaluation are:

1. to assess the performance of health personnel and to study the operations and management of the health delivery system.
2. to measure the change in consumer accessibility to, and acceptance of services in the experimental and control areas.
3. to measure the impact of services on the health of the population in terms of changes occurring in the baseline status indicators over time; and to compare planned targets with actual achievements; and
4. to assess the financial, social and administrative feasibility of replicating the key features of the new health delivery system nationwide.

Evaluation and Monitoring Data are gathered through several information components (see page 7). They are processed and analyzed both in Lampang and at the computer facilities of the National Institute of Development Administration (NIDA) in Bangkok. Project evaluation results are reported to the Ministry of Public Health, the University of Hawaii, the American Public Health Association and other concerned agencies for further dissemination. Important among the regular reports on project operations are:

1. monthly progress reports from Division Chiefs to the Field Director.
2. a quarterly progress report from the Project Director to the Ministry, APHA and other agencies (see Appendix IV).
3. an annual technical review and semi-annual administrative review with concerned agencies.

In addition to the regular reports and weekly senior staff meetings, there are also informal ways in which monitoring and evaluation findings contribute to project decision-making. Senior staff members frequently meet informally to discuss the on-going evaluation process.

2.5 Initiation of Project Monitoring and Evaluation

Monitoring and evaluation was initiated early in the planning stage of the Project. A Working Group was appointed in September, 1973, which included the technical staff of several divisions of the Ministry and of Lampang Provincial Medical and Health Services. (See Appendix V) The reasons for initiating project monitoring and evaluation were as follows:

1. Lack of systematic evaluation of past health development projects. Although there have been several health projects in Thailand since the end of World War II, only few were evaluated. Past evaluation has used data which were retrospectively gathered, and the results were far from comprehensive.

2. Interest of cooperating agencies in integrated health project with emphasis on evaluation. The Lampang Project is assisted by the American Public Health Association and the University of Hawaii. Originally it was one of the DEIDS (Development and Evaluation of an

Integrated Health Delivery System) Projects to be supported by APHA in various continents. Therefore, evaluation is necessary at least for the purpose of comparison and replication.

3. Design, strategies and key concepts of the project
Since several innovative key concepts -- such as integration of health service at the community level -- are being tested in the system, it is imperative that monitoring be developed for on-going evaluation.

3. Implementing the Monitoring and Evaluation System

In order to achieve the evaluation objectives the following information components are employed for monitoring of program operation:

- A. Nutrition Surveillance
- B. Clinical and Health Records Abstract
- C. Administrative Analysis
- D. Task Analysis
- E. Cost Analysis
- F. Management Information System

Since the evaluation needs of the Project require multisource data collection applying a variety of methodologies in several components, the following are also employed:

- G. Community Health Survey
- H. Nutrition Survey
- I. Vital Events Study
- J. Special Project Studies

3.1 Establishment of the Research and Evaluation Division

It should be noted that the original designers of the Monitoring and Evaluation System and the implementers are not the same.

After the inauguration of the Project in 1974, the Division of Research and Evaluation, along with other operational divisions was established and senior staff recruited. A Project Workshop was held for the senior staff to outline the strategies and objectives of the Project. The junior divisional staff were recruited and trained in early 1975. Their one-week training session included orientation to the Project, stressing the importance of the Research and Evaluation

Division. Data collection techniques, statistical methods and human relations were emphasized. It is interesting to note that about 15% of the data collectors and coders have dropped out during the initial three years of the Project. Periodic orientation has been given to both data collectors and coders whenever new rounds of operation have been started.

Consultants are requested from collaborative institutions. In Monitoring and Evaluation, it is appropriate to recognize important contributions of the experts from those institutions. Foremost among these is Dr. William Reinke from the Johns Hopkins University in Baltimore. .

The cost of operation of this Monitoring and Evaluation system is about 20% of the Project budget (excluding annual Thai Government budget for Lampang Provincial Health)

4. Monitoring and Evaluation Procedures

4.1 Data requirements have been determined by the component heads, Evaluation Board and, occasionally, consultants. The overall data requirements follow the indicators laid out in the Evaluation Plan. This plan is the product of the Evaluation Board and the Research and Evaluation Division.

4.2 Data Collection

The data collectors, field supervisors and the field manager are responsible for all data collection. The methods of collection, sampling designs, basic units for measurement and analysis are shown in Table I. The frequency of data collection is in Appendix VIII.

Table I

Information Component	Methods of Data collection	Sampling Design	Basic Unit for Measurement and Analysis
1. Community Health Survey	interview*	stratified random	household
2. Nutrition Survey	interview, anthropometric measurements	stratified random	household
3. Administrative Analysis	interview; observation	random	individual
4. Task Analysis	observation, review of official records.	random	health worker; working day
5. Cost Analysis	review of official records, interview	-	health service unit
6. Clinical and Health Services Records/ Reports Study	review of records/reports	-	individual
7. Vital Events Monitoring	observation, review of official records	-	individual

* For questionnaire design see Appendix VII. There is no difference in the methods of collection of bench mark data and re-study procedures.

4.3 Data Analysis

The component heads are responsible for analysis of their data; however, the Evaluation Board assists them with analysis techniques. Reports of monitoring and evaluation must be approved by the Evaluation Board before distribution outside the project.

The data analysis will be completed in three stages:

First Stage:-- comprehensive analysis of E₁, C₁, and C₂ baseline data and findings are synthesized from all evaluation components. This synthesis will also indicate the level comparability between experimental and control areas. The first stage will be completed by March, 1978.

Second Stage: After follow-up data collection, changes occurring over time in baseline measures in E₁, C₁, and C₂ will be analyzed and again synthesized from all component sources. This stage will be completed in 1980.

Third Stage: In this stage, baseline data in E₂ will be compared with baseline data in E₁, C₁, and C₂. A final comprehensive analysis of baseline and follow-up data in E₁, E₂, C₁, C₂ will also be made, followed by final interpretations and report writing. This stage will be completed in mid-1982.

4.4 Use of Monitoring and Evaluation Output

Management information includes analysis of activity reports, problems and needs of the volunteers and government peripheral health workers. Currently the Provincial Health Officer (the Field Director) uses this information for program operations. The other Division Chiefs use the results of program performance, achievement and impact for program planning and personnel training. The Project Director uses the management information for program adjustment. Ideally, the overall system and results of monitoring and evaluation output will be used by the Government of Thailand for replication in other provinces.

4.5 Management Aspect

The raw data are all coded and checked in Lampang. The majority of them are then sent to NIDA for further processing, but data about vital events, nutrition and health services activities are processed in Lampang.

The monitoring and evaluation findings are regularly communicated through:

1. Specialized data summary proforma (see Appendix VIII) reported monthly.
2. Reporting in the weekly Senior Staff Meetings.
3. Presentations in the Annual Reviews.

Since the data used in the Project Monitoring and Evaluation are generated from several sources and at different times, the following measures have been employed to ensure their validity, reliability, timeliness and relevance to the objectives:

1. Appropriate study designs
2. Utilization of the same data collectors and supervisors
3. Pre-collection orientations of data collectors and supervisors.
4. Random checking of raw data
5. Code editing
6. Computer editing
7. Planning the monitoring and evaluation operations with other units in the Project
8. Developing the Evaluation Plan

5. Problems Encountered

5.1 Technical

1. Limited capabilities of those who are responsible for undertaken the information components. Due to limited field experience, data collection of a few components were laborious and in one study not feasible.

2. Time and technical constraints of the processing unit. This was the "bottle neck" of the operation during the first two years because a table-by-table programming was the only method available.

3. Limited knowledge of how to use monitoring and evaluation information for decision-making. Since the information has been put in a more "digested" form, its use in decision-making has increased.

4. Quality control. There has been inconsistency and incompleteness of the health activity reports from the peripheral units because effective corrective measures are time-consuming.

5.2 Non-technical

1. Resources allocation. Due to the present state-of-the-art and cost/benefit concepts, the supports of monitoring and evaluation are proportionally less than those of other operational components.

2. Behavioral. Since a comprehensive and systematic monitoring and evaluation system requires broad-based expertise, careful recruitment and flexible coordination are necessary.

6. If systematic project monitoring and evaluation were to be conducted again the following should be done differently from those which are described above:

6.1 Planning of the system

1. One or more planners should be the implementer (s)
2. Baseline data collection should be completed before other program operations begin.

6.2 Implementation

1. The project staff and field workers should be taught the benefits of using evaluation results for decision-making and day-to-day operation. Pragmatic instruction on use of the information must also be included in the training topics.
 2. Data Processing with efficient and versatile computer facilities should be employed.
 3. In addition to adequate working space and equipment, appropriate types of vehicles are essential for efficient operations.
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REFERENCES

1. Plian-Bsangchaang, S. The Role of Hospital in Integrated Health Services. Thai Med. Council Bull. 1971; 6:541-3 (in Thai)
2. Proposal for Development and Evaluation of an Integrated Health Delivery System in Thailand (DEIDS), APHA, 1974, p. B2

LIST OF APPENDICES
FOR
CASE REPORT ON MONITORING AND EVALUATION OF
LAMPANG HEALTH DEVELOPMENT PROJECT (LHDP)

1. Project Logical Framework
2. LHDP Organization Chart
3. Organization and Personnel Structure of LHDP
Research and Evaluation Division
4. Relationships of Project Log-Frame, Evaluation Objectives
and Information Components
5. LHDP Twelfth Quarterly Progress Report
6. Descriptions of Information Components
7. Community Health Survey Forms (questionnaires)
8. Schedule of Evaluation Data Collection
9. Data Summary Proforma (monthly supervisory report) — missing

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title, Lampang Health Development Project

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Goal</u>: To improve the general level of health of those living in Lampang Province</p>	<p><u>EOPS</u>: Reduction of impact indicators:- CBR, GFR, ASFR, % of first birth, IMR, CDR, CGR, ASMR, proportion of undernourished children.</p>	<p>Community Health Survey, etc.</p>	<ol style="list-style-type: none"> 1) RTG continues support IHS. as a National Health Policy 2) RTG resources are available for replication 3) KEY features of Lampang Project approach are workable.

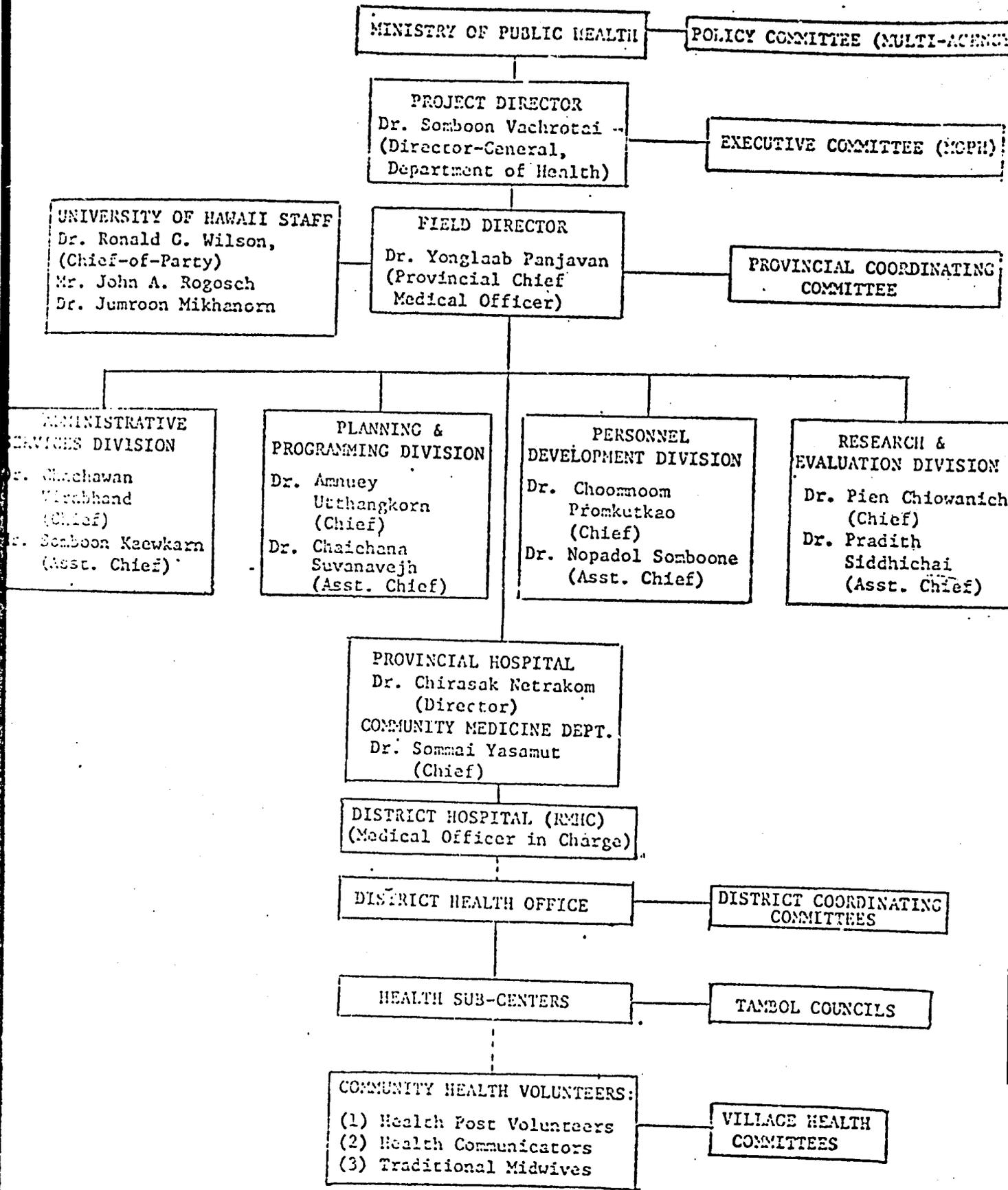
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>put</u></p> <p>By October 1974, create 4 operational Divisions which consist of Administrative Services, Personnel Development, Planning and Programming, Evaluation and Research.</p> <p>Establish administrative infrastructure in Lampang Province and districts which is supported by policy and planning groups composed of providers and consumers. Field Coordination Committee (providers) and Consumer Adjunct Committee functioning by June 1979</p> <p>Evaluation and Research Division operational by December 1974, with provision throughout the project for community survey and vital statistics study, nutrition survey, clinical record study, service record abstracts, task analysis, cost-analysis, and administrative</p>	<p>Financial resources by year and type of sources</p> <p>RTG (\$) APHA (\$)</p> <ol style="list-style-type: none"> 1) Salaries/allowances 2) Consultant (Honorarium) 3) Travel and transportation 4) Perdiem/allowances 5) Honoraria for teaching, meeting and conference 6) Other direct costs 7) Equipments 8) Vehicles 9) Material and supplies 10) Training stipends 11) Repair and maintenance 12) Freight 	<p>Project and PCMO financial and management reports</p>	<ol style="list-style-type: none"> 1) <u>RTG</u> fund and resources are allocated commensurated with the project needs 2) <u>APHA</u> or other assistance agencies will provide support commensurated with project needs

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>analysis. This Division will collect, analyze and provide data for the operation and refinement of the delivery system, administration, and manpower training.</p> <p>) Personnel Development Division, operational by November 1974, trains health cadres to staff health facilities from which integrated services in FP, MCH, nutrition and other preventative and curative care are provided.</p> <p>) Functional reorganization of the health delivery services in Lampang Province. MCH, FP, nutrition, communicable disease control, environmental sanitation, public health laboratory services, community health services and referral system in place and operational by end of 1979 throughout Lampang Province. Annual participation in project seminars and National Medical Conferences; also inter-regional seminar on biannual basis, sponsored</p>			

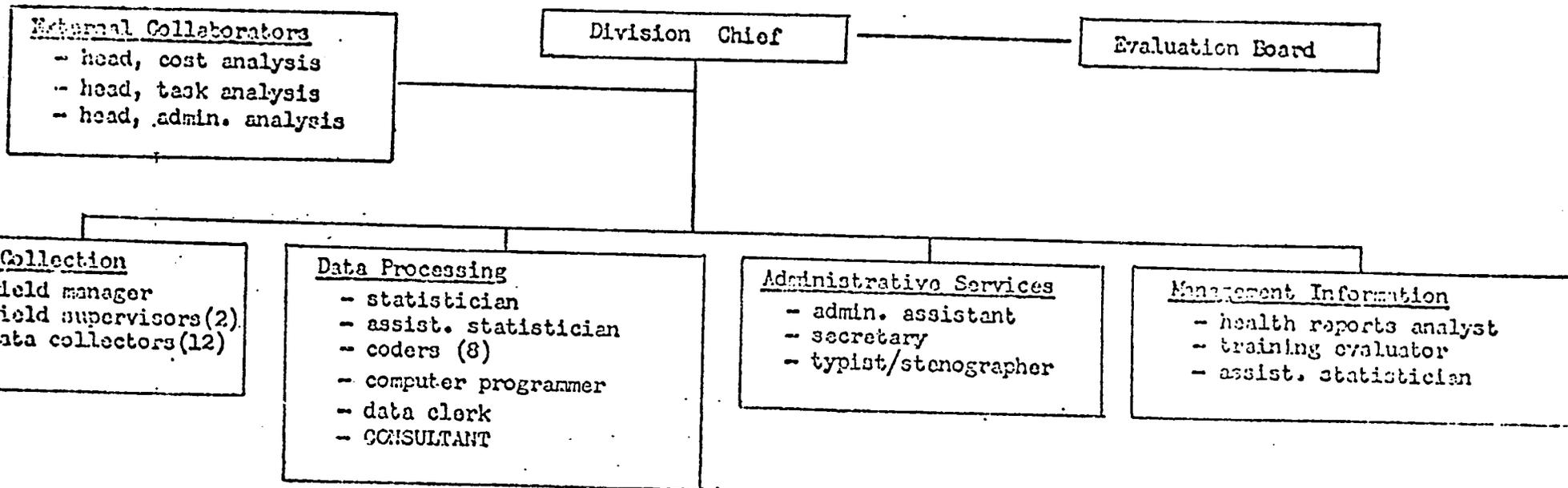
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Output</u></p> <p>1) Provincial Chief Medical office-reorganized and operated</p> <p>2) Provincial hospital-reorganized, developed and operated</p> <p>3) District hospitals built, equipped, staffed and operated</p> <p>4) Subcenters built, equipped staffed and operated</p> <p>5) Health service personnel oriented</p> <p>6) Volunteers trained deployed and maintained</p> <p>7) Wechakorn trained and deployed</p> <p>8) Community participation developed</p> <p>9) Private sector motivated and participated</p> <p>10) Cost-effective IHSDS integrating 1-9 above established</p> <p>11) Total health infrastructures operated integrately</p>	<p><u>EOPS</u></p> <p>1) Reorganized PCMO & hospital completed and operated by 1981</p> <p>2) <u>EOPS Resource availability by 1981</u></p> <p>2.1) HPV----- 589</p> <p>2.2) Communicators 612</p> <p>2.3) TBA----- 289</p> <p>2.4) Wechakorn----- 100</p> <p>2.5) Committee</p> <p> V. cord----- 539</p> <p>2.6) Hospital beds 600</p> <p>2.7) RMHC----- 10</p> <p>2.8) Subcenters----- 68</p> <p>2.9) CNC----- 58</p>	<p>1) Provincial Chief Medical Office and Lampang Project management records & report (1,2,3,4,9,11)</p> <p>2) Personnel development documents (5,6,7)</p> <p>3) Follow-up and assessment of performance of Wechakorn and voluntary workers (5,6,7)</p> <p>4) Records of appointment, orientation, activities of various coordinating committees (8)</p> <p>5) Cost/task, administrative analysis reports (10)</p>	<p>1) Government policy for health structural system remains unchanged</p> <p>2) Civil service change regarding pay status of Wechakorn by Dec.1976</p> <p>3) Qualified trainers are available</p> <p>4) Health volunteers willing to undergo training</p> <p>5) Health workers on provincial payroll will be given time to attend training sessions</p> <p>6) Assembled information available and usable</p> <p>7) Community willing to participate</p>

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Purpose</u></p> <p>A low cost integrated health delivery system used by the people of Lampang Province. The key features of which will be nationally replicable.</p>	<p><u>EOPS</u></p> <p>1) At least 2/3 of women 15-44 and 2/3 of children under 6 in Lampang Province have utilized the health service delivery system with emphasis on the FP., MCH and nutrition services at least once annually.</p> <p>2) <u>Replicable Key Features</u></p> <p>2.1 Reorganized Provincial Health Delivery System</p> <p>2.2 Wechakorn System</p> <ul style="list-style-type: none"> - competency-based training - Documentation/Evaluation <p>2.3 Health Volunteer System (Communicator & H.P.V. and TBA)</p> <ul style="list-style-type: none"> - Selection - Training - Documentation/Evaluation <p>2.4 Community Participation</p> <ul style="list-style-type: none"> - Revised - Function - Document/Evaluation 	<p>1. (a) - Community Health Survey</p> <p>(b) - Health service statistics</p> <p>2. (2.1-2.4)</p> <ul style="list-style-type: none"> - Lampang Project management reviews - Administrative analysis - Task analysis 	<p>1) Consumer attitudes and behavior can be changed which include their active participation in planning community health services.</p> <p>2) Integration of health services administratively as well as in practice is accepted by health workers</p> <p>3) Both health workers and consumers accept project innovations</p> <p>4) Government civil service system will make provisions for new types of job performances by health workers such as Wechakorn</p> <p>5) Workable cooperation and coordination between agencies such as the ministries, institution and private sectors</p> <p>6) Evaluation and use of results in making continued adjustments in the system.</p>

MINISTRY OF PUBLIC HEALTH



ORGANIZATION AND PERSONNEL STRUCTURE
OF
IHDP RESEARCH AND EVALUATION DIVISION



LAMPANG HEALTH DEVELOPMENT PROJECT
TWELFTH QUARTERLY PROGRESS REPORT

(July 1 thru September 30, 1977)

Introduction

The end of the twelfth quarter also brought to a close the third fiscal year of project operations. In terms of total manpower trained, the Project is ahead of its timetable, as is the case with most other field operations.

The fourth fiscal year begins with some changes in key personnel, and with increased effort to overcome operational problems and implement all remaining elements of the planned integration model. At the same time, project staff are giving emphasis to producing detailed descriptions and guidelines of operational methods developed and the experiences gained in the first phases of project implementation. This is to enable the Ministry of Public Health to more fully incorporate the Lampang experience into Ministry plans for broad extension of primary health care in Thailand.

Project Inputs and Progress

	<u>Number in Training During Quarter</u>	<u>Total Number Trained (Cumulative)</u>
Health Post Volunteers	97	469
Health Communicators	175	4,374
Traditional Midwives	-	171
<u>Mechakorn</u>	52	67

A. Health Volunteer Training

Training of health post volunteers, health communicators and traditional midwives continued on schedule. As planned, training for these groups in the six E₂ districts will be completed in fiscal year 77-78, permitting training to begin in the remaining four E₃ districts late in the same period.

As the Ministry of Public Health proceeds with plans to train health volunteers in at least 20 more provinces in the next five years, there has been increased interest in the experience of the Lampang Project.

The Project had developed and field-tested a small Health Post Volunteer Manual which was distributed to all Health Post Volunteers; and, the time has come for the manual to be strengthened. In order to improve the manual, project training staff organized a workshop to review the Health Post Volunteer Manual and make whatever improvements and revisions deemed necessary. The working group consisted of participants from the Ministry of Public Health, the Faculty of Public Health, the Community-Based Family Planning Services Organization, the Lampang Project, and the University of Hawaii School of Public Health. The participation from such groups insured that viewpoints and experience from a broad base of private sector, government service agencies, and government

education institutions would be incorporated into the new, revised Health Post Volunteer Manual. The workshop proved to be very useful, and the soon-to-be-published Health Post Volunteer Manual is clearly an improvement over its predecessor. The Health Post Volunteer Manual will be available in large quantities before the end of the year, and an English-language edition is under preparation.

B. Wechakorn Training and Deployment

Wechakorn group II are now in the final stages of their one-year training program, and they will graduate at the time of the third Annual Review in late November. Wechakorn group III - composed of 2 graduate nurses, 14 midwives, and 8 sanitarians, and 2 nurse aides - began their training schedule on August 1. Wechakorn group IV, the fourth and last group of wechakorn, will start training sometime in mid-1978 and graduate in 1979, which completes wechakorn training in Lamphang.

C. Family Planning Extension

During the quarter, all arrangements were finally accomplished to enable the wechakorn at the health sub-centers to insert IUDs and provide Depo-Provera injections. Although wechakorn are trained to perform these tasks, they lacked official permission to carry out such activities - and this affected the supply and logistical support observed earlier. Now each wechakorn in the rural health sub-centers of Hang Chat (the district hospital already had these services) is equipped with the instruments and supplies necessary to extend these family planning services.

Family planning services of all types continue to be emphasized in the health services for Lamphang. Nationwide, and particularly in the north, family planning services seem to have had substantial impact on fertility, and this no doubt accounts for the high rate of family planning acceptance found in Hang Chat and other districts of the province. The demand for family planning services has been high and constant, representing a real need in the population. Project emphasis continues to be directed at completing coverage of family planning services and stimulating the adoption of more permanent methods, such as sterilization.

D. Nutrition Activities

The problem of under-nutrition has not been recognized by the population in general, and the magnitude and nature of the problem may not be fully appreciated by high level government planners. As the Project began in 1974, the extent of the problem in Lamphang was not known, and the level of direct nutrition activity by the provincial health services was limited, consisting mostly of a number of Child Nutrition (day-care) Centers. This may reflect a low level of awareness that rural populations have nutritional problems - particularly among young children - and also that the problem is complex, requiring interventions to embrace not only health services but also agricultural production, education, community development and cultural habits which have great influence on nutrition status.

In order to learn more about the extent of the problem in Lamphang, and to apply a broad approach in developing effective solutions, the Project is

Inaugurating a nutrition surveillance program in Hang Chat District. The program is being organized as part of the normal range of extended rural health services, employing community health volunteers. The nutrition surveillance program began in Hang Chat with the weighing of all children under 6 years of age. 4,000 children in this age group were identified in Hang Chat District using the health post volunteers. Each child was weighed monthly for a period of three months, and their weights and ages recorded on a simple form. This extensive surveillance activity could not be carried out routinely by government health workers because of the demands on their time, but employing the Health Post Volunteers who work under the supervision of wechakorn and other health workers, and the use of an appropriate technology (eg. local Chinese market scale) greatly decrease the costs involved and facilitate installment of a community-based nutrition program. Of the more than 4,000 pre-school children weighed, about 1,800 children fell into the various categories of under-nutrition adopted by the Ministry of Public Health Nutrition Division. About 1,200 were classified as first degree under-nutrition, 500 were second degree under-nutrition, and 84 were third degree under-nutrition.

As the results of the surveillance were analyzed and as the extent of the problem became known, program components were established to deal with the problems on a priority basis. The first priority group was, of course, the children who showed signs of third-degree under-nutrition. As this group was identified in each tambol, a team of health staff composed of wechakorn and physicians from the district and provincial hospitals travelled to each of the affected areas and (1) reweighed the identified children to assure the initial assessment was accurate, (2) recorded the family and child history, (3) provided a physical exam of each child, (4) provided medication for any apparent infection, including intestinal parasites, (5) provided nutrition education and food supplements to the mothers, and (6) provided immunizations needed. At the same time, a simplified and improved growth chart (similar to the road-to-health chart) and a child health card were tested. The community-based nutrition program has generated considerable interest among the villagers, and attempts are being made to involve the Community Development and Agricultural officers in the area, as well as the local health committee members. The program is also useful in bringing the hospital and health center staff, and local volunteers together in cooperative activities.

E. The Project Management Information System is being finalized in Hang Chat District. The working group, composed of Provincial, Project, and District health staff members, has reviewed the current reporting system and is developing simplified forms and procedures which will be tested on a trial basis and evaluated. Preliminary results may be available in the next quarter.

F. Private Sector Involvement

An agreement was completed between the Provincial Health Office and the local drug distributors to resupply health post volunteers with the simple medicines produced by the Government Pharmaceutical Organization. This reduces the burden placed on local health workers to act as distributors and money collectors, and puts the distribution network on a private-sector, commercial basis. There are also discussions being initiated now to identify agents at the district level to more easily facilitate distribution to volunteers in more remote locations.

The Lampang Project staff and members of the Food and Drug Administration have agreed to pursue plans for the Lampang Project to orient and train the druggists in Lampang, an important step when one recognizes that over 50% of people seeking medical care consult the druggist. A meeting of the FDA and Lampang Project is set for October 28th.

G. Project Evaluation

1. Baseline data collection for Task and Cost Analysis in E₂ health facilities, organized by the NIDA staff, and using project data collectors, began during the quarter.
2. Coding of the E₂ Community Health Survey Data continued.
3. The final summary report of baseline data in E₁, C₁, and C₂ is being completed and will be available at the Third Annual Review.
4. Dr. William Reinke of the Johns Hopkins University School of Hygiene and Public Health, and Mr. Patrick Marnane of APHA, spent four days with the evaluation staff to review project evaluation progress. (Their reports have not been received as of this writing.)

H. During the quarter, Dr. Yonglaab Panjavan was appointed Field Director to replace Dr. Pricha Desawasdi, who was promoted to Provincial Chief Medical Officer in Mae Hongson Province. Dr. Yonglaab, the Provincial Chief Medical Officer in Lampang, brings many years of rural health experience to the Project.

I. During the quarter, the new out-patient wing of the Provincial Hospital was completed. The official opening is set for October 15. The new wing should greatly improve the overcrowded conditions in the former out-patient department. The construction of a new in-patient facility which will double the bed capacity of the hospital is due to follow.

J. Late in the quarter, the Project jointly sponsored a National Seminar on Primary Health Care which was held in Chiangmai. This meeting was a national review for developing a report and contributions for the SEARO Regional Meeting on Primary Health Care to be held in Delhi, India November 21-26, 1977. Staff members reviewed project activities, and compared their work with that of other projects employing primary health care approaches in other parts of the country.

K. A team of four project training staff, Dr. Nopadol Somboone, Dr. Wannarat Manakul, Mr. Hart Charoachai, and Mrs. Ampai Komolrat, travelled to the North-east province of Nongkhai to assist in developing a paramedical training program for Indochinese refugees and remote Thai villagers. The para-medical workers will serve their own communities, which are currently underserved medically.

L. Dr. Chaichana Suvanavajh, Deputy Chief of the Planning & Programming Division, travelled to Indonesia to observe community nutrition activities.

M. Visitors to the Project during the quarter:

1. Dr. Athol Patterson, Professor of International Health, Tulane University.
2. Drs. Aree Varayasee and Pram Buri from the Faculty of Medicine, Ramathibodi Medical School.
3. Dr. V. Ramakrishna, School of Public Health, University of Hawaii (Report attached) and Professor Varunee Sornchai, Deputy Dean, Faculty of Public Health, Mahidol University.
4. Dr. Michael O'Byrne, Health Manpower Development Staff, University of Hawaii, enroute to the Pakistan Rural Health Development Project.
5. Mr. Erland Heginbotham, Deputy Assistant Secretary of State, Mr. William Toomer, Economic Officer, U.S. Embassy, Bangkok, Mr. Charles Cladson, Director of USAID to Thailand, Mr. Vernon Scott, USAID to Thailand.
6. Fifty members of the Thai press observed Project activities.

Conclusion

With the completion of three years' work, Project staff are anticipating a full discussion of all aspects of operations during the approaching Third Annual Review (November 29-December 3). This year's meeting will be of special importance within Thailand since senior health leaders will attend from 20 other provinces which have been designated for implementation of primary health care approaches similar to those of Lampang.

Signed:

Yonglaab Panjavan

Dr. Yonglaab Panjavan, Field Director

Ronald G. Wilson, M.D.

Dr. Ronald G. Wilson, Chief-of-Party, UHSPH Resident Staff

Somboon Vachrotai, M.D.

Dr. Somboon Vachrotai, Project Director, and
Director-General
Department of Health, MOPH

Encl: Dr. Ramakrishna's Report

10/25/77

DESCRIPTION OF INFORMATION COMPONENTS1. Community Health Survey

The general purposes of the Community Health Survey are (1) to study the health status of the community through an interview survey designed to obtain baseline data on population sociodemographic characteristics, and the knowledge, attitudes and practices of the population with reference to health, health care, and family planning; and, (2) to measure and document the change in the health status and the knowledge, attitude and practices with reference to health, health care, and family planning after the implementation of the integrated health delivery system.

Before implementing the Community Health Surveys in the experimental and control areas, a complete household listing and total census will be performed in order to identify the population by age, sex, and residence. In the first intervention area, Hang Chat District (E_1), there are approximately 7,000 households. This will serve as the geographic universe of Project coverage in the first two years of implementation. Sample households for the Community Health Survey will be drawn from the household list, using a stratified random sample design. A village, a geographic cluster of approximately 120 households, will be taken as a primary stratum and within a village a secondary household stratification will be organized by the number of inhabitants in the household -- namely 1-3, 4-6, and above 6. From each of the strata, sample households will be respectively selected at the rate of 10 percent, 20 percent, and 25 percent, to result in an overall sampling rate of 20 percent. By varying the sub-sampling rates, more morbidity episodes will be disproportionally captured in the survey. A similar design will be used for the surveys in the two control areas, C_1 and C_2 . In the control areas, however, the sampling rates that will be used in each will be half the sample size of the experimental area (E_1), which will produce a combined control areas sample size of the same magnitude as that of E_1 .

The expected sample sizes for the Community Health Surveys are about 1,500 households in E_1 (a 20% sample of the universe in the experimental area, Hang Chat) and 1,500 households total in C_1 and C_2 (a 10% sample of the

of the universes and are expected to be of adequate size for measuring significant changes in the indicators of the health status of communities. For most indicators, the relative sampling error will be within 5%.**

In E_2 , a 5% sample will be drawn from the six-district universe which comprises the second intervention area. Sampling will have two stages: first, a 20% sample of village units, or a total of 60 villages, will be drawn from the district; each village selected will then be divided into two strata according to health facility availability (villages with health or midwifery center, and those without such facilities). Half of the required number of villages in each stratum will be chosen from each stratum. In the second stage, a sample of households will be drawn from each district in E_2 , a household listing from the 60 sample villages will be performed, divided into three strata based on family size (and E_1). Households will then be ordered by the average age of the household members and a systematic sample will be drawn from each stratum. The number of households selected from each stratum is proportional to the number of households in the list. The total number of households to be selected will be 2,665, or approximately 5% of the total. The sample size and method in E_3 will follow a similar pattern.

Information collected in the Community Health Surveys will include family composition; recent morbidity experiences and costs; health care practitioner preferences and the type of practitioner recently consulted; pregnancy history; knowledge, attitudes, and practices of family planning; socioeconomic status and related factors; and, environmental sanitation, including excreta and waste disposal, and water source and treatment.

Through use of common samples, these community health survey data may be linked with data from the Nutrition and Dental Health Survey.

* The availability of field interview personnel, numbering only twelve interviewers and 3 supervisors. The overall data collection plan is designed and coordinated so that the field staff may work throughout the year on many data collection activities, related to various component studies, in different places at different times. These field personnel are occasionally supplemented by additional field staff, temporarily employed or on loan from other agencies.

** Therefore, if the sampling error is within 5%, longitudinal changes of 10% or more may be considered "significant" to draw substantial conclusions. However, there may be other non-sampling errors which may add to the uncertainty of conclusions. Sampling error will vary from indicator to indicator, and until detailed variance analyses are made, it will be premature to make any further error estimations.

2. Nutrition and Dental Health Surveys

The purposes of the Nutrition and Dental Health Survey are:

1. To determine the nutritional and dental health status and the family food practices of the populations in the experimental areas for planning, programming and management
2. To measure, analyze, and interpret nutritional and dental health status indicator changes over time in the intervention (experimental) and control areas
3. To measure, analyze, and interpret changes in family food practices over time in the intervention and control areas
4. To estimate and measure changes over time in the prevalence of intestinal parasitosis and anemia among the target populations of the intervention and control areas
5. To measure the proportion of the target population with tetanus antibody titers (indicating the combined immunization-disease experience of the groups studied) and detect change over time in the intervention and control areas
6. To measure the proportion of the target population with former exposure to dengue virus (cause of Thai Hemorrhagic Fever) and to detect change over time in the intervention and control areas.

In promoting the nutritional health of a population, it is potentially most effective to provide integrated services emphasizing nutrition, health education, MCH, and family planning. These services should be directed at specific target populations or high-risk groups. In order to know the groups that require these services, it is necessary to study and analyze various data from the areas of interest. A survey of nutritional status is one way to help identify nutritional problems in a given community, such as inadequate food nutrients, lack of knowledge concerning proper food sources of nutrients, cultural beliefs and traditional practices concerning food selection, preparation, and consumption.

The basic elements of data collection in the Nutrition and Dental Health Surveys will be the following:

1. Anthropometric measurements
2. Biochemical and fecal examinations
3. Clinical (physical) examinations
4. Dental examinations
5. Family Food Practices Survey

The Nutrition and Dental Health Surveys will be designed as integral extensions of the Community Health Survey. The nutritional surveys will be conducted in a sub-sample of the Community Health Survey sample, promoting the opportunity for establishing linkages and relationships in the data analyses and interpretations of results, and providing additional linked information on the health status of the respective communities under study. The use of various sub-sampling schemes is so planned that data from each of the nutritional survey components can be linked for cross-analysis.

One such sub-sample will be used for the Family Food Practices Survey. This survey will be developed specifically to replace the more extensive and more expensive food consumption survey used by the Ministry of Public Health. However, data from the national Nutrition Survey, being conducted by the Ministry of Public Health throughout Thailand, will be available to the Project for additional analyses of the nutrient intake of Lampang residents in general. The Family Food Practices Survey will be conducted on a sub-sample of the original Community Health Survey sample: this sub-sample in E_1 will include 500 households and the combined sub-samples in C_1 and C_2 will also include 500 households. This sample will be selected in two stages. The first stage will employ random selection from the household listing and approximately -- one-half of these ones found to be in the original community health survey sample -- are further sub-sampled, to introduce in this second stage (the stratification of the community health survey sample) to make sure that farmers, prospective mothers, and children (the target population) are sufficiently represented in the final sample. The Family Food Practices Survey will use a structured interview with a developed and pretested specifically for the Project.

For the more sophisticated collection of anthropometric measurements, biochemical examinations, clinical examinations, and dental examinations, a further sub-sample of the Family Food Practices Survey sub-sample will be selected. For E_1 , the sub-sample size is 150 households (approximately 450 individuals), located within 15 villages. This represents approximately 2 percent of the universe. The same sample size is used in the combined control areas, C_1 (Mae Tah, Lampang) and C_2 (Mae Tha, Lamphoon).

The Project staff are aware of the importance of clinical findings and anthropometric data in generating long-term indicators of health status, and efforts are being invested toward the collection and processing of data of high quality. However, the sample size for the Nutrition and Dental Surveys is constrained by the sophisticated nature of the survey technique (requiring trained and skilled technicians) and by the limited availability of the nutrition survey team (on loan from the Ministry of Public Health). With this sample size, the relative errors of this set of data are estimated to be in the range of 10-15%.

The anthropometric measurements include (1) weighing with a metric beam balance, (2) measurement in centimeters of length and height, (3) measurement of skin-fold thickness using Harpenden Calipers at the triceps (upper arm) and subscapular (infra-scapular) areas.

The biochemical survey is performed on pregnant women, lactating women, infants, and pre-school children. Blood specimens are taken for determinations of hemoglobin, hematocrit and total protein; additional blood determinations include antibodies to tetanus toxin in women of child-bearing age and children age 2 years and over and antibodies to dengue in children age 5. Fecal specimens are obtained for helminth ova and parasite determinations.

The clinical examinations employ the MOPH's standardized and simplified form which seeks the following information items: date, name, address, sex, age, height, weight, percent standard weight, and nutritionally-related physical abnormalities of eyes, skin of the face, lips, gums, tongue, thyroid gland, skin, and lower extremities. (Note: this form has been developed specifically to identify the most common types of malnutrition occurring in Thailand.)

Administrative Analysis

There are several broad objectives which serve to summarize the scope of the Administrative Analysis:

1. To evaluate and compare the administrative structure and process of the Lampang Project with that in other, non-integrated areas.
2. To evaluate, in part, the performance of the Project's innovative health service providers: Wechakorn, Health Post Volunteers, Health Communicators, and trained Indigenous Midwives.
3. To evaluate responsiveness of health services to the local needs and demands of the community, specifically relating to:
 - a. Availability, adequacy, and accessibility of official health services.
 - b. Consumer awareness of services
 - c. Public interest and participation in the health program
 - d. Degree of acceptance by the community
4. To analyze the perceptions of and attitudes toward the innovative health delivery system by (a) the villagers, and (b) health personnel.

The study design is based on a systems, or synchronic, approach, coupled with temporal observations. The synchronic study approaches the Lampang Project organization as a new operational system introduced into a broader organizational environment of Lampang Province, and which is expected to influence and/or be influenced by other systems; it will be conducted at the early stages of project operations and at the end of the project's second year. The instrument used for data collection is an oral questionnaire, administered by project interviewers, which includes questions to elicit responses concerning the structure, functions, and processes of the administrative system. It includes components for each of the business groups to be sampled.

As a second, supplementary phase of the Administrative Analysis study, participant observations will be carried out about six months after the first synchronic data collection, and once again before the second round of data collection in the synchronic study.

There are several populations from which sample units are drawn, and each of which a segment of the questionnaire is devoted. These groups are the following:

1. Existing government health personnel in the Project experimental areas and in the control areas.
2. Innovative health care providers in the experimental areas which include:
 - a. Wachakorn (para-physicians)
 - b. Health Post Volunteers
 - c. Health Communicators
 - d. Trained Indigenous Midwives
3. Members of local semi-government committees: Provincial, District, and Village Coordinating Committees.
4. Members of private organizations participating in health services: private hospital administrators, private nursing staff, charity association administrators.
5. Health service consumers in the experimental and control areas.
6. Staff of the Lampang Project's four functional divisions; Planning and Programming, Personnel Development, Research and Evaluation, and Administrative.

To facilitate cross-analysis where possible, the sample of health service consumers was drawn as a 50% sub-sample of the Community Health sample. In the first intervention phase, a 25% random sample of Health Post Volunteers, or a 10% sample of Health Communicators in the control area will be selected. Other sample groups may be summarized as follows:

Government Sector

	<u>Numbers Interviewed</u>		
	<u>E₁</u>	<u>C₁</u>	<u>C₂</u>
1. Health Service Personnel			
a. Provincial Health Office	3	-	-
b. Provincial Hospital	6	-	1
c. District Health Center	2	1	2
d. Health Sub-Centers	6	3	2
e. Midwifery Centers	3	2	1
f. Child Nutrition Centers	3	-	1
g. Medex	-	-	-
2. Project Administration Staff			
a. Office of Field Director	3	-	-
b. Administrative Services Division	3	-	-
c. Personnel Development Division	3	-	-
d. Planning and Programming Division	3	-	-
e. Research and Evaluation Division	5	-	-
<u>Semi-Governmental Local Committees</u>			
1. Provincial Coordinating Committee Member	1	-	-
2. District Coordinating Committee Member	1	-	-

Professionals

	<u>Numbers Interviewed</u>		
	<u>E₁</u>	<u>C₁</u>	<u>T₁</u>
1. Health Service Consumer	335	262	131
2. Health Post Volunteer	19	-	-
3. Communicator	65	-	-
4. Indigenous Midwife	12	-	-
5. <u>Tribal</u> Coordinating Committee Member	13	-	-
6. Village Coordinating Committee Member	63	-	-
7. Private Hospital Administrator	1	-	-
8. Private Nursery Staff	2	-	-
9. Charity Organizations Administrator	2	-	-
Total	<u>609</u>	<u>267</u>	<u>139</u>

There are a variety of factors that the Administrative Analysis will evaluate, which are outlined below:

1. Planning

- a. Operational planning:
 - (1) Awareness of common goals
 - (2) Shared responsibility
 - (3) Consistency of planning
- b. Decision-making:
 - (1) Decision-making Process
 - (a) Problem identification
 - (b) Reference groups
 - (c) Alternative sets
 - (d) Alternatives evaluation
 - (e) Decision made

- (2) Reliability and adequacy of information
- (3) Participation in decision-making
- (4) Obligations for decisions made

2. Staffing:

- a. Proficient personnel in all positions
- b. Appropriate allocation of personnel
- c. Resource full capacity being promoted

3. Directing and Effective Supervision and Control:

- a. Proper span of control
- b. Provision for quality control
- c. Appropriate scheduling
- d. Efficient logistical system provided

4. Coordinating:

- a. Systematic information flows
- b. Convenient coordination network
- c. Shared responsibility recognized

Additionally, the relationship between the health delivery system and the consumer clientele will be investigated. A criterion for analysis will be skillful and responsive service. The indicators of consumer acceptance are (1) service known and satisfactory, (2) favorable attitude of services consumers towards services providers, and (3) a sense of public service mission possessed by both providers and members of consumer committees, e.g., consumer adjunct committees. The indicators of Project interaction with other agencies are (1) the Project goal and purpose shared, (2) coordination and cooperation offered, (3) positive service of the Project for other organizations.

4. Task Analysis

The integrated health delivery system introduces four new types of health and auxiliary personnel: bachakorn, health post volunteers, health communicators, and traditional midwives. In the first experimental area (Hang Chat, E.), approximately 3,220 of these health and auxiliary personnel will take their posts and potentially expand health services into every home.

During the early intervention period of the Project, existing hospital and health staff are given orientation and training on the new administrative structure, techniques, and concepts of the integrated health delivery system. The existing and newly recruited personnel work under a new administrative environment which will be studied by the task analysis and the administrative analysis. Whereas the administrative analysis will analyze the administrative structure and its processes together with the various personnel types and their interactions, the task analysis will make quantitative measurements on the activities of health personnel (e.g., time and motion studies). These will be used to determine the indicators of effectiveness and ability to perform the required functions identified under the new administrative system. Task analysis will thus help us to answer questions regarding personnel performance, effectiveness, and efficiency. Technically, it can be viewed as a quantitative microanalysis which supplies objective data to the administrative analyses' qualitative macroanalysis. The analysis will be performed in order to provide (1) information for optimal management decision-making in planning, programming and monitoring the systems' performance, and (2) a final evaluation of the integrated health delivery system at the end-of-project.

More specifically, the task analysis will serve the following purposes:

- (1) to determine the allocation of staff effort, thereby permitting an assessment of need for reallocation in the interest of improving efficiency
- (2) to determine the relationship between the performance of tasks and the pattern of staff interactions
- (3) to determine staff effort allocation among service categories as a basis for budgetary resource allocation, especially for the allocation of salaries over various services and functional areas
- (4) to determine qualitative standards of performance for various types of health personnel as a basis for future planning.

The study will involve collection of data by (1) observation, (2) interviews, and (3) analysis of administrative documents.

Observations will be made at selected health service units (health centers and child nutrition centers) on sample days selected on a rotating basis. During observation, activities of health personnel will be recorded, and the physical and administrative environment under which they work will be analyzed by type of health personnel to determine (1) the overall pattern of variation of time utilized to perform each type of activity, (2) the proportion of time spent for various types of activities (working time and leisure), and (3) quantitative standards of performance. Staff case loads and normal working conditions. Expanded effort and performance will be analyzed against planned allocations as stipulated in job descriptions. Finally, computer simulation of staff resource reallocation and staff reallocation will be performed in order to provide needed information for improving effectiveness and efficiency of the health delivery system. For auxiliary health personnel (health post volunteers, communicators and traditional midwives), similar activity data in less detail are collected by in-home interviews with these personnel.

The first round of task analysis will focus activities of health personnel and midwives at 7 health subcenters, 3 midwifery centers and 5 child nutrition centers in the experimental area of Kang Chat. In total, 20 health personnel will be observed. Similar observations will be made on 20 health personnel in the two control areas. Information on activities of health communicators will be collected by interviewing a sample of 20 communicators selected from ten different villages.

The second round of task analysis will be a repeat of the first. It aims at studying patterns of change in activity of health personnel after a period of intervention and will be used for program management and process evaluation. The activities of the health post volunteers will also come under close scrutiny in this round.

The activities and performance of wechakorn will be observed during third round of analysis.

5. Cost Analysis

Cost analysis is regarded as one of the most important components of the Project's evaluation activity. The cost-effectiveness of the integrated health delivery system will be one of the most meaningful criteria to guide high level RFD decision-makers in their deliberations regarding replication of the Project's key features to the whole country. The chief criteria for determining the "replicability" of a particular key feature in a developing country plagued by inadequate resources might include the following: affordability, responsiveness to felt needs, effectiveness, acceptability. Of these -- clearly -- affordability is the most difficult to achieve.

It is the aim of the cost analysis to compare and contrast the cost-effectiveness of the current, existing government health delivery system and the innovative integrated health delivery system, over time, to the completion of Project. "Low-cost" will be taken to mean that the cost per unit service and per patient served under the innovative integrated health delivery system will be significantly lower than that of the pre-intervention system and/or the concurrent control systems.

The scope of the cost analysis will include (1) operational cost to the Royal Thai Government and the Project as the "provider" of services and (2) cost borne by the "consumer" of services. The analyses will compute the average cost to the Royal Thai Government of services per patient visit by type of service, by type of personnel, and by type of health facility. The averages will be taken over various utilization levels, over various types of services, over various demands for services in terms of case loads over variation of case and medical need per visit.

Cost analysis information will be used for Project management, process evaluation and outcome evaluation. Such information is needed, for example, in planning allocation of health resources among the various functions to produce a more efficient system. It will not attempt to solve the more difficult and equivocal problem of defining quantitative measures of social and other benefits resulting from reduction of morbidity.

Data for cost analysis will be derived from many sources. Statements of the Royal Thai Government and the Project expenditures provide data on government and Project expenses by major budget category (e.g., personnel, medical equipment, etc.). These are broken down by line item of expenditure, then apportioned to each functional type of services. Allocation of personnel cost to each type of service, for example, will be made possible by additional data from the Task Analysis which will estimate average time health personnel spend for various services and tasks.

Functional cost estimates will include allocated shares of total expenditure for such items as facilities, equipment, depreciation, maintenance and repairs, travel and per diem costs, personnel training costs, consultant fees, office supplies, printing costs, data collection and processing, medical supplies, food supplements. Functional allocation for many of these items will rely on collective estimates of health administrators and others will rely on subjective estimates of the analysts.

The Community Health Survey and the records of the health centers will be sources of data for estimating expenditure incurred to the patient. Cost of services paid by the patient either for private services or RTC services will be estimated from the survey on the annual basis as well as on the per-episode basis.

6. Management and Health Information

Although a clinical statistics and health activity reporting system has been implemented nationwide as a part of the government health services system in Thailand, it has not been effective in providing useful information for health services planning, management, or evaluation. Thailand, like most countries of the developing world, is plagued by many defects in the overall health statistics and information system -- under-reporting, inaccuracies of reports, unreliable clinical diagnoses, inadequate attention given by health personnel in utilizing reporting forms and completing records, insufficient classification of data, and serious delays in health information and data handling, analysis, and dissemination are characteristics of the present health delivery system. As a result, adequate data crucial to planning and evaluating health services are unavailable; furthermore, there is no current system for rapid retrieval and feedback of essential management information to promote rational decision-making and effective administration and management of government health services.

The purposes of this overall activity are the following:

1. To improve vital events reporting
2. To obtain from current records and reports the morbidity and service utilization patterns existing in the Project area during the year preceding intervention and to apply this information to the planning process,
3. To improve the completeness and accuracy of health records and reports
4. To promote effective utilization of health information and data
5. To obtain data throughout the life of the Project regarding morbidity patterns, service utilization patterns, consumer consultation patterns by type of personnel and service facility, and the geographical patterns of services coverage
6. To plan, implement, and evaluate an innovative, replicable Management Information System for effective health program management.

The approaches taken and methods employed include: (1) a system to improve monitoring of vital events; (2) a baseline and follow-up survey of clinical and health records including measurement of current levels of reliability and completeness; (3) introduction of a newly designed, practical management information system based on Project information needs.

1) Vital Events Monitoring System

One of the barriers to the extension of effective health and family planning programs in developing countries is the lack of accurate and complete data on vital events (births, deaths). Such information is essential for planning, implementing and evaluating health services.

In Thailand, such vital statistics are routinely derived from the registration of births and deaths administered by local Ministry of Interior authorities. The routine tabulation is at least 2 years behind schedule and under-registration is considerable (estimated to be 15% for births and 30% for deaths).

Since the Project strives to find and evaluate a model for an effective integrated health delivery system, it must overcome the barrier of inadequate vital events data. This assumes greater importance when one appreciates that the ultimate goal sought is to improve the general level of health of the population living in rural Thailand. Important indices of such improvement will be declines in fertility and mortality rates, especially infant and maternal mortality. Therefore, it is essential that, in the implementation and evaluation of the Project, attempts be made to accurately measure changes in these vital rates for the intervention and control areas.

Neither can rely upon or set out to improve the cumbersome existing system - which, in any case, is beyond the control of the Ministry of Public Health - a new monitoring and reporting system of vital events in the villages of experimental and control areas will be developed parallel to the existing system. The term "monitoring" is used to designate the methodological approach of making continuous routine observations of vital events and recording the data as the events occur. The reporters will be village health volunteers in the Project intervention areas. They will report vital events to local

government health workers, who will have the responsibility to report these events to the district health officer. He, then, compiles these reports in monthly reports to the provincial health authorities. In control areas, where village health volunteers are unavailable, the same monitoring system will be implemented using monitors who are also residents in the village under study.

Two simplified report forms will be used in the monitoring system - one for births and the other for deaths.

The birth form will include the following information items: location and person reporting; name, age and address of mother; date of delivery; sex of infant; vital status of infant; place of delivery, personnel performing the delivery.

The death form will include: location and name of reporter; name, age and address of the deceased, date of death; place of death; cause of death or symptoms preceding death; person identifying the cause of death; and, in the cases not seen by trained medical personnel, the major symptoms prior to death. Tabulation of these forms will generate age-specific fertility rates, age-specific mortality rates, infant mortality, and maternal mortality rate.

During the development phase of the monitoring system, the system itself will be subject to evaluation. The effectiveness of village health volunteers as reporters of vital events and their ability to identify symptoms of death must be carefully studied if the system is to be replicated. The accuracy and completeness of data will be improved through cross matching with those from the existing registration system.

Although it has been felt among public health personnel that there is need for improvement on vital statistics, the monitoring system, such as the one to be introduced in the Project, has never been tried anywhere in Thailand. It will be an innovation of the Project and, indeed, will fall within the scope of one of the Project purposes, "to improve the collection and utilization of vital statistics". Therefore, this system is expected to be low-cost and replicable. If the system is effective and reliable, serious consideration for replication nationwide may follow.

2) Clinical and Health Service Records

A system for systematic health information obtained from clinical and health service records will be introduced. First, a survey of clinical and health service records of health centers and hospitals will be performed for the one year prior to disease intervention activity (1974). Information derived from this study includes patient morbidity, age, sex, location of home, facility providing service and type of service provided. This information, although based upon incomplete and inaccurate records, will suggest baseline morbidity patterns, consultation patterns, and service utilization patterns for the year preceding intervention. At the same time, the degree of reliability and accuracy of existing health records will be ascertained by conducting a sample survey from the pre-intervention clinical and health service records. This activity will be repeated annually to measure changes in level of completeness and accuracy of health records.

At regular six-month intervals, follow-up visits will be made to all medical and health facilities to gather data from the improved record system. A predesigned form will be employed to abstract the following types of information: for each morbidity case, age, sex of patient, type of illness, duration of illness, admission days (for in-patient only); for each referred patient, type of illness, type of health centers referred (and from); for each pregnant mother, age, record of antenatal and postnatal visits, person performing delivery, place of delivery; for each child of pre-school age, age, sex, record of visits at well-child clinics; for each health center, the number of women receiving family planning services by type - IUD, pill, sterilization (including tube), condom, the number of smallpox vaccinations by age, number of all vaccinations by age; for each nutrition center, number of children under care by age, sex; for each health post, number of services rendered by health post volunteer by type of service.

This activity allows comparison of pre- and post- intervention clinical and health service records, providing a means to monitor change in overall population morbidity and health services utilization patterns.

3) Management Information System

Although not specifically an evaluation component, a Management Information System will contribute a variety of data to the evaluation process. An innovative, replicable Management Information System will be established to provide Provincial health authorities and Project management a central rapid-retrieval, rapid-feedback information on a monthly basis. The system will monitor (1) resource utilization and output by type of facility, type of personnel, and type of service, (2) demand placed upon the system by consumers, (3) performance of the system, including the quality and provision of medical and health care, in meeting the demand by type of facility, type of personnel, and type of service.

This activity will promote effective planning, decision-making, program implementation, modification, and process evaluation. The utilization of data for these many management purposes, although taken as standard routine in developed countries, is already an innovation in Thailand. The study, in itself, will serve to demonstrate the worthiness of this innovation and promote the development of a model for replication. The statistical data derived from this system will also be used to supplement those from other studies in the end-of-project outcome evaluation.

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FORM 2B - HEALTH

1. General information concerning illness of household members.

1.1 When someone in this village is sick, do you know to whom they go for care?

Name 1. Title
2. Duties (if any)
3. If so, specify

1.2 In the past, when you or those in your home have been ill, who have you usually gone to for care?

Names 1.
2.

1.3 If you or others in your family are ill, who is the first person you think of for care (medical)? For what reasons?

- 1. Government midwife (at tambol level) because
- 2. Government health worker (at tambol) because
- 3. Government midwife (at amphur) because
- 4. General health worker (at amphur) because
- 5. MD at 1st class health center because
- 6. MD at hospital because
- 7. MD at private clinic because
- 8. Other, aside from those mentioned in 1.2 (Specify) _____ because

1.4 In the past 14 days, has anyone been sick in your household?

Yes No

If yes, who?

Names 1.
2.
3.
4.
5.

1.5 In the past year (up to today), have any married women aged 15-49 and/or children under 6 in your household used government health services?

They have (yes) They have not (no)

If they have, give names:

1.
2.
3.
4.
5.

2. Data concerning health services

2.1 In this village, do you know if there is a government facility for care of illness or injury, or for immunization and injections?

- there is
- there isn't
- don't know

If there is, specify (what facility)

You can travel to this facility by: walking, requiring minutes

vehicle, the price of which is.....baht

2.2 In this tambol, do you know if there is a government facility for care of illness or injury, or for immunization and injections?

- there is
- there isn't
- don't know

If there is, specify what facility

You can travel to this facility by: walking, requiring minutes

vehicle, the price of which is baht

2.3 In this amphur, do you know if there is a government facility for care of illness or injury, or for immunization and injections?

- there is
- there isn't
- don't know

If there is, specify what facility

You can travel to this facility by: walking, requiring minutes

vehicle, the price of which is..... baht

2.4 In this province, do you know if there is a government facility for care of illness injury, or for immunization and injections?

- there is
- there isn't
- don't know

If there is, specify what facility

You can travel to this facility by: walking, requiring minutes

vehicle, the price of which isbaht

2.5 Has anyone ever come to your village to give health advice or care?

- Yes
- No
- can't remember

If yes, who

- Government nurse or midwife
- Government health worker or malaria worker
- Tambol or village head man
- Communicator
- Itinerant medicine salesman (from vehicle)
- Other: (non-government officials) Specify

For those answering "yes" only:

2.6 What did those people come to do in your village?

- treat illness
- visit pregnant women
- visit newborn
- smallpox vaccination
- other immunizations
- advise on privy building
- advise on wells
- to sell medicine
- to dispense medicine
- to advice on household cleanliness
- school health
- meet with villagers for health education
- malaria spraying
- took blood samples of those with fever
- others (specify)
- can't remember

2.7 For those who answered that a government health official has previously visited this village, we would like to know whether or not you liked them to come and work in your village or not.

- liked
- didn't like
- no opinion

If you didn't like them, why?

- fear that an illness will result from the service (eg. vaccinations)
- the health official came while I was working (eg. during the planting season)
- the official didn't make an appointment in advance
- the official made an appointment but didn't keep it
- the official came but didn't really intend to give service (eg. he left hurriedly before the work was finished)
- official gives service slowly causing waste of our time
- official's behavior unpleasant (eg. drunk, etc.)
- the official didn't announce his arrival in advance
- the official collected a fee for service
- we had to take the responsibility for welcoming him
- he had no medicine to dispense
- other (specify)
- no opinion

2.2 Has the head of household or his wife ever gone for business or pleasure to the city (Lampang) or capital (Bangkok)?

Lampang

Bangkok

Have gone

Never went

Have gone

Never went

2.3 In the past year, has your family spent money to make merit?

Yes

No

Don't know or
Didn't answer

If yes, how much was spent?

Less than ฿ 500

฿ 6,500 - 8,499

฿ 500 - 2,499

฿ 8,500 - 10,499

฿ 2,500 - 4,499

More than ฿ 10,500

฿ 4,500 - 6,499

Don't know

2.4 In the opinion of the interviewer, what is the status of this family?

rich

middle class

poor

FORM 2E - GENERAL ENVIRONMENT

1. Privy

1.1 Does your family have a privy?

- yes no

If yes,

- used only by your family
 used along with other families

1.2 What type of privy do you use?

- water seal (with septic tank) pit privy other(specify).....

2. Water

2.1 What source of water does your family use?

- well piped water supply
 pool or pond rainwater
 river or stream deep well

2.2 What source of water for drinking does your family use?

- well covered piped water supply
 uncovered rain water
 water from pool or pond deep well water
 water from river or stream

2.3 Distance from your home to the nearest source of water.

- in the household compound less than 100 m more than 100 m

2.4 Do you improve the quality of your drinking water in any way?

- we do we don't

If you do, by what method?

- boil permit it to settle(sedimentation)
 filter other (specify)
 add chemicals

3. Control of waste water

Does your family control waste water?

- we do we don't

If you do, by what method?

- drain into pit drain into a water source
 drain into a low area other (specify) _____

4. Control of garbage and refuse

Does your family control garbage and refuse?

- yes no

If yes, by what method?

- collect in a pile on earth surface collect in a pit
 collect in pile for periodic burning compost
 bury other (specify) _____

5. Control of animals' excrement

Does your families raise animals?

- yes no

If you do, do you control their excrement?

- yes no

If yes, how do you do it?

- compost bury
 compost and use the gas sell
 burn other (specify) _____

6. Do you use any chemical insecticides to control insects which prey on your crops?

- we do use don't use

If you use them, what is the name of the chemical you use? _____

FORM 2C - DETAILS OF INDIVIDUAL MORBIDITY (Annex)

(Use one copy of this form for each episode of illness specified in question 1.A of Form 2B)

1. Name

2. The ill person had which of the following symptoms:

- | | |
|--|---|
| <input type="checkbox"/> fever | <input type="checkbox"/> diarrhea (frequent bowel movement) |
| <input type="checkbox"/> headache | <input type="checkbox"/> vomiting |
| <input type="checkbox"/> cough | <input type="checkbox"/> short of breath |
| <input type="checkbox"/> stomach ache | <input type="checkbox"/> burn -- fire or hot liquid |
| <input type="checkbox"/> flatulence | <input type="checkbox"/> painful urination or cloudy urine |
| <input type="checkbox"/> other (specify) | |

3. The ill person was sick from what date?

..... year month day

At present, has he recovered?

- recovered not yet recovered

If recovered, how long ago did he recover? (Specify the number of days.days)

4. Where was the ill person cared for? (If several places, number the sequence of places rather than just placing a check mark ()).

- | | |
|---|--|
| <input type="checkbox"/> purchased own medicine | <input type="checkbox"/> <u>Tambol</u> doctor (of Interior Ministry) |
| <input type="checkbox"/> government midwife center | <input type="checkbox"/> injectionist |
| <input type="checkbox"/> health center (government) | <input type="checkbox"/> local indigenous doctor |
| <input type="checkbox"/> hospital | <input type="checkbox"/> spirit doctor |
| <input type="checkbox"/> private MD clinic | <input type="checkbox"/> HPV (Health post Volunteer) |
| | <input type="checkbox"/> Other, specify |

5. Stopped work for how many days? Number of days

6. The ill person spent how much money in care for this particular episode of illness?

6.1 For ill persons who have recovered, what was the total expense for care?

- No. of Baht Purchased own medicine (cost)
- No. of Baht Purchased medicine from government mid-wifery center
- No. of Baht Purchased medicine from health center
- No. of Baht Cost of medicine and care in government hospital
- No. of Baht Cost of medicine and care in private hospital
- No. of Baht Cost of medicine and care in private clinic
- No. of Baht Cost of medicine and care by tambol doctor (of Min. Interior)
- No. of Baht Cost of medicine and care from injectionist
- No. of Baht Cost of medicine and care of local indigenous doctor
- No. of Baht Cost of medicine and care by a "spirit" doctor
- No. of Baht Cost of medicine and treatment by HPV
- No. of Baht Cost of medicine and care from others: specify whom
- No. of Baht Cost of vehicle or other travel expenses incurred in seeking care

12 For those persons ill for less than 3 months and still not recovered, please note the total medical expenses from the onset of illness to the date of the interview:

- No. of Baht Purchased own medicine (cost)
- No. of Baht Purchased medicine from government midwifery center
- No. of Baht Purchased medicine from health center
- No. of Baht Cost of medicine and care in government hospital
- No. of Baht Cost of medicine and care in private hospital
- No. of Baht Cost of medicine and care in private clinic
- No. of Baht Cost of medicine and care by tambol doctor (of Min. Interior)
- No. of Baht Cost of medicine and care from injectionist
- No. of Baht Cost of medicine and care of local indigenous doctor
- No. of Baht Cost of medicine and care by a "spirit" doctor
- No. of Baht Cost of medicine and treatment by HPV
- No. of Baht Cost of medicine and care from others: specify whom
- No. of Baht Cost of vehicle or other travel expenses incurred in seeking care

6.3 For those chronically ill more than 3 months and still not recovered, please note the total medical expense for the 3 months previous to the day of this interview.

- No. of Baht Purchased own medicine (cost)
- No. of Baht Purchased medicine from government midwifery center
- No. of Baht Purchased medicine from health center
- No. of Baht Cost of medicine and care in government hospital
- No. of Baht Cost of medicine and care in private hospital
- No. of Baht Cost of medicine and care in private clinic
- No. of Baht Cost of medicine and care by tambol doctor (of Min.Interior)
- No. of Baht Cost of medicine and care from injectionist
- No. of Baht Cost of medicine and care of local indigenous doctor
- No. of Baht Cost of medicine and care by a "spirit" doctor
- No. of Baht Cost of medicine and care from others; specify whom
-
- No. of Baht Cost of vehicle or other travel expenses incurred in seeking care

FORM 2D: UTILIZATION OF HEALTH SERVICES (Annex)

(Use one questionnaire set for each person who previously used health services specified in Form 2B, question 1.5).

1. Name Age years
2. The person mentioned in No. 1 above received services at which of the following facilities:

Type of Service		Type of facility		Illness Care	Accident	Smallpox Vaccination	DPT Vaccination	BCG Vaccination	Snake Anti-Venom	Bought or Requested Med. for Illness	Dental Health Education	Dental Hygiene	Pre-natal Care	Delivery	Post-natal Care (6 weeks)	Bought or Requested FP Pill	Sterilization	IUD	Advice on Environmental Health	Child Health Examination	Advice on Child Feeding	Went to Receive Food for Children	Child Hygiene Training	Other Specify	
HPV Health-Post Volunteer)	Inside Village																								
	Outside Village																								
CAC Child Nutrition Center)	Inside Village																								
	Outside Village																								
Health Center at Tambol level	Inside Tambol																								
	Outside Tambol																								
Health Center at Amphur level	Inside Amphur																								
	Outside Amphur																								
Mobile Health Unit	Inside Village																								
	Outside Village																								
Hospital	Inside Province																								
	Outside Province																								
Other, Specify																									

Please specify in the column "other, specify" type of service: 1. 2.

3. Ask this question if the person answering used a service facility more than is necessary

Type of Service Reason for not using service at the appropriate facility	Illness Care	Accident	Smallpox Vaccination	DPT Vaccination	PCV Vaccination	Snake Anti-Venom	Bought or Requested Med. for illness	Dental Health Education	Dental Hygiene	Pre-natal Care	Delivery	Post-natal Care (6 weeks)	Bought or Requested EP Pill	Sterilization	IUD	Advice on Environmental Health	Child Health Examination	Advice on Child Feeding	Went to Receive Food for Children	Child Hygiene Training	Other Specify	
No faith in the ability of persons who offer service																						
Afraid that the care would be expensive																						
Bought medicine for self care																						
Don't have any faith in modern medicine																						
The facility unavailable to provide the service desired																						
Don't know, no answer, no reason																						
Other, specify																						

Please specify in the column "other, specify" type of service 1. 2.

4. Ask this question if the person answered that he uses (health) facilities more than is necessary.

Reason for not using services at the facility which should be used Service facility	Too far away, inconvenient to go	Two worker (official) isn't there to give regularly service	The worker (official) is slow -- waste much time	The behavior or manners of the worker were not good	Other Specify
CNC Tambol health center Amphur Health center Provincial hospital					

4. Ask this question if the worker says that ... more than is necessary.

Reason for not using services at the facility which should be used	Too far away, inconvenient to go	No worker (official) isn't there to give regularly service	The worker (official) is slow -- waste much time.	The behavior or manners of the worker were not good	Other Specify
U.C Tubol health center A phur health center Provincial hospital					

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FORM 2F - PREGNANCY AND DELIVERY HISTORY (Annex)

Ask all female married and aged 15-49 years

1. Name Age Years

3. History of your last pregnancy (if the last child is more than 2 yrs. old pass on to #4.)

3.1. During your pregnancy, did you get pre-natal care or not?

- I did I didn't

If yes, where?

- Hospital Private MD clinic
 Health center Traditional midwife
 Midwifery center Other (specify)

3.2. During that pregnancy, did you have any of the following abnormal symptoms I did I did not

- bleeding severe morning sickness
 convulsions high blood pressure (if you know)
 swelling Other (specify)

3.3. Where did you deliver?

- Hospital Home
 Health Center Other (specify)

3.4. Who did the delivery

- MD Neighbor
 RN Relative
 Midwife (government) Husband
 Traditional midwife Other (specify)

3.5. Did you "roast" after delivery? (Literally, "stay by the fire")

- I did I didn't

If you did, how many days?

- less than 7 days 21 - 27 days
 7 - 13 days more than 28 days
 14 - 20 days

3.6. After delivery what did you do?

- "roasted" took medicine from the hospital
 took herb medicine in- took medicine supplied by RN or government midwife
alcohol

3.7 During the "roasting" period, (the first 6 weeks post-delivery), did you have an abnormal symptoms?

Yes

No

If yes which?

Bleeding

Convulsions

High Fever

Other (specify)

3.8 After the 6 week post-delivery period, did you go for a post-natal examination?

I did

I did not

Still within the 6 week period

If you did, why?

If you did not, why?

3.9 During that last delivery, what was the cost of pre-natal care, of medicine and delivery?

Baht Cost of medicine purchased yourself

Baht Cost of pre-natal service

Baht Cost of delivery by traditional midwife

Baht Cost of medicine and delivery at home by government midwife

Baht Cost of medicine delivered in health center by government midwife

Baht Cost of medicine and delivery by health official in sub-center

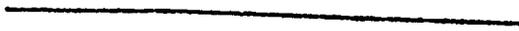
Baht Cost of medicine and delivery in government hospital

Baht Cost of medicine and delivery in a private hospital.

Baht Cost of medicine and delivery in a private clinic.

Baht Cost of medicine and delivery by some other person (specify)

Baht Cost of vehicle or other transportation



4. Current Pregnancies

4.1 At this time, are you pregnant?

- Pregnant
- Not pregnant (go to question #5)
- I'm not sure (go to question #5)

If pregnant, how many months?months

4.2 Since the beginning of your pregnancy, have you had any of the following symptoms?

- bleeding
- severe morning sickness
- convulsions
- high blood pressure (if you know)
- swelling
- other (specify)

4.3 Have you gone for pre-natal care yet?

- Yes
- Not yet (go to question #4.5)

If you have, where?

- Hospital
- Private MD clinic
- Health center
- Traditional midwife
- Midwife center
- Other (specify)

4.4 If you received pre-natal care, at what duration of pregnancy months

4.5 For those not yet receiving pre-natal care, will you do so or not?

- I think I will
- I don't think I will (go to question #4.6)

If you plan to go for pre-natal care, where will you go?

- Hospital
- Private MD clinic
- Health center
- Traditional midwife
- Midwife center
- Other (specify)

4.6 For those not planning to get pre-natal care Why? Specify the reason
.....

5. Family Planning

5.1 At present, how many living children do you have? children

5.2 Do you want to have more children?

- want to
- don't want to
- don't know

If you want to (have more), how long from now would you like to have (them)?

- 1 year
- 1½ years
- 2 years
- 2½ years
- 3 years
- 3½ years
- 4 years
- more than 4 years
- don't know, no opinion

5.3 Does your husband want to have more children?

- yes
- no
- don't know

5.4 At present, do you practice any contraceptive?

- we do
- we don't

If you do, what (method):

If you don't, why? (specify reason)

- pill
- foam tablets
- injection
- jelly
- IUD
- diaphragm
- sterilization
- rhythm
- other (specify)

5.5 If your husband wants to have more children, will you discontinue the (contraceptive) method that you mentioned (in #5.4)?

- I will
- I won't
- don't know

5.6 At present, does your husband use any contraceptive?

- yes
- no

If he does, what method?

If not, why? (specify reason)

- oral
- condom
- injection
- rhythm
- vasectomy
- other (specify)

5.7 If you and your husband use a contraceptive, where did you receive the service?

- Hospital
- Private MD clinic
- Health center
- Pharmacy
- Midwife center
- Itinerant drug salesman
- Tambol doctor (Interior)
- Other (specify)
- HPV

SUGGESTIONS FOR ACTION

1. The following suggestions are based on the results of the monthly analysis of the supervisory reports from the tambol/village health workers.
2. Site of action indicates the village for which the volunteer(s) and/or responsible health worker need support or investigation.

Site of Problems	Problems				
	Record/Report	FP	MCH	Medical Care	Others
Tambon A					
- village 1	inconsistency	-	-	-	-
- village 2	-	-	no deliveries	-	TMW moved out
- village 3	no report	-	-	-	-
- village 4	-	-	-	no patients	-
- village 5	-	-	no postnatal visits	-	no meeting
Tambon B					
- village 1	-	no condoms dispensed	-	-	-
- village 2	-	-	-	-	HPV111
- village 3	-	-	-	-	no medications
- village 4	-	-	-	-	no postnatal visits

**LHDP
SCHEDULE OF EVALUATION
DATA COLLECTION**

1975 - 1981

	1975	1976	1977	1978	1979	1980	1981
<u>Community Health Survey</u>							
E ₁	•				0		
C ₁	•				0		
C ₂	•					0	
E ₂			•	P		0	
E ₃ a							
<u>Nutrition Survey</u>							
E ₁	• b		*		*		
C ₁	• b						
C ₂	• b			0		0	
E ₂			•			0	
E ₃ a							
<u>Administrative Analysis</u>							
Hospital	•			0		0	
E ₁	•			0		0	
C ₁	•					0	
C ₂	•					0	
E ₂				0		0	
E ₃ a							
<u>Task Analysis</u>							
Hospital	•				0	0	
E ₁	•			0		0	
C ₁	•			0		0	
C ₂	•			0		0	
E ₂			•			0	
E ₃ a							

• = data collection complete

0 = planned

* = will use Nutrition Surveillance data

a = E₃ data will not be collected

b = First-round Nutrition Survey data not usable due to technical difficulties

P = being processed

R = reported

	1975	1976	1977	1978	1979	1980	1981
<u>Cost Analysis</u>							
Hospital	0				0		
E ₁	0		•	P		0	
C ₁	0		•			0	
C ₂	0		•			0	
E ₂			•			0	
E ₃ a						0	
<u>Clinical Abstract</u>							
Hospital	0	0	0	0	0		
E ₁	0	0	0	0	0		
C ₁	0	0	0	0	0		
C ₂	0	0	0	0	0		
E ₂			•	0	0		
E ₃ a				0	0		

STRUCTURE OF HEALTH REPORTING SYSTEM

HANG-CHAT DISTRICT, LAMPANG

- A. - BIRTH, DEATH AND MIGRATION REPORTS
- B. - SUPERVISORY REPORT (VHV)
 - MONTHLY HEALTH REPORT
 - SUPPLIES/SUPPORT REQUISITION FORM
 - BASIC IMMUNIZATION REPORT
- C. - A+B

