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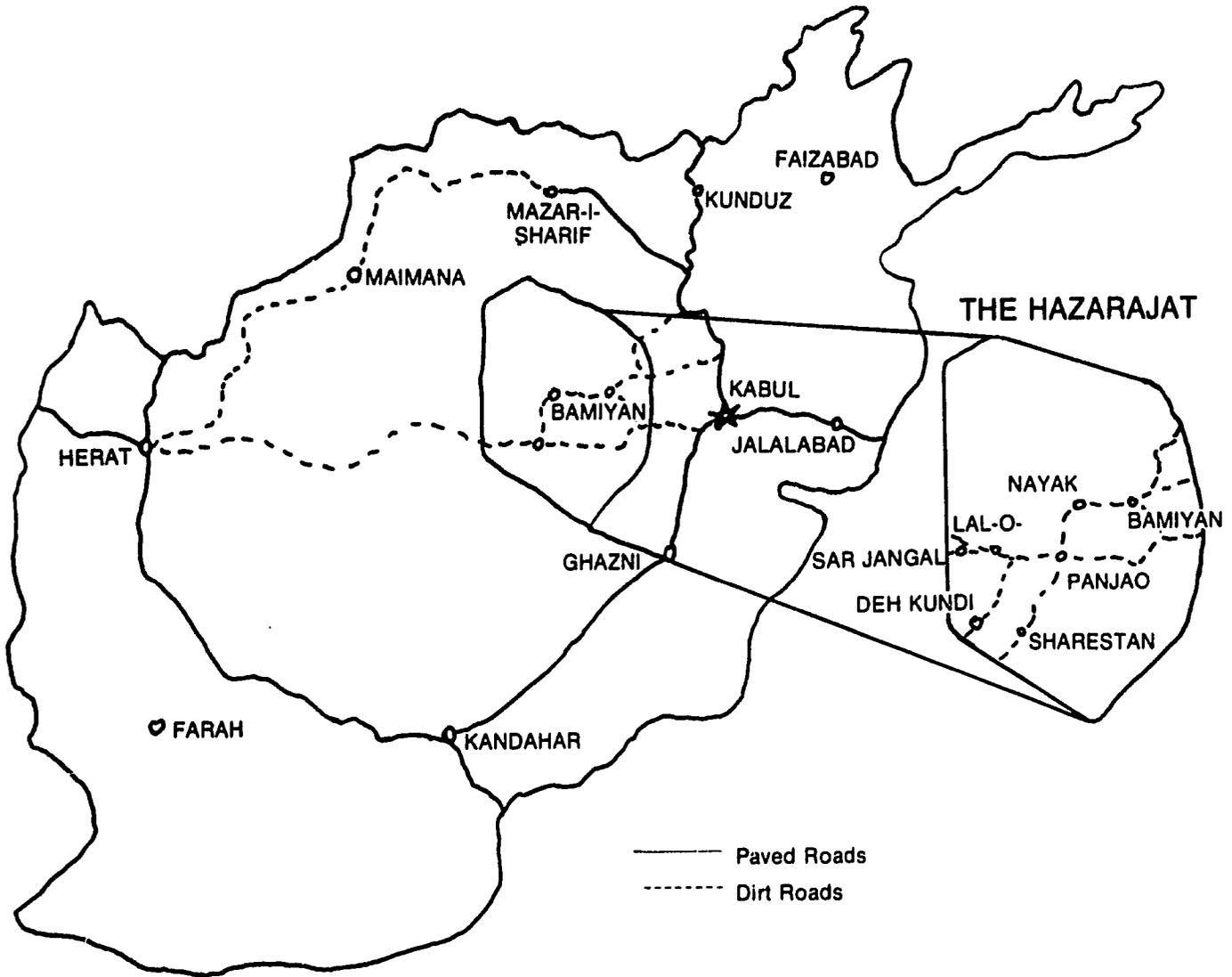
FAMILY HEALTH CARE

A Rural Health Care Delivery Scheme

**Final Report with Summary of Experience
and Recommendations for a Health Care Delivery
System**

**Rex V. Blumhagen M.D.
Jeanne Blumhagen M.D.**

AFGHANISTAN



FOREWORD

We express our deep appreciation to Doctors Rex and Jeanne Blumhagen for their excellent, dedicated leadership of the MAP (Medical Assistance Programs) team in Afghanistan. From their invaluable experience has come this very helpful and instructive manual.

It is with a sense of pride that Medical Assistance Programs, an international voluntary agency, publishes this book in cooperation with the Agency for International Development, Department of State, U.S.A. I am confident its practical content can be used to good advantage in many developing areas of the world.

J. Raymond Knighton
President
Medical Assistance Programs, Inc.

This report has been prepared under a grant from the United States Agency for International Development. It has been written for the Division of Population of US/AID Kabul, Afghanistan.

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LIST OF ABBREVIATIONS

ANM	Auxiliary Nurse Midwife	IUD	Intra-uterine device
DPT	Diphtheria-Pertussis-Tetanus	MAP	Medical Assistance Programs, Inc.
FHW	Family Health Worker	MPH	Ministry of Public Health
FHW (ANM)	An Auxiliary Nurse Midwife who has been trained as a Family Health Worker	PPD	Purified Protein Derivative - a material for Tuberculin Skin Testing
FHW (S-V)	A Sanitarian or Vaccinator who has been trained as a Family Health Worker	VVHA	Volunteer Village Health Advisor

Authors' Note

Although this report was written as a recommendation for a country-wide program in health care delivery to be carried on by a government in a particular cultural and geographical setting, it is useful in the planning and carrying on of programs whether large or small in other areas of the developing world.

In the rapidly changing world of today and tomorrow it is no longer possible to successfully go off in a small corner to do one's own "thing" in one's own way. No matter how small the project, how narrow the scope, or who is doing it, care must be given to planning. It is in this process of planning that it is hoped that many of the parts of this report will be useful. Because of this we have tried to explain our process of

reasoning and the steps to follow in each of its parts.

The setting of priorities is essential, though priorities may differ with locale. Goal-oriented planning will keep endeavors focused toward a target.

Readers are invited to make their comments, suggestions and differing opinions and experiences, for this is not the kind of a document that can stand long without updating and revision. We, and others, would like to know what you have done, what you have found successful and what has not worked for you.

Rex V. Blumhagen, M.D.
Jeanne Blumhagen, M.D.

ACKNOWLEDGMENTS

After the drudgery of writing, tabulating data, proofreading and revamping, the final manuscript is ready. The sigh of relief is almost audible. True, it is never quite what you had hoped it would be. The temptation for more finishing touches is strong. But you are thankful for deadlines that compress resolutions into reality. In the reflection that follows, gratitude grows for those behind the scenes who aided and prodded us on, those without whose help none of this would have been accomplished.

First, there was the MAP Afghanistan team—pioneers all, whose esprit de corps so often carried the day. Devoted, hard-working, loyal they were to the Hazarajat project.

Local support and logistics, direction and leadership came from the International Afghan Mission. Their contribution can't be minimized. MAP, Inc., Wheaton, Ill., whose name the project bears, was all that a parent organization should be, ever ready to help in any way possible and bearing the problems of the home office halfway around the globe.

Our colleagues in the Ministry of Public Health of the Government of Afghanistan followed us with

their interest and support. They offered us consultation and cooperation and helped with our cross-cultural orientation. And very important, they cleared the way for a multitude of details with visas, customs, transport and supply.

Statistics keeping and records were the bane of everyone's existence, but they kept them cheerfully—well, most of the time. To Dr. Patricia Wakeham, MCChB of London, and Elsie Dahl, RN of New York, go many thanks for the hours of tabulating, analyzing of results and report writing. And then thanks to Beryl Sharpe, SRCN, for days of correcting and proof-reading. We want to express our appreciation too, to the long-suffering secretaries, Jill Rickson and Doreen Smith, who had to learn American expression and spelling, though they upheld the English way as best.

Last, but not least, we want to say "thank you for all your help, for your patience with our 11th hour requests, for your encouragement and your advice" to Grace Langley, Director of Population and Family Planning, US/AID Kabul, under whose auspices this report is written.

PREFACE

Six years of experience, in grappling with medical problems, in developing a system of logistics for supplies and equipment, in training of medical personnel and in laboring at the art of bureaucratic maneuvering to develop a Health Care Delivery System in the Hazarajat region of Afghanistan has taught us a number of things. We know of the pitfalls; we know what cannot be done, but more important, we know what can be accomplished. The results are there to be seen.

This is our experience, gained by field work in rural clinics, day after day, seeing massive numbers of patients. It is augmented by painstaking questioning of individuals, by drinking innumerable cups of tea with government officials, village leaders, gray beards, and just plain people as they related what they thought their major health needs were. There was trial and error, that inevitably comes when sailing in uncharted seas.

Countless hours of tabulating figures and analyzing data, that we ourselves had collected, help us to speak with understanding as we discuss disease prevalence and infant mortality rates.

During the first two years we held mobile clinics, ranging from the Badakshan area of the north-eastern part of the country to the Nimroz region where the Helmand River slips into Iran. From the west near Herat across the central highlands to the approach of the Khyber Pass in the east, people were treated. These include Tajik, Pushtoon and Hazara ethnic groups.

This was climaxed by four years in the Yakaolang area of the Hazarajat, working in a Health Care Delivery System. This consisted of staffing and operating a base hospital and health center. About this were established satellite centers with their adjacent village

programs. During the past year the base hospital and satellite stations have seen up to 700 patients on a clinic day. Twenty local nationals are being trained in various para-medical fields. Village programs have been started and volunteer village health workers are learning and teaching health concepts.

Having established these credentials, as it were, on the field of battle, we feel we have advice to offer in the "HOW TO FIELD OF IMPLEMENTATION." The purposes of this paper are as follows:

1. Set out a picture of what has been done and what we have learned from this experience.
2. Rewrite the objectives of such a program in view of experience gained and the objectives of the National Health scheme.
3. Give a detailed description of a plan which could be implemented within the structure of the National Health scheme, showing methods, phasing and time schedules.
4. To try to suggest a more balanced approach to the curative and preventive medical needs of the people of Afghanistan in order to reach a state where suitable medical facilities will be made available to all Afghans.
5. To anticipate problems and to offer some solutions.

I

INTRODUCTION

In February of 1966, the MEDICAL ASSISTANCE PROGRAMS, INC., (MAP), of Wheaton, Illinois, entered into negotiations with the MINISTRY OF PUBLIC HEALTH of the GOVERNMENT OF AFGHANISTAN to determine if it could be of help in meeting some of the medical needs of the people of Afghanistan. After a number of possibilities were considered, it was mutually agreed upon that a mobile clinic to the various rural areas of the country would be of greatest benefit. Although the limitations of such a program were known, it was felt that, initially, this should be undertaken by MAP.

A bus was fitted out with equipment, examining room and living accommodations for a small team. The MPH assigned a doctor to accompany the team and determined the places the mobile unit should go. The mobile clinic would then proceed to the site and hold a polyclinic of ten to fifteen days and then return to Kabul for restocking and reassignment.

The areas visited were remote; transportation was difficult and often dangerous. The numbers of patients seen were massive and the diseases encountered were often far advanced. Their exercise was valuable, as many parts of the country were visited. Insight was gained into the cultural practices. Disease patterns and prevalences in the various parts of the country were determined from the data that was gathered and analyzed.

Much good was accomplished in these early mobile clinics both from life-saving administration of drugs to critically ill patients, and by early diagnosis of potentially serious disease. But the greatest value lay in

the orientation of the MAP personnel in the problems of the delivery of medical care and in acquainting them with medical needs of Afghanistan.

At the same time, the anticipated limitations of this kind of a program were more fully realized. It had all the disadvantages of a "hit and run" operation. Patients were seen, diagnoses made, but there were no means for follow-up care or continuing medical treatment. This, from a physician's point of view, was neither satisfactory nor desirable.

As the result of experience gained in this initial phase of mobile clinics, when negotiations were held in 1969 between MAP and the MPH, a new approach was chosen in which MAP would man the hospital the government was building in Yakaolang and use this as a center from which to provide total health care for the Hazarajat area of Afghanistan. The area was ill-defined and inaccessible at least part of the year. It was a deprived region both medically and economically, and as such it would provide a most challenging setting in which to find the best methods of delivering medical care.

The program to be followed was outlined in the Addenda to the MAP-RGA protocol agreement which was signed in 1970. Although the program was fairly well-defined in the Addenda, the actual working out of the details was a gradual experimenting and learning process. The experience gained is applicable to the entire country, not just the Hazarajat. The MAP team members feel that the Hazarajat project in principle could be duplicated elsewhere in Afghanistan.

THE SETTING

The medical problems of Afghanistan are not too dissimilar from those of all developing countries. While the problems are comparable in their size and magnitude, there are usually individual national differences which make it necessary to tailor-make a medical program to fit the particular needs of a country. A realistic assessment of the problems is neces-

sary prior to any hoped for solutions. A basic axiom in medicine is that "the disease must be diagnosed before it can be treated." So it is imperative to evaluate the economic, political, social and demographic aspects of a country before an appropriate medical or health program can be devised.

GENERAL PROBLEMS

Geography and Terrain

Afghanistan is a land-locked country the size of France, with only 5% of its land arable. Its terrain varies from high mountain ranges to arid desert land. Several large fertile valleys are the major areas of agriculture production. It is primarily an agrarian society with wheat the major dietary staple. While the prospects of becoming self-sufficient by producing an adequate amount of wheat to meet the national needs

are good, this goal has not been reached.

Afghanistan has much hydro-electric potential, but the high cost of developing it precludes any appreciable revenue from this source. Mineral resources do exist, but inaccessibility and the lack of industrialization so these can be internally utilized, make it difficult to realize any revenue from them. The natural gas fields, which provide an exportable revenue-producing commodity, are an exception to this.

A realistic appraisal indicates that agriculture and agricultural products afford the best option for economic viability and growth.

Medical needs for a rural agrarian society are different from those of an urban industrialized society. A rural people widely spread out with few major population centers, require a different type of health care delivery. The inaccessibility of sparse population served by inadequate roads often closed during the winter, with limited telephone communication and with a less than adequate public transportation system, makes the logistics of medical care extremely difficult. At the present time, less than 15% of Afghanistan's people have access to even minimal medical care.

Population

This is estimated at 17.5 million with 80% living in rural areas.¹ The literacy rate is well under 20%. The population per land area does not seem excessive until you realize that less than 5% of the land is arable. Preliminary studies indicate the crude birth rate to be nearly 50/1000, one of the world's highest. Afghanistan does have a population problem. In Kabul, the capital city, varying estimates indicate that there may be as high as 75% unemployment of the eligible male worker.

Medical Personnel

The number of practicing doctors is a little over 1,000,² which gives a ratio of one doctor/17,000 population. There are half as many nurses as doctors. The majority of medical personnel gravitate to the few urban areas of Afghanistan, leaving the *doctor/patient ratio in the rural area more in the region of 1/30-40,000*. And the nurse/population ratio likewise will be proportionately low. There is a lack of trained personnel in all of the varied medical disciplines.

Financial Restraints

The demand on a developing country's budget for economic expansion, agricultural development, defense requirements, increased educational needs, transportation and engineering projects and improved health and health facilities, always exceeds the limited funds available and consequently the portions finally appropriated are invariably inadequate.

Whereas in developed countries \$200.00-\$300.00/capita may be spent for health and medical service, the amount spent in many developing countries is approximately \$1.00/capita.³ In Afghanistan the per capita expenditure is nearer to \$0.25. This limited funding places rigid restrictions on what can be accomplished. While it does not mean that nothing worthwhile can be done, it does mean that priorities adopted by highly developed countries are not appropriate. It means that other rigid priorities have to be established that will yield the greatest results for capital expended. The garment has to be cut to fit the cloth. Many things need to be left undone. High cost curative medicine must not ex-

pand at the expense of the more essential preventive medicine.

Scarce monies cannot be wasted on ineffective and irrational medicines. Buildings must be functional and non-elaborate, not patterned after western style palaces of healing.

"Patients should be treated as close to their homes as possible in the smallest, cheapest, most humbly staffed and most simply equipped unit that is capable of looking after them adequately." (Axiom Five: *Medical Care in Developing Countries*, p. 1:7, Maurice King).

To meet the medical needs, volunteer workers at the village level may well be necessary, social prestige being their only reward.

Political Considerations

The people of Afghanistan are demanding more health services. The felt need in all areas for more and better health care is being increasingly drawn to the attention of the central government. An orderly expansion of medical facilities over the next 10-20 year period would be the most logical approach. However, this may not be politically expedient. People will not wait 10-20 years for basic medical care. Hence the decision to cover the country with health centers as soon as possible has been made.

It is relatively easy to build a health center, but the problems of staffing it with trained personnel, arranging the logistics for medicine and supplies, and of actually delivering the health care is of much greater magnitude.

Initially, some sort of token medical care may have to be delivered to the outlying areas of the country. It is imperative, however, that a more orderly, well thought out system of health care be devised, first for the training of personnel, and second, for the formulating of methods to most effectively implement Health Care Delivery within the budgetary limitations. These must be capable of being systematically duplicated throughout the nation.

The above problems are accentuated by a government which has accepted the position that it is the government's responsibility to provide medical care for all its people, yet which lacks sufficient funds, and/or fails to realize the cost, time and personnel involved in the accomplishing of this goal.

Yet to be resolved by Afghanistan and most developing countries is the question of financing the delivery of health services. The government through taxes and other income cannot eke out of its meager budget adequate funds to provide these services. Outside help from other governments, the United Nations, WHO, UNICEF, voluntary agencies, etc., can only supplement to a small degree the needed resources. This leaves the deficit to be made up by patient contribution. Whether this is a fee for service, payment for drugs, a prepayment insurance scheme or some other method, will have to be determined early in the development of a program.

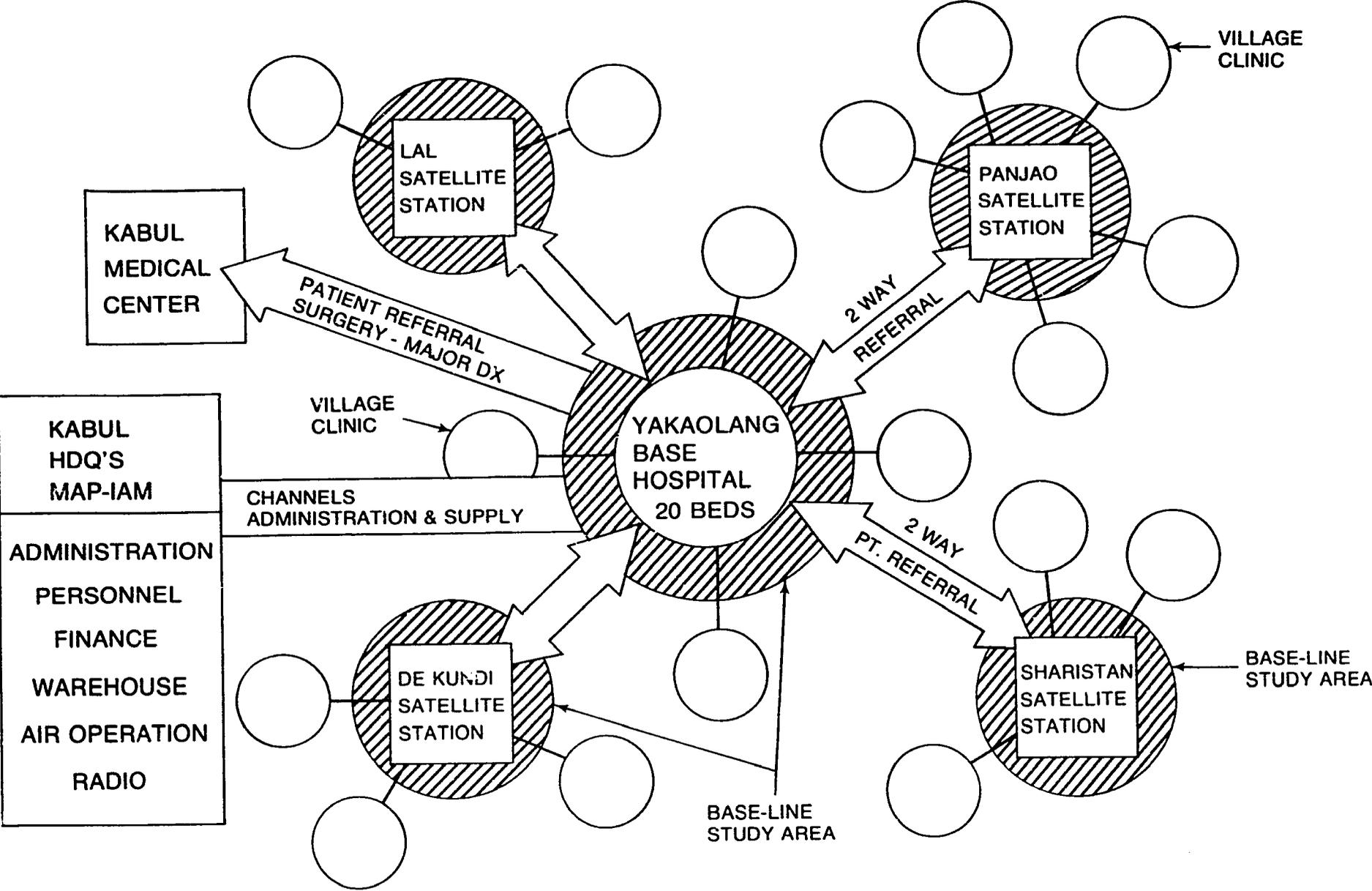
MEDICAL PROBLEMS

When considering a developing country such as Afghanistan, it is essential to realize that the total medical situation is different from the condition in the developed world. Developing countries are still battling with diseases which technically could have been eliminated decades ago. Malnutrition, poverty and lack of knowledge hinder vast numbers of people from coping with illnesses which have long since ceased to be life-threatening among people with the resources to obtain good food, clean surroundings, and good medical care.

Problems already presented of distance and isolation, of lack of transportation and communications, of population and lack of medical personnel and of limited finances stand as a barrier to the providing of even minimal medical solutions.

It is evident that everything can't be done and it sometimes seems as if nothing is possible. But someone has said that if the situation is impossible it doesn't mean that nothing can be done. It does mean that wise choices must be made as to what things are most important to do and when.

DIAGRAM OF HAZARAJAT PROJECT



Shaded areas represent baseline study areas.

II

DESCRIPTION OF HAZARAJAT PROJECT

The Medical Assistance Program in the Hazarajat area is a Health Care Delivery System, within the framework of the Basic Health Services of the Ministry of Public Health. The Hazarajat region in the Central Highlands is occupied by an ethnic group known as the Hazara. The population of the group has been estimated at 2 million and the geographical area to be 40,000 square miles. No medical facilities were operational in the area when the Medical Assistance Program was asked by the Ministry of Public Health to equip and man the hospital the Government of Afghanistan was building at Yakaolang.*

In the Afghanistan Development Plans, it was intended that the route of the Trans-Asian Highway would be through the center of the Hazarajat. It would start at Kabul, cross the Unai Pass, go over the Hajigak Pass (opening up transportation to the iron deposits there), proceed on to Bamian and Bande Amir (both tourist attractions) and then pass through the Yakaolang valley, on over the Said Barg Pass to Lal O Sar Jangal and on to Chakhcharan. With this development scheme and improved road, Yakaolang was to become the administrative center of the Hazarajat area. This accounts for the choice of this site for the hospital by the Government of Afghanistan.

In the MAP plan, the 20-bed hospital at Yakaolang became the base hospital for the region, capable of eventually being upgraded to a district hospital. Satellite health centers in population groupings about this base hospital were established in Panjao, Lal O Sar Jangal and Sharistan (all functioning by mid-1973).⁵ Plans include development of a center at De Kundi (Nili) and, with the availability of personnel, at Waras, Besud and Kammard. These satellite stations were located 35-120 miles from the base hospital at Yakaolang, each serving a population of from 50,000

to 120,000 people.

It soon became obvious that the time-distance between stations and the complete isolation of stations from one another and from the Kabul headquarters during the five winter months would necessitate an alternative mode of transportation other than surface vehicles. MAP, after consultation and permission from the Government of Afghanistan, brought in a small five-seater Cessna airplane to solve this transportation problem. With the cooperation of the local population and with the Work for Wheat Program, in the first year after the arrival of the plane, five airstrips were cleared and made functional. Each station had an airfield. To further enhance the operation of the stations and to add safety to the air operation, single-side-band radio receiver-transmitters were, with the permission of the Afghanistan Government, installed at each station. Daily medical radio consultations were then established and, as necessary, emergency drug and supply requisitions were made by radio, as well as notification of personnel movements and the need for medical evacuations. This greatly improved the quality of medical care and lessened the sense of isolation of the personnel in the outstations.

The program was designed to have a central base hospital, surrounded by satellite health centers. Each of these would eventually have village health sub-centers located an hour's drive away (4.5 hours walk) from the health center.

About the base hospital and each health center, a population group of 1,000-2,000 was selected to be used as a baseline study group, a group that could be used to assess the value of the program, and in which teaching materials could be evaluated. In these baseline communities the first volunteer village health workers were to be recruited and trained.

Description and Function of Units⁶

BASE HOSPITAL (YAKAOLANG)

Clinical Service

Outpatient department
 polyclinics 3 days a week
 Family clinics 1 day a week
 Baseline village studies and
 village visiting 2 days a week
 Leprosy clinic 3 days a week

Village sub-center clinic 1 day a week
 Dental clinic 3 days a week
 Emergency Service - Available at all times
 Laboratory (Both hospital and OPD) Capable of
 routine hematology and chemistries, simple
 bacteriology, tuberculosis and leprosy
 smears, typing and cross matching of blood.

*The program was closed by the government of Afghanistan in 1974.

X-Ray Department Simple diagnostic chest, extremities, routine flat plates, intravenous pyelograms and gall bladder studies
Inpatient Service 16 beds for both surgical and medical patients.
Surgery Operating room, equipped with surgical instruments, anaesthetic facilities and oxygen. Procedures: emergency and simple elective surgery; more formidable procedures referred to Kabul.
Area Warehouse Facilities for storage, and packing and forwarding of supplies to stations.
Radio Center Center for radio network between administrative center in Kabul, hospital, and health centers. Repair and supply.
Training Program Both classroom and on-the-job training.

Categories being trained:

- Ward assistants
- Laboratory and X-ray assistants
- Operating room and sterile supply assistants
- Pharmacy assistants
- Outpatient department assistants and dressers
- Registrar and clerical assistants
- Female ward aids
- Volunteer village workers
- Driver-mechanics
- Warehousing assistants

Hospital maintenance personnel
 Nationals in training: 20
Buildings at Yakaolang
 Combined hospital and clinic building with laboratory and X-ray
 Warehouse and central supply
 Generator room
 Mobile clinic storage unit
 Construction storage and workshop
 Classroom
 Trainee dormitory - adequate for eight persons
 Kitchen - dining room
 Laundry
 Family residence - for 2 families
 Personnel residence - 2 buildings for 16-20 persons
 Fuel storage

Vehicles

- 2 4-wheel drive personnel carriers
- 1 construction lorry
- 1 motor cycle
- 1 snowmobile
- Generators: 15kw, 10kw, 5kw

Personnel Foreign

- Doctors - 2
- Dentist - 1
- Nurses - 5
- Laboratory/X-Ray technicians - 2

SATELLITE HEALTH CENTERS

Locations

Operating: PANJAO, LAL O SAR JANGAL, SHARISTAN
 In construction: DEKUNDI (NILI)
 Proposed: WARAS, BESUD, KAMMARD

Services

Outpatient polyclinics 3 days a week
 Family clinic 1 day a week
 Baseline village study 1 day a week
 Emergency service Full-time
 Laboratory: Simple tests and specimen collections

Inpatient: 6 holding beds
 Radio
 Vehicle: 1 4-wheel drive vehicle per station

Training In-service

Trainees: Usually three or four per station
 Outpatient assistants and dressers
 Assistant registrars
 Voluntary village health workers

Personnel Foreign

Three: Either a doctor and two nurses or nurse/midwife and nurse
 Registrar

VILLAGE HEALTH SUBCENTER (PROPOSED)

10-20 miles from health centers. 3-7 about each center for population grouping of 1500-3000.
 Medical personnel from health center - 1 visit per week.

Proposed staffing - physician's assistant and/or family health worker. Voluntary village health advisors

BASELINE VILLAGE AREA

A population group of 1000-2000 adjacent to a health center in which a field program is carried out. At least one visit to each village was made by the nurse midwife responsible. Volunteer village health workers were trained. Health education and chronic disease control was carried on

and records of births, deaths and illnesses kept. Pregnant women and new infants were seen and referred to clinics. This area served also as a pilot demonstration for testing of methods and materials.

PROJECT HEADQUARTERS - KABUL

Administrative offices for:
 Personnel

Program
 Budget and finance

Air operations
 Central procuring and warehouse

FAMILY HEALTH PROGRAM

Once the basic medical facilities were available to people in the form of the hospital in Yakaolang, the health center in Panjao and the projected health centers in other areas, attention was turned to attempting to bring care closer to the need through the development of a family health program at the village level. It was in the context of this kind of project that it was felt a family health program could work.

Areas around the hospital and health center were chosen that had reasonably clear geographical boundaries. These areas had populations of about 1500 and were immediately contiguous to the health center.

Baseline surveys were done which would provide information for necessary planning and evaluation at the end of a five-year period. The major information gathered was:

1. Demographic: population by age and sex,

- number of persons per village and household.
2. Birth histories of mothers.
3. Disease prevalence by histories of existing symptoms and brief physical examinations.
4. Anthropomorphic measurements: height, weight, arm circumference.

Folders were made for each family containing the household form and medical records on each member.

The project chose the following objectives:

1. To reduce infant mortality.
2. To reduce the rates of tuberculosis and leprosy.
3. To introduce the practice of spacing of births to a minimum of four years.
4. To improve the conditions of malnourished children.
5. To provide improved care for the sick child.

The Outline of the Program

A. BASELINE STUDIES

Preparation

Senior members of the staff went first to each village to talk to the village leaders about what was going to be done, what was hoped to be discovered and what the health team intended to do, after the study was finished, to help the people of the village. Usually this was greeted with assent and the desire to cooperate. In one village the team was told that the people wouldn't cooperate and that the leaders couldn't do anything about it. The village was dropped from the group.

It was found that the most important part of this preparation was to tell people what was intended for their village and when it would be done. Villagers weren't interested in cooperation unless there were understandable benefits to follow. So the team went in with the general information that tuberculosis and leprosy would be treated, that nurses would come to the village and teach the people how to care for their sick children, that immunization would be carried out and that they would be taught about family spacing for the health of mother and child.

Implementation

In the course of the baseline study, every home in the determined area was visited at least twice. On the first visit the names of all heads of households were obtained and the names, ages, sexes and family relationship of each member were recorded. A history of certain specific symptoms including the passage of worms was obtained. People were asked about smallpox and BCG vaccinations and when they were given. Birth histories of mothers were taken. Tuberculin tests were also done on the first visit.

Two days later the homes were re-visited, PPD's were read, standing and sitting height, weight, and arm circumference were done, and a brief physical examination was taken. (See Appendix).

It was found that there should not be too great a time lag between demographic survey and the follow-up physical examination, as the population often shifted somewhat. More important was the fact

that the people who expected something to be done in return for their cooperation lost interest and became suspicious of the health team.

The teams were welcomed on the first visit. Tea was usually served in every house which brought about some personal problems for team members. But the people enjoyed talking, and in general, they did not mind answering questions. It should be noted that it is important that the members of the teams know the language and do not have to work through interpreters. Peace Corps volunteers assisted in this phase of the work.

Some of the people were apprehensive about the physical examination. A few could be seen disappearing as the team approached. After awhile, when they saw that no one was suffering under the examinations they would bring the ones who had disappeared into storerooms or out to the pastures. The teams were already armed with all the names, so they could say, "But where is Fatima?" With this technique we were able to obtain 85-90% participation.

B. IDENTIFICATION OF CONTACTS

During the time of the examinations, it was noted that sometimes one man might be the one to give most help in finding people and bringing them in. Or among the women, perhaps there was one who listened, gathered information and interpreted it to each family member in turn. Occasionally these same women kept turning up from household to household. These were the obvious contacts to have in a village. They already had a position among their people in which others sought their advice and listened to them and they had family relations across a broad group of villages. These were the obvious ones to become the Volunteer Village Health Advisors.

C. FOLLOW-UP AND FAMILY CLINICS

Each village was visited again and each mother was given a card to come with her entire family to the Family Health Clinic on a day specified for the people of her village. The new Village Health Advisor, if

chosen by then was asked to bring them in.

Most families came. Those with children under two, or older malnourished children, were given food supplements. Those with positive Mantoux tests in specified age groups were given INH. Those with evidence of tuberculosis or leprosy were treated. Talks were given on care of the sick child, nutrition and family spacing, as well as on tuberculosis, leprosy and pyoderma. Immunizations with DPT were begun in children under five.

In the first year in Yakaolang, in a population of 1500 people, or about 300 families, there were 60 family-planning acceptors.

The nurse midwife and health educators made two complete rounds of the villages under their care the first summer and autumn, going out two days a week.

D. TRAINING OF VOLUNTEER VILLAGE HEALTH ADVISORS

The training of volunteer village health advisors was begun as soon as they could be identified and brought into the program. These were all women. They were taught a limited number of subjects, all related to the priorities chosen for the program. In each subject there was an attempt made to keep the teaching down to about five facts. They were taught in their own homes. However, the nurse-midwife eventually got them to come to the health center for additional classes and demonstrations. After this they were taught to give little health talks to their own people on what they had learned.

Originally it was intended that women should be brought to the health center to work and learn and

then go back to their villages. This didn't work, as there were no women in the local society who worked outside their own homes or family groups unless they were part of a servant family who lived and worked in the employer's household. In the last year it has been possible to get only two women to work in the hospital. Both of these have minimal non-infective leprosy and they are considered ineligible for marriage.

As the program becomes more established, it is planned that more women will have the health center training, better equipping them for leadership among the women. Men will also be trained to do comparable work among the men of the village.

E. ANALYSIS OF THE FAMILY CLINIC PROGRAM

There has been considerable response to this program in the villages in which it has been introduced. Women volunteers have been enthusiastic about learning and about bringing their people to the clinics as needed. The most important thing seems to be constant supervision.

Problems which have arisen have to do with two main things:

1. Inability of the people to apply learning to their life situation.
2. Overcrowding of family clinics.

The first is going to take a long time and patient repetition to overcome. For the second, it will be necessary to dismiss families from the clinics when they are reasonably healthy and expect follow-up at home with the VVHA responsible to get them back in when something new comes up.

III

OUR PHILOSOPHY OF COMMUNITY HEALTH AND HEALTH CARE DELIVERY

The past century has been the Golden Age of Medicine. With the discovery of germs as the causative agent of many diseases, the doctor has been able to attack these one by one. Now with modern medical science, antibiotics and immunizations, the scourges and plagues of centuries have yielded to medical treatment. Smallpox, yellow fever, polio, cholera, tuberculosis, leprosy, tetanus, diphtheria, typhoid fever, malaria and typhus, to mention a few, respond to treatment or immunization. Infectious disease, the great killer of past decades, can now be successfully dealt with. And yet people in emerging nations are still subject to these diseases.

Modern medical science has most of the answers. The problem is that of health care delivery, of getting the cure or prevention of disease to the people. Sometimes the people are unaware that these diseases can be cured; they need education. Often the facilities for dispensing these services are too far removed from the people; then it must be taken to them if possible. When the cost of treatment or immunization is beyond financial abilities, priorities have to be established, and methods of minimizing the cost must be devised.

If medical science made no new therapeutic discoveries in the next half century, but could devise ways of distributing the skills, the medicines, and the immunizations already in its arsenal to the needy areas of the world, this would be the greatest achievement ever made in the field of medicine.

Community health is making available to members of the community those things that contribute to health and well being. It rests on three component parts, each essential to the whole: 1. Health Education, 2. Curative Medicine, and 3. Preventive Medicine.

Health education includes such things as teaching people what their basic health needs are, and informing them as to what can be done and what they can do for themselves. Training in the early recognition of disease is essential so that the disease may be diagnosed when it is still amenable to treatment. Education about the most common diseases afflicting a particular community and the basic steps of disease prevention, such as washing of hands, safe water supplies and correct sewage treatment or disposal, are all facets of this part of community health.

The controversy between curative and preventive medicine has been waged for years. Arguments in recent years, that it is more logical to prevent disease rather than attempt to cure it, once it has occurred, are reasonable, but practically speaking present many difficulties. First, the felt need of a community is for curative medicine. If we are to enlist the support and enthusiasm of the community we have to be able to do something about its sicknesses. Second, medical conscience is such that it cannot step over a dying person to give an immunization to a person who might or might not get a disease. It is not an either/or proposition—but both/and. Curative and preventive medicine are each essential, with neither overshadowing the other. However, constant discipline is required to keep the clamor for curative medicine in check so that the equally important preventive phase does not suffer.

The magnet of curative medicine must be utilized to draw people into a preventive medical program and into the range of health education. Skill and availability in the curative field are necessary to establish the credentials of knowledge in the field of health that will get village leaders and people to listen to and to act upon appropriate health proposals.

No community health program is complete without considering population and its impact on health and well-being of the community. Over-population, with its constant threat of inadequate food supply, is a specter kept before us by the social planners and economists. The villager is no less aware of the problem of "too many mouths to feed," but the innate desire to have progeny, as well as certain basic physiological drives, keeps the cycle going. It is difficult to talk family planning to the woman who is losing 50% of her children. The husband and wife have to be assured that some of the children will grow to adulthood to provide the necessary security for their old age. Once the infant mortality rate declines, the apprehension of ending up with no living children is gone. Then the concept that fewer children means healthier children and a healthier mother becomes acceptable. But until the high infant mortality rate is successfully dealt with, efforts at family planning are bound to come to limited fruition. As success is reached in this area, the target group becomes more responsive. Fortunately both problems can be ap-

proached simultaneously.

Last, but not of least importance, is the concept that the community must face some responsibility for its own health care. The people cannot be passive recipients of government endeavor; they must actively cooperate.

Too often in the past, health schemes have been devised by planners with the "we know best" attitude, without giving consideration to the needs or desires of the persons to be benefited. No scheme will work without the cooperation of the people. Their cooperation can only be gained by heeding their counsel and winning their confidence.

It must be recognized that all communities are not equally ready to accept health programs. In a nation as needy as Afghanistan, no health work should be started in any area until there is a demonstrated willingness to cooperate. This may be the mobilization of the local work force to help in constructing village clinics, the contribution of land by a land-owner, the provision of accommodations for health personnel and the willingness to help select and send local persons for training. The presence of enlightened leaders

is necessary at the village level, and likewise, reliable volunteer workers must be available.

The Government should steer clear of Utopian promises of providing too much. It should rather assume the stance, "We can only help you help yourselves." It must require a concrete local demonstration of desire for help by mobilization of community resources before moving ahead. This should be a prime priority in establishing the sequence of developing health stations.

We have been amazed on many occasions at how readily village people can grasp a new health concept and respond appropriately. The innate ability to survive, to adapt, to want to improve, is present in most villages. This must be nurtured.

The health care delivery system must succeed at the local level. Central planning and logistics support are necessary but not the end-all. The goal is not providing jobs, or engaging in planning exercises. It is to improve the health of the Afghan in the village where 80% of the population live. His cooperation is needed. Too often he is the forgotten part of the equation.

IV

GOALS OF FAMILY HEALTH

Because of the fact that women and children make up 2/3 of the population of developing countries and that most deaths from disease and disability occur before the age of fifteen, health planners have made the decision to concentrate on maternal and child health programs. Though the conclusion is logical, the application was not. Mothers and children do not make up any special unit in the societies of developing countries, especially in the rural areas. In these countries the individual desires and needs are subjected to the desires and needs of the family and beyond it to the extended family and tribe. In most instances the community is the extended family and tribe.

To deal alone with mother and child is to introduce in many areas an independence which is not real, and tends to make an artificial cleavage in the basic unit of society. This contributes to a break-up in the solidarity of the family, often the one unifying force in a country. In these countries the woman makes no independent decision either regarding herself or her child, and this is not necessarily wrong. Her wishes may be important and compelling in the family deci-

sions but the decisions are not independently made. It has been expressed in family planning circles many times as, "If you don't convince the husband, you can't successfully manage family planning." But more than this, the man does not make an independent decision which is contrary to the accepted patterns of tribal (or extended family) behavior. Thus, in bringing about changes of patterns of life, the family must be convinced and also the community which is the extended family.

Health administrators must realize that to be successful they must win families and extended family and tribal communities more than individuals.

For these reasons, the basic unit on which to focus the development of health services is the family and the community as an extension of the family. Since the target group has become the family the term "family health" is being presented. In addition, since the basis for health services is the three-fold approach of curative medicine, preventive medicine and health education, the term "health care delivery" is preferred rather than "community medicine" which is so often associated with purely preventive programs.

Goals of Rural Health Service Afghanistan

1. To provide minimal curative medical services for significant acute and chronic disease to as much of the population as possible.
 - a. To provide early care for those acute conditions which, inadequately treated, lead to chronic conditions, disability or death.
 - b. To provide care for a limited number of specified chronic diseases which contribute to morbidity and mortality.
2. To provide minimum laboratory facilities capable of diagnosing conditions determined by priority needs of differing communities.
3. To make minimal necessary drugs and supplies readily available to as much of the population as possible.
4. To provide two-way systems of referral based on the specific conditions to be referred and on the capabilities of each health unit.
5. To reduce the high infant and childhood morbidity and mortality.
6. To reduce the high birth rate by introduction of ideas and means of family spacing.
7. To reduce risks of complications of pregnancy.
8. To provide for control of specified communicable disease determined by feasibility, financial possibility and priority needs.
9. To provide health education in priority categories with a special view to producing ability in the people themselves to cope with illness, a willingness to follow treatment regimes, an understanding of basic causes of specific diseases, and the knowledge of when and where to seek aid.
10. To provide emergency feeding program for urgent needs of malnutrition and to investigate with community leaders, permanent solutions to nutrition problems.
11. To mobilize community resources and support, to accomplish as much of the health program as possible.
12. To develop feasible sanitation programs adapted to felt needs and priorities of the various areas.
13. To establish efficient systems of records and reporting that will be adequate and still keep the record work of personnel to a minimum and discourage falsification.
14. To provide adequate supervision of personnel.
15. To provide for systems of program evaluation with frequent review and revision of approaches and methods.
16. To provide as rapidly as possible trained personnel at all necessary levels.
17. To provide continuing in-service training to increase the competence and capabilities of personnel.

18. To provide orientation and training to doctors and other presently available personnel in the new concepts of rural health care delivery.

The goals as presented are general and their principles readily acceptable to most people in health planning positions. The next step then is to see what direction thinking must take in order to translate such goals into obtainable objectives. This requires a de-

tailed process of examination of each goal to understand what would be needed to accomplish it. This process is presented in detail in order to provide a basis for development of a program designed to reach the goals. The extent of the program is not given here. It makes very little difference whether the objective may be to eradicate one disease or ten; to provide for treatment of five diseases or a hundred, the steps to that goal are the same.

Needed Steps Towards Accomplishing of Goals

I. To provide minimal curative medical services. . . .

A. Based on medical needs of the area

1. Determine diseases for priority considerations and list those which should not be handled by the health service.
2. Develop lists of conditions which can be handled by:
 - a. A physician at a hospital and/or a health center
 - b. A physician on the field
 - c. Lesser trained personnel in the health center and in the community subcenters and homes. (Public health nurse, physician's assistant, family health worker, volunteer village health advisor, etc.).
3. Develop lists of standard drugs to be used for these conditions, and determine which drugs each level of personnel is authorized to use.
4. Prepare lists of needed instruments and supplies necessary for each level of service.
5. Develop manuals and standing orders.
6. Determine optimal method and place to handle disease or disease group.

B. To provide early care for acute conditions.

1. Determine priority conditions needing to be cared for at each level of service.
2. Set up a case-finding system.
3. Train field personnel in diagnosis and treatment.
4. Provide necessary equipment and drugs at the place where the diagnosis and treatment are expected to be made.
5. Determine needs for emergency care and provide necessary equipment for this care to field teams.
6. Provide systems for transfer to the appropriate place where definitive care can be accomplished.
7. Develop procedural manuals and standing orders.
8. Provide in-service training to improve diagnostic accuracy and increase capabilities of field and clinic staff.

C. To provide care for specific chronic diseases.

1. Determine what chronic diseases are most prevalent in the area.
2. Set priorities of care.

3. Utilize community cooperation in health education, follow-up and sanitation.
4. Decide on place of treatment, methods of control, and personnel necessary.
5. Determine standard methods of treatment, intervals and length of treatment.
6. Develop procedure for case-finding, follow-up and records.
7. Provide for continuing supervision and review.
8. Develop procedural manual and standing orders.

II. To provide minimal laboratory facilities.

1. Determine from set priorities which diseases will need laboratory confirmation—Two categories:
 - a. Laboratory tests needed for back-up of the medical clinic.
 - b. Laboratory tests needed for case-finding and follow-up.
2. Determine which of the needs each laboratory can be expected to handle.
3. Determine which tests can be handled by lesser trained personnel either in the laboratory or on the field.
4. Prepare lists of equipment and supplies needed for each level of service.
5. Provide equipment and supplies needed to each area of service, e.g. health center, subcenters, field teams, home visiting.
6. Develop manuals for technicians and assistants.
7. Develop records and reporting systems so that results get to those who need to know them.

III. To make minimal drugs and supplies readily available.

A. Provision for adequate supply in the rural health care system.

1. Determine basic drug and supply list for each level of service and each area.
2. Develop systems of ordering from central store areas so that drug and supply level inventories can be kept current.
3. Institute inventory system, which along with the requisition systems, will allow control on material and comparison of use throughout the rural health system both on a local and

national level.

4. Develop a system of frequent periodic requisitioning and receipt of drugs and supplies from the health center by field and subcenter personnel and set up a check system of drug and supply usage.

B. Use of commercial sources.

1. Determine what kinds of drugs and supplies people should be expected to get from local pharmacies.
2. Provide local pharmacists with lists and sources of drugs and supplies people will be expected to buy.
3. Set up a check system and take proper measures against fee-splitting practices between doctors and pharmacists.
4. Provide pharmacist with training in symptom-diagnosis and proper use of recommended drugs.

IV. To provide systems of referral.

1. Determine what diseases or symptom-complexes can be handled at each level within the rural health system.
2. Determine capabilities of each facility serving the rural health center; e.g., provincial or other hospital, medical center, etc., and list conditions to be referred to each.
3. Set up systems for both non-urgent and emergency transfers and provide information for all personnel at each level to assist in getting patients to the proper places to receive treatment.

V. To reduce infant mortality.

1. Determine most common causes of infant and childhood death.
2. Decide priorities and method of approach according to need and according to feasibility of solution.
3. Determine methods of early diagnosis and case-finding.
4. Set programs for mass immunization compatible with availability of materials and funds.
5. Determine the on-going immunization program as indicated by priority needs.
6. Provide adequate drugs and treatment facilities for priority conditions at a level as close to the people as possible.
7. Decide needed directions and develop methods of health education to make inroads on priority conditions.

VI. To reduce the high birth rate.

1. Make family planning available on voluntary basis in health centers and encourage its use.
2. Within the structure of the village visiting and clinics, plan and carry on an active field program of education and make provision for supplies necessary to family spacing.

VII. To reduce risks of complications of pregnancy.

1. Set up system of reporting and recording maternal deaths and their causes.
2. Analyze reports to determine most frequent causes of maternal mortality.
3. Train family health workers in detecting high risk cases.
4. Train dais, village midwives or other women in villages who do deliveries, in simple obstetrics. Try to correct mistakes and habits which lead to maternal mortality. Leave local practices which are not dangerous alone, and correct only those which are dangerous.
5. Train family health workers to recognize and handle most frequently occurring emergencies and to transfer immediately those they can't handle.
6. Set up emergency obstetric service in health center and train doctors to handle most frequently occurring complications.
7. Prepare lists of equipment, drugs and supplies needed for most frequently occurring emergencies and make priority decisions as to which emergencies can be handled, dependent on financial resources and physician capability.
8. Provide health center with equipment, drugs and supplies necessary for priority emergencies.
9. Plan for future development of obstetrical facilities for complicated pregnancy, delivery and puerperium.

VIII. To provide for control of specific communicable disease.

1. Determine the acute and chronic diseases which are most prevalent and which cause the greatest morbidity and mortality in each area.
2. Determine priorities for control programs and time sequence of implementation, based on amenability to control and financial resources available.
3. Determine case-finding and follow-up methods.
4. Provide for early diagnosis and treatment when indicated.
5. Set up system of records and reporting.
6. Determine which diseases should be approached by mass immunizations, and which ones should be handled by immunizations at regular clinics.
7. Consider need for other methods of control such as control of insect vectors.

IX. To provide health education.

1. Determine and list by priorities the essential subjects for health education. Decide what is to be taught and by whom.
2. Prepare educational material and aids.
3. Make every team member an educator. Train all to know what is to be taught in his associated fields, so that everyone gives the same answers and advice in similar situations.

X. To provide emergency feeding program.

1. Identify specific nutritional deficiency problems of area served.
2. Determine levels of malnutrition for which correction is necessary. Avoid wherever possible, producing dependency of people on the rural health service for foodstuffs.
3. Gather data necessary for the determination of norms for the various population groups.
4. Provide feeding programs for the more severe cases of malnutrition. Be careful that normal breast-feeding is not interfered with by unnecessary supplementary feedings and that pregnancy is not rewarded by handouts.
5. Discuss with community leaders, methods to improve diets through agriculture, improvement in economic situation, etc. Utilize advisors as available.
6. Investigate available foods which might be prepared in new ways to become useful for supplementary weaning and childhood feeding.
7. Prepare materials and talks to help volunteer workers teach mothers how to feed children properly.

XI. To mobilize community resources.

1. Impress on all personnel the need of involving communities. Discuss sources of material and methods of involving the community.
2. Discuss with village leaders and the people the intentions of the rural health service. Emphasize the need for cooperation.
3. Discuss with village leaders possible solutions for meeting local needs.
4. Determine from village leaders and villagers what the *felt needs* are. Anticipate areas of cooperation.
5. Discuss what kinds of input and cooperation the village itself could make: supplying of buildings and volunteer labor, choosing persons to be trained for health center work, building of sanitary facilities, etc.
6. From discussions determine which villages will be most responsive and give initial concentration of effort in these areas.
7. Decide what resources are most available at the beginning of the program.
8. Determine possible roles of community health committee, volunteer workers, teachers, schools, etc.
9. Insist on concrete evidence of cooperation before instituting program.
10. Encourage the village leaders to talk with their people about what the health team will be doing.

XII. To develop feasible sanitation programs.

1. Determine from survey the sanitation needs: what they need and want; what is feasible for the health service and the community to accomplish.
2. Make all projects a cooperative venture.

3. Determine what sanitation education is most needed.
4. Develop appropriate education material and set up teaching program.

XIII. To establish efficient systems of records and reporting.

1. Determine what information is necessary.
2. Design record cards, transfer slips, reporting sheets, tally sheets and final report forms to be used at each level.
3. Train all personnel in use of forms, so someone will always be available to do this assignment.
4. Review record keeping at least every three months to insure that forms are being used correctly. Change should be instituted if records are not found adequate for the need of the service.

XIV. To provide for systems of evaluation.

1. Develop team of experts responsible for initial surveys, orientation of personnel, and evaluation.
2. Analyze records and reports periodically to evaluate effectiveness of programs, areas of weaknesses, indications for extension of projects. Make comparison with other programs to determine changes needed.
3. Develop methods of evaluation of effectiveness of individual performance and need for additional supervision and/or training.
4. Develop system of receiving of suggestions and ideas for improvement of service from members of the staff.
5. Set regular conferences, seminars, staff meetings and discussion sessions at every level.

XV. Provide personnel.

1. Analyze present available personnel as to numbers, training and capabilities.
2. Determine personnel needs, types and length of training, educational requirements, levels of service and numbers of each.
3. Determine for each personnel category what the trainees will be expected to do at the end of training.
4. Decide what training is now available, what new training will be needed in the future, how this can be accomplished, and by whom.
5. Develop curricula, syllabuses and demonstrations based on what the trainee will be expected to be able to do. Do as much as possible by demonstrations in actual settings.
6. Provide courses of retraining for available personnel to increase their capabilities in essential fields not now covered.
7. Set work schedules based on initial training in basic skills. Follow this by in-service training to increase these skills. Up-grade capabilities by returning personnel for further training as new persons become available for work.

XVI. To provide adequate supervision.

1. Determine numbers of supervising personnel needed at each level.
2. Prepare job descriptions for all personnel. Discuss these with each person so both regular personnel and supervising staff know what is to be expected of them.
3. Provide course of instruction in all duties to be performed and methods to be used.
4. Teach supervisors all records systems. Acquaint them with the content of health education to be used by all personnel.
5. Provide systems of records for checking performance of personnel under supervision.
6. Provide for system of feed-back from personnel regarding adequacy of the program and means of improving it.
7. Set supervision schedules.

XVII. To provide continuing in-service training.

1. Determine skills or capabilities to be learned beyond basic training for each type of personnel. Determine where and how these skills should be taught, by whom and on what time schedule.
2. Set up regular in-service training in all areas of the rural health service program.

3. Provide for review of services. Analyze to determine what new skills or capabilities are needed to improve services and to increase the scope and efficiency of the program.
4. Determine curricula, and prepare necessary materials.
5. Train those responsible for teaching in the use of these materials in a clinical situation.

XVIII. To provide orientation and training to doctors and other supervisory personnel.

1. Set up seminars for newly assigned doctors to familiarize them with administrative, supervisory and medical duties in the health center and field program.
2. Plan and carry on sessions to familiarize physicians with the training other workers are receiving and what can be expected of them.
3. Arrange for experts, as available, in health care delivery to set up short term training sessions in methods of surveys, evaluations and general program supervision.
4. Provide for continuing sessions for pooling of ideas and experiences with a view to innovation and revision of programs.

V

PRIORITIES

The problems facing the emerging nations today are the problems faced 50-100 years ago in the West. If this is so, directions of health planners must be geared to these problems and not to the current problems of highly industrialized societies. The basic concern of public health could be stated simply as "the prevention of disease, disability and death." There is little use in defining disease as "that which interferes with the quality of life," as it is defined in medically more advanced countries, when it is impossible to keep up with the emergencies as they arise.

The situation in Afghanistan is not unique. There is a nearly 50% infant and childhood mortality.^{6 8} Recurrent epidemics and periods of drought and occasionally starvation occur. Infectious disease still carries a high mortality, and severe and chronic illnesses lead to disability and death. Beyond these, the population continues to increase at a rate which leaves every step forward in providing health care two steps behind.

It is true that if all energies are spent in meeting emergencies and engaging in crisis medicine, there

will be little change in the situation, but it is also true that these conditions cannot be ignored.

Historically, in developed countries medical care advanced alongside of public health programs aimed at epidemic and communicable disease control. Now in these countries there is generally available a good standard of medical care, and epidemics are not the problem they were. Most serious infectious and communicable diseases are under control. Finances being less of a problem, health planners have turned to trying to find earlier evidence of ill-health and to producing a quality of life in which ill-health is not a constant menace.

The developing country hasn't reached this point yet. Programs still have to be built around the greatest need. In this there is no conflict between curative and preventive medicine. They must work together in balance toward the same objectives. Those conditions which feasibly can be prevented must be prevented and those which cannot must be treated when possible, if further disease, disability and death are to be prevented.

Setting of Limited Achievable Objectives

As the Hazarajat Project developed it became clear that limited achievable objectives should be set and that every effort of the team should be focused toward these objectives. There were several reasons for this.

1. Most important was that finances, facilities and personnel would not be enough to significantly affect all needs, and effort should not be dissipated by being spread too thin.
2. Almost as significant was that people in such a virgin situation would not be confused by a multitude of new ideas and programs being introduced to them at one time. Choosing a small number of objectives would allow for less confusion, better understanding and consequently greater cooperation.
3. The limitation of objectives would allow for better evaluation of the effectiveness of the program.
4. Gradual phasing would allow for a growing familiarity of personnel with the situation and for better planning for the more important steps to be taken as the program developed.
5. It is always easier to add programs than to take them away if personnel, finances or ineffectiveness make reduction necessary.
6. Training of personnel would be more gradual with less emphasis on initial training and more

in-service training as experience developed.

7. In addition, experimentation, innovation and creativeness would be possible after initial experience was gained if the staff were not overburdened with impossible tasks.

The most important step toward the setting of achievable objectives is the establishment of and adherence to priorities. Several factors will naturally limit objectives and influence the setting of priorities.

These are:

1. Financial resources of the organization and the people served.
 2. Facilities available or obtainable.
 3. Amenability of the problem to solution.
 4. Personnel available and levels of expertise, and feasibility of training new personnel in sufficient numbers, at a suitable rate to provide adequate services.
 5. Cost of methods of solution as compared to hazards to the community or the consequences of no solution.
 6. Interest and willingness of the people or communities to be involved.
 7. Effects of population growth on health gains.
- In addition, a number of questions need to be answered before priorities can be established:
1. What are the disease levels, and causes of death

- and disability in the communities concerned?
2. What is the nutritional status of the communities especially among children?
 3. What is the structure of the community, its population, social and family organization, education levels, etc.?
 4. What are the felt needs and interests of the community and how much can or will it contribute in personnel, material and finance?
 5. What is the *impact value* of a program under consideration?

In order to obtain information, find answers to these questions and form a basis for planning, a number of things were done over the period of more than six years of the MAP program in Afghanistan.

1. Statistics

At the very beginning of the mobile clinic program it was felt that the supplying of statistical information from the rural areas to the MPH was essential to lay the foundation for future planning. Initial statistics were kept in the following categories:⁸

- a. Number of patients seen in clinics by age and sex.
- b. Diseases and disease categories found among clinic patients and their prevalence by areas visited.
- c. Child survival statistics.
- d. Numbers and kinds of personnel on the health team. (The reports incidentally showed the amount of time personnel expended in each such program).
- e. Diagnostic procedures available in clinics and immunizations done.

As the project developed into a health care delivery system in the Hazarajat region, the statistics that were gathered increased as the scope of activity enlarged. Medical charts of all patients were analyzed at the end of each year, and the prevalence of significant disease determined. Specific acute and chronic infectious diseases found to be important causes of morbidity and mortality were reported. Information on age and causes of death among children was gathered.^{10 11}

2. Analysis of Medical Records

Initially, at the end of each mobile clinic and later at the end of each year every patient's medical record was analyzed for age and sex distribution of patients and disease prevalence in the clinics. These were reported to the MPH with descriptions of the functioning of the project, personnel used, services offered and preventive activities engaged in.^{8 11}

3. Analysis of Epidemics

In four years in the Hazarajat there were four epidemics. Smallpox epidemics appeared in the winters of 1970 and 1971, measles in 1971, typhus in 1971 and 1972. In 1973 pertussis began reaching epidemic proportions. An attempt was made to reach the area concerned, to analyze causes of death and to note other medical problems present in those same villages.^{6 11}

4. Studies of Child Survival

The MAP team began gathering data on child survi-

val from the time of the first few mobile clinics, and continued through the entire seven years of operation. In 1972 it was decided that adequate information from birth histories had been obtained and a different type of questioning was introduced which would give more accumulative information on the number and causes of death of children.^{6 7 8 11}

5. Surveys

Three special surveys were carried out. The first in 1969 was a survey of 2,000 school children in the Hazarajat area for leprosy, in which 21 cases (or 1%) were identified.¹² The second was a nutrition study among clinic patients in three areas: Panjao, Lal O Sar Jangal and Waras, done in 1970.⁷ The third was a nutrition and disease prevalence study of two representative village aggregates done in 1971.¹³

After these studies had been analyzed, baseline surveys were begun in the area contiguous to each of the two existing centers and as two additional centers have come into operation, similar surveys were set up.¹⁴ The purpose of these baseline surveys was twofold:

- a. To have a known area in which priorities should be established and programs instituted on the basis of these priorities.
- b. To be able to assess after five years the effectiveness of the health center and its extension program.

6. Discussions with those concerned

Many discussions were held with the Ministry of Public Health and its various departments. These were usually related to the agreements under which the program would operate, but went farther than this as there was increasing effort to try to coordinate the MAP program with what the various departments were attempting to accomplish in the rural areas of the country.

Provincial and sub-provincial governors were frequently contacted to gain assistance and to share needs and desires as well as keep them informed of the activities of the program.

At the village level, arbobs, maliks and other village leaders were often gathered together to explain programs to them and hear their expressions of what they felt was needed. Beyond this, whenever programs were to involve individual villages, the head of the village and elders of the people were consulted on what was planned for their village. Sometimes this resulted in rejection of the proposed project and if this was so, alternative plans were made.

In these discussions village leaders were asked what their most pressing health problems were and their most frequent expressions were:

- a. "Our children are dying." They listed most of the severe childhood infectious diseases: measles, smallpox, pertussis, diphtheria.
- b. "Can you do anything with tuberculosis; with leprosy?"
- c. "We need doctors to go to when we are sick."

(It is acknowledged that these are the felt needs in a specific area. These might change with locale or following a natural catastrophe).

Definition of the Problem and Making of Priority Decisions

With these felt needs in mind, analysis was done of the data gathered in the various MAP activities and certain priority decisions were made.

There was concern as to whether medical care was reaching all possible groups, particularly women and young children.^{6 9 11}

I. Age and Sex Distribution of Patients

	Male	%	Female	%	Total	%
1969	5,437	71.0	2,225	29.0	7,662	100
1970	9,734	74.4	3,344	25.6	13,078	100
1971	5,955	70.0	2,551	30.0	8,506	100
(9 mos.)						
1971-1972	4,869	70.9	1,991	29.1	6,866	100

The most obvious thing is that the majority of patients come from the more mobile male population. However, the percentage of females attending clinics is higher than any other comparable out-patient facility in the country. A comparison of these clinics with others shows one major difference. The patient is

registered by women, the nurse in the examining room is a woman, the doctor examining females is a woman, the nurse giving treatments or injections is a woman and the one dispensing medicines is also usually a woman.

But there is still a problem with the female patient

Table No. 2 AGE AND SEX DISTRIBUTION OF OUT-PATIENTS
Yakaolang and Panjao - 9 months of 1971⁶

Age Group	Sex	Totals by Sex	% Total by Sex	Total Both Sexes	% of Total Both Sexes
0 - 11 mos.	Males	161	66.5	242	2.9
	Females	81	33.5		
13 - 23 mos.	Males	199	63.0	316	3.7
	Females	117	37.0		
2 - 4 yrs.	Males	339	55.6	610	7.2
	Females	271	44.4		
5 - 9 yrs.	Males	404	62.0	652	7.7
	Females	248	38.0		
10 - 14 yrs.	Males	385	67.9	567	6.7
	Females	182	32.1		
15 - 19 yrs.	Males	553	76.4	724	8.5
	Females	171	23.6		
20 - 29 yrs.	Males	1,307	73.9	1,769	20.8
	Females	462	26.1		
30 - 44 yrs.	Males	1,488	69.9	2,130	25.0
	Females	642	30.1		
45 - 59 yrs.	Males	687	72.6	947	11.1
	Females	260	27.4		
60+ yrs.	Males	432	78.7	549	6.4
	Females	117	21.3		
Total Males		5,955	70.0		
Total Females		2,551	30.0		
		8,506		8,506	100.0

Table No. 3

**Analysis of the Five most Common Diseases
As Found in Clinics Held in Six Areas of Afghanistan
Percent of Total Diagnoses in Clinics Held in each Area.**

	Hazarajat			North Badakhshan			Eastern Provinces			South Central			Western Obey			Southwestern Nim Roz		
Total Diagnoses	23,408			1,358			7,432			2,896			1,385			1,401		
Diagnoses	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing
Intestinal Parasites	4,708	20.1	1	305	22.5	1	2,345	31.6	1	1,061	36.6	1	254	18.3	1	408	29.1	1
Acute and Chronic Dysenteries	1,641	7.0	2	107	7.9	2	816	11.0	2	250	8.6	2	85	6.1	5	97	6.9	3
Chronic Pulmonary Disease	1,505	6.4	3	47	3.5	8	389	5.2	5	110	3.8	5	106	7.7	3	60	4.3	4
Tuberculosis	1,221	5.2	4	51	3.8	7	177	2.4	8	109	3.8	6	86	6.2	4	51	3.6	5
Trachoma and Conjunctivitis	1,011	4.3	5	76	5.6	4	481	6.2	3	236	8.2	3	253	18.3	2	134	8.4	2
Non-Toxic Goiter	—	—	—	101	7.4	3	+452	6.1	4	0	0	0	0	0	0	0	0	0
Pyoderma & Superficial Infections	685	2.5	9	63	4.6	5	250	3.4	7	113	3.9	4	27	2.0	7	31	2.2	7

Rating above is frequency rating in the list of most common diseases.

All diseases are listed which appear in the 5 most common diseases in each area. Note that such things as URI are excluded from consideration.

*Non toxic-goiter was noted in one place in the Hazarajat at Panjao where there were 30 patients out of 1022 total diagnosis or 2.94%

+ A high percentage was noted only two places—...Kapisand Chowki, Kunar where 437 patients were found out of 2867 patients seen, or 15.2%.*

Table No. 4

**Analysis of the Second Five Most Common Diseases
As Found in Clinics Held in Six Areas of Afghanistan
(Expressed as percents of total diagnoses in clinics held in each area and rated as to frequency)**

	Hazarajat			North Badakhshan			Eastern Provinces			South Central			Western Obey			Southwestern Nim Roz		
Total Diagnoses	23,408			1,358			7,432			2,896			1,385			1,401		
Diagnoses	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing	No. Pat-ients	%	Rat-ing
Acute infectious Diseases	896	3.7	6	9	0.7	13	17	0.2	14	6	0.2	13	4	0.3	13	2	0.1	14
Leprosy	753	3.2	7	2	0.2	16	2	0.03	17	1	0.03	—	1	0.07	—	0	0	0
Acute and Chr. Otitis Media	699	3.0	8	24	1.8	10	83	1.1	11	47	1.6	8	48	3.5	6	19	1.4	10
Acute Pneumonia etc.	496	2.1	10	8	0.6	14	15	0.2	15	7	0.2	12	6	0.4	12	25	1.8	8
Acute & Chronic Malaria	74	6.3	12	56	4.1	6	149	2.0	9	90	3.1	7	25	1.8	8	44	3.1	6
Peptic Ulcer Syndrome	13	0.06	—	27	2.0	9	81	1.1	11	43	1.5	10	25	1.8	9	10	0.7	12
Hookworm Disease	0	0	0	0	0	0	317	4.3	6	0	0	0	6	0.4	12	0	0	0
Cataracts	—	—	—	18	1.3	12	124	1.7	10	46	1.9	9	27	2.0	7	24	1.7	9
Syphills	0	0	0	22	1.6	11	11	0.2	16	0	0	0	14	1.0	14	12	0.9	11
Hypertension +	14	0.06	+—	9	0.7	13	56	0.8	12	7	0.2	12	6	0.4	12	0	0	0

* Since there were small numbers in comparison to other conditions these were not specifically reported and figures are not available.

+ Hypertension is given as a matter of interest since it is No. 11 in at least one list and it is expected to be much higher in urban areas. No rating is given for two areas as so many other conditions would rate in between.

coming to a clinic. She usually can't come unless her husband does, and if he finishes before she does, he is anxious to leave and she may not be able to wait her turn. In addition, she often leaves unattended children at home or uncompleted tasks such as preparing the daily bread and is anxious to get back to her home duties.

Priority Impressions: Women are not receiving the medical and health care they need.

Priority Decisions:

1. As many of the persons as possible serving women should be women.
2. Facilities for medical and health care must be as close to the female population as possible to facilitate their reaching care.

It is estimated that 15% of the population are under five years of age and 42% are under fifteen.⁶ In these clinic populations 13.7% are under five and 28.1% under fifteen. (Table No. 2) The ratio of under fives to the rest of the clinic is fairly good but the five-to-fifteen-year group is not well represented. The five-to-fifteen-year olds would be expected to be among the healthiest age group in the community but the under-fives are the most susceptible groups as evidenced by crude mortality figures and other data gathered. (See Tables 12 and 13).

Figures from Yakaolang Hospital for 1972 illustrate another problem. The estimated population of Yakaolang administrative area is 60,000. 6,866 patients were seen in the Yakaolang Hospital clinics in 1972, of which 2,827 were from the Yakaolang administrative area, or 41.2% of the clinic population. 41.2% of the children under five years of age would be 253 children. But this area should have 10,800 children under five. Even if all the children seen in the clinic were from the immediate area this would represent only 5.7% of the children in the Yakaolang sub-province.

Priority Impression:

Under-fives will be brought to clinics if they are available but total population figures indicate that these facilities are reaching a very small percentage of the total of those needing care.

Priority Decision:

Medical and health care must be made available as close to children as possible.

II. Most Common Diseases

Each year all patients' charts have been analyzed and the five most common diseases were determined. As the concern was with establishment of priorities, such things as upper respiratory disease, mild arthralgias, pinworms, etc., were excluded and in some cases groups of diseases were considered as if they were one disease. In addition, the next five most common diseases were also considered. As would be expected, percentages were much lower than the first group.

These would not necessarily represent the most prevalent diseases in the community but rather the most common of the diseases which the people of the community believe should be brought to a medical clinic. So in addition to the analysis of these records a study of existing disease was added to the Village Study of 1971.¹³ Lists of the most common diseases found in the MAP medical clinics throughout Afghanistan are shown in Tables No. 3 and No. 4 and the same kind of information from the Village Study in Table No. 5. Admittedly, the way these studies were done weighted them in certain directions. For instance, PPD's were done but serum agglutinations for febrile disease were not. But with this kind of limitation it can still be said that the most common diseases seen in the clinics parallel fairly well the diseases present in the communities.

Table No. 3 shows the five most common diseases seen in different areas which were visited. Pyoderma and other superficial infections was fourth in prevalence in clinics in the South Central part of the country even though not in the five most common diseases in the other four areas. Table No. 4 shows the same thing for the next five most common conditions except for those mentioned in Table No. 3.

There is a remarkable similarity in the conditions in Table No. 3. The major important difference is the high occurrence of non-toxic goiter in the Northeastern and Eastern areas. In the eastern provinces the entire number came from two places, Kapisa and Chowki, Kunar where this condition represents 15.2% of the diagnoses made.

In Table No. 4 there is much more evidence of variety. Leprosy, which represented 3.2% of all diag-

Table No. 5 Prevalence of the five most common diseases found in the village population—Total Pop. 404¹³

Disease	No.	Percent Total Diagnoses	Percent Total Village Population
1. Intestinal parasites	324	59.2	80.1
2. Trachoma and other conjunctivitis	49	9.0	12.1
3. Upper respiratory diseases	31	5.7	7.7
4. Acute and chronic dysentery	28	5.1	6.9
5. Chronic pulmonary disease	25	4.6	6.2

noses in the Hazarajat, was negligible or absent in all other areas visited. Hookworm disease was 6th in prevalence in the eastern and westernmost provinces. This would have ranked even higher if more stools had been examined. Cataracts, which are very low in prevalence in the Hazarajat, assumed major importance in almost all other areas.

Causes of death among hospital patients also paralleled quite well the major problems found in clinics and surveys. (Table No. 6)

In the Hazarajat area the major health problems are:

- Intestinal parasites
- Acute and chronic dysenteries
- Chronic pulmonary disease
- Tuberculosis
- Trachoma and purulent conjunctivitis
- Acute infectious diseases
- Leprosy

Intestinal parasites are number one in all areas of the country. However, in the Hazarajat there is seldom evidence of massive infestation or its consequences. Outside of the effect on protein absorption then, this disease has little importance even if first in prevalence in clinics.

Acute and chronic dysenteries are second and they are second on the list of causes of childhood death as well as a significant cause of mortality in adults. (Table 14).

Number three is chronic pulmonary disease which

would have a high priority if prevention and treatment were not so difficult. With better diagnosis some of this will be found to be pulmonary tuberculosis. But the remainder is due primarily, in the Hazarajat, to crowded living conditions, severe winters, and smoke-filled rooms and tents. Solution for the most part will have to await a change in economic status of the people.

Tuberculosis, number four, trachoma, number five, and leprosy, number seven, gain importance not only from their frequency but also from their devastating end-results. In addition they can be treated and, in the case of tuberculosis, BCG can be given to help prevent it.

The acute infectious diseases of significance in this area are smallpox, measles, typhus and pertussis. Immunization for smallpox needs to be extended. The high cost of measles vaccine may preclude its use, but death rates can be lowered by education of parents in care of the sick child and by treatment of dehydration and other complications. Immunization of children with DPT needs to be done as soon as financially feasible. Immunization for typhus is expensive and the immunity of short duration requiring mass programs yearly, but typhus can be treated successfully and control established by spraying homes.

Priority Impressions:

Of the most common causes of disease, disability

**Table No. 6 CAUSES OF DEATH AMONG HOSPITAL PATIENTS
40 deaths - 1971-1972**

	No.	Subtotals	% of Total
1. Acute and chronic dysenteries	5	5	12.5
2. Infectious diseases:		12	30.0
Typhus	3		
Typhoid-like fevers	2		
Meningitis	2		
Hepatitis	1		
Diphtheria (presumptive)	4		
3. Tuberculosis	6	6	15.0
4. Acute lower respiratory diseases	6	6	15.0
5. Accidents and injuries:		5	12.5
Gunshot wounds	2		
Head injury	1		
Burns	1		
Undiagnosed	1		
6. Other		6	15.0
Congestive failure	3		
Septic shock	1		
Intracranial tumor	1		
Birth trauma—due to contracted pelvis	1		
	40		100.0

It is possible, then, even without sophisticated diagnostic methods to determine what are the major disease problems in any given area.

and death, most cannot be prevented at this stage of development in Afghanistan. Thus it is imperative to provide at least minimal care for these diseases.

Priority Decisions:

- 1. That care for acute and chronic dysenteries must be provided as close to the patient as possible.
- 2. That case-finding, treatment and follow-up must be provided for tuberculosis, trachoma and leprosy.
- 3. That care for acute infectious diseases and their complications must be provided as close to the patient as possible.
- 4. That immunization for smallpox should be extended and DPT introduced as soon as financially feasible.
- 5. That diagnostic laboratory facilities for priority conditions must be made available.
- 6. That there must be adequate facilities for treatment of pneumonias and all other severe acute lower respiratory disease as close to the patient as possible.

But there is something also to be gained from looking at the other end of the scale; that is, diseases which are notable for their low incidence. Although there may not be sophisticated diagnostic material readily available, it is possible to use a principle stated by Dr. Denis Burkitt, that, if a disease is present in significant numbers in a population, its complications will be seen.¹⁵ Conversely, when the complications of a disease are rarely if ever seen it is not likely that that disease is present in significant amounts to require particular emphasis in program planning.

The table on the opposite page is a list of conditions significant for their low incidence in the Hazarajat.

On the basis of these findings it is possible to make some decisions regarding the laboratory facilities.

Priority Decisions:

- 1. Those procedures that utilize most of a laboratory technician's time in the West, and require the most sophisticated equipment are not indicated.
- 2. Skilled microscopists are more needed.
- 3. Training of medical personnel should be geared to handling diseases of local area.
- 4. Poliomyelitis vaccination should be given relatively low priority, in this country.

III. Malnutrition

Nutrition studies were done first on clinic populations in 1970⁷ and later in a village study in 1971¹³ and in the baseline studies in villages around the hospital at Yakaolang and health center at Panjao and Lal O Sar Jangal. There were few signs of specific deficiencies found in any of the studies^{6 7} and clinic records of something over 35,000 patients showed only a very few cases of such things as scurvy, keratomalacia or rickets. Kwashiorkor was also only occasionally seen. Marasmus, though seen in clinics, (21 cases or 18% of 120 children under five years of age in clinics in the 1970 study)⁷ was seldom seen in studies of normal populations.^{13 14}

Weight, length and age relationships of two to five-year-olds measured in the baseline and village studies (Tables 8 and 9) show a moderately low length for age (86-87% of International Standard)¹⁷ and a lower (74-78%) weight for age. There seem to be slightly lower levels for three-year-olds in Lal O Sar Jangal after two years of drought. But these figures are

Table No. 7 PREVALENCE OF DISEASES SIGNIFICANT FOR THEIR LOW INCIDENCE⁶

Disease	No. Patients	% of Total Patients
Total patients	8,506	100.0
Malignancies (all kinds)	25	0.3
Hypertension	14	0.16 (8)
Peptic ulcer syndrome	13	0.15
Prostatic obstruction	12	0.14
Gall bladder disease	12	0.14
Cerebro-vascular accident	11	0.13
Arterio-sclerotic heart disease	8	0.09
Poliomyelitis residue	4	0.05
Diabetes	2	0.02
Appendicitis	2	0.02
Gastro-intestinal hemorrhage	0	0.00
Coronary artery thrombosis	0	0.00

Table No. 8

WEIGHT-HEIGHT-AGE RELATIONSHIP 2-5 year olds

Baseline Studies from Yakaolang and Panjao and
from Village Study of Qalai Jafar and Shatu (14) (13)

Age	No. in Group	Mean(cm)	Length for Age Standard	%Std.	Mean(kg)	Weight for Age Standard	% Std.	Mean	Weight for Length Standard	%Std.
2 yrs.	99	78.4	91.2	85.9	10.4	13.4	77.9	10.4	10.6	98.5
3 yrs.	101	85.5	99.5	85.9	12.1	15.4	78.3	12.1	12.0	100.0
4 yrs.	93	92.5	106.1	87.2	13.3	18.1	73.6	13.3	13.6	97.8

Table No. 9

WEIGHT-HEIGHT-AGE RELATIONSHIPS 2-5 year olds

*Baseline Studies from Lal O Sar Jangal (14)

Age	No. in Group	Mean(cm)	Length for Age Standard	% Std.	Mean(kg)	Weight for Age Standard	% Std.	Mean	Weight for Length Standard	% Std.
2 yrs.	36	77.9	91.2	85.4	10.1	13.4	77.2	10.1	10.6	95.8
3 yrs.	33	81.0	99.5	81.4	11.1	15.4	72.2	11.1	11.2	99.1
4 yrs.	26	91.2	106.1	86.0	13.7	18.1	75.9	13.7	13.4	102.2

*This study was done one year after the end of a period of drought which lasted two years and brought severe reduction in available foodstuffs.

open to question because of the difficulty in ascertaining ages correctly. For one thing, it is common to find that a child is considered to be three years old because he has passed his second birthday. The weight for length figure is much more significant and here there seems to be little evidence of malnutrition.

When the weight for length as a percent of standard is considered in relation to distribution in the two-to-five-year old population (Table No. 10) it is noted that the 50 percentile of two's, three's, and four's are 93.6%, 97.2% and 98.6% of standard.¹⁷ Only 2% of the children were below 70% of standard in the two-and-three-year-olds and none in the four-year-olds.

Analysis of heights and weights of adults showed that they were shorter and lighter than the Harvard standard but they were in general within minimal acceptable limits. The triceps skin folds were 51% of standard for females and 43% of standard for males but arm circumference was 81% of standard for both sexes. Thus they are a lean people but have little evidence of muscle wasting.

Caloric intake was low by dietary studies at all ages but apparently a fairly good adjustment is made. A conclusion come to, but by no means tested and proven, is that these people have adequate nutrition unless challenged by severe stress or chronic illness or

periods of marked decrease in available foods such as in the recent drought. Yet these same people are spared most of the diseases of the affluent society.

Priority Decisions:

1. That there is no reason to introduce imported supplementary feedings on a general basis.
2. That the best approach is the encouragement of increased use of already locally available foods such as eggs to provide infants over six months of age with increasingly adequate calorie intake from solid foods.
3. That mothers should be taught to prepare food and feed young children, through the weaning period, diets that will provide a more adequate protein and calorie intake.
4. That issuing of foodstuffs should be handled on a selective basis for the severely malnourished child or the child with some other disease contributing to his malnutrition.
5. That mothers be encouraged to put off another pregnancy until a child has had two full years of breast feeding and been completely weaned, and then a minimum of one year more in which the mother can concentrate on teaching the weanling to eat properly before another pregnancy is begun.

Table No. 10

Percent of Standard Weight for Length of Children from Panjao,
Yakaolang, Shatu % Qaria Jafar^{13 14}

Age	No. in Group	Percentiles of Hazara Children in Group			
		2	9	50	90
2 yrs.	121	67.9%	81.6%	93.6%	115.1%
3 yrs.	122	70.2%	87.5%	97.2%	110.0%
4 yrs.	105	78.3%	87.9%	98.6%	108.4%

IV. Feeding Program

During 1973 a feeding program as part of the 599 UNICEF Project was carried out in three centers in the Hazarajat. A number of problems began to be evident as the program developed:

1. Where the program was used to its fullest extent, an inordinate amount of personnel time was spent on passing out foodstuffs without adequate attention to need. Where actual need was considered, it was possible to balance the program against other equal priority activities.
2. The standards used for undernutrition were too high for this population. In general, although adults were short and lean, their nutrition was adequate. Children given total nutritional assessment were not as undernourished as their weight for age would indicate.
3. Food given indiscriminately to pregnant women, without consideration for nutritional need, encouraged women to become pregnant, thus nullifying attempts at family spacing.
4. Milk given to children under one year of age had a negative effect on attempts to train mothers in supplementary feeding from locally available foods.
5. Breast feeding may not be well established in the early months and even after it is, there is a tendency for both infants and mothers to be less

enthusiastic about breast feeding after other milk feeding has been introduced. This is especially true for the breast that needs encouragement to keep producing. (Bottle feeding should never be used among village mothers).⁴

Priority Decisions:

1. That more realistic standards be set for undernutrition.
2. That supplementary foodstuffs be issued to infants and children only if markedly malnourished.
3. That preventive nutrition programs be based on development of local foods for infant supplementary and weaning diets.

V. Child Survival

Table No. 11 shows the results of birth histories of mothers done in various parts of the country. Data from other studies done in the country shows mortality rates of 210/1000 and 200/1000 pregnancies among families from the maternal and child health clinics at Kabul and Baghlan respectively.⁷ These two groups are of a higher economic status than rural villages of Afghanistan. In the 1970 study⁷ in the Hazarajat a mortality rate of 59.4% or 594/1000 live births for those mothers included in the study was found. Early data from the demographic survey being done by the SUNY Team indicate that countrywide survival rates

Table No. 11

CHILD SURVIVAL RATE¹⁶

Place	No. of Women Questioned	Total Live Births	Total Now Living	% of Survival
Mohmand-Dara (NANGARHAR)	54	278	143	51.4
Kaja-Khogiani (NANGARHAR)	42	216	122	56.4
Obey (HERAT)	183	1,071	453	42.3
Rukha-Panjsher (KAPISA)	29	175	73	41.6
Dehrahood (UROZGAN)	76	475	264	55.5
Urozgan (UROZGAN)	105	556	293	52.7
Chowki (KUNAR)	147	684	416	60.6
Sharan (KATAWAZ)	136	641	352	54.8
Anardara (FARAH)	410	2,393	1,071	44.75
Musa Qala (HELMAND)	150	817	487	59.6
Malistan (GHAZNI)	86	373	203	54.42
Jaghari (GHAZNI)	237	901	577	63.1
Lal O Sar Jangal (GHOR)	151	788	372	47.0
Totals	1,806	9,368	4,826	51.5

Table No. 12

**NUMBER OF DEATHS BY AGE GROUP AMONG CHILDREN
OF CLINIC PATIENTS INTERVIEWED DURING 1970 and 1971^{6 11}**

Age Group	No. of Deaths	Percent	Cumulative Percent
0 - 1 mo.	228	11.9	11.9
1 - 3 mos.	270	14.1	26.0
4 - 6 mos.	185	9.7	35.7
7 - 11 mos.	145	7.6	43.3
12 - 24 mos.	399	20.9	64.2
2 - 4 yrs.	467	24.4	88.6
5 - 15 yrs.	217	11.4	100.0
Total	1,911	100	100

Of these deaths 43.3% occur before the end of the first year of life, 64.2% before age 3 and 88.6% before age 5.

may be somewhat higher.

Information in Table 13 is similar to that obtained from histories (Table 12). 32% of deaths among children occurred in the first year, 57.4% before the end of the second year and 73.4% before children were five years of age.

Causes of Death

Not much is known yet about the causes of death in infancy as the families so often relate this to supernatural causes and seek aid from religious practitioners. Much study needs to be done in this area.

Causes of death were recorded for one year in the upper Yakaolang Valley. In addition, histories of

causes of death were obtained for a three-year period prior to 1972 in Tagobark Valley, Panjao. These are shown in Tables Nos. 6, 14 and 15. The two major causes of death in both adults and children under five were pneumonias and other severe acute lower respiratory diseases, and diarrheas. In an analysis of deaths among hospital patients infectious disease was first and acute and chronic dysenteries second (Table No. 6).

Priority Decisions:

1. That the major causes of death should be given priority for management, to reduce the infant and childhood morbidity and mortality.
 - (i) Acute and chronic dysenteries

Table No. 13

**DEATHS BY AGE GROUP DURING 1972-73
IN AREAS OF BASELINE STUDIES IN PANJAO AND YAKAOLANG¹⁴**
 Population: Yakaolang - 1,550 Tagobark, Panjao - 542
 Total Population - 2,092

Age Group	No. of Deaths	Percent	Cumulative Percent
0 - 11 mos.	24	32	32
12 - 23 mos.	19	25.4	57.4
2 - 4 yrs.	12	16.0	73.4
5 - 14 yrs.	4	5.3	78.7
15 - 19 yrs.	0	—	78.7
20 - 39 yrs.	9	12.0	90.7
40 - 59 yrs.	0	—	90.7
60+ years	7	9.3	100
	75	100.0	100.0

Table No. 14

CAUSES OF DEATH IN ORDER OF FREQUENCY BY AGE GROUP
Age Group - under 5 - (50 children)¹⁴

Causes of Death	0-11 mos.	12-23 mos.	2-4 yrs.	Total	% Deaths
*Pneumonias	10	6	3	19	38
Diarrhea	3	5	6	14	28
Neonatal:	6	—	—	6	12
Unknown - 4					
Prematurity - 1					
Malpres. - 1					
Fever of undetermined origin	1	3	2	6	12
Measles	0	2	0	2	4
Infection (Localized)	0	1	0	1	2
T.B. Meningitis	0	1	0	1	2
Leukemia	0	0	1	1	2
Total				50	100

*3 complicated by marasmus under 1 year

- (ii) Pneumonias and other acute lower respiratory diseases.
 - (iii) Infectious diseases.
2. That prevention of death from the first two requires, first of all, adequate early diagnosis and treatment as close to the patient as possible.
 3. A minimum birth interval of four years should be encouraged so mothers can gain back enough weight and strength after completing breast feeding for two years, to insure adequate milk supplies to a new infant.
 4. That a minimum of one year be encouraged between completing two years of breast feeding and the beginning of another pregnancy to insure the mother's attention to the child in the weanling age.
 5. That the establishing of a safe water supply should be a first priority in the sanitation program.
 6. Immunization for those diseases for which

Table No. 15

CAUSES OF DEATH IN ORDER OF FREQUENCY BY AGE GROUP.
Age Group - 5 years and older ¹⁴

Cause of Death	5-14	15-19	20-39	40-59	60+	Total	% Deaths
Diarrhea	1				2	3	17.7
Pneumonias	1		1		1	3	17.7
Obstetric (Hemorrhage 1)			3			3	17.7
Chronic Lower Resp. Disease			1	1		2	11.8
Cardiac Failure				1	1	2	11.8
Tuberculosis			1			1	5.9
Malignancy			1			1	5.9
Arterial Thrombosis					1	1	5.9
Accidents					1	1	5.9
Total						17	100

long-term immunity can be established at reasonable cost should be the method of attacking the infectious diseases: smallpox, diphtheria, tetanus and pertussis.

7. That other diseases that carry a high morbidity and/or mortality must be managed by early diagnosis and treatment of these diseases or their complications as close to the patient as possible.

VI. Population Situation

Birth rates among women in Afghanistan are high. In the Hazarajat it was found that women aged 46 or over, who had finished their reproductive period, reported an average of 8.5 live births. The number of surviving children per woman in this group was 4.1. This results in a two-fold increase in the population for each generation.

At the present time there is a steady exodus of young men from the Hazarajat to the cities because of lack of land for them to farm. There is also a steady encroachment of cultivated land on pasture land. This reduces the amount of land available for grazing animals, which provide an essential part of the meager diet, because of the increased need for planting of wheat. In addition this change has produced tension between the settled peoples and the nomads who have grazing rights to most of the high pasture lands. The rest of the land is rocks and steep mountainsides which can't be used by either group.

Thus, though the high mountain countries don't appear to have very large populations, both the individual families and the land itself have their population problems.

There are several factors which influence the direction of solutions to population problems:

1. The villagers don't understand the problems of population. They can't believe there are too many of them, as they seem widely scattered, and don't have enough sophistication to be able to see an overall view.
2. The political situation is tense and the Hazara feel they are a minority group. The introduction of population control is sometimes interpreted as an attempt to control their numbers for political reasons.
3. The religious belief is that a sign of the blessing of God is a large family.
4. Most of them are not concerned about education for their children as they feel education makes them "useless" at home. The usual situation is for one boy in the family to go to school and the rest work on the land.
5. They are not yet fully aware of their need for concern about food as they believe that God will give what He will give and they will all share it whether little or much.
6. They *are* concerned about their own health and that of their wives and children.
7. Women are concerned that they age quickly and die early.

8. Women recognize that part of their physical problems, and illness and death of their infants, are due to too many pregnancies, too frequently.

Priority Decisions:

1. That initial family planning programs need to begin now.
2. That emphasis be placed on the health of the mother and the saving of infants' lives rather than on population control or a better material life for the family.
3. That education be aimed at spacing of children at least four years apart.
4. That early education be begun on the need to be able to feed children properly.

Summary on Priorities

Information was gathered and analyzed and priority decisions made on the basis of this information. These decisions led to the establishment of future directions for the program.

1. Concentration on medical care for priority conditions in small, simple village clinics close to the people and in village programs designed to teach people to do as much as possible for themselves.
2. Emphasis on early treatment of acute conditions such as diarrheas, pneumonia, trachoma, pyodermas and acute infectious diseases by personnel trained at a very simple level.
3. Case-finding, treatment and follow-up of tuberculosis, trachoma and leprosy by personnel trained to work at the village level.
4. Health education aimed at teaching villagers and village advisors simple necessary facts about tuberculosis, leprosy, care of the sick (especially the sick child), spacing of children in the family, diets for the weanling and young child and recognition of the need for medical care.
5. Development of small, simple facilities for the early care of pneumonias, diarrheas, acute infectious diseases and their complications and trachomas, close to the people.
6. Development of field programs for case-finding, treatment and follow-up of tuberculosis and leprosy as well as family guidance.
7. Development of small back-up units for hospitalization and necessary obstetrical and surgical care.
8. Mass programs for smallpox, BCG, diphtheria-pertussis-tetanus and tetanus toxoid immunization.
9. Training of intermediate level personnel in diagnosis and treatment of specific priority conditions, in health education for specific priority conditions, in selected immunization and in use of family spacing materials.
10. Training of general population to recognize early the important diseases, to know how to take care of these and when to seek additional medical help.

11. Establishment of simple laboratory facilities capable of doing acid-fast smears, urines, blood hemoglobins, white blood cell and differential counts, and stool examinations for ova and parasites, and perhaps a few other selected tests.
12. Limited sanitation programs concentrating mainly on safe water and in hookworm areas, on adequate latrine use.
13. Provision of family planning materials, especially the pill, to within easy access for any family desiring them and development of programs of active encouragement of their use, and follow-up of acceptors.

VI

THE ORGANIZATION OF FAMILY HEALTH

All the people should have access to some kind of medical care which will meet at least a part of their most pressing needs. The place to start then is with a program designed to reach the maximum number of people with minimum medical and health care.

The major initial effort should be given at the lowest level with the opening of simple units across the country. As these units become well-functioning their levels of service can be up-graded and their staff training increased. In the meantime as new personnel be-

comes available more simple units can be opened.

Organization then should occur from the bottom up. The targets of the program are only two: the family and the community. This represents a change from traditional concentration of curative medicine on the individual and from the public health concept of concentration on the mother and child. Mother and child, though important as a priority, are considered within the context of the family.

Primary Objectives:

1. To teach families and communities to cope with many of their own health needs and to help them depend to a large extent on their own resources.
2. To keep in touch through members of the community with what is happening and to know who is in need of care and attention.
3. To supply medical needs as they arise either through the family health worker or through other members of the community.
4. To train members of the community to care for their own simpler problems and to recognize the more serious ones and to know when and how to seek aid; i.e., village volunteer health advisors, village midwives, and eventually druggists and traditional healers.

Plans which are based on members of the health team being responsible to visit every home on a regular schedule are unrealistic. The members of the team must move among the people of their community seeing one here and one there, always teaching the people to know when to seek aid, and to learn what they can handle by themselves.

The interface between the family and community and the health services personnel, however, must be members of the community itself—the volunteer village health advisors particularly.

Thus the planning of simple health center programs is at the heart of the entire system (p. 52).

The most important place to start then is in simultaneous development of field training areas in order to supply the personnel needed and in training of the lowest echelon, the family health workers and their immediate supervisors.

I. Field Training Areas

These should be chosen from the seven provinces which already have the nucleus of a good provincial

hospital and health center system. The large city areas should be avoided and more rural areas chosen. Three or four of these should be chosen and developed serially.

A complete model rural health program should be established (p. 57) differing only from the others in the need for classroom space and residences for students, because of its training function. The provincial hospitals for these areas should be larger than in other areas and better staffed in order to provide the clinical material for the teaching necessary.

A. Field Training Hospital. Suggested 50 beds.

1. Outpatient Department. Active and large enough to allow for experience in triage and for training in diagnosis and treatment. There should also be:

- Emergency service with minor surgery
- Rehydration center for day-care rehydration
- Family health clinic
- Chronic disease clinic

2. Inpatient Services:

General hospital wards for:

- Internal medicine
- Pediatrics
- Surgery
- Obstetric ward—15 beds

Receiving nursery

Labor and delivery rooms: adequate for teaching

Surgery

3. Field Services

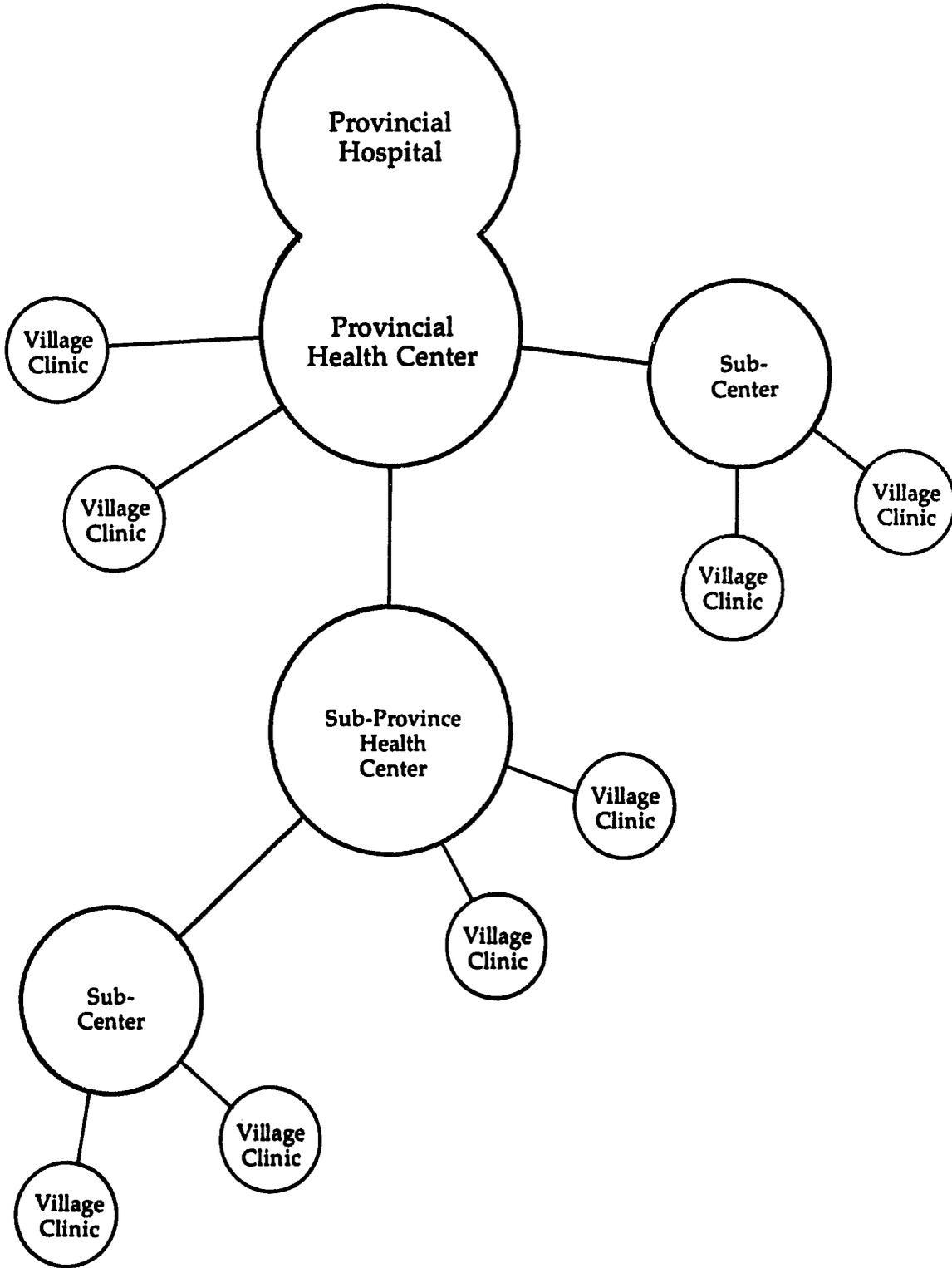
- Home delivery service
- Village clinic program

4. Staff:

Administrator

1

Diagrammatic Representation of Health Center System



Doctors:	
General medical	2
Internist	1
Pediatrician	1
Obstetrician/ gynecologist, female	1
Surgeon	1
Nurses:	
Surgical nurse	1
OPD supervisor	1
Nurse-midwife	1
Ward supervisors	2
Compounders	2
Laboratory technicians:	4
2 Training supervisors for laboratory assistants	
2 Hospital technicians	
In addition to these there should be: nurses-aids, dressers, clerks, etc.	

**B. Survey, Training and Supervisory Medical Team—
The Team of Experts**

There should be a central team of experts to work out the systems; evaluate and revise directions, objectives, methods and training and to be responsible for total supervision of the program. They should learn by doing, in establishing of initial programs and the working out of problems as they arise on the field.

II. The Provincial Center

Eventually the provincial center should become the hub from which all services in the province radiate. Occasionally geographical barriers will make it more logical to use other than a province as a functional unit.

Initially the services offered may be only those of the simplest health center (p. 52) with its attendant village programs and village clinics, but when fully developed there should be two distinct programs at this level: the provincial hospital under the direction of the medical superintendent or medical director and the provincial health center under the direction of the provincial medical officer (the provincial director of health services). Each of these should have a separate staff.

A. Provincial Hospital. Twenty to forty beds.

Services:

1. Outpatient department and emergency service.
2. Inpatient medical and pediatric service.
3. Emergency obstetric services.
4. Emergency surgical services.
5. Laboratory.

Staff:

Doctors	2 (one should be a surgeon)
Nurses	2
Compounder	1
Nurse aids	6 (locally trained)
Dressers	2 (locally trained)

Laboratory technician	1
-----------------------	---

Provincial Health Center

1. Functions:

a. Medical care.

If there is an adequately functioning provincial hospital outpatient department this can be omitted or at least limited.

b. Chronic disease control.

c. Environmental sanitation.

d. Nutrition.

e. Health education.

f. Vital statistics.

The principle of medical care should be to treat those acute and chronic conditions which are responsive to therapy and which if left untreated would lead to more serious consequences. Treating of self-limited diseases or those needing only symptomatic medicine should be avoided if at all possible. Chronic diseases, other than the communicable ones, and diseases of old age should be minimally cared for if at all. Patients should be taught to care for themselves and not become dependent on drugs of minimal or only psychological effect. Patients should be advised of conditions which cannot be treated. The practice of giving something to everyone who comes, just because they have come, should be avoided. Education and kind honesty take more time but pay dividends in the long run.

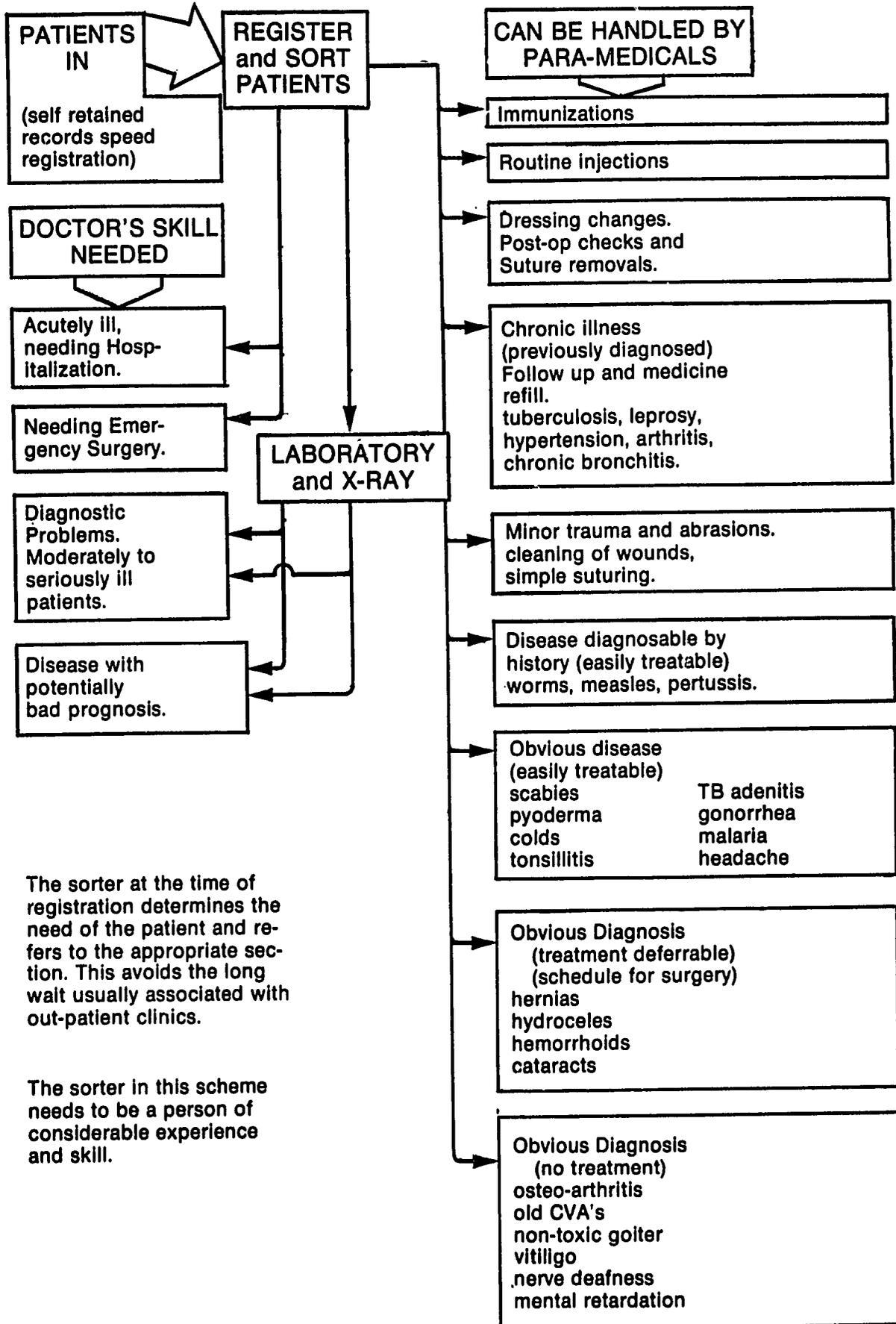
2. Outpatient Services—Triage System

The line of outpatients should be checked each morning by the doctor or a paramedical person such as a physician's assistant. Conditions easily seen or diagnosed with a minimum history such as ascariasis should be sent to the dresser or dispenser for predetermined routine treatment. Otitis media, pyoderma, favus and scabies are a few of the conditions that can be handled in this manner. Patients returning for a second visit, for injections or for laboratory results can be routed in the proper direction. Only those conditions requiring a doctor's examination would thus reach his consultation room. A suggested system for either primary health center or hospital outpatient department based on the use of the physician's assistant is given in the patient flow chart. Patients not needing medical care should be told so congenially and sent away.

3. Family Clinics

Patients should be referred as families to this clinic from general clinics, from hospital out-patient departments, from other health centers and subcenters, and village clinics. The problems to be hand-

PATIENT FLOW CHART



The sorter at the time of registration determines the need of the patient and refers to the appropriate section. This avoids the long wait usually associated with out-patient clinics.

The sorter in this scheme needs to be a person of considerable experience and skill.

led in these clinics should be those determined by priority decisions:

- a. Chronic communicable diseases: tuberculosis, trachoma, leprosy, etc.
 - b. Malnutrition particularly among young children.
 - c. Pregnant women (for examination and referral back to a specific person for follow-up: family health workers, volunteer village health advisors, village midwife (See p. 73).
 - d. Family guidance.
 - e. Infants for one general examination after birth and assessment of needs of family.
 - f. Women and children needing special care.
 - g. Health education in all above categories.
 - h. Immunizations preferably in groups as brought in by the family health workers or volunteer village health advisors.
4. Suggested Clinic Schedules
- General clinics - 3 days a week, one doctor
Family clinics - 2 days a week
Administrative work and training program - 1 day a week
Field work - one of the doctors, 3-5 days a week.

5. Inpatient Department

If no provincial hospital is present, the provincial health center should have 12 to 20 beds. As soon as possible, however, there should be a separate hospital as inpatients take an inordinate amount of personnel time.

6. Sanitation

There should be one sanitation department in each province. Among the functions should be:

- a. Construction of safe water supplies.
- b. Dusting and/or spraying for insect vectors.
- c. Community projects for such things as latrine or public bath construction.
- d. Epidemic investigation and control.

The sanitation department should also become involved in other community development programs initiated by the health center such as community immunization.

7. Field Program

This program is more fully described on p. 54. Its components are:
Education at the community and family level.
Case-finding, treatment and follow-up in chronic communicable disease.
Case-finding and treatment of serious acute diseases and acute communicable disease especially among infants and children.
Case-finding and treatment or referral of complications of pregnancy, labor and the puerperium.
Family guidance.
Case-finding of malnourished children

and treatment of the child and education for the family.

Vital statistics.

Epidemic investigation and initial control.

Training of VVHA and local village midwives.

8. Personnel

Doctors - 2	Lady FHW (ANM) - 2
Nurses - 2	Male FHW (S-V) - 2
Compounder - 1	Sanitarian - 1
Laboratory technician - 1	PHN (male) - 1
	PHN/Nurse midwife 1

9. Supervisory Team

One of the doctors, two nurses (the PHN's when available) and occasionally the sanitarian form the supervisory team for the province. They are responsible to supervise subcenters, village clinics, and field programs of their own center and other health centers. Eventually there should be supervisory teams at the sub-provincial (Woleswali) level responsible for their own area. When these are functioning, the provincial supervisory team will be responsible for the sub-provincial health center and will make spot checks of the subcenters, village clinics and field programs carried on at the sub-provincial level.

III. Health Center at the Sub-Province Level—
Primary Health Center

A. Health Center Program

1. Outpatient Services

Outpatient services should be similar to those offered at the provincial level. These centers serve a large population area and the demands will be great. Two steps must be taken to prevent the center from being overwhelmed with curative medicine:

- a. Priorities should be rigidly adhered to in the diseases which are treated.
- b. The clinics must be closed for a part of the week to insure that accomplishment of field work and of necessary administrative duties and training.

Suggested Schedule:

Administrative work and training program
1 day a week
General clinics—part of the staff 2 days a week
Field work—all staff 2 days a week and part of the staff (FHW's) 4 days a week.

2. Inpatient Service

Some inpatient service will be necessary for which six to eight beds should be provided. The indications for admission would be:

- a. Acutely ill patients needing a few days of concentrated attention and therapy for survival.
- b. Accident cases or severely ill patients with diagnostic problems (such as suspected

- acute abdomen) needing observation.
- c. Dehydrated patients needing day care and rehydration.
- d. Seriously ill patients awaiting transfer to a hospital.

Every effort should be made to treat patients on an out-patient basis but some invariably will need the more intensive inpatient care.

B. Field Program

1. Supervision

Supervisory to subcenters and/or village clinics.

In-service training at subcenters and/or village clinics.

Doctor's consultation clinics at subcenters

and/or village clinics.

2. Family Health Workers

Village visiting and training of VVHA, village midwives, families and the community.

Village family health clinics (p. 54).

IV. Subcenters

The subcenter is usually designed to be the simplest type of health center and therefore is the best starting place for development of the program. It is well then to discuss the simplest health center as a separate entity as it may even be the initial program established at provincial or sub-provincial level. It is a type of program rather than an organizational level.

The Simplest Health Center

The functions and activities of the simplest type of unit depend on the personnel and their capabilities. It is the actual deliverer of health care services to the target group of the family and communities. The whole national health and medical structure's reason for being is to provide health care to the people—and it is the simple health center that finally accomplishes this goal. In this capacity it needs to keep in balance and dispense: curative medicine, preventive medicine and health education.

A. Some General Principles

1. Curative Medicine

It has been held that the object of curative medicine in the health center was the treatment of minor illnesses to keep these from going to the hospital. But it seems increasingly clear that major inroads on the health problems of any country will not be made until these units can diagnose and treat a limited number of more serious conditions. If the concern is that priority needs should be met first, it is clear that minor illnesses are not high on the list unless they are the precursors of major ones. Perhaps people need to be taught to live with their minor illnesses and use the commercial pharmacy for their aches and pains and colds.

Certain definite skills should be given to personnel who are to operate these centers and the equipment and drugs should be provided for them to make use of these skills.

2. Preventive Medicine

It is also being said that it is foolish to try to treat disease when that same condition could have been prevented at a fraction of the cost. But this is not exactly true. It is much more costly to immunize an entire population against a disease when the incidence may be 1%, especially if the immunization must be done yearly. If there aren't enough personnel to take care of the sick children who are but a fraction of the population in a given country, how can it be expected that there will be

enough to examine all the children often enough to keep them from getting sick? In the same manner, the expectation of being able to improve the nutrition of all children in the hope that this will increase resistance to disease, is beyond the realm of possibility short of a real change in economic status. Actually only a minority of diseases can be successfully prevented, largely because there are few satisfactory solutions available within budget limitations. A study of the causes of disease, disability and death, reveal that a relatively large percentage of these have no satisfactory public health solutions outside of health education or economic improvement.

By the process of elimination the choice of what can be done is narrowed down.

3. Health Education

Health education is not a separate program with special personnel but an integrated function of all personnel. Several principles should be followed:

- a. Health education should be aimed at producing the greatest amount of responsible action at the lowest level possible. This means the family and the community.
- b. The priorities chosen should be the same as those chosen for the total program with emphasis on those conditions in which education will produce the greatest results.
- c. For any one priority condition, four or five significant facts should be chosen to be taught. These should be presented in as simple and clear a manner as possible.
- d. All members of the health team should know and be able to teach these same facts about all chosen priority conditions. A person should receive the same answer to a given question regardless of who is asked.
- e. Every member of the health team is above all else, a *teacher*. Health education is not the responsibility of only one or two types of workers. This includes everyone from

clerk to doctor, but the responsibilities of each should be programmed.

- f. Health education should be carried on wherever groups of people are waiting for services.

4. Maternal and Child Health

In this plan, maternal and child health is dealt with only in the context of family health. Ante-natal, post-natal and well-baby clinics are not included as separate entities for a number of reasons. One of these is that most people do not come to the clinics for just a single reason. The pregnant mother brings the sick young child and older school boy. The multi-purpose family clinic can be set up to encourage this. Because of large populations and over-crowding of facilities ante and post-natal visits should be kept to a minimum, thus serving larger numbers of pregnant women. "Obstetric care should be kept at a simple level which could be carried out by locally recruited and trained village workers with intermittent supervisory visits by someone with more formal medical training."¹⁹

Well-baby clinics are also not suggested because of the large expenditure of personnel time given to a small number of patients with minimal returns in case-finding. In addition, the finding of minimal signs of ill-health such as loss of weight, requires extensive diagnostic and follow-up services that are usually not available. As with the annual physical examination in the West, it is more profitable to do adequate diagnostic work-ups when symptoms appear. Children are dying in large numbers of overt diarrheas and pneumonias.

5. School Health

This subject has not been mentioned until now. It is important to have a school program but only within the same system of priorities that have been established. The activities should be:

- a. Yearly examinations, preferably by a physician's assistant, for tuberculosis, leprosy, trachoma, acute and chronic dysentery, pyoderma, otitis media and osteomyelitis.
- b. Immunizations.
- c. Teaching of health education according to the same systems being used for the general community.

B. Personnel

Lady FHW (ANM)	2	Driver	1
Male FHW (S-V)	1 or 2	Janitor	1
Dresser	1		

The first step in expansion of the staff would be the addition of the second male FHW. After that, it is important to consider the possibility of a physician's assistant.

C. Functions within the Health Center

1. *Family Health Clinics*—to be held by the FHW (ANM). When persons needing care are found by the FHW or VVHA during surveys or in village visiting they should be given a card to come to the family clinic as a family. The entire family can then be examined, information gathered as to the family situation and decisions made as to how the problem should be handled. If there is a diagnostic problem, the person or persons involved can be sent to a health center or hospital where definitive diagnosis can be made and recommendations for further care or follow-up sent back to the village clinic. Similarly, if problems are found in a health center clinic the patient can be given a card to take his whole family to the nearest family clinic for case-finding and management.

If malnutrition, or the need for family guidance, is the problem the whole family situation can be reviewed.

On subsequent visits or follow-up, males and children with chronic disease can be seen individually in the general clinic by the FHW (S-V) with periodic review only of the entire family.

Serious illness, outside the scope of the training of the FHW, should be referred immediately to the health center. Types of conditions to be handled are:

- Chronic communicable diseases
- Specified acute illnesses in women and children
- Pregnancy and certain complications of pregnancy or the puerperium
- Acute infectious diseases
- Malnutrition
- Family guidance

2. *General Clinic*—to be held by FHW (S-V)

Types of conditions to be handled:

- a. Acute diseases in children.
- b. Chronic disease such as tuberculosis, leprosy and trachoma in males and children after they have been seen as a family and it is desired that the patient should be followed.
- c. Selected other conditions in males.
- d. Venereal disease.

For both of these clinics a list of disease conditions that can be cared for according to the training of the individuals on the staff should be made and equipment and drugs should be provided for those conditions only (p. 28, 71). Treatment such as aspirin, cough syrup, etc., unless a necessary adjunct to other illnesses specified, should not be given out.

3. *Emergency Care*

- a. Suturing of lacerations and dressing of wounds.

- b. First aid for more extensive injuries and transfer to another unit for definitive care.
- c. Casting of simple fractures.
- d. Sounding and catheterization of the urinary bladder.
- e. Incision and drainage of simple abscess.

4. *Consultant's Clinics*

Once a month the doctor with the supervisory team should come to the clinic. All patients needing consultation should have been referred to this clinic by the FHWs. Patients with other or routine illnesses should be advised to go to the health center.

5. *Inpatient Service*

There should be 3-4 holding beds for:

- a. Observation for serious illness or in case of accident.
- b. Seriously ill patient needing a few days of constant care.
- c. Dehydrated case needing day-care rehydration.
- d. Seriously ill patient awaiting transfer.

6. *Other functions*

a. Immunization

This clinic should eventually become the place where local immunization programs are held. VVHAs would be trained to know everyone needing immunization and to bring them in at specific times for group immunization. They should be checked periodically to insure that they are doing this.

b. Rehydration

This should be taught to be done orally in the homes with simple electrolyte solutions. Parenteral rehydration for more serious cases should be possible at the village clinic with full rehydration being accomplished by the FHW (ANM) by keeping the child in the clinic for the first day giving intravenous, rectal or intraperitoneal fluids.

D. Field Work Outside the Center

1. *Community*

- a. Village surveys—to be carried out in each area (p. 66).
- b. Immunization programs
Suggested types: smallpox, BCG, DPT (for under five years), tetanus toxoid (for women in childbearing age).
Other vaccinations:
Measles vaccination should be included as soon as it becomes economically feasible. Poliomyelitis vaccination should be included in future planning. However, studies in the Hazarajat do not indicate a high incidence of this disease as manifest by poliomyelitis sequelae. Cholera, typhoid and typhus vaccines have to be given too frequently to be financially and

logistically feasible. In addition, the effectiveness of cholera vaccine is highly questionable.

Method:

The most efficient method is mass immunization. Although country-wide vaccination may not be financially feasible, when vaccination is done, it should be by whole communities as this method is more economical and it brings two important factors into play: 1. community spirit and 2. herd immunity.

Immunizations should be begun at the time of the village survey if the community is cooperative. Multiple immunizations at one time can be given. Return visits to the same village four to six weeks apart should be made until the majority of the population is vaccinated.

Communities can be immunized in their homes or they may be brought to a central place for inoculation as a group, whichever works best.

2. *Training of VVHA and Home Visiting*

In each village much time must be spent at the start in home visiting and training of the VVHA and the village midwife. All the field days (four days a week) will be initially spent in one village. However, after the VVHA is trained the FHWs can spend just one day a week in consultation with the VVHA and home visiting in that village. The family health worker's contact then with the village should be through the VVHA and the village clinic. On some occasions home visits will be necessary to check on the VVHA and to take care of special problems.

3. *Village Family Health Clinics*

After home visiting has progressed to the point where the family health workers are familiar with the families in a community and after the volunteer village health advisor knows how to follow the families that need attention, a village clinic can be started.

This should be a place accessible to several communities. The community should be responsible to provide the place for these clinics. At first it can be a school or village meeting house, but later a simple three or four room building may be needed.

A family clinic and general clinic should be held by the FHW's once a week and a consultant's clinic with a doctor in attendance once a month, just as the clinics at the health center (see paragraph C, p. 58).

4. *Supervision*

The doctor and supervisor should go over all patient records once a month to check on the following things:

- 1. Whether adequate records are being kept.

2. Whether patients are being properly treated or not.
3. Whether medicines dispensed check out with conditions diagnosed and treated.
4. Whether appropriate time balance is being maintained between curative, preventive and education functions.
5. Whether conditions are being treated that are outside the training of the FHW.

6. Whether adequate follow-up is being maintained.

Supplies should be checked against inventories. The supervision should include home visits to see if patients noted as receiving a particular treatment are actually receiving it and if village people seem to be learning the ideas that are being presented to them.

VII

PLAN OF ACTION

As important as it is to get some kind of care to as many people as possible, it is more important to lay a good foundation on which to build an expanding program. Most centers which are already open and functioning should continue at the present level of service and staff. Concentration of effort should then be given to the development of the health care delivery service from a central core of basic units gradually radiating out to include more and more of the country.

Initial effort should then be in several directions:

1. Development of a selected number of provincial hospitals into base hospitals for an expanding health center program in the surrounding area.
2. Development of a team of experts: the survey, supervisory and evaluation team.
3. Development of a full, model health care delivery system in selected areas to become field training areas for personnel.
4. Development of the simplest health center program in the provincial centers.

I. Development of Provincial Hospitals

The development of selected provincial hospitals into base hospitals for an expanding health care delivery program must be done quickly. This may be difficult from a staffing point of view. How many and how rapidly this can be done will be limited by the resources available. Where there are hospitals already functioning the decision may be based on which of these can most easily be brought up to a desired level (p. 49).

This aspect of the plan of action will not appear in the work plan for purposes of simplifying the presentation of the example.

II. Development of the Team of Experts: The Survey, Supervisory and Evaluation Team

The purpose of the team of experts is to provide experienced leadership to each new group of workers. A major anticipated difficulty in sending people into a new situation is that they will flounder. The team of experts is to program carefully what the following less experienced people are to do and to supervise to see that they do it. The less well trained a person is the more programmed his job needs to be. The new workers will be specifically told what to do, not left to manage on their own, at least initially. Adherence to priorities requires that all expansion into new fields or development of new ideas needs to be carefully considered to prevent dissipation of effort.

A. Members of the Team

1. Doctor—Some experience in public health, an

aptitude for teaching, highly motivated and an interest in the field.

2. Public health nurse—if none are available who are trained, he/she should have some experience in the field.
3. Nurse-midwife—Experience in midwifery and in training either of midwives or ANMs.
4. Sanitarian
5. Health educationalist

B. Responsibilities

1. Plan programs of the health care delivery system for presentation to the planning department of the Ministry of Public Health.
2. Carry out initial programs in the training area: village survey, community immunization program and health center programs.
3. Develop methods and procedures for entire program.
4. Train personnel in systems of health care delivery.
5. Supervise programs in training area and be responsible for overall supervision of the health care delivery system.
6. Assist in starting programs in new areas.
7. Carry out more extensive health surveys as needed.
8. Revise and re-evaluate programs yearly.

III. Development of a Model Health Care Delivery System as a Field Training Area

This system should contain all the elements of the final rural health project, although it is not essential that the whole province in which they are situated be covered, nor do all types of units need to be functioning before training can begin.

Units to be developed for the training area are:

Field training hospital	(p. 47)
Provincial health center	(p. 49)
Primary health center—type for sub-province level	(p. 51)
Simplest health center	(p. 52)
Village family health clinics	
Field program	(p. 59)

A. The Field Training Hospital

As soon as any part of this base hospital is functioning adequately, future family health workers can be assigned to it to gain skill necessary for their clinical work. Outpatient departments need to be active and well arranged to train them particularly in physical and symptom diagnosis and in treatment.

All personnel to become family health workers come with some background of training. The new period of training should give them the skills they lack. It must be understood by the hospital authorities that this is a training time and the trainees have learning responsibilities. They are not to be considered just a source of additional labor. Trainees, on the other hand, must realize they are to learn by doing.

B. The Village Survey

After the orientation and planning sessions are completed, the team of experts should do a village survey in an area near the training hospital. One of the more limited types of surveys should be carried out along with a community immunization program.

The objectives of these field exercises are:

1. To establish an effective model program for a health care delivery system.
2. To train personnel taking part in such a way that they can go to another place and repeat the same thing.
3. To familiarize the team of experts with all parts of the program.

To accomplish this a group of doctors, nurses, ANMs and sanitarians and/or vaccinators who are to work in the program, are assigned to the project for training.

C. The Health Center Program

When nurses, ANMs, sanitarians etc. have been through both the clinical program and a village survey, they should, with the help of the team of experts, set up a health center program in the training area. It should be remembered that a health center program is not centered in a building, though a building may house some of its functions. It is a combined center and field program, both being integral parts of its activities. Once again, the activity becomes a training ground.

IV. Development of the Simplest Health Center in Provincial Centers

Personnel have now been through some clinical training, have taken part in village survey and community immunization projects and have participated in a field program in connection with a health center program. Part of these can now be assigned to begin the same type of program in areas around other provincial centers. The team of experts assumes supervision of these projects as well as beginning new ones in the training areas.

These initial health center projects should be:

1. Village survey and immunization program.
2. Finding, recruiting and training of voluntary village health advisors.
3. Family clinics in the health center.
4. Village family health clinics.

These steps are repeated with additional personnel being trained and new centers being opened. One or two additional training areas may be opened and

training capabilities increased.

Supervisory teams should be formed as soon as the number of centers in operation warrants them. The nurses who have been involved at all levels of health center operation, who have become familiar with the needed procedures and know the records and reporting systems being taught at the hospital, can become family health supervisors. Supervisory teams should consist of one doctor and two family health supervisors. These three will initially be responsible to assist in setting up new programs.

Overall or General Planning

The development of a work plan presupposes that general planning has already been done and directions have been set for the program. This involves several steps:

1. Analysis of the situation and setting of priorities.
2. Determination of types of units needed and services to be developed.
3. Analysis of personnel available and determination of types of personnel to be used in each part of the program.
4. Projection of possible development time schedule based on existing personnel and expectations from training programs.

Suggestions as to what lines should be followed have been made in other chapters. Perhaps it is best to emphasize here, however, that timing must be based on available personnel rather than the number of desired centers, the rate of building or the number of places equipped.

This brings up a subject which has not been considered. The program is built on a retraining of already existing personnel. But this supply of personnel is going to be exhausted in about three years. It makes no sense to go on training sanitarians and vaccinators and then have to retrain them for something else.

Thinking must begin now on what people are going to be needed and provision made for their training. This may need preliminary pilot programs.

Specific Planning of Programs

Specific planning is an on-going process. Each unit, each program, each level of program must be planned separately and specifically. The steps to attainment of the goals should be followed for each part of the program.

The Work Plan

Everything that is necessary to be accomplished before a program can be started needs to be listed, a deadline set for its accomplishment, funds set apart for each component part and someone designated to order, procure and install.

These steps could be summarized in a different manner as follows:

1. Planning of programs, determination of methods and timetables and establishment of priorities.
2. Selection of projects, choosing of sites, provision of buildings for clinics and residences.

3. Procurement, distribution and installation of furnishings and equipment.
4. Selection, orientation and assignment of personnel.
5. Development of methods, procedures and regimes.
6. Provision of drugs and supplies.
7. Establishment and carrying out of training programs.
8. Preparation of courses, curricula and materials.
9. Development, testing and evaluation of manuals and standing orders.
10. Designing, testing and evaluation of records and reporting systems.
11. Development and implementation of health education programs, methods and materials. Preparation and distribution of materials.

12. Development and implementation of community relations programs and community projects.
13. Development and carrying out of village surveys.
14. Development and carrying out of community immunization programs.
15. Establishment of health center, subcenter and/or field projects.
16. Development, training and using of supervisory team.
17. Review, analysis and assessment of programs, progress, methods, etc.

Each of the above items should be taken and listed separately for each quarter of each year and the necessary activities listed under each which will be needed to be accomplished in that quarter. This represents the detailed work plan. A sample work plan is given in the following pages.

Health Center Program

Sample Work Plan - First Year

First Quarter

Dates

1. **Planning of programs, determination of methods and timetables, establishment of priorities.**
Determine priorities. Set type of program. Decide which methods needed first and work them out: (survey, clinical procedures, immunization). Determine record systems and systems of reporting. Review existing facilities.
2. **Selection of projects, choosing of sites, provision of buildings for clinics and residences.**
Select training areas. Select places for development of first and later field programs. Determine building needs. Select existing buildings and determine their use. Design buildings. Develop time schedule. Determine which buildings need to be started to be available in two to three years.
3. **Procurement, distribution and installation of furnishings and equipment.**
Determine what additional equipment is needed. Make requisition lists, and/or purchase orders for expected needs for two years for training areas and expected numbers of new health center programs for two years. Begin installation of available furnishings and equipment in training areas.
4. **Selection, orientation and assignment of personnel.**
Select members of the team of experts. Arrange seminars to orient them in the program. Select staff of training areas and appoint them to their positions. Select first personnel to be trained and assign to work with team of experts or to gain experience in the training area.
5. **Development of methods, procedures, regimes.**
Work out initial methods, procedures and regimes. Write these out and duplicate for use. Prepare and duplicate forms for village survey and community immunization program.
6. **Provision of drugs and supplies.**
Make lists of needed drugs and supplies. Determine which should be used according to priorities and available budget. Determine sources and amounts of possible donated drugs and supplies. Procurement of equipment, drugs and supplies for two village surveys. Procurement of vaccines for immunization program to be carried out with village surveys.
7. **Preparation of courses, curricula and materials.**
Prepare orientation course for team of experts and personnel assigned to them. Duplicate adequate material for study. Prepare courses and set up part of the curriculum for clinical portion of the FHW training.
8. **Establishment and carrying out of training program.**
Decide course of training in training center. Determine what is to be taught first. Rearrange or change procedures in hospital departments to allow for use of clinics in training.
9. **Development, testing, evaluation of manuals and standing orders.**
Produce initial training manuals and standing orders for clinical procedures to be learned in OPD.
10. **Designing, testing and evaluation of records and reporting systems.**
Produce patient records and weekly report sheets for those personnel in training phase. Have them use the records and make weekly reports on their experience in the same manner as to be done in health service program. Have weekly sessions between a member of the staff and a trainee on what is written in the report.
11. **Development and implementation of health education programs, methods and materials. Preparation and distribution of materials.**
Write material for teaching of family and volunteer village health advisors. Produce pamphlets to be used in this teaching.
12. **Development and implementation of community relations programs and community projects.**
None
13. **Development and carrying out of village surveys.**
Carry on planning by the team of experts and personnel assigned to them after orientation is complete. Determine type of survey to be carried out and prepare and duplicate forms.
14. **Development and carrying out of community immunization programs.**
Determine immunization schedule and prepare necessary sections of family folders.
15. **Review, analysis and assessment of programs, progress, methods, etc.**
Reporting by staff of the training area on progress to date, problems encountered, suggestions and needs at end of first quarter.
16. **Establishment of health center, subcenter and/or field projects.**
None. Allow presently operating health centers to continue as they are now functioning.
17. **Development, training and using of supervisory teams.**
Formation of team of experts.

Health Center Program

Sample Work Plan - First Year

Second Quarter

Dates

1. **Planning of programs, determination of methods and timetables, establishment of priorities.**
Continue planning and development of time schedule. Determine program for health center, chronic disease control, family guidance, ante-natal, post-natal and infant care.
2. **Selection of projects, choosing of sites, provision of buildings for clinics and residences.**
Continue finding available usable buildings for clinics and residences in areas to be functioning by the end of the first year. Clinic buildings are probably already available. Residences may use actual home of personnel to be assigned. Selection of area for village survey. Delineation of survey population.
3. **Procurement, distribution and installation of furnishings and equipment.**
Procurement and distribution of building materials and equipment to areas to be opened. Procurement and distribution of materials necessary to expansion of training areas and repair and remodeling of buildings to be needed in the near future.
4. **Selection, orientation and assignment of personnel.**
Select future family health workers from ANM's, sanitarians and vaccinators already assigned to the rural health program. Give two to three weeks orientation, then assign to OPD in training area.
5. **Development of methods, procedures and regimes.**
Determine methods for training of VVHAs, chronic disease control, family health clinic.
6. **Provision of drugs and supplies.**
Procurement of supplies and drugs for health center in first training area. Set up procurement, supply and inventory system for health centers. Provide forms necessary.
7. **Preparation of courses, curricula and materials.**
Test course of clinical instruction for FHW and keep record of problems, successes and suggestions.
8. **Establishment and carrying out of training programs.**
Train assigned family health workers in out-patient clinical work. (A three-month period).
9. **Development, testing, evaluation of manuals and standing orders.**
Have FHW's in training use the temporary manuals and standing orders in clinical setting. At the end of course both staff and trainees should present comments and suggestions on them.
10. **Designing, testing and evaluation of records and reporting systems.**
Have FHW's in training use the records and reporting systems.
11. **Development and implementation of health education programs, methods and materials. Preparation and distribution of materials.**
Continue writing and production of materials.
12. **Development and implementation of community relations programs and community projects.**
Meetings of team of experts with community leaders in training area.
13. **Development and carrying out of village surveys.**
Make maps and carry out village survey in area about training hospital.
14. **Development and carrying out of community immunization program.**
Carry out community immunization program with the village survey.
Return to each area for second and third immunizations as necessary.
15. **Review, analysis and assessment of programs, progress, methods, etc.**
Continue weekly reporting by staff of training area, trainees and the members of the team working on the village survey and immunization program.
16. **Establishment of health center, subcenter and/or field projects.**
None
17. **Development, training and using of supervisory teams.**
None

Health Center Program

Sample Work Plan - First Year

Third Quarter

Dates:

1. **Planning of programs, determination of methods and timetables, establishment of priorities.**
Plan second half of the year on basis of experience in first six months. Finalize the program for field work and village clinics.
2. **Selection of projects, choosing of sites, provision of buildings for clinics and residences.**
See previous quarter.
3. **Procurement, distribution and installation of furnishings and equipment.**
See previous quarter.
4. **Selection, orientation and assignment of personnel.**
Select new group of personnel to become FHW's. Assign personnel from clinical training to a second village survey. Assign personnel from village survey to clinical training. Half of nurses from the village survey to be assigned to become familiar with clinical training. The other half to be responsible for the new survey.
5. **Development of methods, procedures and regimes.**
Revise methods, procedures, etc., from experience in training first groups of FHW's. Revise methods and procedures from village survey.
6. **Provision of drugs and supplies.**
Provision of drugs and supplies for second village survey.
7. **Preparation of courses, curricula and materials.**
Revise course and curriculum for FHW.
8. **Establishment and carrying out of training programs.**
Rearranging of clinical situation to prepare for new groups of trainees in next quarter.
9. **Development, testing, evaluation of manuals and standing orders.**
Revise manuals and standing orders for training of FHW. Revise village survey methods and forms as necessary. Produce manuals and standing orders for health center program.
10. **Designing, testing and evaluation of records and reporting systems.**
Review and evaluate records and reporting systems and revise as necessary.
11. **Development and implementation of health education programs, methods and materials. Preparation and distribution of materials.**
Same as previous quarter.
12. **Development and implementation of community relations programs and community projects.**
Continue talks between community leaders, team of experts and other doctors and nurses in program.
13. **Development and carrying out of village surveys.**
Revise survey methods and forms.
14. **Development and carrying out of community immunization programs.**
Return to survey areas for second and third immunizations as necessary.
15. **Review, analysis and assessment of programs, progress, methods, etc.**
Review training of FHWs, manuals and standing orders, reports of staff and trainees on training and village survey.
16. **Establishment of health center, subcenter and/or field projects.**
None
17. **Development, training and using of supervisory teams.**
None

Health Center Program

Sample Work Plan - First Year

Fourth Quarter

Dates:

1. **Planning of programs, determination of methods and timetables, establishment of priorities.**
Plan program for the next year. Determine timetables. Set priorities. Prepare work plan.
2. **Selection of projects, choosing of sites, provision of buildings for clinics and residences.**
Select areas for building or repair of existing buildings for second and third years.
3. **Procurement, distribution, and installation of furnishings and equipment.**
Prepare lists of needs, procure and distribute materials necessary for building, equipping and furnishing of units to be occupied in the next year.
4. **Selection, orientation and assignment of personnel.**
Start third group of family health workers through orientation and assign to training area. Assign first and second group with nurse supervisors to two areas about training hospital to begin health center program. Set up seminars with all members of groups to discuss and evaluate program to date.
5. **Development of methods, procedures and regimes.**
Determine methods and procedures to be used in village visiting, selecting and training of VVHA and family clinics.
6. **Provision of drugs and supplies.**
Provide a regular system of supply and reordering to health center.
7. **Preparation of courses, curricula and materials.**
Same as previous quarter.
8. **Establishment and carrying out of training program.**
Put third group of FHW through clinical training period.
9. **Development, testing, evaluation of manuals and standing orders.**
Use new manuals and standing orders in training program and in newly developing health center program.
10. **Designing, testing and evaluation of records and reporting systems.**
Introduce new records and reporting systems to training and the new health center programs.
11. **Development and implementation of health education programs, methods and materials. Preparation and distribution of materials.**
Introduce health education materials and methods into new health center program.
12. **Development and implementation of community relations programs and community projects.**
As previous quarter, plus investigation of possible sanitation program in the new health center areas.
13. **Development and carrying out of village surveys.**
None
14. **Development and carrying out of community immunization programs.**
None
15. **Review, analysis and assessment of programs, progress, methods, etc.**
Do statistical analysis for year, review reports. Planning members from MPH, team of experts and selected representatives from training staff and trainees sit as a board to review program.
16. **Establishment of health center, subcenter and/or field projects.**
With one or two doctors and nurses and half of the trained FHWs for each, establish a health center program in each village area surveyed.
17. **Development, training and use of supervisory teams.**
None

Targets

A. First Year

By the end of the first year the following things would have been accomplished.

1. One training area with a field training hospital and two functioning field village programs (health center programs).
2. Two groups of doctors, nurses and family health workers trained and functioning in the field and health center program.
3. One group of family health workers finished their clinical training.
4. Manuals, standing orders, methods, records and reporting systems prepared for parts of the health care system.
5. Supply and inventory systems begun.
6. Training materials, courses and curricula established for a part of the training program.

B. Second Year

1. Full development of the first training hospital with establishment of all services including a beginning obstetric service.
2. Full development of the first model health center

program using personnel trained to date.

3. Beginning establishment of second training area by the team of experts.
4. Beginning development of simple health center program in selected other provincial areas.
5. Training of three more groups of family health workers plus some doctors and nurses.
6. Formation of supervisory team from doctor and nurses not experienced in the program.

Numbers of personnel, health centers, etc., are not mentioned in these targets as they depend on number of personnel which can be assigned to the training and the number that can be accommodated in the training area and the courses.

Expansion of the program will be geometric after the second year as two training areas become fully operative and both supervisory teams and FHW's are ready to function.

Personnel trained are first funneled into the functioning centers in the training area before being sent out to open new areas

VIII

METHODS, MANUALS AND STANDING ORDERS

I. Methods

Somewhere in a work like this there should be a chapter on some of the methods alluded to in other pages. It does not pretend to be a composite treatise on the subject, but just to give some examples of the things that are suggested.

In the chapter on Goals of the Family Health Service, there are a number of references to "lists" which should be developed for various activities at different levels of service. Some suggestions for these are given here:

Example: Minimal Curative Services

This should be a relatively comprehensive list of conditions which will present themselves to a medical officer. The modifying principles used in eliminating or determining what remained on the list were: frequency, severity, amenability to treatment, urgency of treatment, and cost. For instance, upper respiratory disease is not on the list despite its frequency because it does not need to be treated. People can learn to buy aspirin for the first day's symptoms.

Conditions to be treated by a medical officer.

Intestinal Parasites

Ascaris
Hookworm
Tapeworm

Salpingo-oophoritis
Dysfunctional bleeding
Incomplete abortion

Other Parasites

Malaria
Leishmaniasis

Genito-Urinary

Acute cystitis
Pyelonephritis
Nephritis and nephrotic syndrome
Urethral and ureteral calculi
Phimosis
Balanitis
Epididymitis
Hydrocele

Ophthalmologic

Trachoma
Dacryocystitis
Conjunctivitis
Keratomalacia
Foreign bodies

Enteric Infections

Amebic dysentery
Bacillary dysentery

Ear, Nose and Throat

Otitis media
Tonsillitis
Purulent upper resp. disease
Peritonsillar and sublingual abscess
Foreign bodies in nose or ear

Gastro-Intestinal

Peptic ulcer syndrome
Gall bladder disease
Hepatitis, viral and amebic
Abdominal tuberculosis
Hemorrhoids
Fissures

Pulmonary

Bronchial asthma
Tuberculosis
Pneumonias and pneumonitis
Chronic pulmonary disease

Dermatologic

Pyoderma
Boils and abscesses
Cellulitis
Favus
Scabies
Contact and allergic dermatitis

Gynecologic

Vaginitis

Infectious and Communicable Disease

Smallpox
Enteric fevers
Diphtheria
Pertussis
Measles
Tetanus
Scarlet fever
Typhus
Brucellosis

Metabolic and Deficiency

Iron-deficiency anemia
Folic acid deficiency anemia
Scurvy
Pellagra
Beri beri
Rickets
Diabetes
Hyperthyroidism

Orthopedic

Acute & chronic osteomyelitis
Osteomalacia
Bone and joint tuberculosis
Rheumatoid arthritis

Nutritional

Combined malnutrition
Marasmus
Kwashiorkor

Cardio-Vascular

Congestive failure
Hypertension
Rheumatic fever
Thrombo-phlebitis

Neuro-Psychiatric

Epilepsy
Peripheral neuritis
Meningitis
Acute psychoses

Dental

Simple extractions

Obstetric

Simple forceps extraction
Acute endometritis
Retained placenta
Post-partum hemorrhage
Toxemia of pregnancy & eclampsia

Accidents and Injuries

Acute and old lacerations
Fractures
Sprains

Neoplasms

Simple skin tumors

Example: Minimal Laboratory Services—for a Health Center with Laboratory Technician

Stools

Ova and parasites, fresh and iodine preps

Urine

Microscopic
Sugar
Albumin
Bile
Specific gravity

Blood

Malaria smear
Hemoglobin
White cell count
Differential count
Erythrocyte sedimentation rate

Bacterial Stains

Acid-fast
Gram stain
Methylene blue

Cerebro-spinal Fluid

Cell count
Differential count
Protein

Skin Smear

Acid-fast bacillus

Vaginal Smear

Monilia
Trichomonas
Gram stain

II. Manuals

Methods and procedures for every kind of operation in the health care system should be established.

These should be written in manuals and should include all kinds of activities to be followed by the various personnel. They should include detailed work schedules and descriptions of how activities are to be carried out, and what equipment and supplies are to be used.

Lists of conditions to be handled, and drugs, supplies and equipment needed, should be made. Conditions to be referred and systems of referral, inventory and ordering systems, supply and distribution all need to be described in manuals of operation. Using the details on pp. 28-31 as a guide should be a help in deciding the kinds of manuals and some of the contents.

Example: Chronic Disease Control

There is already a recommended manual for tuberculosis control in basic health centers. This can be modified somewhat to integrate the activities with other activities of the FHW and other personnel. Other control procedures like this need to be standardized and integrated into a manual for the field program.

Example: Health Surveys

A successful health survey depends upon having personnel trained for this work who are capable also of training the personnel to be assigned to the area so that these are thoroughly familiar with at least the immediate area of the new facility.

1. Objectives of the Health Survey
 - a. Obtain disease profile.
 - b. Determine population composition.
 - c. Obtain information on child survival, births, deaths and causes of death.
 - d. Determine nutritional levels.
 - e. Provide information for doctor and health team as to problems faced in the area to be served.
 - f. Provide for re-orientation of health team to community rather than individual patient care.
 - g. Determine felt needs and priorities of communities.
 - h. Assess feasibility of sanitation projects: safe water, latrines, public baths, etc.
 - i. Assess resources available through the community and promote cooperation.
 - j. Determine priorities and feasibility of various lines of approach.
 - k. Identify chronic diseases amenable to treatment.
 - l. Lay foundations of good will on which to build the program.
 - m. Accomplish beginning program in immunization.
2. Delineation of Representative Areas

Areas should first be chosen from those immediately contiguous to the health center. The population chosen should be about 1500 to 2000, (up to 5000 in densely populated areas). If there is diversity in kinds of social groups (urban, rural, agricultural, industrial, etc.), representative sections should be chosen from each. A well-trained team can accomplish the survey of this number of people, fairly scattered in a rural area, in 45 man-days. In other words, a three-member team can do it in 15 days. The preparation and initial contacts, meeting with leaders, etc., are not included in this estimate.

3. Groundwork for Community Cooperation

For any program in a developing country to be effective, it must be initiated and constantly supported by the local community.

- a. Gather village leaders together and tell them in general about the opening of the health center work, village surveys, and field service.
- b. Find out from them what they feel their greatest needs are and discuss how they feel they could be met.
- c. Discuss what kind of input or cooperation the village itself could contribute to the service; supplying of buildings and/or volunteer workers, building their own sanitary facilities, etc.

- d. Attempt to determine what they would cooperate in most
 - e. If there is no interest, and cooperation seems non-existent, or hostility is shown, choose another area. The initial survey needs to be as complete and correct as possible. A willing population will insure this.
 - f. Have the village leaders talk with their people about what you will be doing. This should be quite specific.
4. Conducting the Survey

Surveys may be very extensive and in-depth studies, or relatively simple, but some type should be done around each health center in existence, before a new center is to be opened and concentrically around established areas as work is extended. In-depth studies should be planned for areas where little is known about the conditions and prevalence of disease. They should be well planned and carried out by experienced personnel.
 5. Minimal Survey Prior to Establishing a Field Program—The Village Survey
 - a. Demographic—Prepare maps showing houses in area. Obtain:
 - (1) Name, age, sex of every household member.
 - (2) Relationship of persons in household to one another. Prepare family folder.
 - b. Vital Statistics
 - (1) List all pregnant women.
 - (2) List age and sex of all persons dying in the past three years and cause of death.
 - c. Nutritional Status
 - (1) See all children and weigh those under five years of age.
 - (2) Note signs of malnutrition in all ages.
 - d. Medical History
 - (1) Cough over two months' duration.
 - (2) Eye discharge, pain or decreased vision.
 - (3) Diarrhea.
 - (4) Worms noted in stool.
 - (5) Disabilities.
 - (6) Previous smallpox, typhoid-like or malaria-like fevers.
 - e. Physical Examination
 - (1) Eyes—trachoma, cataract.
 - (2) Ears—discharge.
 - (3) Lymph nodes—enlarged, draining.
 - (4) Abdomen—liver or spleen enlargement.
 - (5) Extremities—deformity, wounds, draining sinuses, edema.
 - (6) Nutrition—good, average, poor
Possibly use QUAC stick
Hair—dry pluckability
Subcutaneous tissue—normal, scanty, absent
Goiter
 - (7) Immunization—scars of smallpox or BCG vaccination. Give dates.

Example: Village Visiting Instructions

(A page from the family health worker's manual)

Before leaving the Health center:

Check over family folders of the villages to be visited. Decide which need attention.

Divide the folders of those needing visits between FHWs.

Take all family folders of villages to be visited with you.

Morning:

1. Contact the VVHA. Go over all families in the village needing attention: chronic disease, malnutrition, etc. Record all births and deaths and newly discovered pregnancies. Ask about other families in the village, new illnesses, other problems, families interested in family guidance, etc. Give a short lesson to the VVHA on one of the priority subjects (See p. for order of teaching). Talk to the VVHA to see how much is understood. If there is more than one VVHA in the nearby area do this together with all of them.
2. Visit some of the homes with the VVHA. Talk to pregnant women and invite them to the afternoon clinic for examination. Discuss briefly their symptoms and initiate the subject of family guidance. Note other children in the family and invite them and the husband to the clinic with the mother.

Visit families with someone on chronic disease therapy if the

report from the VVHA indicates that they may not be continuing therapy or if the VVHA does not seem to know. Talk to the family about the nature of the disease (See page). Have the VVHA do the talking to the families some of the time to see how he/she handles it.

Visit other families reported by the VVHA as having problems. Visit households where the response to the VVHA is not acceptable.

Visit homes where known problems of malnutrition exist unless the VVHA reports good progress.

In any case, even though the VVHA reports satisfactory progress and cooperation, be sure to visit occasionally, as possible.

Afternoon:

1. Open clinic and have the janitor clean rooms quickly. In the meantime set up equipment and look over charts with the VVHA of patients he/she has referred to the clinic for the day. Have the VVHA weigh patients as they arrive and take the temperatures.

III. Standing Orders

Standing orders are a little different from procedural manuals. These tell what is to be done in a given situation.

Treatment Regimes

Treatment regimes must be worked out for the whole list of diseases to be handled by paramedical personnel from tuberculosis to pyoderma.

Example: Scabies

1. If there is a village program: Give enough benzyl benzoate for three applications for each affected member of the family. Instruct the family to sun all the bedding and wash all clothing in the household the following day. Have the VVHA call the next day to inspect the proceedings and to assist in applying the medicine the first night.
2. If there is no village program in the village from which the patient comes: Have the parents take the child home and bathe it, wash its clothes and put the bedclothes in the sun. When the child returns, inspect it to see if it has been done and apply benzyl benzoate to the entire body except the face. Give enough benzyl benzoate for two more applications.

Example: Tuberculosis Treatment

Choice of Treatment Regime

1. If not very sick, or if moderately sick but lives a long way from the center: INH and Thiacetazone daily, in one dose according

to dosage schedule below.

2. If moderately sick and lives nearby, or can stay in the vicinity: Adults: One twice weekly dose of Streptomycin 1 Gm. intramuscularly, 600 mg. INH and Thiacetazone, and 25-50 mg. Vit. B₆ orally for 4-6 months. Then INH and Thiacetazone alone in one dose according to dosage schedule 1. Children: same schedule but dosage as below.

3. If very sick: Daily Streptomycin 1 Gm. IM; INH and Thiacetazone, 300 mg. and Vitamin B₆ 25 mg. orally for 4 weeks. Then Schedule 2 for 4-6 months. Then Schedule 1 for at least one year. Children: Daily Streptomycin, INH and Thiacetazone according to Schedule 2 for five months and then INH and Thiacetazone according to Schedule 1. Length of therapy: All cases should be treated for a minimum of 18 months.

4. Dosages by weight

Drug	Weight (kg)	Daily	Bi-weekly
INH	1 - 3	5mg/kg/day	10mg/kg/dose
	3 - 7	25 mg	50 mg
	7 - 15	50 mg	100 mg
	16 - 30	100 mg	200 mg
	30 - 50	200 mg	300 mg
	50 +	300 mg	300 mg
Adults		300 mg	600 mg

Streptomycin.

Example: Immunization Schedules

Vaccine or Agent	Group	No. and Interval
Smallpox	All persons not having a recent scar	Every 5 years
Diphtheria, Pertussis, Tetanus	All children 2 mos. to 5 years of age	2 injections 4-6 week interval
Tetanus toxoid	All females over 10 years of age and through the childbearing age	2 injections 1 month apart
BCG	All children and young people 3 years to 20 years of age	1 injection (may be revised as new information becomes available)

IX

ROLE OF THE DOCTOR

Key in the whole program of community medicine and health care delivery is the appropriate utilization of the doctor in a new and expanded capacity. In the traditional role of the healer, the doctor's preoccupation has been with all kinds of disease. But no community can afford the luxury of having a highly trained physician to be the prime deliverer of health care. Individualized care by the doctor, desirable as it may be, has a price tag that few countries can pay. It is medicine for the few, and for the wealthy. The facts become clear:

FIRST: The doctor cannot see every sick individual in a developing country. If doctors are the only ones to see and treat sick people, only about 5% of those needing care, in Afghanistan, will receive it.

SECOND: It is a documented fact that a majority of diseases can be well handled with lesser trained personnel, such as physicians or medical assistants, nurses, nurse clinicians, midwives, auxiliary nurse midwives, and village health workers, if they have adequate supervision.

In the new expanded role the doctor would have a dual function:

1. Medical expert
2. Team leader

I. Medical Expert

By virtue of his training, the doctor is the most qualified team member, with the greatest knowledge of medicine. Because of this he becomes the local or regional authority in matters relating to disease, treatment and prevention. He is the one to whom other team members turn for advice and medical consultation when the problems confronting them are beyond their knowledge or scope of training. This doesn't mean that the doctor is a fount of all wisdom or has the capacity to handle any situation; it only means that ultimately one person has to be responsible for medical decisions in a given area and this becomes the doctor's responsibility. He too must realize his limitations and know when to refer what is beyond his capabilities to the appropriate place.

One does not hunt a mouse with an elephant gun. Likewise, the doctor's skill should be reserved for problems commensurate with his ability. To properly utilize the doctor in taking care of the major medical problems, a system of triage, the sorting of patients into categories, must be devised, so each condition is handled by the appropriately trained person. The doctor would handle major and life-threatening diseases,

and those in which the diagnosis is difficult to arrive at. But once the diagnosis is made or confirmed by the doctor, follow-up care again can be referred back to a lesser trained worker or dresser where practical.

Just as a general physician needs only to refer a few patients to a specialist, the para-medical workers as they gain proficiency, will need to refer a decreasing number of patients to their supervisory physician/medical expert. While the doctor may see only a small number of the total patients, he still has to be aware of, and responsible for, the work of his subordinates, maintaining supervision and seeing that on-the-job training takes place. The responsibility of the quality of medical care and the efficiency with which it is dispensed belong to the doctor. Instead of being the prime and only one to deliver medical care, the doctor becomes a supervisor of a team of health care deliverers.

II. Team Leader

Any group of individuals working together in a project has to be organized, with set areas of responsibilities and authority outlined. Every team member has to know to whom he is responsible, for whom and for what he is responsible. The line of command has to be established. At this present time in Afghanistan the doctor is the logical one to be the Team Leader of the health team, and the project director.

As Team Leader the doctor has the responsibility to see that certain things are done. It does not mean that he individually does them. Responsibility needs authority to implement and enforce directives. As head of the team, he must demonstrate leadership, inspire confidence in his workers, and be able to mobilize community support. These are qualities that don't automatically come with the receiving of a diploma. They must be developed. As Team Leader, he must assume administrative duties and act in a decision-making capacity. The responsibility for the success or failure of the team is his. To do this he has to have the authority commensurate with the responsibility.

Team Leader should be able to:

1. Understand the community and know how to seek the participation and cooperation of the people in health measures including the mobilization and utilization of community resources.
2. Make a community diagnosis of common health problems. Assign priorities and organize control measures.
3. Understand family health programs and provide health care through the team to the community

with the family as the basic unit.

4. Accomplish goals of family health care with limited resources.
5. Understand his/her limitations and be willing to consult those who know more.
6. Assume responsibility and manage health care program.

Team Leader is responsible for:

A. Development and Implementation

1. To implement the health plan in his assigned area of authority.
2. To propose plans of action and development to appropriate planning authorities above him.
3. To insure an orderly expansion of the work.
4. To mobilize community support and resources for medical projects through appropriate channels.
5. To periodically reassess goals and priorities.

B. Maintenance of Professional Goals and Quality of Work

1. To maintain a check on the quality of medical work and educational focus of the project.
2. To see that a training group is established and to participate in it.
3. To institute staff meetings:
 - a. To advise of program goals.
 - b. To motivate workers.
 - c. To receive worker's input in way of suggestions and criticisms.
 - d. To be perceptive of problems arising and seek solutions while easily manageable.
4. To be available at prescribed clinic hours to carry out professional duties of patient care.
5. To maintain rigid schedules in visiting subcenters and outstations.
6. To periodically review charts of patients under treatment by paramedical personnel.
7. To inform staff of *new drugs*, changed treatment regimes and appropriate drug substitutions when shortages exist.

C. Liaison

1. Provide liaison between subordinates and the division of basic health services.
2. Provide liaison between government officials and local leaders.
3. Arrange for cooperation between other agencies in mutually beneficial projects.
4. Adjudicate disputes between workers and local populace.

D. Managerial Function

1. Staff discipline.
 - a. Prepare leave rosters, week-end cover arrangement, relief coverage.
 - b. Advance circulation of his time schedule to all staff, so he can be reached in an emergency.
 - c. Take disciplinary action as needed.
 - d. Arbitrate inter-staff disputes.
2. Assure adequate logistic support.
 - a. Require adequate requisition time for supplies.
 - b. See that constant inventory is kept.
 - c. Anticipate needs in advance.
3. Adequate record keeping.
 - a. Set deadlines and schedules for reports.
 - b. Provide time and forms for reports.
 - c. Verify accuracy.
 - d. Review reports and take action where necessary.
4. See that procedure manuals and standing orders are kept current, and followed. Revise as necessary.
5. See that buildings and grounds are maintained. Establish building priorities.
6. Set and maintain a high standard of neatness and cleanliness.
7. Do spot checks and surveys on all aspects of work.
8. Do fortnightly check on drugs:
 - a. To prevent stockpiling.
 - b. To insure adequate supply.
 - c. To prevent inappropriate use and pilfering.
9. See that equipment and supply inventories are maintained.
10. Supervise vehicle usage.
 - a. Maintenance records.
 - b. Mileage checks.
 - c. Fuel, oil utilization
 - d. Verification of authorized vehicle usage.
11. See that pre-established goals are met.

E. Doing the job

1. The above list of duties is more than any one man can do.

Alternative

1. Train others to do as many detailed jobs as possible.
2. Delegate authority as soon as subordinates are available.
3. Simplify procedures and use pre-printed forms, etc.
4. Use the telephone to expedite.

X

THE ROLE OF THE FAMILY HEALTH WORKER

On the Afghanistan scene, as attempts are made to accomplish health care delivery, it is evident that medical care and disease prevention must be brought to the large majority of the population not now being reached. This must be accomplished across the country in the largely rural areas of the country's widely scattered villages, its tiny settlements hidden in high mountain valleys or in deserts, its wandering nomads and also its packed old cities.

The first line of defense lies in early diagnosis and treatment, in prevention of infectious diseases and in teaching the people what they need to know about disease. This will require the development of a large corps of workers capable of carrying simple care and teaching to families and communities, a cadre of workers capable of dealing with problems as they arise. They must be able to recognize and deal with a wide range of potentially serious problems on a simple level with the tools made available to them.

For a number of years, Afghanistan has been training various kinds of personnel who are now part of the existing pool from which people could be drawn to be trained as these multi-purpose workers who are now needed. Among those possible available are sanitarians, vaccinators, health educators, and especially the recently trained auxiliary nurse midwife.

To meet the immediate need, it is expedient to draw from personnel who already have some experience in the health field, although later, new personnel should be trained specifically for this work. The auxiliary nurse midwife (ANM) is especially important in this program because of the need for work among women and children and the concern over high maternal and infant mortality rates.

The subjects they are taught, the scope of the work

they are trained to do, and the knowledge they are expected to have, must be determined by the priorities set for the health services in the area.

For this expanded role, a new designation, such as Family Health Workers, should be given. The female member, who would be the FHW (ANM), and the male counterpart, the sanitarian-family health worker or the vaccinator-family worker, should be designated. For purposes of this paper, these will be designated FHW (ANM), or Lady FHW and FHW (S-V), or male FHW. When either the FHW (ANM) or the FHW (S-V) are referred to, the single designation, FHW, will be used.

These workers will have responsibilities in three places:

1. The health center or subcenter to which they are assigned.
2. The village family health clinic.
3. The homes and the communities of the villages in their assigned area.

Duties of these workers would be in the following fields:

1. Acute disease; treatment of certain specific conditions.
2. Chronic disease such as tuberculosis and leprosy; case-finding, treatment, follow-up and prevention.
3. Maternal care, including deliveries and newborn supervision.
4. Immunizations and other preventive medicine.
5. Health education to individuals, families and groups in nutrition, family spacing, chronic diseases, acute infectious diseases.
6. Training and supervision of volunteer village health advisors and village midwives.
7. Vital statistics, records and reporting.

Specific Activities of the FHW and Skills Necessary

I. Curative Medicine

For the diseases to be treated there should be a manual of symptom diagnosis and treatment procedures. Standing orders must be prepared ahead of time so FHW will know how to handle anticipated situations.

A. Priority Diseases

1. *Acute and chronic dysentery.* Diagnose and treat

according to symptom diagnosis and standing orders. Recognize and treat various stages of dehydration and refer the more serious. Teach causes and prevention to VVHA and families.

2. *Acute infectious diseases.* Recognize the common infectious diseases and diagnose complications. Teach recognition and course of the diseases to VVHA and family. Instruct as to which diseases

need special attention and when. Do epidemiological survey on those diseases specified by the manual and do initial contact immunization if required. Teach home care of the sick. Refer serious cases.

3. *Tuberculosis*. Organize and participate in community surveys for new cases. Give treatment according to standing orders only after diagnosis is made by sputum examination or doctor. See patients on a regular basis as outlined in the manual in the village family health clinic. Maintain patient Tb. register. Teach VVHA to follow patients. Visit homes if requested by VVHA or if patient continues to default. Teach families and VVHA the cause of the disease, how it is transmitted, its recognition and prevention. Emphasize need for adequate treatment.
4. *Leprosy*. Organize and participate in community surveys for new cases. Diagnose obvious cases according to criteria specified by manual. If there is any question, take skin scraping and send to health center. If diagnosis is obvious, start treatment according to standing orders. See patients on a regular basis in village family clinics, evaluate progress and refill medicines, or if questions arise, refer to doctor. Teach VVHA to follow-up patients. Teach VVHA and family the cause, treatment and prevention of the disease with special emphasis on continuation of treatment to maintain noninfective state.
5. *Pneumonia*. Diagnose acute lower respiratory disease according to manual of symptom diagnosis. Recognize respiratory distress and if present, refer. Treat according to the standing orders.
6. *Trachoma*. Diagnose and treat according to manual of symptom diagnosis and standing orders. Check all members of family in village family clinic and treat as necessary. Teach VVHA and family the transmission of the disease and prevention of passage.

B. Common conditions which can be easily learned and managed.

1. *Pyoderma*. Differentiate between inflammatory skin lesions, such as cellulitis and lymphangitis and uncomplicated pyoderma. Clean and dress lesions. Give hot soaks as required by standing orders and teach VVHA and family to clean and dress as necessary.
2. *Injuries*. Clean and dress wounds. Do simple debridement as necessary. Do adhesive apposition of wound edges in lacerations. Suture simple lacerations as necessary. Splint fractures for transfer to medical care.
3. *Intestinal parasites*. Identify parasite complained of, visually or by description. Treat patients according to standing orders.
4. *Scabies*. Diagnose and treat according to manual and standing orders. Teach VVHA and family to have the affected person bathe, to wash clothing, and bedding or put bedding in the sun.

Try to treat the entire family at one time.

C. Conditions specifically for the Lady FHW (ANM).

1. *Acute pyelonephritis*. Diagnose and treat according to manual of symptom diagnosis and standing orders.
2. *Acute endometritis (post partum)*. Diagnose and treat according to manual of symptom diagnosis and standing orders.
3. *Toxemia of pregnancy*. Diagnose and treat according to manual of symptom diagnosis and standing orders.

D. Conditions specifically for the Male FHW (S-V).

1. *Syphilis*. Diagnose chancre and treat according to standing orders. Draw blood for serum diagnosis if laboratory facilities available.
2. *Gonorrhoea*. Diagnose urethritis from history and manual of symptom diagnosis, and treat according to standing orders. Take urethral smear and transfer specimen to the laboratory.

E. Conditions which should not be treated by FHW.

1. Do not treat any condition for which training has not been received and/or there is no manual of symptom diagnosis or standing orders.
2. Give appropriate advice and education but no treatment for upper respiratory disease, chronic arthritides, chronic pulmonary disease, enterobiasis, chickenpox, mumps, German measles, etc.

F. Emergency Conditions

1. Diagnose or suspect the diagnosis according to manual of symptom diagnosis for all conditions requiring immediate surgical correction or needing intensive medical care. Know how to prepare for and arrange transportation.

II. Preventive Medicine

A. Malnutrition

1. Learn available foods in villages and usual diets for various age groups, especially for lower economic groups. Decide on possible foods for use in supplementary feedings and weaning diets from foods available which will provide adequate calories and proteins for infants and growing children.
2. Train the VVHA and families how and what to feed children. Teach feeding and care of the sick child and adult according to manual.
3. Diagnose and classify malnutrition and determine which children need foodstuffs from the health center according to criteria in manual.
4. Supervise a feeding station in areas of extreme need as determined by the Department of Basic Health Services.

B. Immunization

1. **Mass programs**: Organize and participate in total village immunization programs as vaccines are available. Attempt to move regularly from village to village until the area of responsibility is covered. (This may be done as part of the tuberculosis and leprosy surveys).

2. Immunization Program:

- a. Smallpox—everyone in the village who has not had vaccination in the past five years.
- b. DPT (Diphtheria, Tetanus, Pertussis)—all children two months to three years of age (to five years if vaccine available).
- c. TT (Tetanus Toxoid)—all women in the child-bearing age.
- d. BCG—all children five to twenty years of age.

3. Schedule: Immunization in Survey.

- a. First visit—smallpox, DPT No. 1 and TT.
- b. Second visit—one month to six weeks later. DPT No. 2, TT No. 2, smallpox; BCG anyone missed on first visit.

4. If a village family clinic is being held, specific times during the year, perhaps every three to four months, all new arrivals in the villages including new babies, should be gathered and proper immunization given.
5. If there is no village family clinic, each village should be subsequently visited once a year to immunize all who have moved in or have been born in the year. Those to be vaccinated should be determined by the VVHA if there is one; if not the FHW (S-V) should make a preliminary visit and obtain names from village leaders and others in the village. All should be given appointment slips to come to the nearest center or an assigned central place on a specific day. The VVHA should see that everyone is there or this should be the responsibility of someone in the village. Immunization becomes a community affair.

C. Maternal Care. Specifically for the Lady FHW (ANM).

1. Train VVHA to obtain information about and report all pregnancies and refer patients to the village family health clinic or other nearest facility. (Until someone is trained for this work, it is the responsibility of the ANM).
2. Contact village midwives and train in simple obstetrics and cleanliness. Change only those practices that constitute a danger to the life or health of the mother or child. Set up a referral and follow-up system with the village midwife.
3. Train the village midwife to recognize complications of pregnancy, labor, and the puerperium and when to call the FHW (ANM). Be present at some deliveries with the midwife.
4. Be able to recognize common complications of pregnancy, labor and the puerperium and know when to transfer the patient for medical or obstetric care. Diagnose and treat according to manual of symptom diagnosis and standing orders, acute pyelonephritis, acute endometritis, and toxemia of pregnancy, retained placenta, some malpresentations, and post-partum hemorrhage, shock and dehydration. Recognize and call for assistance in mal-presentation, obstructed labor, endo-toxic shock.

5. See all pregnant women at least once or twice during pregnancy. Take a history, do hemoglobin, urine, weight, pelvic examination and internal pelvimetry. Follow patients having some evidence of expected complications. Refer other patients back to village midwife or VVHA to be referred back if complications develop.

D. Health Education

1. Carry on health education at every contact with people. Know the subjects for teaching as presented in the manual. Be able to teach those subjects to individuals and groups as well as the VVHA and village midwife. Teach exactly as presented in the manual.
2. Do not introduce new ideas or try to teach other subjects. If the people seem to have grasped all pre-determined material or if other things need to be dealt with because of conditions on the field, these should be discussed in staff meetings, the level of priority determined, and the content and method of teaching decided upon.

E. Vital Statistics

1. Take information on births, deaths, etc., according to manual on monthly visits to villages.
2. Find and keep records on all infectious diseases in areas assigned. Follow up reports; arrange reporting from teachers, village leaders, and VVHA. Keep records and report regularly on forms and schedules outlined in manual.

F. School Health. (Primarily for the FHW (S-V).

1. Participate with doctor or physician's assistant in yearly examination for tuberculosis, leprosy, trachoma, chronic dysentery, pyoderma, otitis media, and osteo-myelitis.
2. Follow up cases as outlined in the manual and continue treatment as outlined in standing orders.
3. Immunize according to schedules outlined in manual.
4. On immunization visits, see sick children and treat if the condition is outlined in the manual of symptom diagnosis and standing orders.
5. Teach health education subjects to students on priority subjects and enlist their cooperation in community projects.

III. Schedule of Activities

A. Health Center—two days/week

1. Administrative and training—one day/week.
2. Family health and general clinics—one day/week.

B. Field Work—four days/week (after completion of surveys)

1. Community immunizations—two days/month.
2. Village clinics—three days/week.
3. Other community projects or visiting—two days/month.

XI

THE VOLUNTEER VILLAGE HEALTH ADVISOR AND THE FAMILY

It is now generally accepted that it is impossible to reach the vast numbers having no access to health care with the trained professionals. The answer to the problem, at the present time, seems to lie in the training of paramedical personnel to do many things that heretofore have been the prerogative of the doctor or nurse.^{18 20} Yet, as the evidence is weighed, the disturbing conclusion is that no developing country can afford the numbers of personnel that it needs for this work. Bangladesh estimates that it needs, in the next year, 10,000 multi-purpose health workers, 2,000 lady health visitors, family planning workers and midwives, 1,000 inspection officers, etc.²⁰ Nepal plans for one health visitor for each 5,000 population or 4,000 workers to reach 45% of its people, in addition to ANM's, nurse midwives and auxiliary health workers.

If we consider that an ANM can cover 2,000 population in rural Afghanistan and that 85% of the population is rural (14,450,000), Afghanistan would need 7,000 ANMs alone. If the ANM can cover 5,000 population instead of 2,000, the anticipated need will still be nearly 3,000. This is an illustration of the fact that the supply will never catch up with the demand so the effectiveness of the paramedical worker must some-

how be extended.

Some responsibility must be passed on down to the family and members of the community, who can act as community health advisors. If this is possible, there may be hope to cope with the task. This will require educating the family and the community. Present programs, as carried out, teach by implication that the responsibility for the discovery of ill-health and for its correction lies solely with the health care team, not the individual, the family, or the community. The opposite of this, that is, crisis medicine, or the dealing with problems only as they arise, has an equally limited effectiveness. Increasing responsibility is needed on both sides. The health care team must be as close to the need as possible and must train the family and community to care for some of its own needs.

Medical care must begin with the family. It is true that it takes a skilled person to interpret many of the signs of serious illness, but a good mother knows when her child isn't doing well, often better than the nurse who sees him or the scales that weigh him. The vast majority of village people, though uneducated, are not without intelligence. They can and will learn. They want to know what to do.

What the Family Ought to Know

There are many things about health that the family ought to know. A partial list of the most important of these is given below. In areas other than the Hazarajat other things, such as malaria, leishmaniasis and hookworm would be added. It must be remembered, however, that much needs to be unlearned and that the presentation of new ideas has to be accomplished slowly with repetition and frequent reinforcement. A few subjects should be chosen from the list according to priority decisions. Four to five facts should be decided upon for each disease or group rather than long explanations.

1. *Acute and Chronic Dysenteries:*

What causes them. How to avoid diarrheas in infancy and early childhood. What are the danger signs which point to the need for medical care. What to do in times of epidemic. How to feed a person who has diarrhea.

2. *Infectious Diseases:*

What are the common contagious diseases. How are they recognized. Which are serious and which are not. What is the expected course. When to suspect complications and come for

care. How to care for the sick child or adult. What immunizations are available and when and where.

3. *Tuberculosis:*

What causes it. How it is transmitted. How, and how long it is treated. What to look for to suspect the disease. The necessity to go for early care. How to protect the rest of the family.

4. *Leprosy:*

What causes it. How, and how long it is treated. What causes disability. What to look for to suspect the disease. The necessity to go for early care. How contagious it is. How to protect the rest of the family.

5. *Malnutrition:*

How a child grows. When and by what to suspect the child is not doing well. Where to go for care. How to feed the nursing child, the weanling, the growing child. Importance of continuing the mother's attention with the weanling until he is well on his way to a healthy life.

6. *Family Spacing:*

The relation of frequent pregnancies to the health of the mother and young child. The fact that children can be spaced. What contraception does and does not do. Where and when the mother can go for help. What to expect when using some form of contraceptive.

7. *Infant Death:*

What are some of the causes. What can be done to prevent

- them. Where and when to come for assistance.
8. *Illness in the Young Child:*
What are the danger signs in the growing child. What diseases need immediate care. What can be ignored. What can be prevented and where to get immunization.
 9. *Pneumonia:*
How to recognize it. The necessity to come immediately for aid. Where to come.
 10. *Trachoma:*
How it is passed. What are its consequences. How to prevent passage. The necessity for treatment. What the treatment is and how long it takes.
 11. *Pyoderma:*
How to wash the areas and remove crusting. When to go for treatment. How to prevent it by proper care of minor injuries.
 12. *Injuries and Accidents:*
How to clean and dress superficial injuries and abrasions. What not to put on a wound. When a laceration needs care. What are common accidents and how they can be prevented. What to do and what not to do immediately after a burn or other serious accidents.
 13. *Neonatal Tetanus:*
What causes it. Where not to have deliveries. The need for cleanliness in delivery. The need for immunization of the mother and where to get it.
 14. *Intestinal Parasites:*
What causes them. How to prevent them. The need for clean hands.
 15. *Scabies:*
What causes it. Where the mite lives. Need for bathing and washing the clothing and bedding or putting in the sun that which can't be washed. Need for treatment of the whole family.
 16. *Maternal Mortality:*
What is expected from a normal delivery. What can go wrong. What can be done to prevent complications.
 17. *Medicine:*
How it works. What it can and cannot do. How it should be taken. Effectiveness of oral medication as well as injectable. All medicine is not the same.
 18. *The Clinic:*
How it works. What happens there. Why the doctor or nurse takes a history. Why blood tests and X-rays are taken. Why laboratory test is needed in some instances, and not in others. What the stethoscope does and does not do.
 19. *Immunization:*
What diseases can be prevented by vaccination. When should a child be vaccinated. How often.

Voluntary Village Health Advisor

The second line of medical care is at the level of the community or the extended family. Usually this line is already established. There is a woman who has successfully raised an infant without the benefit of breast milk. She is the one others turn to. There is a woman who has nursed a seriously ill person back to life, and she has become the village authority on disease care. There is a senior member of the family, or a village midwife who attends deliveries, and the people know her and trust her. There is a man who has learned some things about disease in the army, from his father, or from the radio and he tells others what should be done. Their information may be faulty and incomplete, or their methods ineffective and perhaps dangerous, but they are there and are the logical ones around whom to build a village program.

These people need to be identified, inspired and trained. The garrulous woman, who knows everyone's business, with some training and authority behind her may become a potential village volunteer. People like this are the key to the program because once they are trained they take the routine work off the shoulders of the FHW. They can become the interface between the health team and the people. They need the prestige of feeling important and being appreciated by both the village and the health team.

Ideally, one man and one woman from each extended family would be needed. The woman is the more important, as village women will not turn to a man. Also a respected woman is needed to accompany the FHW (ANM) on her rounds to protect her against censure by the village. Initially, the woman chosen should be one who represents the largest group and has the most interrelations with other extended family groups, thus potentially being able to spread her effectiveness.

The volunteers should be chosen carefully. It would be desirable if they could be literate and in some areas this may be possible. The more important thing is

their willingness to work and their acceptance in the village, thus assuring that the advice they give will be received and followed.

The volunteer village health advisors are the FHW's assistants and if properly motivated can make the program in any village more successful. If the health team is to be effective the assistants must be trained and supervised to carry a good share of the load.

These people, unsophisticated, with limited knowledge and a scanty background in health, can make a great contribution by their knowledge of the people and village life. There is a wisdom among villagers that must be appreciated and used. At the same time, new ideas and ways must be taught slowly and simply, mostly by demonstration.

No formal training is given to the VVHAs. The FHW should establish the village program and train the VVHA as they go on home-visiting or work in the village clinics. In this manner they learn their role in the clinics and in village disease control. The FHW should meet with several of them in the morning at the village clinic to discuss some of the things they need to know and procedures they will need to follow. These things should then be reinforced as they visit homes.

When one group is well trained and functioning in their villages the FHW can choose another group of villages and repeat the same process. Thus the FHWs multiply themselves and spread simple health care.

The list of things the VVHA should know is given below. As with the things families should know, it may be necessary to add items. A few subjects of the highest priority should be taught first. These should be mastered and used over a considerable period of time before new things are introduced.

A. What the Volunteer Village Health Advisor Ought to Know

1. *Acute and Chronic Dysentery:*

Recognize chronically debilitated persons, know signs of

dehydration, and be able to determine loss of weight. Know and be able to give treatment for mild dehydration. Know when to send for care. Be able to reduce rectal prolapse. Know significance of blood and/or mucus in stools.

2. *Infectious Diseases:*

Know signs, symptoms and course of infectious diseases. Differentiate between the serious ones needing care and the non-serious. Recognize appearance of signs of complications. Be able to take axillary temperatures and know and teach what to feed a person with fever. Know when to send for help. Be able to take simple facts for epidemiology. Know persons needing attention. Report all infectious and febrile disease.

3. *Pneumonia:*

Recognize signs of respiratory distress and cyanosis. Be able to arrange for rapid referral for medical care. Refer all cases for immediate treatment.

4. *Tuberculosis:*

Know and be able to teach how it is transmitted, how recognized; how it is treated and how transmission can be prevented. Be able to do case-finding, regular follow-up of cases and referral, according to methods taught by FHW.

5. *Leprosy:*

Know and be able to teach how it is recognized, how it is treated, how infectious it is, what is its cause, what can be expected from treatment. Be able to recognize suspicious lesions and refer for diagnosis.

6. *Malnutrition:*

Teach and advise on supplementary feeding, weaning diets and diets for the growing child and the sick child and adult. Teach need for keeping clean and keeping children clean. Chide mothers whose children aren't clean. Recognize failure to grow in infants and children and refer to clinic as needed. Know about how children ought to progress and weigh on hand scales if malnutrition suspected.

7. *Family Spacing:*

Know and be able to teach the need for family spacing in terms of the health of the mother and child. Know how to use pills and condoms; what to expect from their use and what to advise when problems arise.

8. *Infant Death:*

Be sure to evaluate an infant death and report symptoms and signs accurately. Know that most infant deaths can be prevented. Be able to recognize signs of illness in the new born and infancy period and refer for immediate care. Know signs of failure to nurse well and be able to teach and advise on improving or supplementing breast milk.

9. *Illness in the Young Child:*

Know the signs of failure to thrive in a growing child. Be able to recognize symptoms and signs which indicate the need for immediate care. Know what can be ignored. Understand and be able to teach the care and feeding of the sick child.

10. *Trachoma:*

Know the signs and symptoms which lead to suspicion of trachoma. Know what the treatment is and why. Be able to give simple treatment of purulent conjunctivitis. Be able to demonstrate use of eye ointment. Be able to diagnose trichiasis and know what should be done.

11. *Pyoderma:*

Be able to clean skin infections. Know what to apply and what not to apply. Be able to differentiate inflammation, cellulitis and lymphangitis. Be able to apply hot soaks and know when to refer for treatment.

12. *Injuries and Accidents:*

Be able to clean and dress superficial injuries and abrasions. Know what not to put on a wound. Know when a laceration needs care. Know what are common accidents and their precautions. Be able to give simple first aid for burns and accidents and splint fractures for transfer.

13. *Neonatal Tetanus:*

Be able to recognize the signs and symptoms. Know and be able to teach what causes it and where it comes from. Know how to keep deliveries clean. Be able to teach the need for immunization of the mother and give information on

where to obtain it.

14. *Intestinal Parasites:*

Know and be able to teach what causes them, how to prevent them and when treatment is needed. Be able to recognize the three types of worms.

15. *Scabies:*

Be able to recognize scabies. Know its causes and treatment. Be able to assist families in bathing, washing clothing and cleaning bedding for control of scabies.

16. *Maternity:*

Keep track of and report pregnancies. Know how to follow pregnancy and post-partum period. Know the danger signs and when to refer to FHW (ANM). Be able to take a history of maternal death and report symptoms and signs accurately. Know how a normal delivery should progress. Be able to prepare the home and family for a delivery.

17. *Vital Data and Reporting:*

Know what events in the community should be reported. Know what should be investigated prior to reporting.

B. Duties of Voluntary Village Health Workers

1. *Vital Data:*

One or the other of the VVHAs is chosen to report all vital data to the appropriate FHW every other week or monthly. Births—whose house, name of father and mother, date.

Deaths—Name, age, sex, name of head of household, cause of death, (local terms such as tars, saya, jinn, baghal, etc., may be used) and if possible report symptoms shown by the ill person before death.

All new illnesses—name, age, sex, name of head of household, symptoms and signs.

2. *Chronic Disease Control:*

Visit all people in the village weekly who have chronic disease and are on medication. Keep information on when medicines need to be refilled. See that those needing medication go to the family clinic in their area. Report all new suspected cases to the FHW and see that they go to the village family clinic or health center.

3. *Village Clinic:*

Assist FHWs in opening and setting up clinic. See that all persons in village needing care get to the clinic. If capable, weigh all adults with chronic disease and weigh and measure all children. Take temperatures and pulses on all persons at the clinic.

4. *Village Health Control:*

Visit all families in villages under his/her care. Discuss health topics which have been learned. If questions come up for which they have no answers, remember then to ask FHW. Advise family to clean houses, beds and clothing. Encourage washing of hands after toilet and before eating. Ask about health and illness. Check the children and see if they seem to be thriving. Refer problems to FHW and arrange for patients to be seen in clinic. If there are feeding problems, advise with feeding or refer to FHW.

Ask about pregnancies, and see that pregnant women get in to clinic to be seen by the FHW (ANM). Discuss all problems with FHWs. Ask FHWs to make house visits if necessary.

Ask about members of family with chronic cough, skin lesions, fevers, diarrheas, eye disease, intestinal parasites and other complaints. Check eyes especially of children and refer if disease present. Take afternoon or evening temperature if fever is a complaint. Do not refer chronic pulmonary disease back to the village clinic if tuberculosis has been excluded by the physician. Do not refer cases of chronic arthritis, or of U.R.I.

Report infectious diseases to FHW. Encourage village people to come to them for advice.

5. *Family Spacing:*

Talk to all families about family spacing on every opportunity, but especially: 1. If the family has a pregnant female. 2. At the shirini celebration for a coming infant. 3. At the time of birth. 4. At the end of six days at the celebration. 5. At the end of 40 days. 6. At the time of beginning supplementary feeding (six months of age). 7. At the time of weaning.

If pills are desired or if IUD's wanted, refer to village family clinic for initial supply. The VVHA should give continuing supplies of condoms and pills, teach their use according to methods taught by FHW and talk to families about effects of pills and what they will and will not do. Encourage the family to come to them if any problem arises. Refer to the FHW if the family needs encouraging. Report on all families and persons using contraceptives to FHW and arrange for them to come to the village family clinic if problems develop. Receive new supplies of pills and condoms from the FHW at time of clinic.

C. Additional Duties of the Lady Volunteer Village Health Advisor

1. Malnutrition:

Visit families with malnutrition problems every week. Encourage use of locally available food by the family to improve children's nutrition. Assist in actual feeding of malnourished children. Note progress and refer to FHW if needed.

2. Maternal Care:

Know all the women in the village and report pregnancies to the FHW (ANM). Talk to all families after delivery of child about family spacing. Report all deliveries. Check the post-partum mother for fever or excess bleeding and call the FHW (ANM) if necessary; otherwise report negative findings. Refer mother to village family health clinic for post-partum check at 40 days.

3. Infant Care:

Visit all newborns and refer them to VFH clinic. Look over infant for obvious abnormalities, respiratory distress, cyanosis, jaundice, fever, vomiting, failure to suck, or convulsions. Take axillary temperature if fever is suspected. Refer immediately to health center if any of these things are present. Encourage family to call her if anything abnormal appears. Visit again at seven days and at forty days. Check infant for the given signs and symptoms. Refer if present.

D. Additional Duties for the Male Volunteer Village Health Advisor

1. Village Health Control:

Meet frequently and regularly with village leaders. Teach health subjects learned from the FHW. Hear their needs and concerns. Report to the FHW (S-V). Help village leaders to understand solutions to health problems and gain their support for health programs.

2. School Health:

Assist FHW(S-V) in school examinations and immunizations. Arrange time of visits with teachers.

3. Sanitation:

Go over water facilities. Help and encourage leaders to work toward safe water supplies. Assist in developing programs and maintaining cooperation.

Assist in dusting or spraying of houses as requested by FHW. Enlist the cooperation of villagers and allay fears of the results. Have the village organized for those doing the task and be able to direct from house to house.

XII

PHYSICIAN'S ASSISTANT

As one contemplates the magnitude of the task of providing medical care to an increasing population, taking into account the paucity of doctors and cost and time involved in training them one is forced to the conclusion that alternative personnel need to be developed.

If this premise is accepted, then comes the question of who should fill this gap. Nurses are already in short supply and have rather specific job requirements, although some of the present pool of male nurses may be ideally suited to this kind of work. An interval solution of retraining sanitarians or vaccinators might meet the immediate need. But for the future, it seems foolish to train someone for a particular type of position, so that you can retrain him later for the more needed position. For these reasons it seems there are ample indications for a special category of physician's assistant (medical assistant).

A. Precedent

This is not a new concept. The term "medical" or "physician's assistant" refers to a type of medical auxiliary who deals with diagnosis and therapeutic medicine within a carefully prescribed sphere. He requires special training at a lower level than the university. His training is much less comprehensive than that required for doctors. Worldwide, there is an increasing use of the medical assistant. Training is usually one to two years. It is important to note that the physician's assistants are not just partly-trained doctors, but assistants, well trained in a part of those things now in the province of the doctor.²⁰

Of the more developed countries, Russia has had its "feldsher" for nearly 300 years.²⁰ The United States is now training an increasing number of physician's assistants and nurse clinicians.¹⁸ China's great success in spreading medical care to the entire country has been due to the skillful utilization of an individual in this job capacity, referred to as the "barefoot doctor."²¹

B. Advantages of the Physician's Assistant

1. Can help meet the critical doctor shortage.
2. Would be able to work in rural areas.
3. Would minimize waste of doctor time.
4. Is not likely to emigrate.
5. Is less apt to be ambitious than doctors as a whole and more content to accept work and hardship of rural medicine.
6. Can be trained at a fraction of the cost for train-

ing doctors.

7. Can be recruited at a lower educational level and trained for a shorter period of time.
8. Would be less expensive in terms of recurrent costs, salaries, and allowances.
9. Can deal with a majority of patients.

C. Utilization

This cadre of workers has been used in rural outpatient clinics, in hospital and health centers, and specialized work in hospitals.^{18 20} They would take histories, do physical examinations, and sort trivial complaints from serious disease. They can manage family clinics, run TB and leprosy control programs and provide primary care. They have, in many countries, been proficient in minor surgical procedures, lumbar punctures, plaster casting, starting of intravenous infusions and incision and draining of abscesses. They can relieve the doctors of many tasks.

D. Qualifications

1. Six to nine years preliminary education.
2. One to two years training course—clinical and on-the-job training.
3. Preferably selected from the area in which he is expected to serve. Urban types do not thrive when transplanted into rural settings.
4. Individuals acceptable and respected by the population in the area to be served.

F. Duties

1. Medical

1. Sort patients and determine treatment priority.
2. Take histories.
3. Do simple physical examinations.
4. Provide initial patient care.
5. Diagnosis and treatment of patient within degree of training by use of diagnostic criteria, charts and prescribed treatment regimens.
6. Do simple diagnostic procedures: temperature, pulse, BP, lumbar puncture, paracentesis of ascites and hydroceles, draw blood specimens, do leprosy skin scrapings.
7. Do simple surgical procedures: repair skin lacerations (not involving tendon repairs), I & D of superficial abscesses, remove simple skin tumors, apply splints and plaster casts.
8. Act as surgical assistant.

9. Do resuscitation until physician becomes available or the patient can be transferred.
10. Do epidemic survey and initiate indicated control measures.
11. Do epidemiological and village health surveys.
12. Recognize limitation and seek help as indicated.

II. Administration

1. Fill out required medical forms at station of assignment.
2. Keep all records of assigned work.
3. Keep inventory of items responsible for.
4. Requisition of supplies and equipment and maintenance of stocks.
5. Maintain disease and patient statistics.

XIII

OTHER PERSONNEL

As the program is developed, additional categories of workers will need to be considered. In the present report they have not been included in any of the lists of staff requirements. Some of these are:

Field Nutritionist

Specific work needs to be done at village level in determining what food stuff is locally available and how it is prepared for use. Then methods must be devised for modifying food preparation to provide better nutrition. When these methods have been established, time must be taken to teach the people how to improve their family's nutrition.

Practical Nurses/Nurse Aids

There are not enough nurses to take care of routine nursing work. As the amount of time needed to train nurses is three to four years after a high school education, it would seem important to begin training persons in a two-year category of practical nurse. The background educational requirements would thus be less. The status of the registered nurse could thus rise

and his/her position become that of supervisor and/or teacher.

Laboratory Assistants

Much of the laboratory work needed at the health center and field level does not require a fully trained laboratory technician. In many developed countries, because of volumes of work, technicians are divided into departments such as "blood," "urine" and "chemistries." Here for other reasons than volume, laboratory assistants should be trained to handle only those procedures necessary to the kind of a laboratory needed at the local level. These should be chosen from the local area in which they are to serve. 6th-9th grade graduates, who are unable to go on to the university level, can be taught to do necessary procedures in three to six months.

Others

Much routine work could be accomplished by training local people as dressers, and ward assistants.

XIV

TRAINING PROGRAMS

Introduction

The number of people needed in a health care delivery system is high. The thesis of this paper has been that there is a special need for training of lower echelon personnel and their supervisors. As change is an inevitable part of the fiber of modern life, so training

and retraining must be a constant process at all levels of experience and background. How then, can skills be given to people to accomplish the most important tasks confronting them?

I. Developing a Training Program

A. Personnel

1. Determination of types of personnel needed, titles to be used, responsibilities of each level, and personnel organization.
2. Decisions on needed educational background, selection of trainees, type of training and curricula.
3. Selection and assignment of personnel to be trained.
4. Provision for residence and working units.
5. Selection of teachers and training areas.

B. Curriculum Development

1. Setting up of routine methods and procedures which personnel will be expected to know.
2. Determine activities and responsibilities that each type of personnel will be expected to be able to do at the end of the training session.

C. Curriculum Preparation

1. Determination of course structure and content.
2. Preparation of clinical teaching situations.
3. Preparation of materials.
4. Establishment of procedures for examination.
5. Orientation of teachers and assignment to teaching areas.

Personnel need to be given certain background knowledge for the work they are to do but most of all they need to be given the skills necessary to perform that work. Concentration then should be on developing training programs in clinical and field situations from which personnel emerge capable of handling their jobs as defined for them.

But probably equally important to the training of the individual is the simultaneous development of a program so that on completion of training, personnel can be put into a working situation where their training becomes relative and they are active doing what they know how to do.

High motivation, such a vital ingredient in any successful program, is usually at its peak during the training period. The students come out eager to be about the task of improving health and serving the community, but if they are put into an environment of

indifferent or no supervision; if the program is not functioning; if there are no supplies and no equipment to do the job they were taught to do; if the community does not welcome them and want them; if they are not kept busy, the vital motivation soon dies.

Only some aspects of the needed steps to developing the training program will be considered here, but the others will need to be taken into consideration as planning is done.

I. Determination of types of personnel needed, titles to be used and responsibilities to be expected.

A. Present personnel category needs.

1. Family health supervisor
2. Family health worker
3. Laboratory assistant
4. Ward assistants
5. Dressers

B. Personnel categories for the near future.

1. Physician's assistant
2. Operating room technician
3. Anesthesia technician
4. Practical nurse

C. Responsibilities to be expected.

If activities and responsibilities are clearly defined, it is not difficult to build a training program which will give the personnel the needed knowledge and skills.

II. Provision of working units and selection of training areas.

Much has been said already about the development of training areas, but many kinds of places already available could be used while these are being prepared. Given the skills that personnel need, it should be possible to look around and find any place where some of these things are being done and assign people to learn what others are doing. Simple laboratory procedures could be learned in the laboratories of the Public Health Institute. Clinical procedures could be

learned in out-patient clinics in Kabul. The most important needed ingredients are people who want to teach.

Then every new unit in the family health service can become a miniature training area as new personnel are assigned to those with some experience. The responsibility is given to everyone to teach what they know to others.

III. Continuing In-service Training

To maintain enthusiasm, and to constantly improve quality of service, all personnel must consciously assume the role of a student. Continued in-service train-

ing is an essential part of the program.

Each week in each unit a half-day is set aside for in-service training. Everything needed can't be learned well enough in the first six-month period but learning can go on.

Skills can be sharpened, new ones can be learned, mistakes can be corrected and responsibilities can gradually be increased in these weekly sessions and in every contact the doctor and the supervisor have with their team members.

As each person learns to be constantly teaching someone else all that he can, the necessary knowledge and skills will spread.

EVALUATION

Evaluation is both a continuing process and a periodic one. Evaluation and revising of materials, records, systems and programs should be done yearly but also continuous review and interaction between field personnel, their supervisors, medical leaders and those from training and development areas should go on.

Weekly conferences should be held between supervisors and the individuals for whom they are responsible. A brief written report should be made on activities, problems, solutions found, successes and suggestions for the assistance that might be needed by each member of the team and sent to the immediate superior. The report should then be discussed, with the supervisor being able to verbally question what is being done and make suggestions.

Training sessions at the nearest larger facility for all staff are to be arranged as much as feasible. One session per month should be given to discussing progress and problems and to planning the next steps to be taken. These plans should be recorded and at the next month's session the personnel should discuss what was accomplished and what was not possible to do. Half of every session should be spent in planning.

Monthly reports should be sent to the Director of Provincial Health Services. These should contain not only activities and statistics but also evaluations of what is or is not being done and suggestions. These should be given early enough for the Director of Provincial Health Services to include them in his report.

A copy of the monthly report from the Director of Provincial Health Services should be sent to the team of experts so that evaluation and suggestions from the lowest level of service on the field reach the planning group every month.

Yearly reports, including activities, statistics, program review and analysis, and systems review and analysis, should be made at each provincial level. The team of experts should then evaluate the entire program and make suggestions for changes or improvement of existing systems in every level, from the central Department of Family Health and rural training areas to the village clinics. Members of this team should then sit on the Planning Board of the Department of Family Health. A report of findings and of recommendations should go from this group to the Planning Board of the Ministry of Public Health.

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INSTRUCTIONS TO INTERVIEWERS

I. HEAD OF HOUSEHOLD - FORM A

1. Name: Follow name spellings on list of uniform names. If there is any question, record in pencil.
2. S/O = son of ____, w/o = wife of ____, d/o = daughter of ____. Circle appropriate one and write in name.
3. Date: of interview.
4. Number: This number, four groups of three digits, is related to the clinic numbering system in the following manner:
5. Village and Sub-village: They may or may not have a designation for the small units, but if they do, it should be recorded under sub-village.
6. Age: Actual age if possible, estimate if unknown.
7. Sex: Check appropriate box.
8. Ethnic group: Circle appropriate one.

Year _____
 Sex _____
 Sub-province _____
 Province _____
 Village Number _____
 Village Study Code _____

3 1 1 -1 2 1-0 0 0-0 0 0,

Patient Number

Province: This number will be 1 in all cases in this study

Bamian - 1

Sub-province:

Yakaolang - 1

Panjao - 2

Sex:

Male - 1

Female - 2

Year-1971 - 1

H=Hazara
 PN=Pushtun, Nomad
 PO=Pushtun, Other
 TJ=Tajik
 TU=Turkoman
 S=Said: If this is checked, one other designation must be made from above.
 O=Other

The patient number will have six digits as usual, but they will have different meanings as below:

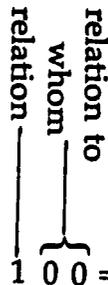
000 - 000
(123) (456)

1, 2, and 3 will be counting numbers of households, beginning with 031. 4, 5, and 6 will be personal numbers. The number of the head of each household will always end in -000. The head of the first household will always be 031-000, of the second household 032-000.

9. House Number: This should have two parts, e.g. 4-11 = Map 4, House No. 11. House numbers will be designated on the maps.
10. Number of people in compound: This is total number including servants and guests living there at time of interview.
11. Number of rooms under the roof.
12. Occupation: Both verbal and numerical designations from key.
13. Person numbers: 01, 02, 03. These are consecutive numbers assigned in order of interview, or order in which person was discussed. Household members need not be personally interviewed, but listed when discussed by head of household. Try to get information on all

people in compound, or who were previously in compound.

14. Relation: Patient numbers on subsequent charts will be built from relationships, (See Key) and person numbers. Relationship will appear as the last three digits of the patient number, as follows:

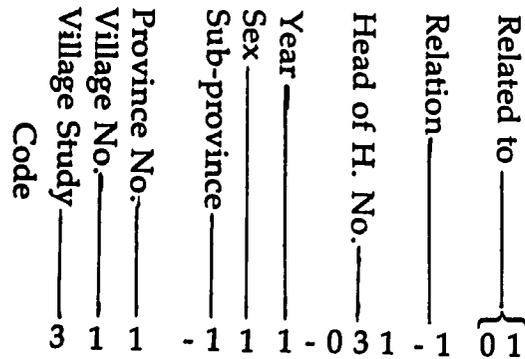


(from column 13) 1 0 0 = Father of head of household (see key). 01 in column 13 counts the first person discussed. Suppose this person is the father of the head of household. Then in column 14 write 100 where the 1 (from the Key) represents "father" and "00" represents "of head of household." The second person interviewed is #02 in column 13. If he should be father of the father of the head of household, then his name will be written beside the 02 in column 13, and in column 14 the relationship number 101 will be recorded. In this case, the first 1 refers to "father" and 01 means "of the first person recorded." Thus, 301 = brother of the first person recorded. 816 = wife of the sixteenth person recorded.

For persons totally unrelated to the family, use 0 for relation, as on key, and 81 for "relation to whom," for first person, 82 for second unrelated person, etc. If related to 81, construct his person number as usual. These numbers will then be used on individual records.

II. HEAD OF HOUSEHOLD- FORM B

1. Name
2. No.: Use code numbers from Form A - relationship designations.
3. *From where* and *to where*: No.—Use code



15. Living or Cause of Death: If living, enter 0. If dead write cause of death. If the Farsi is not understood, make entry in standard phonetics of either P.C. or Glassman system. If more space is needed use *Remarks*.
16. Coding to be done later with special code.
17. Age: See Coding Key.
18. Location: Where the person is at present. Record number code from key. Use only most specific designation.
19. Occupation: See Coding Key
20. Education: Type of school from key, and years of study completed. Secondary school and college years are numbered 1 to 8. Thus:
 - 4-3 = secondary school
third year, or junior in H.S.
 - 4-7 = secondary-college, third year,
or junior in college.
21. No. of persons who died since Jeshyn last year. Use code relationship numbers in all boxes. Code for *Cause of Death* will be entered later by doctors. Record cause or description of cause on lower box.
22. Notes: Record any pertinent information which cannot be fitted into other boxes.

number from Location Key. If 1 which represents "in the same village" is recorded, put the map and house number in the "to where" column. If other than those listed, specify what.

4. *When out and Into* compound: Designate number of years ago.
5. *Why and Returned*: See codes im-

mediately below each column. If other, write in.

HEAD OF HOUSEHOLD - Form C

1. Use "X" for "present" and " ___ " for "not present." Give numbers where applicable.
2. Animals owned ___ : give approximate number.
3. Type of life:
Nomad—life entirely nomadic.
Semi-nomad—life primarily nomadic but having a permanent base somewhere and engaging in agriculture.
Semi-Sedentary—life primarily seden-

tary but some portion of the family is nomadic for some portion of the year.

Sedentary—No regular yearly movement for grazing or agricultural purpose.

4. Water Source: Check type of water source and give condition from the Key.
5. Food storage: write type of food storage.
6. Ailoq: Directions N-north, NE-northeast, etc., put an "X" on one.

HOUSEHOLD FOOD INTAKE PATTERN - Form D

1. For each item of food, list the types of food in which the item is used. Underline the most common.
2. Source would be
 - a. family owned or grown
 - b. obtained from another family
 - c. bought from another family
 - d. bought from bazaar
3. Amount consumed—Try to describe by some common measure how much was

prepared and what is prepared daily.

4. Daily and weekly will not be possible for all foods. Do what is possible. Monthly is possible for milk products as they should know how many pounds the animals produce and how many months/year they produce. The number of persons eating this amount of food should be recorded by age group 0-4, 5-15, 16-44, 45+.

PERSONAL HISTORY - Form E

1. Top Line - as on other charts. No. Personal number from Form A.
2. Compound No. = House No.
3. Treat, bef. - For those who have been seen by MAP personnel, write *Yes or No*.
4. Prev. No. - Everyone should be asked if they have a ticket from the hospital at Panjao or Yakaolang. This should be produced.
5. S - Single; M - Married;
W - Widowed; D - Divorced.

6. Ethnic groups:
 H=Hazara
 PN=Pushtun, Nomad
 PO=Pushtun, other
 TJ=Tajik
 TU=Turkoman
 O=Other
 S=Said

If Said is checked, an attempt must be made to determine the ethnic background.

PO = Many of the appointed officials are Pushtun but far removed from the nomad.

7. Give Name and Number.
8. Give actual relationship or *None*.
9. PGF - Paternal grandfather etc.
10. If living put "X" and give approximate or apparent age. If dead give cause of death and age at death. If you do not understand, write the farsi word in, in

standard phonetics of either the Peace Corps or Glassman method.

11. If patient is female record first wife as No 1 of 3 wives. Record duration, etc. above, but cross out *Male*. Do the equivalent for the male.
12. Stillbirth = dead in utero after 7 months gestation.
Abortion = dead in utero before 7 months gestation.
13. As on Form A.

CHILD HISTORY - Form F

1. Write entire personal number above *No*.
2. Height and weight: Note correct unit if different from those in boxes. Chest circumference at the nippleline.
3. Sc = scarring from the disease. If this is present look for signs of vaccination or variolation. If one of these is also present try to find the time relationship.
Vc = vaccination done by the "government doctor" (vaccination) or other doctor: Look for the scar in this or the next category.
Va = variolation done by the mullah or

other local person.
Neg = must be checked if none of the others is checked.
Bcg = high on upper left arm at shoulder.

4. Mother's No.: The last 6 digits of mother's number.
5. Try to find at least the month of birth.
6. Breech = feet first.
Cephalic = head first.
Immed. medic. = this may be a food substance.
7. Give age in months that child was weaned and check reason.

NOTES:

CODING KEY

Relationships

- 0 - unrelated
- 1 - Father
- 2 - Mother
- 3 - Brother
- 4 - Sister
- 5 - Son
- 6 - Daughter
- 7 - Husband
- 8 - Wife
- 9 - Unknown

Age

- 0 - Special
- 1 - 0-12 mo.
- 2 - 13-24 mo.
- 3 - 25 mo.-4 yrs.
- 4 - 5-9 yrs.
- 5 - 10-14
- 6 - 15-19
- 7 - 20-44
- 8 - 45 +
- 9 - Unknown

Location

- 0 - In compound
- 1 - Same village
- 2 - nearby village
- 3 - same woleswali
- 4 - same province
- 5 - Ailoq
- 6 -
- 7 - Kabul
- 8 - Other
- 9 - Unknown

Education

S

- 0 - None
- 1 - Koran School
- 2 - Village
- 3 - Primary
- 4 - Secondary
& College

Y
(years of Study)

- 1-9
- 1-3
- 1-9
- 1-8

Occupations

- 1 - Farmer tenant
- 2 - Farmer landowner
- 3 - Skilled worker
(tradesman)
- 4 - Housekeeper
- 5 - Shopkeeper
- 6 - Village leader
- 7 - Mullah
- 8 - Herdsman
- 9 - Other
- 10 - Unemployed

Condition of Water Source

- 1 - Perfectly clear
- 2 - Cloudy, turbulent
- 3 - Much sediment
- 4 - Algae and/or decaying matter
- 5 - Active animal life
- 6 - Animal contamination
- 7 - Human contamination
- 8 - (Combinations)
- 9 - Other

**FORM A
HEAD OF HOUSEHOLD**

Date:

Name:		s/o, d/o, w/o	Day Mo. Yr.		No.
Village		Sub-Village	Valley or Area		Woleswali
Age	M F	Ethnic Group: 1. H 2. PN 3. PO 4. TJ 5. TU 6. S 7. O			Map & House No.

Family History:		1° Rela tion	2° Rela tion	L or D	Location	No.	Rea son	Relation to Other			Edu. Sch/ Yr.
Person	Name							Map No.	HH to whom	No. or Rel/HH	
01											
02											
03											
04											
05											
06											
07											
08											
09											
10											
11											
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26											
27											
28											
29											
30											
31											

No. persons died past 3 years	Who (No.)						
	No. Yrs. ago						
	Sex						
	Age						
	Cause & Descr.						

Notes:

Environment HEAD OF HOUSEHOLD Form C

Area Village Compound H. H. No.

Construction: House, Ailoq		Animals owned:	No.
Mud Brick	_____	Cows	_____
Tent	_____	Sheep	_____
Rush matting	_____	Goats	_____
Stone	_____	Horses	_____
Sod	_____	Poultry	_____
		Donkeys	_____

No. persons/sleeping room		Water Source:	Condition:
Winter	_____	River	_____
Summer	_____	Ditch	_____
Separate Kitchen:	_____	Spring	_____
		Well	_____
Latrine: Kenarab	_____	Protected spring	_____
open field	_____	Reservoir	_____

Bathing fac. priv. _____ pub. _____		Food Storage:	_____

Laundry: River	_____		
Ditch	_____	Infestation:	
Pan	_____	Lice	_____
Spring	_____	Fleas	_____
Pond	_____	Bedbugs	_____

Type Life:	No.
Nomad	_____
Semi-nomad	_____
Semi-sedent.	_____
Sedentary	_____

Ailoq Location	Description
N NE E SE S SW W NW	
Distance from Village _____ Days _____ hrs. _____ km	Rounded hills _____
No. of Families _____ c/o of Village _____	Steep mountain valleys _____
	High plateau _____
	Meadows _____
	Marshland _____
	Dry, deserty _____

**FORM E-1
PERSONAL HISTORY FORM**

Date:

Name		s/o, d/o, w/o		Day	Mo.	Yr.	No.
Village		Sub-village		Valley or area		Province	
Age	Ethnic Gp.	M	S	Name of H. H.		Clinic No.	
		W	O				

Family History:

Name	Alive/Dead (age)	Cause of Death
Father	_____	_____
Mother	_____	_____
G-father	_____	_____
G-mother	_____	_____

Marital: No _____ of _____ wives

Medical History:

Eyes: Itching _____ Pain _____
Discharge _____ Vision R _____ L _____

Ears: Pain _____ Discharge _____ dur _____
Hearing R _____ L _____

Throat: Soreness _____ Hoarse _____

Chest: Cough _____ dry _____
prod _____ dur _____

Sputum: color _____ amt _____

G. I.: Diarrahea _____ freq/day _____
dur _____, intermittent _____

G. U.: Burning _____ Noct. _____
Stones _____, blood _____
Discharge _____

Nervous: Seizures: _____
Paralysis: _____
Sensation: _____

General: Fever _____, dur _____, chills _____
Charac. _____
Other: _____

Obstetric History:

No. Pregnancies: _____

No. Live births: _____

Stillbirths: _____

Abortions: _____

No. children living _____

No. males living _____

Ages of Children: M. _____

F. _____

Menstrual: Age onset _____

Cycle _____ No. days _____

Abnorm. _____

Age at first child: _____

Immunization:

BCG _____ date _____

Smpx _____ date _____

PPD _____ date _____

DPT _____ date _____

Other _____

Intestinal Parasites passed:

Roundworm _____

Pinworm _____

Tapeworm _____

**FORM E -2
PHYSICAL EXAMINATION**

Name			s/o, d/o, w/o			No.		
Age	BP	Temp	Stand Ht.	Sit Ht.	Wt.	Arm Circ.	BCG	Smpx

Eyes: Normal _____
 Abn. R _____ L _____

Ears: Normal _____
 Abn. discharge R _____ L _____
 drum R _____ L _____

Neck: Normal _____
 Abn. Nodes palp _____ Size _____
 Loc. _____
 Draining _____

Throat and Mouth: Normal _____
 Abn. Lesions _____

Chest: Lungs: Normal _____
 Abn. _____

Heart: Normal _____
 Abn. _____

Abdomen: Normal _____
 Abn. _____

Extremities: Normal _____
 Abn. _____

Nutrition: Kwashiorkor _____
 Marasmus _____
 Comments _____

Description of Disabilities and/or lesions: _____

Diagnoses: _____

Comments:

Notes and Follow-up

Village Form

Form H

Area		Village		Population		Serial No.	
<u>Sub-Villages</u>	<u>No.</u>	<u>Population</u>	<u>Village Leaders</u>	<u>Titles</u>	<u>No. Households</u>		

Geographic Features:

Ethnic/cultural factors:

Educational facilities

Schools, location _____ Girls' school _____
 Av. distance _____
 No. students _____
 No. Grades _____
 Kind _____

Local Foods Available:

Cereals _____
 Fruits _____
 Vegetables _____
 Dairy _____
 Meat _____
 Fat _____

Foods Imported **Amt/mo** **Mo/yr** **Source**

Rice _____
 Sugar _____
 Salt _____
 Veget. _____

Fruits _____

Agriculture

No. jeribs cultivated

Products **Amount (jeribs)**

Exports **Amount**

