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**The MEDEX Primary Health Care Series:  
An Overview**

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**THE MEDEX  
PRIMARY HEALTH CARE  
SERIES:  
An Overview**

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To Dr. Terence A. Rogers, dean of the John A. Burns School of Medicine at the University of Hawaii. A man of vision, concern, trust, and competence, he has been the solid and unflinching support needed to initiate and complete this work. He is a colleague committed to the basic tenets of primary health care, and he expresses that commitment with relevant action.

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For most of us, there can be no higher gratification than seeing this part of the job completed and the Series used to promote the well-being of our fellow man. We share the belief with all those who have contributed to this endeavor that primary health care offers the best opportunity for improving human health and that primary health care development must move forward over the coming decades if we are to make the most of this opportunity.

RICHARD A. SMITH, M.D., M.P.H.

# **The MEDEX Primary Health Care Series: An Overview**

The MEDEX Primary Health Care Series has evolved from experiences in primary health care in twenty-two countries. Most of the development and field trials of this technology for primary health care occurred in collaborative efforts between The MEDEX Group and the governments of Micronesia, Thailand, Pakistan, Guyana, and Lesotho. Recognizing that there are many strategies to train manpower and extend health services, the Series has distilled worldwide experiences in primary health care into a readable, understandable, and useful resource. The Series has put the most important aspects of developing or strengthening the delivery of primary health care services into a single, consistent, straightforward, and easily adapted prototype format. The result is a practical training and management tool for primary health care.

Planners, administrators, and trainers can use this Series to organize primary health care efforts in a way that is easily understood by all personnel in the system, no matter what their function. Or, the Series can be used as a resource to strengthen present categorical or comprehensive health activities. The Chart Correlating MEDEX Materials with Specific Components of Primary Health Care Development shows how parts of the thirty-five volume Series can be used together as a total systems approach to primary health care, or as separate planning, training, and management components to meet specific local needs.

Ministries of health, non-governmental organizations, and international institutions will find The MEDEX Primary Health Care Series a compendium of field-tested primary health care methods and materials. The Series can be useful in organizing and synchronizing primary health care efforts within an organization, a country, or a primary health care program with two or more collaborators.

## O V E R V I E W

The primary health care movement promotes active community participation in health care, accessibility to essential health services, and the development of the non-health sectors which affect the well-being of populations. The MEDEX Group supports this broad perspective. The MEDEX Primary Health Care Series focuses on the effective delivery of essential health services with a strong community orientation.

The MEDEX approach and materials for primary health care development are contained in thirty-five volumes which include modules, manuals, and workbooks. Ministry of health officials in Micronesia, Thailand, Guyana, Pakistan, and Lesotho, collaborating with The MEDEX Group, have adapted and used increasingly refined versions of these materials. The published materials incorporate lessons learned in those five countries and primary health care program experiences in seventeen other developing nations.\*

The Series stresses the training of middle level health personnel as trainers and supervisors as well as providers of health services. The Series also places importance on community health workers and on strengthening the associated management systems needed to support the effective delivery of primary health care services at the local level.

The MEDEX approach to primary health care development emphasizes strengthening the infrastructure in which health workers will work upon completion of their training. For example, mid-level health workers provide a clearly designated and easily accessible source of support and guidance for community health workers by serving as their trainers and supervisors. This approach avoids the serious problems associated with training community health workers as an appendage to health care, by including them as an integrated part of the overall health system.

The MEDEX Primary Health Care Series uses a competency-based approach to training as opposed to a theory-based approach. The competency-based training curriculum is problem-oriented and therefore includes only that information essential to training the worker to do his job. Competency-based training uses locally appropriate training materials and active learning methods such as demonstrations and practical field work to teach skills. Skills development is the primary focus of competency-based training. By

\* Afghanistan, Belize, Cameroon, China, Colombia, Ethiopia, Gambia, India, Indonesia, Jamaica, Liberia, Nepal, Nicaragua, Senegal, Sudan, Tanzania, and Venezuela

## O V E R V I E W

focusing learning activities on tasks which are most important in helping people improve and safeguard their health, training time is reduced and the training effort is made more efficient.

The MEDEX approaches and materials are designed to be applied together as a system for developing or strengthening national primary health care programs. Major emphasis is placed on the interrelatedness and interdependency of each operational and manpower level of the primary health care system. However, many parts of the approaches and materials can be used separately. When parts of these materials are used separately, the users should consider development of other parts of the primary health care system. For example, a program which elects to use the materials related to training mid-level or community-level health workers should do so only if it already has, or is in the process of developing, effective management support for those workers. See Chart 1.





## Characteristics Assumed in

The organization of primary health care services varies greatly in the five countries which have used MEDEX materials. Similar variations are expected in countries which will adapt and use the materials in the future. In writing The MEDEX Primary Health Care Series, assumptions have been made about primary health care organization and the physical working environment of personnel to be trained with the materials. Some of these assumptions are shown below.

**Chart 2. Characteristics of the Primary Health Care System Assumed**

	Service Area and	
	Community 200 - 1,000	Sub-District 5,000 - 20,000
FACILITIES AND EQUIPMENT	Room in home or small health post	Health center with: 2 to 4 rooms 2 to 3 overnight beds No laboratory Refrigerator Safe water supply Latrine
DRUGS AND SUPPLIES	Approximately 20 drug and supply items	Approximately 100 drugs and supplies, including IVs
PERSONNEL	CHWs	1 MLHW and 2 to 3 additional health workers
SUPERVISION	MLHW	Supervisory MLHW and district health officer
WORK SCHEDULE	Part time in community	MLHW in the health center 6 half days per week and in the community 4 half days per week
REFERRAL AND TRANSFER TIME	To MLHW: 1 - 2 hours	To hospital: 6 - 12 hours
TRANSPORTATION	Foot and bicycle	Bicycle or motor scooter Community means: taxi, bus, truck, boat, animal
COMMUNICATIONS	Messenger Postal service	Messenger Community means: telegraph, telephone, radio, postal service

## Development of the Series

These assumptions in no way limit the use of the materials to the system described. They only point out that in situations where a given country's primary health care system varies significantly from the characteristics on the chart, special attention should be given to adapting the materials to those conditions.

### in the Development of the MEDEX Primary Health Care Series

Population Base	
District 100,000 +	
District hospital with: 25 to 100 beds Laboratory and transfusion capability Operating room 24-hour emergency services X-ray services Electricity Refrigeration	District health office
Drugs and supplies for a hospital	Drugs and supplies for health centers and CHWs
1 to 5 physicians Support staff	District health officer (MD) Supervisory MLHW Additional PHC workers
Daily outpatient departments	Supervisory MLHW in the field 15 days each month
4-wheel vehicle Motor scooter	Community means: taxi, bus, truck, boat, animal, train
Messenger Telephone or radio	Community means: telegraph, telephone, radio, postal service

## **Language and Illustrations**

The training materials in The MEDEX Primary Health Care Series are prototypes designed for easy adaptation to a country's specific needs. Primary health care program directors should adapt the materials to meet the unique circumstances under which their programs operate. The training materials are written in a format and at a language level which is intended to make them easy to understand, adapt, and translate.

Essential technical language is included in the training materials because mid-level health workers frequently will communicate with nurses, doctors, sanitarians, and other health workers. Technical medical language has been eliminated from community health worker training materials where possible. Local conditions, disease patterns, and resources should guide further adaptation of the prototype materials. The adapted materials can be scaled to the educational and technical level desired by each country.

Rather than developing racially, culturally, and environmentally identifiable illustrations which would be changed in adaptation, The MEDEX Group selected Africa as background for the Series' illustrations. Adaptation of the prototypes should substitute local illustrations to make the materials consistent with the local environment.

## **Advantages of Using Prototype Materials**

Prototype training materials serve as a guide, not a prescription, for developing primary health care services. Also, they are appropriate for small projects as well as nationwide programs, allowing coordination at all levels and scales. Prototype materials also provide:

- A uniform and consistent format for training and operations
- Proven methods based on diverse primary health care programs
- A starting point from which to develop or improve a specific primary health care system or its components

## O V E R V I E W

A time-saving approach to the development of training and management materials

A comprehensive approach to primary health care system development, including suggested steps to follow in implementing and managing successful primary health care services

A guide to major problem areas and technology

An adjunct to standard methods and materials already in use so they can be used in part or as a total teaching system

The MEDEX Primary Health Care Series has three major components. These are Systems Development Materials, Mid-Level Health Worker Training Materials, and Community Health Worker Training Materials.

### **Chart 3. The MEDEX Primary Health Care Series**

Volume 1 The MEDEX Primary Health Care Series: An Overview

#### **Systems Development Materials**

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- 2 *Student Text and Instructor's Manual: Management Analysis Training Module*
  - 3 *Drugs and Medical Supplies System Workbook; General Supplies System Workbook; Facilities and Equipment Maintenance System Workbook; Transportation System Workbook*
  - 4 *Communication System Workbook; Personnel System Workbook; Finance System Workbook; Health Information System Workbook*
  - 5 *District and National Planning and Management Workshops Manual*
-

## **Mid-Level Health Worker Training Materials**

Training Providers of Health Services  
Training Trainers  
Training Supervisors

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### **TRAINING PROGRAM DEVELOPMENT MANUALS**

- 6 Training Process Manual
- 7 Continuing Education Manual
- 8 Training Evaluation Manual

### **COMMUNITY HEALTH MODULES**

- 9 *Student Text:* Identifying the Preventive Health Needs of the Community; Meeting the Preventive Health Needs of the Community; Training and Supporting Community Health Workers
- 10 *Instructor's Manual:* Identifying the Preventive Health Needs of the Community; Meeting the Preventive Health Needs of the Community; Training and Supporting Community Health Workers

### **BASIC CLINICAL KNOWLEDGE AND SKILLS MODULES**

- 11 *Student Text:* Anatomy and Physiology; Medical History
- 12 *Student Text:* Physical Examination
- 13 *Instructor's Manual:* Anatomy and Physiology; Medical History; Physical Examination

### **GENERAL CLINICAL MODULES**

- 14 *Student Text:* Respiratory and Heart; Gastrointestinal; Genitourinary
- 15 *Instructor's Manual:* Respiratory and Heart; Gastrointestinal; Genitourinary
- 16 *Student Text:* Skin; Dental, Eyes, Ears, Nose, and Throat
- 17 *Instructor's Manual:* Skin; Dental, Eyes, Ears, Nose, and Throat
- 18 *Student Text:* Infectious Diseases; Other Common Problems
- 19 *Student Text:* Trauma and Emergency
- 20 *Instructor's Manual:* Infectious Diseases; Other Common Problems; Trauma and Emergency

### **MATERNAL AND CHILD HEALTH MODULES**

- 21 *Student Text:* Prenatal Care; Labor and Delivery; Postnatal Care
- 22 *Instructor's Manual:* Prenatal Care; Labor and Delivery; Postnatal Care
- 23 *Student Text:* Problems of Women; Diseases of Infants and Children; Child Spacing

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- 24 *Instructor's Manual: Problems of Women; Diseases of Infants and Children; Child Spacing*

### HEALTH CENTER MANAGEMENT MODULES

- 25 *Student Text: Working with the Health Team; Working with Support Systems*
- 26 *Instructor's Manual: Working with the Health Team; Working with Support Systems*
- 27 *Student Text and Instructor's Manual: Supervising and Supporting Mid-Level Health Workers*

### REFERENCE MANUALS

- 28 Formulary; Diagnostic and Patient Care Guides
- 29 Patient Care Procedures
- 30 Health Center Operations
- 31 Community Health
- 

## **Community Health Worker Training Materials**

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- 32 Introduction to Training; Clean Water and Clean Community; Prevention and Care of Diarrhea
- 33 Healthy Pregnancy; Feeding and Caring for Children
- 34 Some Common Health Problems; Tuberculosis and Leprosy; First Aid
- 35 Community Learning Materials: Health Problems in the Community; Caring for Your Child; Caring for Your Sick Child; Clean Home and Clean Community; Illustrations for Training Community Health Workers
-

# **The MEDEX Primary Health Care Series**

## **SYSTEMS DEVELOPMENT MATERIALS**

The Systems Development Materials train program participants to analyze their primary health care management support systems and to recommend ways to improve them. Prototype materials are provided to help managers organize and conduct district and national workshops to strengthen planning, organization, evaluation, and management support for primary health care.

Systems Development Materials include a module for training management analysts, workbooks for use in analyzing management systems, and a manual for conducting district and national planning and management workshops.

### **Management Analysis Training Module**

The Management Analysis Training Module helps the management analyst trainee develop the necessary skills, knowledge, and attitudes to strengthen management support systems for primary health care. The module guides the trainee through a complete study of one or more management support systems using a set of management system workbooks.

### **Management System Workbooks**

The management system workbooks help the management analyst to gather information for a study of a management support system, to develop and analyze study findings, conclusions, and recommendations, and to prepare written and oral reports of the study. A workbook is available for each of these management support systems: drugs and medical supplies, general supplies, facilities and equipment maintenance, transportation, communication, personnel, finance, and health information. Each workbook gives the beginning management analyst a structured approach to information gathering and analysis in that system. The workbooks help ensure that the management analysis studies will be of sufficient quality to provide an information base for subsequent systems improvements.

## **District and National Planning and Management Workshops Manual**

The District and National Planning and Management Workshops Manual serves as a basic resource for planning and conducting workshops in health planning and management at the district and national levels of the health system. The workshops are part of a continuing process for improving the management of primary health care programs. This process brings together policy level officials and field personnel in a workshop setting to review analytical studies of management support systems, confirm or revise findings and conclusions, examine alternatives, and develop plans for improving the systems to better support the delivery of primary health care services.

The manual contains guidelines for planning and conducting a workshop, including prototype workshop programs, exercises, evaluation questionnaires, and final report outlines.

## **MID-LEVEL HEALTH WORKER TRAINING MATERIALS**

The Mid-Level Health Worker Training Materials which can be adapted to the specific needs of a country include procedures and materials for preparation of instructors, evaluation of trainees, preparation for the community phase of training, and development of a continuing education program. Instructors will also use the materials to train nurses, medical assistants, and other middle level providers of health services. The materials ensure that students acquire the skills and knowledge they will need to provide primary health care services, to manage a small health facility, and to train community health workers. These materials also train instructors and supervisors to teach, supervise, and support mid-level health workers.

Mid-Level Health Worker Training Materials contain three training program development manuals, three community health modules, three basic clinical knowledge and skills modules, eight general clinical modules, six maternal and child health modules, three health center management modules, and five reference manuals.

The training program development manuals contain material for adapting the prototype curriculum and preparing instructors to use competency-

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based teaching methods, evaluating the trainees, and developing a continuing education system.

The community health modules prepare students to assess the preventive and promotive health needs of a community, to work with the community to meet its priority health needs, and to work with community health workers. Students spend three months of their training program in communities at sites similar to those to which they will be assigned after graduation.

The basic clinical knowledge and skills modules give students the background and information they will need to interview and examine patients and diagnose a problem or condition. Students will also learn the basic disease processes described in the general clinical modules.

The general clinical modules train the students to diagnose, treat, and prevent common clinical problems. After completing a given module, the mid-level health worker will be able to:

- Obtain relevant medical history information by interview

- Appropriately examine the patient

- Use the medical history and physical examination findings to assist in diagnosing a patient's problem

- Provide treatment and care for a patient who has any one of the problems or conditions in that module

- Determine whether or not a problem or condition diagnosed requires care which he cannot provide and transfer or refer the patient to a hospital

- Inform the patient about what he can do to eliminate, reduce, or prevent the problem

The mid-level health worker will also be able to use the information in the general clinical modules when advising family, community, and health team members about how to protect and improve their health status.

The maternal and child health modules provide instruction and experience in managing problems and conditions of women and children. Students learn to examine pregnant women, to monitor pregnancies, to assist in labors and deliveries, to examine newborns, and to treat the common problems and conditions of women and children. In addition, students learn to assist couples in planning their families.

The three health center management modules explain how a ministry of

health, health workers, and communities cooperate in a working primary health care system. The modules explain mid-level health workers' management duties and responsibilities as well as fundamental techniques for managing a health team and using support systems. Mid-level health workers also learn how to supervise and support other mid-level health workers, as part of their continuing education.

The five reference manuals are regularly used by the students during the course of their training. They must be used to correctly answer review questions and exercises. By the end of their training, the students are familiar with the contents of each manual and are able to use it effectively when they are at work in a health center. The references facilitate the rapid and accurate diagnosis and treatment of health problems as well as the efficient management of health center operations. Like the training modules, the reference manuals must be adapted to fit the conditions of specific country programs.

Each prototype mid-level health worker training module has a student text and an instructor's manual. Each student text contains a task analysis table showing the major tasks related to that module and the knowledge and skills required to carry out those tasks. Each student text also has a student guide which lists the learning objectives and learning activities for the module. Schedules show how the training time is allotted for each activity. In addition, each module contains review questions and review exercises. Skill checklists are included when appropriate so the students can rate each other on the skills they are learning. These checklists are the same checklists the instructors use to evaluate the students.

The instructor's manuals contain teaching plans related to the units in the student text. Instructor's manuals also contain answers to the review questions and review exercises. Where photographic slides are considered valuable learning tools, sample slide narratives and sketches of recommended slides are included in the instructor's manual.

### *Training Program Development Manuals*

#### **Training Process Manual: Curriculum Adaptation, Instructor Preparation, Program Management**

The Training Process Manual will help training program managers establish, prepare for, and conduct a competency-based training program that is specific to

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a country's needs, using The MEDEX Primary Health Care Series. The manual provides step-by-step guidelines to prepare program managers to:

- Make policy decisions and establish guidelines for the training program, including recommendations for necessary policy decisions

- Plan and guide the adaptation process for the prototype mid-level health worker and community health worker curriculum

- Prepare instructors using teaching methods and techniques recommended for competency-based training

- Establish a system for managing the training program

The manual includes information, activities, and supporting materials to accomplish these tasks. Among the materials is the Community Phase Orientation Program which prepares mid-level health workers and supervisors for the three-month community phase of training. It provides definitions of and an orientation toward:

- The community phase supervisor's scope of work

- The logistical arrangements for supervision

- The criteria and methods for evaluating mid-level health worker performance regarding management of health center operations; community health activities; and community health worker selection, training, and support activities

### **Continuing Education Manual**

The Continuing Education Manual makes continuing education part of the mid-level health worker supervisory system. Designed for use in a workshop, it prepares the program manager and his staff to train supervisors who will make continuing education of mid-level health workers a regular part of their responsibilities. The manual addresses these components of the systematic approach to continuing education:

- Determining whether mid-level health workers are meeting previously identified community health needs

- Evaluating the job performance of the mid-level health worker, identifying his continuing education needs, and stating learning objectives

- Evaluating manpower, facilities, and material resources available for continuing education

- Developing plans for implementing continuing education for mid-level health workers

- Evaluating the effectiveness of continuing education programs

The components of a competency-based training program introduced in the Training Process Manual are applied in the continuing education program for mid-level health workers.

### **Training Evaluation Manual**

The Training Evaluation Manual is a tool for carrying out systematic evaluation of students during the training program. The manual includes logs for recording results of test scores and performance evaluations. It provides prototype evaluation materials, including pretests and posttests for each module, and a certification log which is a composite record of students' knowledge and skills. The manual also includes prototype schedules for conducting student evaluations.

## ***Community Health Modules***

### **Identifying the Preventive Health Needs of the Community**

Identifying the Preventive Health Needs of the Community will prepare the mid-level health worker to assess the needs of a community related to environmental health, nutrition, and maternal and child health. After completing the module, the mid-level health worker will be able to assess healthy and unhealthy practices and conditions in a community in a manner which is sensitive to the cultural and social background of the people. The mid-level health worker will also be able to use basic principles of preventive and promotive health teaching to assist people in changing health practices.

### **Meeting the Preventive Health Needs of the Community**

The module Meeting the Preventive Health Needs of the Community prepares the mid-level health worker to assist a community in developing and implementing a plan to meet the priority health needs identified by the community. It also prepares the mid-level health worker to evaluate health promoting activities with people from the community who have carried out these activities.

### **Training and Supporting Community Health Workers**

The Training and Supporting Community Health Workers module prepares mid-level health workers to train, guide, and support community health workers. The mid-level health workers are also oriented to the role of the community in the selection and support of community health workers.

## *Basic Clinical Knowledge and Skills Modules*

### **Anatomy and Physiology**

Anatomy and Physiology provides the elementary information on anatomy and physiology a student will need to complete a basic medical history and physical examination of a patient and to understand the basic disease processes described in the clinical modules. After completing this module, the student will be able to describe the structural components of the human body, explain the basic physiologic functions of the body, and identify and locate the general anatomical regions of the human body and the organ systems contained in each.

### **Medical History**

After completing the Medical History module, the student will be able to interview patients to obtain appropriate information regarding each patient's current state of health, which includes his presenting complaint, history of the present problem, review of systems, and past medical history. He will also be able to record that information.

### **Physical Examination**

After completing the Physical Examination module, the student will be able to physically examine patients and identify and record the relevant physical examination findings.

## *General Clinical Modules*

### **Common Problems—Respiratory and Heart**

Students learn to manage these common respiratory and heart problems:

Pneumonia	Tuberculosis
Acute bronchitis	Congestive heart failure
Chronic bronchitis and emphysema	Rheumatic heart disease
Bronchial asthma	Angina pectoris
Pleural effusion	Myocardial infarction
	Hypertension

### **Common Problems—Gastrointestinal**

Students learn to manage these common gastrointestinal problems:

Amebiasis	Pinworms	Acute abdomen
Giardiasis	Tapeworms	Acute appendicitis
Peptic ulcer	Hookworms	Intestinal block
Gastroenteritis	Viral hepatitis	Hemorrhoids
Roundworms	Cirrhosis	Anal fissures

### Common Problems—Genitourinary

Students learn to manage these common genitourinary problems:

Urinary tract infection	Enlarged prostate gland
Stones in the urinary tract	Prostatitis
Nephritis	Scrotal swelling
Nephrotic syndrome	Gonorrhea
	Syphilis

### Common Problems—Skin

Students learn to manage these common skin problems:

Impetigo	Tropical ulcers
Scabies	Herpes simplex
Lice	Eczema
Ringworm	Onchocerciasis
Tinea versicolor	Contact dermatitis
Cellulitis	Skin reactions to drugs
Boils and abscesses	

### Common Problems—Dental, Eyes, Ears, Nose, and Throat

Students learn to manage these common dental, eye, ear, nose, and throat problems:

Sty	Dental abscess
Conjunctivitis	Acute upper respiratory infection
Trachoma	Acute otitis media
Cataracts	Chronic otitis media
Vitamin A deficiency	Mastoiditis
Foreign body in the eye	External otitis
Cuts and ulcers in the cornea	Wax in the ears
Eye emergencies	Acute sinusitis
Canker sores	Acute bacterial tonsillitis
Gingivitis	Foreign body in the ears, nose, and throat
Acute ulcerative gingivitis	Nose bleeds
Tooth decay	

### Common Problems—Infectious Diseases

Students learn to manage these common infectious diseases:

Typhoid fever	Louse-borne typhus
Tetanus in children and adults	Meningitis
Rabies	Diphtheria
Malaria	Leprosy

## Other Common Problems

Students learn to manage these other common problems:

Low back pain caused by muscle strain or sprain of the sacroiliac joint	Stroke
Low back pain caused by disk disease	Grand mal epilepsy
Osteoarthritis	Petit mal epilepsy
Rheumatoid arthritis	Anemia
Septic arthritis	Cancer
Simple goiter	Diabetes mellitus
Hypothyroidism	Acute confusion
Hyperthyroidism	Anxiety
Headache	Depression
	Acute alcohol intoxication
	Chronic alcoholism

## Trauma and Emergency

Students learn to manage these problems of trauma and life-threatening emergencies:

Shock	Dislocations
Unconsciousness	First degree burns
Blocked airway	Second degree burns
Acute respiratory failure	Third degree burns
Snake bite	Trauma to the eye
Poisoning	Trauma to the head
Bleeding	Trauma to the spinal column
Lacerations	Trauma to the chest
Fractures	Trauma to the abdomen
Sprains	

## *Maternal and Child Health Modules*

### Prenatal Care

Prenatal Care prepares students for the treatment and care of the woman who is experiencing the common conditions that occur during pregnancy. Students learn to recognize risk factors in a pregnant woman and to provide treatment or refer her, as appropriate. Problems considered are:

Severe anemia	Preeclampsia and eclampsia	Bleeding late in pregnancy
Diabetes	Fetal death	Malaria
Heart disease	Bleeding early in pregnancy	Sickle cell disease
Ectopic pregnancy		
Septic abortion		

## Labor and Delivery

Labor and Delivery prepares students to assist in the normal delivery of an infant and to care for or refer mothers experiencing any of these complications:

Fetal distress	Face-up presentation
Maternal distress	Face presentation
Urine in the bladder	Breech presentation
Premature labor	Transverse presentation
Incomplete fetal rotation	Multiple pregnancy
Small or abnormally shaped pelvis	Prolapse of the cord
Early rupture of the bag of waters	Rupture of the uterus
Retained placenta	Preeclampsia or eclampsia
Prolonged labor	Bleeding
Breathing problems of a newborn	Postpartum bleeding
	Emergencies in a newborn

## Postnatal Care

Postnatal Care prepares students to provide care for postnatal mothers and their infants and to treat or refer patients with these common postnatal problems:

Swollen breasts	Colds
Lack of breast milk	Simple jaundice
Hemorrhoids	Simple swelling of the scalp
Cracks on nipples	Bleeding into the scalp
Breast abscess	Fractures
Puerperal sepsis	Diarrhea
Unrepaired perineal tears	Fever
Mother with a dead baby	Low birth weight
Cradle cap	Jaundice
Diaper rash	A newborn without a mother

## Problems of Women

Students learn to manage these reproductive system problems of women:

Pelvic inflammatory disease	Tumor of the ovary
Non-specific vaginitis	Breast lumps
Trichomonal vaginitis	Menstrual cramps
Monilial vaginitis	Side effects of contraceptives
Cancer of the uterus or cervix	Menopause
Fibroid tumor in the uterus	Atrophic vaginitis

## Diseases of Infants and Children

Students learn to manage these common problems of infants and children:

Malnutrition	Whooping cough
Diarrhea and dehydration	Measles
Tetanus of the newborn	Mumps
Septicemia in the newborn	Chicken pox
Gonococcal conjunctivitis of the newborn	Poliomyelitis
Thrush in the newborn	Rheumatic fever
Croup	Sickle cell anemia
	Osteomyelitis

## Child Spacing

The Child Spacing module prepares students to counsel individuals or couples about child spacing methods, the advantages and disadvantages of those methods, and the common side effects and complications associated with them. In addition, the students learn the clinical skills they will need to assist individuals or couples seeking child spacing methods. The module also prepares students to counsel individuals and couples who want to have children but cannot.

## *Health Center Management Modules*

### Working with the Health Team

In Working with the Health Team, the health team refers to the mid-level health worker, those with whom he works in the health center, and the community health workers. Students study these topics: working with a health team, health team functions within the national primary health care system, managing a health center, supervising a health center, team problem solving, team work plans and schedules, and evaluating program and team performance.

### Working with Support Systems

Working with Support Systems is the main management module of the mid-level health worker training program. The module is designed to teach mid-level health workers how to manage the resources normally available at a health center. These resources are divided into eight support systems: drugs and medical supplies, general supplies, facilities and equipment maintenance, transportation, communication, personnel, finance, and health information. These are the same support systems for which the Management System Workbooks are designed.

## **Supervising and Supporting Mid-Level Health Workers**

Supervising and Supporting Mid-Level Health Workers prepares experienced mid-level health workers to supervise other mid-level health workers. It is a continuing education module and assumes mastery of the knowledge and skills provided by the basic mid-level health worker training course. It may also be used to train other health professionals to supervise mid-level health workers, if these professionals already have a mid-level health worker's knowledge and skills. Using competency-based training principles, the module builds upon basic mid-level health worker training, and covers the supervisory and support functions required of a supervisor. Topics include leadership and team building, communication skills, handling grievances and disciplinary problems, decision making, planning and evaluation for supervisors, evaluating mid-level health workers' performance, and providing continuing education.

This module includes text material followed by practical exercises. Some exercises take only an hour; others take several months of field work to complete. The module is designed for a training period of three to four months, of which about three weeks are spent in the classroom.

## *Reference Manuals*

### **Formulary**

The Formulary is for use with the Diagnostic and Patient Care Guides and the Patient Care Procedures. It contains information that mid-level health workers will need to use and dispense drugs safely and effectively.

The Formulary is divided into two sections. The first section includes information about how to take a drug history, how to calculate drug doses, the importance of giving instructions to the patient, and how to label containers of drugs before dispensing them. The end of the first section includes a discussion of common drug interactions.

The second section includes information about specific drugs. The drugs are listed according to categories of use. Each drug entry includes a description of:

The form in which the drug is supplied and what dosages are available

The conditions for which the drug can be used

The usual adult and child dosages

The most common side effects of the drug

Precautions to take when using and dispensing the drug

Proper storage to maintain the effectiveness of each drug

Information to tell the patient about the drug

## **Diagnostic and Patient Care Guides**

The Diagnostic and Patient Care Guides are based on the diseases and conditions that are described in the general clinical modules and the maternal and child health modules. The symptoms and signs of each condition described in the training modules are also listed under each disease or condition in the Diagnostic and Patient Care Guides.

Patient Care, which follows the Symptoms and Signs, provides a summary of the care that is recommended in the training modules. Because antibiotic dosages are required so frequently, they are summarized separately in a Guide for Calculating Antibiotic Dosages.

## **Patient Care Procedures**

Patient Care Procedures provides detailed instructions for performing all of the procedures presented in the training modules. Each procedure contains:

- A list of all the supplies necessary to perform the procedure

- A reason for performing the procedure

- A description or an explanation of possible difficulties a student may encounter

- The steps for performing the procedure, in the order they should be performed

- Possible patient responses to the procedure

- Patient advice to give while performing the procedure and after

## **Health Center Operations**

The Health Center Operations manual contains the official policies, procedures, and forms used at the health center level of a primary health care system. It contains sections on the eight management support systems and on how to organize and manage a health center. Other sections discuss how a national primary health care system is organized and how it functions, and guidelines for the mid-level health worker on how to plan, carry out, and evaluate work at a health center.

## **Community Health**

The Community Health manual provides practical information to help students, community members, and leaders carry out community health activities. It is divided into five sections, each of which deals with a different area of community health and community work. Each section includes aids or tools that will help students with their work in the community. These aids and tools include charts, checklists, schedules, guides, step-by-step instructions, and simple lists. They are designed to supplement what students have already learned about the process of planning and carrying out community health activities.

# **COMMUNITY HEALTH WORKER TRAINING MATERIALS**

The Community Health Worker Training Materials are designed for training literate and non-literate community health workers to carry out specific tasks. The teaching approach emphasizes dialogue between trainer and trainee. Other methods employed include role-play, demonstrations, stories, and extensive use of visual aids. The Community Health Worker Training Materials include workbooks and community learning materials to train community health workers. The workbook format teaches through dialogue between the trainer and the community health worker trainees. The community health worker materials are thus geared toward practical skill development through maximum interaction with the trainer. The approach allows appropriate and useful training that community health workers can apply to local needs. The workbooks emphasize preventive and promotive skills, but include selected basic curative skills as well.

The workbooks can be used to train new community health workers or to provide continuing education for community health workers. The community health worker workbooks are used along with the community health modules, in particular Training and Supporting Community Health Workers, to prepare mid-level health workers to train community health workers.

## ***Community Health Worker Workbooks***

### **Introduction to Training**

The first workbook explains the community health worker's role, the training process, and the training materials.

### **Clean Water and Clean Community**

This workbook discusses the use of water in the community. It describes how water gets dirty, how to make sure that water is clean, and how to protect water. The workbook explains why people need latrines. It shows how to keep the community clean by building latrines, rubbish pits, and compost pits.

### **Prevention and Care of Diarrhea**

Prevention and Care of Diarrhea discusses why children in the community get diarrhea. It explains how community health workers can help people prevent diarrhea in children. The workbook also tells how children can get seriously ill

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with diarrhea and what community health workers can do to prevent children from becoming seriously ill with diarrhea, including the preparation and use of oral rehydration solutions.

### **Healthy Pregnancy**

Healthy Pregnancy discusses how a woman can have a healthy pregnancy and delivery. It includes information on prenatal care and also discusses child spacing.

### **Feeding and Caring for Children**

Feeding and Caring for Children discusses how a mother can take care of her baby. The workbook includes information on breast-feeding and on the kind and amounts of food a child needs to grow up healthy. The workbook shows how to prepare food for a young child and explains when children need immunizations.

### **Some Common Health Problems**

Some Common Health Problems explains how a community health worker can take care of some common health problems in the community, such as scabies, red eye, and fever. The workbook also discusses personal habits that help people stay healthy.

### **Tuberculosis and Leprosy**

Tuberculosis and Leprosy includes information on how these two common health problems spread. It tells how a community health worker can help prevent these problems and care for people with tuberculosis and leprosy.

### **First Aid**

First Aid describes how a community health worker can provide first aid for people who have minor accidents in the community.

## *Community Learning Materials*

### **Health Problems in the Community**

This booklet with pictures shows some common health problems in the community. Community health workers can use this booklet to learn about and discuss health problems in the community.

### **Caring for Your Child**

This booklet has pictures that show parents how to take good care of their young children. This booklet relates to the Feeding and Caring for Children and the Healthy Pregnancy workbooks. Community health workers can use this booklet to discuss these subjects. Parents can also use this booklet to learn how to have a healthy pregnancy and how to care for young children.

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### **Caring for Your Sick Child**

This booklet with pictures describes what parents can do at home to care for children with some common health problems.

### **Clean Home and Clean Community**

This booklet with pictures will help community health workers discuss what people can do by themselves and with others to make their community clean and healthy.

### **Illustrations for Training Community Health Workers**

This volume is a compilation of important illustrations from the workbooks in a large-size format. These illustrations can be used in the training of community health workers and also as community learning materials.

# **Development of The MEDEX Primary Health Care Series**

## **Background**

The concept of primary health care has developed over the past twenty-five years. Changing development theories in the sixties are among the early factors which helped shape the primary health care movement. In discussing the emerging role of health in development in 1978, The MED-EX Group focused on the need to examine development processes that could line "trickle down" and "percolate up" theories into a perspective that connects the periphery with the center. In this way, the rural and urban poor at the social and geographic periphery could benefit from centrally located technical capabilities and resources, instead of being isolated from them.

Knowledge that categorical health services such as oral rehydration, family planning, and immunizations could be delivered and sustained more effectively in an integrated delivery system became, for some, the driving force to pursue a non-fragmented approach to delivering essential health services. In the sixties and seventies emerged a far-reaching awareness that adequately trained lay people could provide such integrated services. Also, there was an increasing realization that the community is the proper locus as well as the focus of such services. These were among the stimuli in the sixties and seventies that moved the World Health Organization (WHO) and its member states through and beyond the early concept of basic health services which made the rural health center a pivotal point for health care delivery.

Looking beyond technical medical solutions to other factors which also impinge on health, a number of related philosophies and activities converged within a relatively short time in the mid-seventies. The World Health Organization recognized that essential health services for most of the world's population was a possibility. From its leadership position, WHO conceptualized the idea of "Health for All by the Year 2000." Almost at the same time, the International Labor Organization and the United

Nations Children's Fund (UNICEF) were promoting the basic needs strategy which elevated health to a prominent position in development undertakings. UNICEF and WHO together adopted and promulgated primary health care as the strategy to achieve the goal of health for all by 2000.

The culmination of these actions and related trends was the meeting on primary health care organized by WHO and UNICEF in Alma Ata, USSR, in 1978. Representatives of 134 governments and 67 international agencies who attended that conference endorsed the principles of primary health care. That meeting legitimized primary health care and may prove to be the single most important step toward improving human health and well-being taken in this century.

Aware of these occurrences, and frequently as a participant, The MEDEX Group developed and tested a primary health care technology that would ultimately support the concepts and provide tools to implement the health services component of the overall primary health care strategy. The MEDEX Primary Health Care Series has been shaped by these events. As a product of the global primary health care movement, these approaches and materials represent a contribution to the worldwide effort to achieve health for all by the year 2000.

## **The MEDEX Group's Experience**

Since 1974, The MEDEX Group's Health Manpower Development Staff has collaborated with five countries in the development of primary health care programs. These countries differ in their geography, climate, language, culture, and health service organization and traditions. What they have in common, however, is a commitment to develop a national system of comprehensive and well-supported primary health care services. During this same period, The MEDEX Group also collaborated with health professionals in many other countries and international assistance agencies. Through these experiences, the MEDEX approaches and materials evolved. The first programs took place in the United States in the late sixties and early seventies. They focused on technical assistance for the training of mid-level health workers in rural areas of the United States suffering from a shortage of doctors. Because of political and socioeconomic considerations, the emphasis at that time was on curative care.

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In Micronesia, The MEDEX Group began its first collaborative health program in a developing country. Two important concepts emerged. First, it became obvious that mid-level health workers could train and supervise community health workers, and that community health workers could serve as a vital link between the mid-level health worker and the local communities. Second, the continuous revisions of training materials within the Micronesian program led to the concept of developing prototype materials for adaptation and use elsewhere.

In Thailand, where The MEDEX Group provided technical assistance for the mid-level health worker training component of the Lampang Health Development Project, prototype mid-level health worker training materials based on experiences in the United States and Micronesia were adapted, translated into Thai, and used successfully. The experience in Thailand once again demonstrated the critical importance of ongoing supervision and logistical support for mid-level health workers and community health workers in a primary health care system.

In Guyana, MEDEX prototype training materials, revised on the basis of experience in Thailand, were adapted and used. In addition to clinical skills, the mid-level health workers were trained in basic management skills. These skills helped them obtain and make more efficient use of the support available from the ministry of health and helped them better manage their own health center and other work. The Guyana MEDEX Program has been steadily increasing its emphasis on disease prevention and health promotion with more community participation.

In Pakistan, as part of the Basic Health Services Program, the revised prototype training materials were adapted and used nationwide in twenty mid-level health worker training centers. Special attention was given to the community health worker training materials which were further developed, adapted, and used. Early in the program, the MEDEX team was joined by Thai and Guyanese consultants who were experienced in running MEDEX-type primary health care programs. MEDEX management advisors also worked with Pakistani professionals and other primary health care support personnel to analyze and strengthen support systems for the Pakistan primary health care program.

In Lesotho, the ministry of health identified improved planning and management support as its first priority in strengthening primary health care. The resulting Rural Health Development Project incorporated the experi-

ences of The MEDEX Group in other countries. The Lesotho mid-level health worker training program adapted MEDEX prototype materials in conjunction with Guyanese and MEDEX Group advisors. The project adapted MEDEX management training materials and contributed significantly to the development of prototype community health worker training materials.

## **Prototype Health Training and Adaptation Materials**

The MEDEX Primary Health Care Series was developed over eight years. It is based essentially on the experiences of the Health Manpower Development Staff of The MEDEX Group in its collaborative efforts in primary health care development. Major contributions to these prototypes also have come from primary health care experiences of other health professionals well known in the field. The concepts and methods of Essex, Fendall, Flahault, Iwamura, King, Morley, Vachrotai, Werner, and others have influenced the development of these materials and, in some instances, have been incorporated into the prototypes. Environmentalists such as Feacham, Navarro, and Pisharoti; educators such as Bloom, Fargo, Guilbert, Mager, and Rogers; and management specialists such as Argyris, McGregor, Drucker, and Odiorne begin the long list of professionals whose work has influenced these prototypes.

As the clinical, preventive, and promotive materials were evolving, field experiences from country programs in Micronesia, Thailand, Guyana, Pakistan, and Lesotho provided useful feedback for the ongoing development of the prototypes. In fact, the greatest influence on prototype evolution has been this feedback on the usefulness and adaptability of the materials in developing countries and the performances of training program graduates in the field. Each of the country programs contributed to improvement in the adaptation process and improved the prototypes themselves. Thus, the prototypes are the end product of years of field trials and subsequent revisions and refinements. See Chart 4. They have succeeded in honing down large amounts of information about specific, commonly occurring health problems and their resolutions into an easily adapted, easily taught, competency-based training format.

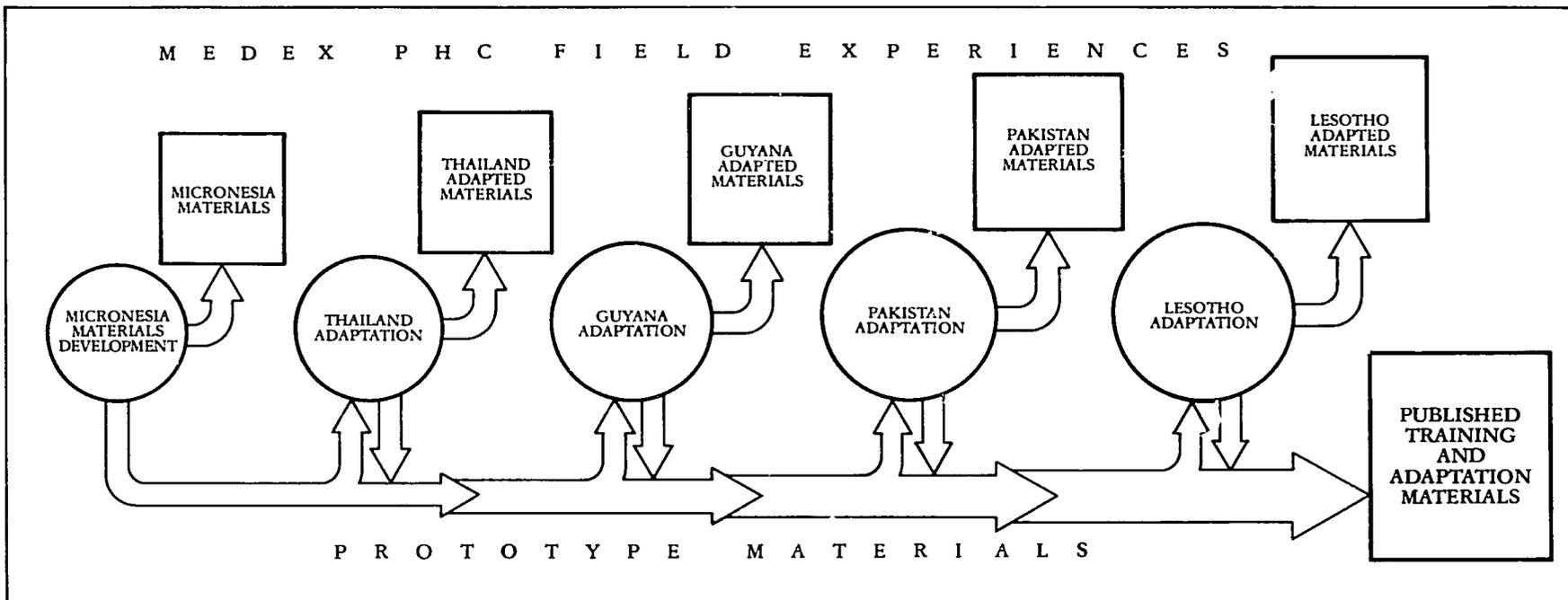
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The development of the management materials, on the other hand, presented a different challenge. Generally, there was a dearth of management technology for delivering primary health care services. There was no body of knowledge from which to draw and to formulate suitable prototypes. Therefore, a different approach was taken. Whereas with the technical health materials, evolving prototypes were sequentially refined and improved in successive program applications, the prototype management materials were derived directly from country experiences. The first set of materials was prepared in Guyana in close cooperation with Guyanese nationals. It was Guyana-specific, designed to meet the needs of that country's health system. A second generation was developed in Pakistan, designed for Pakistan, again with the involvement of local health personnel. This work was further refined and expanded in Lesotho in the same way. Each of these country experiences contributed to the prototype materials which are now available for further adaptation and application in still other health system settings. This process is illustrated in Chart 5.

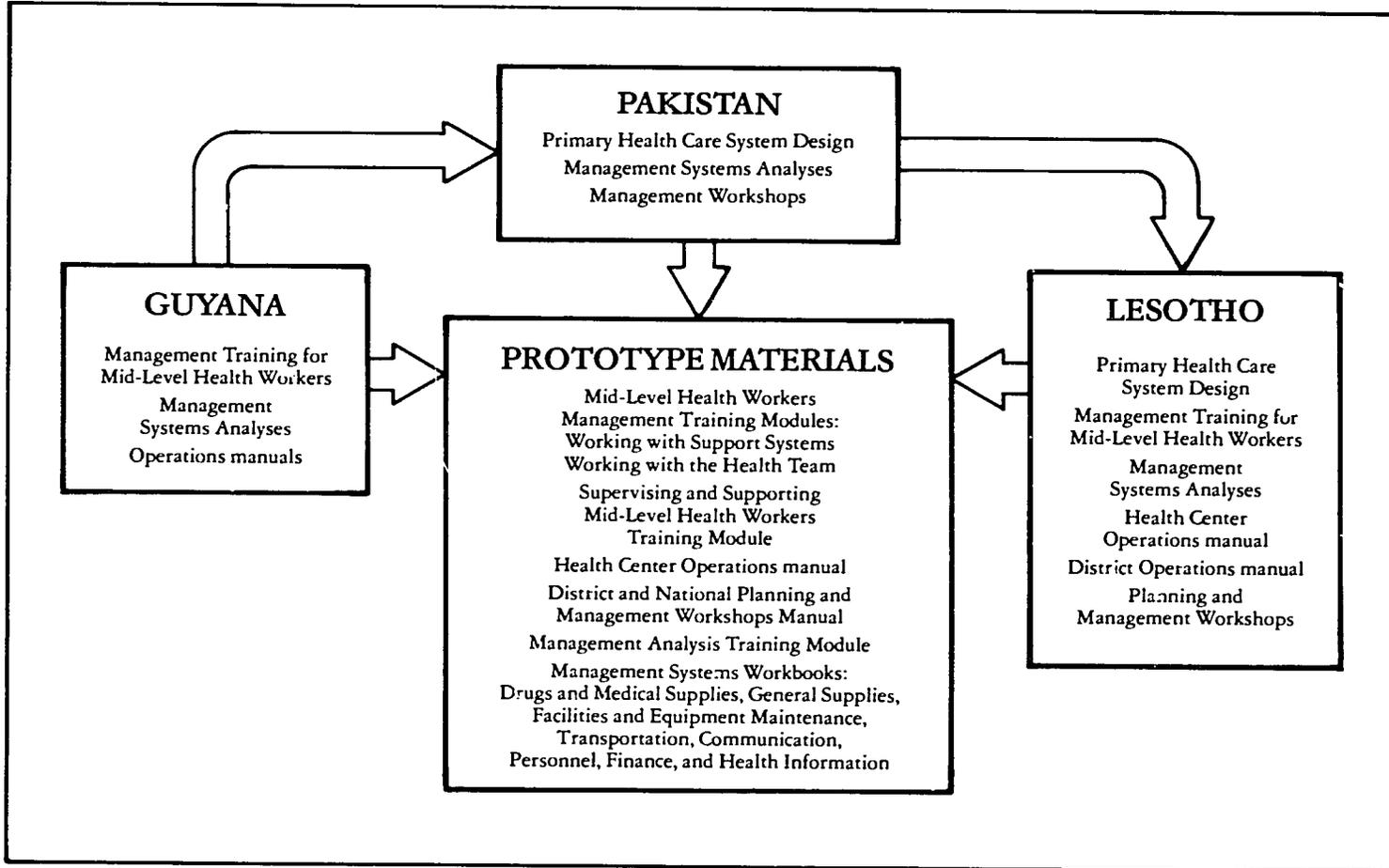
The MEDEX Group has published the adaptable prototype materials in The MEDEX Primary Health Care Series to assist individuals who are planning, implementing, and strengthening primary health care programs. Primary health care program managers will be able to strengthen their efforts quickly and efficiently by adapting these materials to meet the circumstances of their own countries and programs.

Anyone wishing to use the materials for non-commercial purposes may do so without seeking permission. However, The MEDEX Group would appreciate receiving a letter relating how you used the materials and any suggestions you have on how they might be improved.

**Chart 4.**  
**The Development of Health Training and Adaptation**  
**Materials for Mid-Level Health Workers and**  
**Community Health Workers**



## Chart 5. The Development of Management Materials for Primary Health Care



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This is a partial list of references used in developing The MEDEX Primary Health Care Series. It does not include the large numbers of training and management documents and materials that evolved from The MEDEX Group's collaborations in primary health care programs with governments in Micronesia, Thailand, Guyana, Pakistan, and Lesotho from 1974 to 1983. To obtain a complete list of references, write to The MEDEX Group in Honolulu.

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