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**HUMAN RESOURCES  
FOR PRIMARY HEALTH CARE  
IN THE MIDDLE EAST**

*Papers Presented at the Conference on Human Resources  
for Technology Transfer in Primary Health Care*

*Sponsored by the Faculty of Health Sciences  
American University of Beirut  
April 16-20, 1979*

**AMERICAN UNIVERSITY OF BEIRUT**  
**Beirut, Lebanon**

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## *Foreword*

THIS VOLUME records the Proceedings of the Conference on Human Resources for Technology Transfer in Primary Health Care held April 16–20, 1979. The conference was held in two parts: the first was on the campus of the American University of Beirut, Beirut, Lebanon, and the second at the University's affiliated institution, the College of Health Sciences, Manama, Bahrain. This was the first of a series of three conferences sponsored by the University and supported by a grant from the United States Agency for International Development under the general theme of human resources for technology transfer, with emphasis on the role of higher education.

The conference was convened at a critical time in the history of the University and the region it serves. Revenues of a number of countries in the region have risen dramatically in recent years, providing new resources for better health care delivery. Regional health planners, concerned with growing health needs, have generally allocated these resources to curative services. The proliferation of institutions and services directed to curative rather than preventive needs is an indication of this emphasis. Yet, in spite of this proliferation, the primary health needs of the masses have not been met. New leadership, commitments, and direction are clearly needed to exploit available resources in solving old and continuing problems in order to achieve "health for all by the year 2000," a goal set at the WHO International Conference on Primary Health Care, held in Alma-Ata, USSR, in September 1978.

It was in this setting that the conference was organized with the following objectives:

1. To encourage the adoption of primary health care in the region.
2. To underscore the importance of primary health care in the training of medical, nursing, and allied health students.

3. To provide a forum for the exchange of ideas for workers in primary health care in the region.

The conference agenda was divided into four plenary sessions. Participation included key people in decision-making roles who could influence health care delivery: representatives from the Ministries of Health in Lebanon, Bahrain, and Kuwait; faculty from the Department of Community Medicine, University of Jordan, Amman, the Faculty of Medicine, St. Joseph University, Beirut, and the Department of Community Medicine, King Faisal University, Dammam; and members of the five Faculties at AUB. Organizations and agencies concerned with regional health care were well represented: the Palestine Red Crescent Society, UNRWA—Lebanon, Lebanese Red Cross, Save the Children, Lebanese Public Health Association, Jinishian Memorial Program, Aleppo, and others. A total of 134 delegates from 11 countries attended the conference: Bahrain, Denmark, Egypt, England, India, Jordan, Kuwait, Lebanon, Saudi Arabia, Syria, and the United States. UN agencies were also well represented, especially WHO, which cooperated by arranging for three key people to make presentations at the conference. The importance of the conference to Lebanon was defined by H.E. Prime Minister Salim Hoss in the Opening Session, and local media—radio, television, and press—provided detailed coverage.

The success of any conference is the product of many people, and the institutions they represent. To all who contributed, and they are too many to name, I extend my deep appreciation. Special recognition is due the United States Agency for International Development for the financial support which made the conference possible and the Ministry of Health of Bahrain for its support. Assistant Dean Jack Ibrahim, Emeritus Professor Jamal Harfouche, Professors Haroutune Armenian and Nabil Kronfol, and Mrs. Ruth Stewart deserve special mention for their key roles on the Planning Committee, and Mrs. Phyllis Bergman for her editorial assistance. On behalf of the Faculty of Health Sciences, I wish to thank everyone who participated in and contributed to the conference.

The American University of Beirut's motto, "*Ut vitam habeant abundantius habeant*," that they may have life and have it more abundantly, expresses the University's new commitment to primary health care.

*April 2, 1980*

EUGENE J. GANGAROSA, M.D.  
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# *A Global Perspective of Health, Vintage 1979*

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FROM OUR VANTAGE, it is difficult to comprehend the significance of statistics relating to the state of health of the masses of people in the developing world. Unfortunately, these statistics depict a grim scenario. I believe it is appropriate in this presentation, dealing with the purpose of this conference, to discuss the global state of health as an introduction and background for our deliberations

From the standpoint of his well-being, man is actually in worse shape today than he was two or three decades ago, in spite of phenomenal technological developments and scientific breakthroughs in the health field. There are several dramatic indications of this worsening state of global ill health, particularly in the developing areas of the world. For example, during the past two decades a cholera pandemic has spread extensively in Asia and Africa, especially ravaging the most destitute populations of those two continents. For the preceding half century, cholera had not been a global health problem, but during the decades of the sixties and seventies this disease has assumed the dimensions of a major pandemic. During this same time, in large areas of South Asia and Central America, another scourge of antiquity, bacillary dysentery, has spread extensively, claiming thousands of victims. It too had been virtually absent from the world scene for the preceding half century. Like cholera, this pandemic took its greatest toll from the most deprived populations. The largest outbreaks of typhoid fever ever recorded in the literature have occurred in the current decade. Malaria, on the verge of global control following the eradication campaigns of the fifties and sixties, has reemerged as a major public health problem in the poorest parts of Asia, Africa, and Central and South America. Diseases such as measles, diphtheria, tetanus, and polio, for which vaccines have long been available, persist as major public health problems.

These diseases, especially the epidemic and pandemic diseases, may be considered public health indicators; their resurgence in recent years after decades of quiescence is symptomatic of a state of global ill health. It is significant that the developing areas of the world have been rather exclusively affected by these scourges of mankind, while the developed countries have been more or less spared. In recent times, seemingly, the world has been divided into epidemic-prone areas and areas essentially free of the major infectious diseases of mankind.

This health disparity is underscored by some startling statistics on infant mortality. While the industrialized nations of the world currently enjoy the lowest infant mortality ever, this rate is higher than ever in most of the developing areas of Asia, Africa, and Latin America. It is an appalling state of affairs that between a third to a half of all children born in the developing areas of the world in the year 1979 will die before reaching the age of five years and that most of these deaths will be due to diseases that have long been recognized as preventable. The greatest killers are diarrheal and respiratory diseases, which are considered diseases of filth, poverty, and poor sanitation.

What are the causes of this worsening state of global ill health? We cannot ascribe this to a single cause. Three major demographic changes that have primarily affected the poor and a major economic upheaval are largely if not entirely responsible. The first of these demographic phenomena is the population explosion. It took from the time of Christ to the turn of this century for the world's population to double, but the world's population has doubled twice in the past seven decades. Masses of people unable to cope with deplorable conditions have fled from rural areas to the suburbs of cities in search of a better way of life. This process of urbanization, the second demographic phenomenon, has resulted in peri-urban ghettos that have emerged throughout the world as municipalities strive, for the most part unsuccessfully, to provide housing, safe water, and simple sanitation for these destitute people. The third demographic process is the migration of people associated with stormy and cataclysmic political conflicts and changes that currently mark the world landscape. Almost weekly the news media convey accounts of the flight

of refugees from troubled areas. The fundamental problem is usually the quality of life and the common denominator is the search for a better way of life. In our own region, wars and political injustices have resulted in millions of displaced refugees anxious to return to their homes. In recent decades, droughts and famine in Africa, Asia, and Latin America have complicated the lives of millions forcing migration and displacement. To complicate these developments, spiralling inflation, particularly the high cost of energy, has placed an especially heavy burden on the underprivileged. As a result of these demographic and economic changes, there are larger numbers of people living under the most deprived conditions in history.

Unfortunately, the health problems created by these events have been inadequately addressed and some claim have even been misdirected. In an attempt to meet growing health needs, health planners have focused their efforts largely on curative needs. The proliferation of institutions and services directed to curative rather than preventive needs is an indication of this emphasis. We have reached a state of affairs in which, by and large, the poor cannot afford the services of the graduates of our medical and nursing institutions that emphasize specialized training. The graduates of medical institutions in the developing world serve the 15% urban elite either in their own countries or in Western countries which provide a haven for practitioners who are trained in sophisticated institutions with equipment that is more appropriate for the diseases of the industrialized countries than the basic infectious and nutritional diseases of developing areas. The remaining 85% of the world's population is largely unserved or underserved in its health needs. The world's population is divided into health "haves" and health "have nots." Those in greatest need of health are largely deprived. In particular, infants and lactating mothers are neglected. This explains the formidable mortality rate referred to above. Infants of the poor who survive are physically and mentally less able to cope. Poor housing, crowding, lack of water that is safe to drink (and for many that is insufficient for basic sanitary needs), inadequate provisions for the preparation and storage of food, infestations of insects and rats that torment and transmit disease, and the lack of health care—these are the problems that lead to the disenchantment that erupts from time

to time in social unrest and migration. The brain drain, loss of leadership, poor management, misdirection of funds, and misdirected efforts complicate and contribute to a cycle that is seemingly self-perpetuating.

This conference deals with a new direction in health care under the able leadership of the World Health Organization (WHO) and other United Nations agencies which have the potential to change this grim scenario. The new slogan of WHO is adequate health care for all by the year 2000. We start with a new working premise, a redefinition of health; health is more than freedom from physical and mental burdens, it is quality of life. What can we in the field of health do to improve the quality of life? That is what this conference is all about. Specifically, this conference deals with several fundamental questions that are the basis for the four sessions we plan.

1. How do we adapt the technologies of developed countries to meet the needs of the peoples in the developing world? The question may be posed in another way. How can we bridge the information gap between health professions and the masses of the people for whom this information is intended? These are the issues to be examined in Session I of this conference on health care systems and approaches.
2. Collectively, what can we do to improve the training and utilization of health manpower so that our graduates are more responsive to the needs of the masses? This is the theme of Session II.
3. How can the masses be made more self-reliant, more independent in coping with their health needs? This is the theme of the case study in Sessions III and IV to be held in Bahrain, where AUB is helping the Ministry of Health in its primary health care program.

# *Conventional Health Care Systems and Meeting the Essential Needs of Underserved Population Groups in Developing Countries*

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## **Background**

THE WORLD HEALTH ORGANIZATION (WHO) Eastern Mediterranean Region comprises 23 countries, with an estimated population of about 240 million. The countries vary greatly in size, population, and level of socio-economic development. It is not my intention to burden participants with statistical figures; however, I will resort to an important indicator, infant mortality. Infant and child mortality is still high in the region, mostly because of preventable diseases. In 1976, about 11 million children were born in the region, of whom about 20% will not reach the age of five years. It can be estimated that, of the two million deaths under five years of age, around 800,000 are caused by gastrointestinal infections, 400,000 by respiratory infections, at least 100,000 by *immunizable* diseases, and 50,000 by malaria, a total of 1.4 million. The others are caused by diseases of the early neonatal period and other diseases of early childhood.<sup>1</sup> Plate 1 shows infant mortality rates in the region. A common denominator for all countries is a shortage of trained health manpower.

## **Health—A Human Right**

It is now recognized that health is a human right. However, it is doubtful whether the right to health is a reality for all people. Many rural and peri-urban areas of developing countries lack any system of organized health care. Only a small proportion of rural communities have access to safe and adequate water supplies, and mil-

lions of people are undernourished. Communicable diseases are widely prevalent, and poor housing conditions exist in numerous areas.

## **Conventional Health Care Systems**

### *Main Features*

The main features of conventional health care systems appear to be as follows:

1. Their health services are predominantly urban-oriented and accessible mainly to a small privileged section of the population. In many countries, less than 15% of the rural population have access to any organized system of health services.
2. They have not alleviated basic deficiencies in health-related areas, such as food, water, and housing, which are essential for health.
3. They do not serve the needs of the most vulnerable groups, such as mothers and children.
4. Their use involves a narrow approach to health care, which ignores the integrated utilization of health, economic, and other resources.
5. They have generally operated in isolation from other activities, such as education, agriculture, and community motivation and participation, which are fundamental to improved health and better family life.

### *Why Were They Unsuccessful?*

Conventional health services have not met the needs of the underserved population in rural and peri-urban areas for the following reasons:

1. Total coverage of the population has not been provided. Nearly all health establishments are located in larger cities, to the detriment of smaller towns and rural areas.
2. The gap in health status between the urban and rural populations has not been closed. The gap between coverage provided and coverage needed appears to be widening.
3. Ways and means for the participation of the community served

has not been provided because the responsibility of the community for its own health care has been ignored.

4. Services provided are not relevant to the priority health problems of the majority, but are oriented toward the provision of sophisticated care for the minority.
5. The model of health care has usually been copied from developed countries, where health problems are totally different, where the age structure of the population is markedly different, and where resources are more abundant.
6. Health workers are not trained to meet priority health needs, nor are they trained in the setting in which the majority are expected to work, namely the rural areas and health centers.

### *Evidence of Failure*

Failure of conventional health systems is evidenced by the following:

1. The inability to make services respond to the wishes and needs of the population at large.
2. The difficulty in attaining national coverage adequate to satisfy the increasing demand for health care.
3. The lack of access of large population groups to the institutions providing health services, due to physical, social, cultural, and/or financial factors. Many persons do not use health care services when they should, because they are unaware of their existence or because the services are unavailable or inaccessible, expensive, or inappropriate for their needs.
4. The inability of services to eliminate the significant differences in health conditions among various sectors of the population.
5. The continuing prevalence of easily preventable and treatable conditions and high mortality, especially among young children.
6. The rapid increase in health expenditures, unassociated with significant improvement of services or of coverage.
7. The isolation of health services and their staff within a system closed to participation of the users (community).

## **Health for All by the Year 2000**

### *Alternative Approach*

Faced with the challenge, governments have recognized the need to develop a new approach to improve the state of health of their people, as revealed by the series of resolutions adopted by the World Health Assembly and by Regional Committees, which are the governing bodies of WHO. The alternative approach, hopefully, will serve as an important mechanism for attaining the main social goal of "health for all by the year 2000," as projected by WHO.

### *Primary Health Care*

The strategy of primary health care (PHC) has been gaining wider recognition in the region; it shows particular promise for the extension of health coverage to larger groups of the rural population.

Primary health care has been defined as a "simplified, though essential, health care which is accessible, acceptable and affordable." A more detailed definition was outlined in the "Declaration of Alma-Ata," which was adopted by 140 governments at the WHO/UNICEF International Conference on Primary Health Care held in the USSR during September 1978.<sup>2</sup> In the declaration, the following definition appears:

"Primary health care is essential health care based on appropriate and acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain in the spirit of self-reliance. It forms an integral part both of the country's health system of which it is the central function and of the overall social and economic development of the community. It constitutes the first level of contact of individuals, the family and the community with the national health system."

### **National Endeavors**

The current situation with respect to PHC in the region has been clearly described in the "Report of the Regional Director for the Eastern Mediterranean, WHO" to the WHO/UNICEF Inter-

national Conference on Primary Health Care held in Alma-Ata (ICPHC/ALA/78.6), copies of which can be made available to participants. It is, perhaps, relevant to highlight a few main developments.

A number of countries, including Iran, Pakistan, Somalia, Sudan, and the Yemen Arab Republic, have begun training primary health workers (community health workers) who have completed elementary or intermediate general education, followed by a few months of health training. They provide basic health care, preventive and curative, at the village level. These health workers are aware of the health needs of the communities they serve and win the confidence of the people. They are selected by the village community and trained near the communities to be served.

Innovative approaches in the education and training of health manpower are in progress in Iran, where two new medical schools "without walls" have been established: the Schools of Medicine in Fassa (Fars) and Hamadan. Both schools are conducting valuable innovations in health care delivery, with the focus on the peripheral level. In Bu Ali Sina University (Hamadan), the dean of the new medical school is also the director of health services for the province.

Further and more effective use of traditional health workers (including birth attendants) is being explored in several countries. It is interesting to report that, according to information recently received by WHO, the President of Pakistan has decided to appoint an adviser on traditional (*Unani*) medicine, with the status of a federal minister, and to set up an advisory board on traditional medicine.

Also in Pakistan, "health guards" are functioning in the northern areas, which include 650 villages. These are trained part-time health workers, each selected by his own community. Another group are the "*Pesh Imams*," religious leaders located in the North-western Frontier Province. The "*Pesh Imam*" is chosen by the village community for training and is given a health role, in addition to his purely religious one. "*Pesh Imams*" are trained to treat 20 common diseases, to give first aid, and to screen patients for referral.

In another group of countries, such as Egypt, Lebanon, and Syria, primary care is delivered by health professionals: physicians,

nurses, and paramedical personnel. Government policy is to maintain and develop this type of primary care. In Bahrain, a system of primary care has been developed and launched as official government policy, based on a combination of family and community medicine, and delivered through a network of health centers staffed by physicians, nurses, and associated health workers.

### **WHO Collaboration**

WHO is collaborating with countries, often in partnership with UNICEF, in the planning, formulation, implementation, and evaluation of PHC programs, as well as in the promotion of health services research in support of PHC. Another area of collaboration is the training of primary health workers and their tutors, and the preparation and adaptation of appropriate learning materials, including working guides.

A medium-term program (1978–1983) for PHC has been prepared in consultation with governments. A Regional Expert Advisory Panel on Primary Health Care has been set up to advise on subsequent developments. A working group drawn from the panel met in Alexandria during December 1978. The meeting was attended by representatives of information media (press, radio, and television) from eight countries.

### **Concluding Statement**

The World Health Organization views PHC within the overall framework of social development and as an important factor in promoting the quality of life. In the context of its constitutional responsibilities as the coordinating authority on international health work, WHO has been collaborating closely with governments and with various agencies working in health or in related fields, including non-governmental agencies, with particular focus on the health problems of underserved communities.

Health services research is given top priority in the WHO program, especially in connection with reviewing health service coverage for the underserved populations. It is obvious that a model approach for primary care cannot be prescribed for all countries. Each mem-

ber state has its own problems, resources, and specific health needs. There is a need for further research and experimentation, and also for a more dynamic approach at the national level. The exchange of experiences, in the spirit of technical cooperation among developing countries, is fully supported by WHO. In the implementation of the PHC approach, UNICEF has been playing an important partnership role.

PLATE 1: INFANT MORTALITY RATES\* IN THE EASTERN MEDITERRANEAN REGION

<i>Country</i>	<i>Estimated population 1977 (000's)</i>	<i>Infant mortality rate (per 1,000 live births)</i>
Afghanistan	20,340	182
Bahrain	270	64
Cyprus	690	33
Democratic Republic of Yemen	1,800	190
Djibouti	230	52
Egypt	38,740	100
Iran	34,160	139
Iraq	11,910	86
Jordan	2,080	89
Kuwait	1,130	43
Lebanon	3,060	65
Libya	2,570	73
Oman	820	138
Pakistan	75,280	124
Qatar	200	42
Saudi Arabia	9,520	152
Somalia	3,350	177
Sudan	16,530	140
Syria	7,840	93
Tunisia	6,070	120
United Arab Emirates	760	138
Yemen Arab Republic	7,080	152
TOTAL	244,430	

\* Estimated from latest data available to WHO/EMRO, July 1978.

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# *Primary Health Care: Priorities in Developing Countries*

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CHILDREN BORN BETWEEN 1979 and 2000 more than a third of the world's population at the turn of the century, yet the World Health Organization (WHO) estimates that some 12 million of the 125 million children born each year do not survive beyond their first birthday. The majority are born in developing countries where the infant mortality rate (IMR) is generally 10 to 20 times higher than in developed countries. About 77% of these deaths occur in Africa and South Asia; in most of Africa, over 60% of all deaths are those of children under five years of age (compared with 5% in Western Europe). Although these statistics emphasize differences between various parts of the world, few reliable data exist which can be used to measure the health problems of children and mothers in developing countries. At the moment, the IMR and the simple measures of birth weight and, in later childhood, height and weight provide the most reliable indicators of the health of the child population.

During 1979, the International Year of the Child, WHO has encouraged efforts to improve the collection of information on health and health-related problems faced by underprivileged population groups. In order to focus attention on health care for children, the theme of this year's World Health Day on April 7 was the well-being of the child. The slogan, "a healthy child, a sure future," was chosen to promote breast-feeding, oral rehydration, nutrition, education, and immunization against the six major childhood diseases included in WHO's expanded program on immunization.

Today, less than 10% of children in developing countries receive immunization. WHO and its member nations have committed themselves to providing immunization services for every child in the world by 1990, as part of the goal of "health for all by 2000," proclaimed last year at the Alma-Ata conference on primary health care. WHO recommends that each nation should appoint a program manager and supporting staff to provide detailed plans of operation for immunization. Emphasis in the planning stage should be on the *integration* of immunization services within the primary health care network of each country.

Diarrheal diseases rank among the first three leading causes of death in children, taking an estimated *five to 18 million* lives a year, particularly among children under five years. In 1972, a 12-city study of some 35,000 children's deaths, conducted by the Inter-American Investigation of Childhood Mortality, attributed 28.6% of the mortality to childhood diarrheas. WHO believes that research in inexpensive rehydration fluids which can be administered at home will help to break "the vicious and self-perpetuating cycle of malnutrition and diarrhea." Dr. Halfdan Mahler, Director-General of WHO, has said that the task of safeguarding the health of today's children cannot be accomplished through conventional means. A "radical new approach" must be adopted, which emphasizes the mobilization of national and international resources, the imaginative use of traditional medicine, and the development of health technologies relevant to local needs.

It becomes pertinent to focus our attention on some of the issues in greater detail in order to realize the magnitude of our problem. In a study in eight developing countries, WHO noted that 90% of all child deaths could be avoided by safe water and sanitation. This can be termed the *core* of the problem, which indirectly relates to population dynamics and community attitudes. The life expectancy in the industrial world is 72 years, compared to 56 years in Asia and 45 years in Africa (Plate 1). In this part of the world it is believed to be between 50 and 55 years. There also appears to be a link between child deaths and births, as shown in Plate 2. There are also socio-economic reasons (Plate 3) for having large families in developing countries with a high IMR. In addition to increasing income, large

families also ensure survivors for the support of aged parents. According to some estimates, a poor family in rural India has to have six or seven children to be 95% certain of one surviving son (Plate 4). All these factors weigh heavily in the delivery of health care to the underserved sector of our communities. The prerequisite is an infrastructure competent to direct and provide relevant information and services to the people. A most promising infrastructure appears to be that of the health services concerned with maternal and child health (MCH) and welfare. Unfortunately, such an infrastructure is lacking or not well established in large areas of most of the developing countries. The following is a general guide to the extent of the priorities to be registered in relation to MCH activities. About 20% of MCH activities should reach women in the reproduction age group (15 to 44 years) and 40–50% should reach children below 15 years of age. A total of 70% of MCH activities should be directed toward these two groups. It becomes relevant to concentrate our efforts within the community on this important sector which not only guarantees stability for the family, but also for the nation as a whole.

The seven most common causes of morbidity and mortality in Zambia were found to be as follows: (a) gastroenteritis, (b) malnutrition, (c) anemia, (d) respiratory diseases, (e) measles, (f) malaria, and (g) cardiac disorders. The figures for Syria provided to me by my colleague Dr. Khalid Mardini are very similar. These same causes are responsible for nearly 70% of morbidity and mortality in children.

Maternal and child health care services are not well established in developing countries. In Syria, for example, only a small percentage of childbirths are medically supervised (Plate 5). A similar situation exists in the area of medical supervision of children (Plate 6). It is clear from these data provided by Drs. Hisham Ghebeh and Khalid Mardini that 91% of our children and mothers are lacking proper medical care in rural areas. Medical supervision in Syria as a whole can be estimated optimistically to service only 10% of the community, 20% in urban and 2% in rural areas. The total number of physicians in 1976 was 2,824. Out of these, 2,000 were concentrated in Damascus and Aleppo. The figures

for nurses were similar. Out of a total number of 1,531 nurses, nearly 1,000 were concentrated in Damascus and Aleppo. The lack of medical supervision is not surprising considering more than half the population is rural-based (Plate 7).

It is obvious that we have to reschedule our priorities and rephrase our health programs more realistically to provide the minimum in adequate care for a cross section of our community that is not based on physicians alone. It cannot be exclusively hospital-oriented, physician-dominated, or curative in service. There has to be a revolution in our thinking and a radical approach in our planning and training programs.

The following guidelines, quoted from David Werner's book, *The Village Health Worker*, should help to bridge this gap in reaching the masses:

1. Health care is not only everyone's right but everyone's responsibility.
2. Informed self-care should be the main goal of any health program or activity.
3. Ordinary people provided with clear, simple information can prevent and treat most common health problems in their own home earlier, cheaper, and better than doctors.
4. Medical knowledge should not be the guarded secret of a selected few, but should be freely shared by everyone.
5. People with little formal education can be trusted as much as those with a lot, and they are just as smart.
6. Basic health care should not be delivered but encouraged.

Community health programs will have to be organized on the basis of local needs and priorities. Local health workers from within the community will have to be selected and trained in the delivery of simple basic health care, and be responsible to the community. Public opinion will have to be mobilized to accept such a service as feasible and practical. The cooperation of the medical profession in the academic and private sectors should be encouraged to make a success of any such programs. The future medical practitioner in developing countries should be a competent generalist, especially in the following areas:

1. Be adequately trained in clinical skills, especially in the field of MCH and social medicine.
2. Have a basic knowledge of community dynamics and community work.
3. Be an innovator whose ideas can be applied and practiced easily within the community.
4. Be a teacher of his or her health team.
5. Be a respected and accepted member of the community he or she chooses to serve.
6. Be able to delegate responsibilities to non-physicians and to supervise and train them adequately.
7. Be an administrator, planner, and manager.

The philosophy of primary health care should be fundamental to the scheme of health planners and administrators. Once adopted, a total commitment should be made to the organization of such service. Planning, training, pooling of resources, and evaluation should be complementary to the goal of total health care for all.

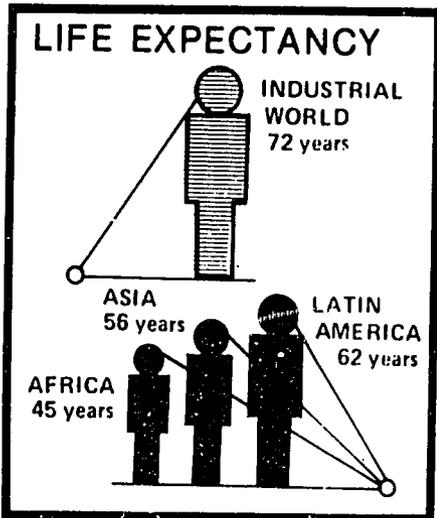


PLATE 1: COMPARISON OF LIFE EXPECTANCY

**PLATE 2:  
LINK BETWEEN  
CHILD DEATHS  
AND BIRTHS**

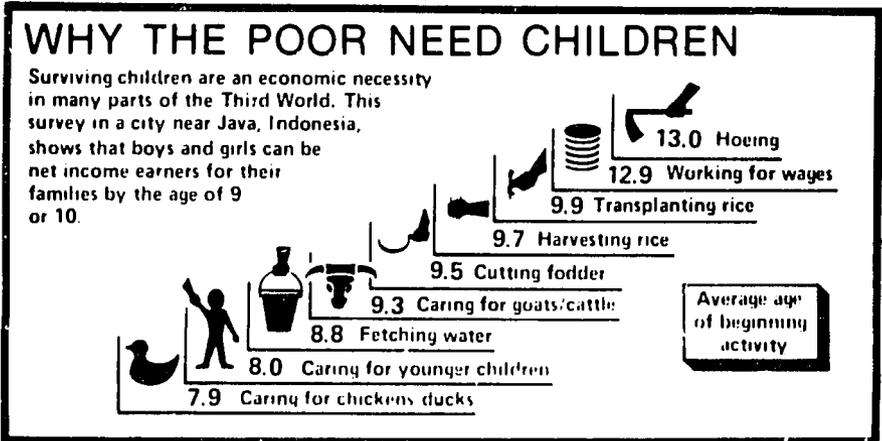
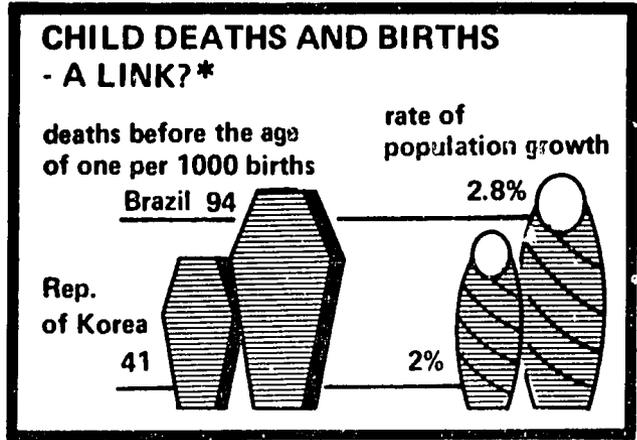


PLATE 3: ECONOMIC NECESSITY OF LARGE FAMILIES

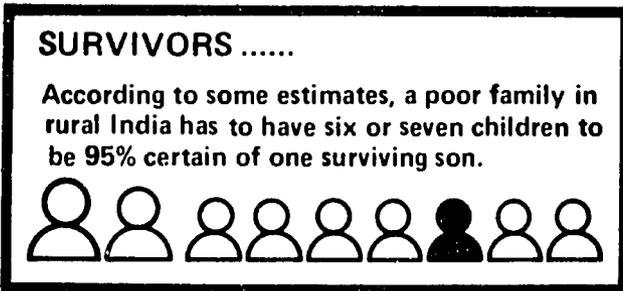


PLATE 4:  
SURVIVAL  
RATE IN  
INDIAN FAMILIES

**PLATE 5: BIRTH ATTENDANTS AT HOME**

<i>Attendant</i>	<i>Urban (%)</i>	<i>Rural (%)</i>
Physician	1.8	0.16
Midwife	53.6	8
Daya	44.3	91

**PLATE 6: MEDICAL SUPERVISION OF CHILDREN**

<i>Source</i>	<i>Urban (%)</i>	<i>Rural (%)</i>
MCH services	6.2	5.2
Private practitioner	21	3.4
No supervision	72.6	91.3

**PLATE 7: BASIC DEMOGRAPHIC DATA FOR SYRIA\***

Population: 7,596,000 (1976 estimate)  
 Area: 185,680 km<sup>2</sup>  
 Population density: 40.9 persons/km<sup>2</sup>  
 Urban population: 46.2% of total  
 Rural population: 53.8% of total  
 Nomadic population: 5% of total  
 No. of administrative units (*mohafazats*): 14

\* These data are taken from WHO sources.

## DISCUSSION SUMMARY

THE HEALTH TEAM and its problems were the subject of much discussion. It was said, on the one hand, that a lack of career opportunities and promotion made primary health care (PHC) a dead-end job and prevented workers from staying where they were needed. On the other hand, there were those who felt that the award of diplomas was an incentive to movement and that on-the-job training should be a sufficient incentive. The experience of Morocco showed that local promotion was effective among auxiliary staff. There it was found that the best incentive was regular personal supervision and not, surprisingly, money. Too often workers were not supervised—except by circulars arriving in the mail. There was general agreement that workers should be recruited and trained in places where they would later work.

Many of the problems of getting workers, particularly senior ones, to stay where they are wanted would be solved if the places where they are needed could be made more attractive to them. One of the features of this attractiveness is the support that one worker derives from another. In parts of the US, some success has been achieved in attracting doctors, lawyers, bankers, and teachers to settle in rural communities. Much the same kind of approach is needed in the developing world. Too often, society rewards people for getting out. This combined with education being a largely urban function impoverishes the rural areas of the leaders it needs. The situation is made worse, in Western Asia in particular, by too few resources being devoted to developing people, in terms of health and education, and too many large prestigious structures, such as roads, docks, and airports. Even more money is devoted to killing people. The global sum being spent on arms was said to be a million dollars a minute. Many of the world's problems would be solved if even a little of this money could be turned from destruction to construction.

Primary health care was the dominant theme in all discussions. It was emphasized that PHC goes beyond the equitable distribution of resources and, much more importantly, generates new ones.

Unfortunately, there is no massive movement for PHC; there are no detailed working programs and no detailed models and strategies, as there were for smallpox. About all there is is a philosophy!

One participant was worried by WHO's goal of health by the year 2000. He thought it was meaningless, unless it was defined in terms of vital indicators. Had thought been given to this? None, it appeared, had.

The intersectoral approach called for some comment. To add agriculture to health would sink the ship. If it is to be added, it must only be in small bites.

# *Primary Health Care in the Context of the Overall Health System and Social and Economic Development Plans*

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**THIS PRESENTATION** aims to clarify a set of interrelated questions which are expected to shape the course of health care and its impact on community development and human progress for at least the year 2000. It also attempts to elucidate some of the crucial issues relevant to the success or failure of primary health care as a universal practical approach.

## **What Is Primary Health Care?**

Primary health care (PHC) has been defined recently by the World Health Organization and the United Nations International Children's Emergency Fund (WHO/UNICEF) as "essential health care made universally accessible to individuals and families in the community by means acceptable to them through their full participation and at a cost the community and the country can afford." Accessibility implies the continuing and organized provision of appropriate and adequate care that is geographically, financially, culturally, and functionally within easy reach of the whole community it aims to cover. Therefore, in this broad context, accessibility means that:

1. The distance, travel time, and means of transportation are acceptable to the people;
2. Whatever methods of payment are used, the cost of services can be met by the people;
3. The technical and managerial methods used are in keeping with the cultural patterns and lifestyles of the people;
4. The right kind of care is available on a continuing basis to those who need it, wherever they need it, and that it is provided by the health team required for its proper delivery.

## **What Is the Content of Primary Health Care?**

Primary health care addresses the main health problems in the community, providing promotive, preventive, curative, and restorative services accordingly. Since these services reflect the socio-economic conditions and cultural values of communities, they will vary by country and community, but will include at least the following essential services: (a) health education relevant to the prevailing problems and the methods of identifying, preventing, and controlling them; (b) promotion of proper nutrition and an adequate food supply; (c) a safe water supply; (d) basic sanitation; (e) maternal and child care, including family planning; (f) immunization against the major infectious diseases; (g) prevention and control of locally endemic diseases; (h) appropriate treatment of common diseases and injuries; (i) promotion of mental health; and (j) provision of essential drugs.

The components of essential health care are to be provided as an integrated "package of services," adapted to the local needs, the idea being that the total health effect to be accrued from such a package will be more than the sum total of its individual components. The cost will also be less due to the use of common infrastructure and resources.

As part of total population coverage, high priority is given to the special needs of those who are least able for geographical, political, social, or financial reasons to take the initiative in seeking health care and those at greatest risk, particularly expectant and lactating mothers and young children.

The success of PHC is dependent on several determinants. The most important single factor is a strong political will and support at both national and community levels, reinforced by a firm national strategy. The most significant determinants at the local level are the full use of all available resources, and the mobilization of the entire community and its active participation in solving its own health problems; community health workers, including family members and traditional healers, who can be trained in a short time to perform specific tasks, acting as a team; and appropriate and simple health technology, including medicinal drugs.

## **Why Is the Primary Health Care Approach Now Receiving Special Emphasis?**

Primary health care is not a new discovery, but rather a tried and familiar approach based on the realities of the challenging problems now confronting the developed and the developing countries. It has evolved over the years as a response to less effective approaches dictated by unadaptable health system models, enormous advances in medical technology, and highly specialized cadres of health professionals.

It is now generally recognized that in most parts of the world modern knowledge is not being put to the best advantage for the greatest number. Health resources are allocated mainly to sophisticated hospitals in cities. At the same time, the vast majority of disadvantaged groups have no access to any permanent form of health care, particularly in rural areas and peri-urban poverty belts. The concentration of complex and costly technology on limited segments of the population does not even have the advantage of improving health. With the reversal of the health care pyramid in relation to the health need pyramid, the gap between the health "haves" and the health "have nots" has widened, and the overall health situation is deteriorating in most developing countries, especially among high-risk infants and young children, leading to what has been termed the "quiet emergency situation." Indeed, the massive pools of young child malnutrition, disease, disability, and premature death now found throughout the Third World pass unnoticed, receive no publicity, and ring no alarm for the local health authorities.

Unfortunately, most conventional health systems are devised outside the mainstream of social and economic development and prove to have no social relevance. Complexity and cost make these systems beyond the means of the people, and they are unlikely to expand in future to meet the people's needs. Even some of the most affluent countries have come to realize the disparity between the high care costs and low health benefits of these systems. Obviously, innovative approaches need to be sought.

In summary, PHC is a model for the people and by the people. Ac-

According to this model, health is not only the right of all but also the responsibility of all. Its guiding principle is equitable distribution and the greatest health benefit to the greatest number of people at the lowest cost. As an innovative approach, PHC is viewed as the key to achieving an acceptable level of health throughout the world in the foreseeable future.

## **What Is the Relation of Primary Health Care to the Overall National Health System and Social and Economic Development Plans?**

### *Relation to Health System*

Primary health care is not an isolated system, but rather a subsystem within the national health system. It forms an integral part both of the country's health system, of which it is the nucleus, and of the overall social and economic development of the community. Health cannot be improved by the health sector alone. It is dependent on social and economic development, and also contributes to it. An effective approach is multisectoral and attacks the causes of ill health rather than its consequences. The formulation of a clear national health policy and the integration of the health sector with other components of development are basic determinants for health improvement and the success of PHC. A health system is, therefore, made up of components from the health and other sectors which contribute to health through their interrelated actions. It is subdivided into various levels, the first of which is the point of contact between individuals and the health system, where PHC is delivered.

Budgeting has to ensure the preferential allocation of resources to PHC, starting from communities at the social periphery and progressing through the other levels. Fortified by additional resources, communities will be in a better position to accept greater responsibility for their own health and to fulfill this responsibility through PHC.

### *Relation to Development*

Development implies progressive improvement in the living conditions and quality of life enjoyed by society and shared by its members. It is a continuous process that takes place in all societies; few would

claim that their development is complete. The purpose of development is to permit people to lead economically productive and socially satisfying lives. Any distinction between economic and social development is no longer tenable. Indeed, social objectives—health, education, and welfare—are the real driving force behind development. Economic development is necessary to achieve most social goals and social development is necessary to achieve most economic goals.

Only when people have an acceptable level of health can they enjoy the other benefits of life. Health development is therefore essential for social and economic development, and the means for attaining them are intimately linked. Actions to improve the level of health and living conditions should be regarded as mutually supportive rather than competitive. Discussions on whether the promotion of health only consumes resources, or whether it is an economically productive factor contributing to development, belong to the academic past.

The shape of PHC is determined by social goals—maximum health benefits to the greatest number—and these goals are attained by social means, such as the acceptance of greater responsibility by communities and individuals and their active participation in attaining adequate health care. Therefore, PHC effectively means much more than the mere extension of health services. It has social and developmental dimensions. Primary health care contributes to development by improving health status and by stimulating action and organization in support of the development process. Self-reliance and social awareness are key factors in human development. By drawing on untapped human and financial community resources and mobilizing people's efforts, PHC can be a lever for increasing social awareness, initiative, and innovation.

The other levels of the health system can also assist development provided they are attuned to support the full range of PHC activities. No sector involved in social and economic development can function properly in isolation. Activities in one impinge on the goals of another. Therefore, constant coordination between the major social and economic sectors is needed to ensure development and to promote health as part of it.

Primary health care, too, requires the support of other sectors. These sectors can also serve as entry points for the development and implementation of PHC. For example, agricultural development and agrarian reform can contribute a great deal to the improvement of nutritional status; plentiful supplies of clean water help to reduce mortality and morbidity, particularly among young children, as well as making life easier for mothers; feeder roads not only connect the farm to the market, but also make it easier for people to reach health services; local small-scale industries and handicrafts create employment and help to improve health and nutrition by raising the earning power of people; and community education plays an important role in the development and operation of PHC.

Since PHC is an integral part both of the country's health system and overall economic and social development, without which it is likely to fail, it has to be coordinated on a national basis with the other levels of the health system as well as with the other sectors that contribute to a country's total development. This is not only at the central level but also at the intermediate level and, above all, at the peripheral level, where policies and strategies should have their roots. A national health policy, including PHC policy, is more likely to be effective if it forms part of overall development policies, thus reflecting the social and economic goals of the country.

Strategies have to be devised to translate policies into practice; a useful process for this purpose has come to be known as country health programming, which consists essentially of assessing the country's health problems in their socio-economic context, identifying areas susceptible to change, and formulating priority programs to induce such change. Planning for PHC has to be carried out in communities as well as at intermediate and central levels. Central planning should therefore aim at enabling communities to plan their own PHC activities and should provide them with the essential information and guidance relevant to their role in the national PHC strategy and in the overall development process at the community level. Central planning should also prepare communities to operate, evaluate, and control PHC programs.

Community participation in policy decisions and in planning, implementing, and controlling development programs is now a

widely accepted practice. Participation enables communities to become agents of their own development instead of passive beneficiaries of development aid. Coordinated planning at the community level will make it possible to link PHC closely with other sectors in joint efforts for community development. The desirability of coordinating at the local level the activities of the various sectors involved in socio-economic development, and the crucial role of the community in achieving this integration, makes community participation an essential component of PHC.

The general administrative system of a country is important for ensuring coordinated contributions to development from the different sectors concerned. The importance of decentralization to intermediate levels, such as provincial or district levels, is now stressed. The intermediate administrative levels serve as important pivots for coordinated development. These levels are particularly useful for harmonizing the activities of the various sectors, because they are near enough to communities to respond sensitively to their practical problems and needs and are equally near to the central administrative level to translate government policies into practice. To fulfill this role, the intermediate levels have to be strengthened in most countries, particularly by deploying to them the manpower required in the various sectors, including PHC.

### **Will Primary Health Care Achieve the Objective of Complete Coverage of the People with Essential Health Care by the Year 2000?**

Primary health care as an alternative to conventional approaches has proved its worth in at least nine fully documented country case studies. It has ceased to be an isolated pioneering experience and has become an accepted policy in an increasing number of countries. Its conceptual framework and operational principles have been carefully studied and addressed by highly qualified world authorities, with extensive experience and skill in health planning, health economics and management, health services administration, and research. Primary health care also has the support of leading international agencies and millions of dollars are ready to be poured into the treasuries of national governments and communities for this purpose.

There is no doubt that the PHC approach, which has already succeeded in several countries, will continue to be adopted by other receptive countries. The challenge, however, lies in its anticipated success on a universal scale by the year 2000, or shortly after. For future projections, certain basic determinants need to be considered. One set of determinants deals with social transformation for acceptance; the second deals with obstacles and misconceptions inherent in the approach itself; and the third deals with hidden factors which are likely to overtax PHC to the extent of making it a difficult undertaking.

### *Social Transformation*

1. Primary health care as an innovative approach, faced with conventionally accepted, deeply rooted, and institutionalized approaches, is in a way similar to a new ideology confronted with the challenge of antagonistic push and pull forces between the old and the new. The acceptance of an ideology in the initial phase requires a basic transformation in attitude, outlook, and determination; PHC needs at this juncture the transformation of decision makers at the national level and in the higher academic circles. Unless high level policy-makers, health planners, administrators, and educators undergo such a transformation, PHC is apt to meet serious constraints. In other words, PHC needs for its success a directed and constructive social revolution, emanating from a deep sense of justice and genuine concern for an equitable distribution of health benefits.
2. Primary health care also requires for its success a firm national commitment, leading to a totally new perspective for establishing priorities, setting objectives, developing strategies, and reallocating available resources for action plans. Will health planners and administrators be responsive to this change? Will they be liberated from previous commitments to wasteful services, if the evidence is placed in their hands? Will they amend and modernize obsolete health laws to recognize traditional healers and to provide them with new health knowledge, which will increase their contribution and reduce the evils of their malpractice?
3. Education is the great force of change and transformation needed

to bring about the new era of health care as a basic human right. Will the educators of health professionals agree to restructure traditional curricula to train new types of manpower equipped to meet the needs of the vast majority of the people in their communities? Will they be willing to delegate simple tasks to auxiliaries, aides, and community health workers, who are trained by them and work under their supervision and support to multiply their effectiveness in reaching the underserved people? Will they continue to idealize imported standards of health care, having little relevance to the needs and resources of their immediate communities? Are they prepared to see the root causes of disease and malnutrition in poverty, ignorance, poor sanitation, and poor housing, rather than in germs and bugs, requiring costly drugs beyond the means of the poor, and often purchased at the expense of food, shelter, and clothing?

4. Primary health care as a development model for the people and by the people depends largely on community participation for self-reliance. Will this participation be made possible by the effective reorganization and reorientation of politically and socially disrupted communities? Will national governments permit a more decentralized administration to allow full participation of people in the periphery in identifying their health needs and in planning and implementing solutions for their health problems? Is it possible to promote rural-agricultural development and labor-intensive investment where scarce resources abound, as a supplement to urban-industrial development and capital-intensive investment, which uproot the village people and increase unemployment, aimlessness, and other psycho-social problems in the city?

### *Obstacles and Misconceptions*

1. There is no universal blueprint for PHC. It cannot be devised according to a preconceived or imported model, and its success depends on adaptation to local conditions. Therefore, mechanisms for monitoring, control, evaluation, and operational research should be built into the primary health program from the outset to introduce the necessary adjustments in implementation. The

recognition of the far-reaching significance of this aspect of PHC and the availability of the required skills to perform the proper tasks, indeed, constitute major constraints.

2. The misconception that PHC implies the cheapest form of medical care for the poor, with the bare minimum of financial and technical support, may, in turn, lead to the assumption of a dual system—costly for the rich and cheap for the poor—with disruptive and undermining implications for PHC.

### *Overtaxing Hidden Determinants*

1. Rapid population growth is a significant determinant. Unless adequate general and direct measures are carried out to enhance the closure of the demographic gap, the population problem will continue to overtax PHC delivery with an ever-increasing demand in the face of scarce community resources.
2. The sharp rise in the price of food, fuel, and fertilizer, affecting mostly the least developed countries, will curtail the development efforts of these countries with serious repercussions for PHC.
3. Man-made disasters, such as the ongoing war in Lebanon, are, in fact, the major killers and incapacitators. Unfortunately, however, the numbers of their victims do not appear in the official statistical records of local governments or international agencies and remain unpublicized. It must also be emphasized that the huge sums of money spent on arms—estimated at US \$1 million per minute on a global scale—are not only instrumental in causing a dramatic increase in death and disability, but also divert scarce funds in the developing countries from essential health care and other sectors; uproot the people and paralyze their initiative; and overtax PHC with heavy loads of injuries and social, physical, and mental disabilities. Is there a vaccine for this sweeping pandemic? Can the advocates and supporters of PHC exert the positive action needed to overcome this monstrous cloud which is likely to eclipse the optimistic pledge of primary health care for all by the year 2000?

## RELEVANT LITERATURE

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- International Conference on Primary Health Care*, Alma-Ata, USSR, 6-12 September 1978, Assignment Children 42, April/June, 1978, WHO, Geneva, 1978.
- Newell, K.W. (ed.), *Health by the People*, WHO, Geneva, 1975.
- Primary Health Care*, Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978, WHO, Geneva, 1978.

## DISCUSSION SUMMARY

THE MEETING discussed the role of the doctor as leader of the health team. Traditionally, the doctor has always been the head of the health team. But perhaps PHC is changing this, and the leadership role should rotate among the various members of the health team, according to their particular competencies. The doctor has a key role in PHC which very few doctors yet understand. As a means of promoting this, WHO is shortly to hold a meeting in Alexandria of representatives of medical associations in the hope that they might make it clear to their members. Doctors play a key decision-making role, and, at the present time, they provide most of the available PHC. Medical education needs to take account of the doctor's wider role in PHC.

One participant pointed out that villagers have quite a different response to preventive care and curative care. They will walk miles carrying a child with a broken leg, but only a short way to have their children immunized. He had heard it said that "service drives out research," and would like to propose that "curative medicine drives out preventive care." For example, during the smallpox eradication campaign he had met one doctor who said he had too many sick people to do any immunizing! In one study in the US, 40% of the children in the care of pediatricians were found not to have been completely immunized. Perhaps prevention and cure should be separate. Since health is too important to be left to doctors, they should perhaps act as consultants to a non-physician hierarchy. The discussants did not agree and reinforced the need to integrate prevention with cure!

# *An Integrated Approach to Community Health and Development*

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## **I. Introduction**

### *A. Organization of Paper*

THIS PAPER and the remarks to the conference are subdivided into four parts. Part I is an introduction for, and identifies problems associated with, two new (or revised) approaches to development. Emphasis is on national level policy and strategy. The Appendix supports Part I by synthesizing and briefly describing the socio-economic environment in developing countries, thus setting the stage for the balance of the paper. Part II provides priorities and guidelines for new (or revised) strategies for development. Part III describes the vital ingredients in an integrated project approach to meeting the basic human need requirements for *all* people in the agri-rural sectors of developing countries, especially the Middle East. Part IV consists of endnotes and references.

Every attempt is made to be objective; however, the report and remarks are deliberately provocative in an attempt to stimulate meaningful discussion. The author cautions the reader or listener to be aware that truth is both elusive and changing in socio-economic development. During the First Development Decade, development practitioners in international aid agencies and in developing country planning and policy-making organizations based their activities on what they accepted as scientifically proven "facts," yet the policies and programs of the era did not achieve the anticipated results. Much of what was once accepted for truth is now rejected. What is accepted for truth today may be replaced and revised by new knowledge tomorrow.

The lack of data needed to design and manage development programs and projects properly is a serious constraint to accelerating development. Development policies and strategies are still largely the product of human judgment. The author hopes this paper and the remarks drawn from it will contribute significantly to improving the judgment utilized.

### *B. Rationale for Integrated Rural Area Development Approach*

During the First Development Decade, most developing countries, with international aid agency support, pursued development policies and strategies which concentrated their efforts on achieving rapid economic growth, generally with highest priority going to industrialization (Endnote 1). The Third World modeled goods-producing and service sector institutions on those in the developed countries under the illusion that by creating institutions in the image of the developed countries, they too would soon be "developed."

Planners and policymakers in the developing countries believed that with the advent of increasing employment and income in industry, *all* people would benefit, and health, educational, and social services would be extended to include rapidly increasing numbers of people. They saw little need for emphasis on food-nutrition problems or rural development *per se*, because they believed that hunger-nutrition and rural poverty problems would "solve themselves" with rapid economic growth. They assumed health care delivery systems used in developing countries would be within the means of each country, and they looked down upon low-cost, innovative systems. Briefly, the policies and strategies followed can be described as "accelerated industrialization and urbanization."

By the early 1970s, it had become painfully clear that the policies and strategies pursued by the developing countries during the First Development Decade were not raising the level of living of large numbers of people. In 1975, the majority of the people in developing countries were still no better off than they were in 1960. Today, April 16, 1979, the bulk of the people in the Third World are contributing little to national development, and many have become heavy burdens to themselves, their families, communities, and so-

cities. Approximately three-quarters of the developing world's population is still not receiving minimum acceptable levels of basic food and nutrition or education and health services (Endnote 2). We must conclude that national policies and strategies pursued by most of the Third World have not been sufficiently effective in terms of meeting basic human needs. Surely the world could have done better. World Bank President McNamara,<sup>6</sup> Dr. Hoffman (Endnote 3), an early United Nations Development Program (UNDP) advocate, Dr. Higgins,<sup>7</sup> a Canadian planner, this author, and many others have written on the topic.

I suggest that in the Middle East, as elsewhere in the developing world, we are at a critical crossroads. In spite of the "oil money" and the hustle and bustle in the economies of a few fortunate countries, *in aggregate*, the future will be no better than the past unless there are major changes in national development policies and strategies. Many (if not most) countries will be unable to provide ready access to the basic human needs for anywhere near *all* of their people soon unless they make major adjustments in their approaches to development. The answer to the basic human needs situation in the developing world, including the Middle East, is *not* to pursue strategies which accelerate or intensify what was being done in the fifties, sixties, and early seventies. The problem is that "the resources are just not there."<sup>8</sup> *New, or at least different, approaches are required.*

While the current situation is indeed critical, there are several areas in the world where, in the past few years, the people *themselves* have become the principle resource for their own improvement and where it appears good progress is being made in terms of meeting basic human needs. Problems remain, but the incidence of malnutrition among large numbers of the populace is being reduced, and improved health services and education are being extended to greatly increased numbers of people. The experience is limited, but there is now good reason to believe it is possible for the people themselves to become a self-generating force for economic growth and development. This can be accomplished with minimal initial program expenditures, at long-term total costs within the financial capabilities of their respective communities and nations. We can

be optimistic about the future if we can reproduce and improve upon the limited experience.

The framework for the balance of this paper is now in place. First, we recognize that there are possibly a few developing countries where the resources are available to provide basic human needs for *all* people using the "standard brand" development approaches which until recently were the vogue, but there are only a few. Whether the old "standard brand" approaches create a desirable social and economic environment is open to question; therefore, new approaches need to be considered across the board. Second, limited experience to date indicates it is not necessary for a billion or more people to be heavy burdens to themselves, their communities, and their nations through malnutrition, poor health, and miserable working and living conditions. There *are* new approaches which offer hope. Third, the heartwood of the new approaches is *human resource development*, i.e. the people themselves become the "engine" for socio-economic development. Human resource development is the theme of the conference series, of which this particular conference is the first.

**1. Basic Services Approach.** Based on the rationale discussed above, i.e. the recognized inadequacies of earlier era strategies and the hopeful signs appearing in some countries and areas, the World Bank, the Organization for Economic Cooperation and Development (OECD), the UN, and several other international organizations have recently been encouraging developing countries in the strongest possible terms to make what is called the "basic services" approach the hard core of their development strategies.<sup>9-11</sup> The UN has taken the lead, and a 1976 General Assembly resolution explicitly urges: (a) "the developing countries to incorporate the basic services concept and approach into their national development plans and strategies" and (b) "the international community to recognize its responsibility for increased cooperative action to promote social and economic development through its support of basic services at the international and at the country programming level" (Endnote 4).

The US Agency for International Development (AID) has not

moved as aggressively as has OECD, the World Bank (IBRD), or the UN family of agencies in encouraging the adoption of the basic services approach, in spite of the fact that many AID personnel concerned with health have been quite supportive of the ideology. However, in the past year or so, AID has funded an increasing number of basic services type projects. What may be more important is that AID staff, especially those involved in policy making and coordination, have recognized that the development community is indeed faced with inadequate progress toward generally accepted measures of socio-economic improvement, and they have been participating very actively in the search for new approaches to development. The emphasis has been on evaluating and refining the basic human services concept. Unpublished AID reports by co-authors Leipziger and Lewis and by Streetnen are especially relevant (Endnote 5).

The private development agencies and organizations, such as Save the Children, are generally involved in programs consistent with the basic services approach. They deal directly with people in developing countries at the grass-roots level, so they are generally well aware of the basic human needs and services situation.

Given the above information, a newcomer to the field of international development might predict that developing countries would be adopting the basic services approach en masse. This is not the case! The encouragement by UNDP, IBRD, and OECD and the interest of AID and private agencies have *not* led to the wholesale utilization of the basic services approach as an alternative to what they have been doing. Most countries are proceeding with great caution, and the leaders of a few developing countries are hostile toward this approach.

Is the caution of the developing countries foolish? Are they making an error? I suggest they are wise, and their caution is appropriate. Why? One reason for this caution is the variation in thinking among scholars and policy advisors concerning what the basic services concept encompasses. The variation is so great it is confusing. In general, about all that can be said at this time is that *all* advocates follow the general principles outlined in the "basic human needs

approach" first developed by representatives from labor, industry, and government at an ILO conference in 1976.<sup>12</sup> These principles state that the ultimate goal of developing country policies and projects is no longer the achievement of maximum aggregate economic growth, but neither is it growth with appropriate concern for equity, which many planners and policymakers of developing countries have viewed as a logical alternative to their earlier strategies. Rather, the 1976 conference called for the provision, through income generation, transfers, and public services, of a basic human needs bundle of goods and services to the populace. The way in which the bundle was to be produced and delivered was left vague and uncertain in the report and remains so to the present. There is no reliable, ready-made prescription for developing countries to follow.

A second reason for the caution of developing countries is that people in strategic positions in terms of the allocation of scarce governmental budget resources (Ministries of Finance and Planning Commissions) are not yet convinced of the long-term economic viability of the basic services approach. They suspect that the approach will generate an increased demand for governmental funds to provide health and other social services without any guarantee that the system can generate sufficient income to pay for them. Having been "burned" in an earlier era by community development programs creating a demand for services beyond the financial capability of their governments, they are, quite logically, very cautious. In their judgment, the basic human needs approach has moved from an abstract concept to a policy issue before it reached a stage of conceptualization which logically permits them to embrace it wholeheartedly. How the basic services are to be paid for remains a very important unanswered question. The inescapable conclusion is that the concerns of developing countries about the basic services approach are legitimate. The strategy and policy planners dare not ignore these concerns.

**2. Integrated Rural Area Development Approach.** The best way to overcome concerns about the basic services approach is to view it in its broadest possible context, namely, in terms of meeting

basic human needs in contrast to only services, *and* to make extensive use of what has come to be called the "integrated rural development" (IRD) approach in implementation. IRD differs from the basic human services approach by stressing the coordination of activities, *with major emphasis on productivity-increasing activities*, along with improving services.<sup>13-14</sup> Of course, IRD is limited to the rural areas, but a similar approach could be developed for parts of the urban sector. Thus, a good IRD project would include the productivity-increasing elements which the basic services approach ignores and which its critics claim will lead to its downfall.

In Tanzania, Pakistan, and several other countries stressing a basic human services approach, top priority in services is now given, after considerable experimentation, to those which increase productivity, especially in agriculture. In commenting on a Tanzania project, Weaver and Blue (Endnote 6) note, "The emphasis of the social services component is on increased productivity, with these services oriented toward things that will increase agricultural yield and which can be paid for by the villagers themselves."

Linking IRD and basic services creates a palatable package, and projects can (and this author would argue *must*) be economically viable, i.e. yield a bankable internal rate of return. By combining productivity-increasing rural development activities with the provision of basic services, the World Bank and other external funding agencies<sup>15-16</sup> will get interested. Ministers of Finance need not, and many already do not, hold the same fear for IRD they hold for the basic services approach.

In the discussion which follows, no attempt will be made to definitively differentiate between the basic services and IRD approaches because they are so compatible. However, differences do exist in the minds of many and this should be kept in mind.

**3. Special Problems: Women and Children.** The world is now midway in the special UN "Year of the Child," and a few years ago we had the "International Women's Year." The failure of women in most developing countries to be relieved of much of their traditional drudgery and the fact that they and their children have received disproportionately fewer benefits from economic

growth than men were factors of considerable importance in reaching the conclusion that the First Development Decade strategies were inadequate. These failures encouraged the development of the basic services approach. (In the 10 or so developing countries in which I have worked, women, and to a slightly lesser extent children, have not shared equitably in the fruits of economic growth. Either by choice or because culture accords them a lower priority, when food and health services are scarce or costly, women sacrifice for their husbands and children.)

While the failure of women and children to share adequately in benefits from economic growth has been widely publicized, the concept of women as a resource has been given less attention. Women have always played a very important but unrecognized role in producing food and local marketing, and they have traditionally provided many of the basic services as well. In the First Decade strategies, "women power," i.e. women as a resource, was not given adequate attention. Attempts to create jobs in industry focused on jobs for men. Agricultural projects ignored the woman farmer, the woman head of family, and the woman trader. Emphasis was given to increasing the productivity of men, but women, who frequently supplied 50 to 80% of the labor in food production and provided basic services, were ignored.<sup>4</sup>

Looking to the future, the success of any developing country's strategy to eliminate hunger and malnutrition and provide the basic services to a rapidly increasing share of the populace may hinge on whether it utilizes the energies of women, the hitherto largely hidden but dynamic force in so many Third World survival economies. Fortunately with each passing day, an increasing number of developing countries' leaders are concluding it will be *only* by the full participation of women in the economic development process, especially in food production and marketing, that the world can hope to eliminate poverty, hunger, and poor health.<sup>17</sup>

## II. The New Strategy—Preconditions and Priorities

In Part I, I have indicated that if a developing country wants to provide conditions wherein all people can obtain their basic

human needs, at the present time the best way would be to utilize the basic human needs (BHN) approach and implement it through the use of Integrated Rural Development programs and projects. Basically, it is the latter, i.e. IRD, with which this paper is concerned, but experience to date in developing countries indicates that for projects, or for that matter any grass-roots program, to succeed and be expanded to other areas, the overall social and economic environment must be right. Developing countries are not already developed, in part at least, because they find it so difficult to build upon successful experience at the local level and institutionalize it. There is little tendency for success in isolated projects to be "spun off" and "breed" success on a national scale. Can the tendency be reversed?

For any nation to become really serious, i.e. give more than lip service to reversing the tendency discussed above and to developing a strategy which will create conditions wherein *all* people in the country have reliable access to adequate diets and minimal health care at costs within individual and national means, I suggest two preconditions are necessary. The preconditions involve national goal setting and policy formulation, and achieving them will need to be the first order of business in many countries. First, national leaders must accept the proposition that all people are *entitled* to reliable access to adequate diets and health care at costs within their means. (The same view could be expressed in human rights terms. Basically, we are saying all people have a *right* to adequate food-nutrition-health care. The UN has passed "right to food" resolutions, as have many governments, including the US.) Second, governments must be willing to give top priority to policies which will base economic growth on meeting basic human needs through self-help projects (Endnote 7). (This means that programs and projects which produce and deliver basic human needs will become the "engines" of the development process, in contrast to pursuing "growth with equity" policies and assuming that given equity, basic needs will be met.)

Once the preconditions are met, where to start? Since all developing countries have a national plan and some form of planning policy guidance mechanism, the preparation of a new strategy logically must start with them.

If the new strategy for development is to be successful, it must begin with the existing situation and, utilizing only the resources and institutions available, move forward step by step toward a definable goal. Programs and projects to implement the strategy must be planned and carried out, and they must be based on *incentives* which are known to produce the desired results or to relax constraints that exist at *all levels*, i.e. deal with the entire *system*. Experience to date indicates that to do otherwise is to invite failure. Of greatest importance is the matter of priorities, i.e. putting first things first. What are the priorities?

*The first priority* is to revise and develop policies and institutions which will involve *all* people, especially the poor, in the process of economic development. Beginning with the current national plan and planning-policy-making mechanism, first priority in terms of emphasis and timing must be given to developing policies and institutions to involve the poor and others by-passed in the past in the process of economic development. Since the bulk of the poor are in agriculture and food is scarce and expensive, food and nutrition are, in my judgment, the logical "first among firsts" of the basic needs to be tackled. The numbers of people who are either hungry or malnourished are large, and producing and distributing food presents almost unlimited opportunities in terms of generating income. Increasing food production and its proper distribution can provide the self-sustaining growth the Middle East needs so urgently. This calls for a strategy which starts in the agri-rural sector and stresses food production, processing, and marketing for local consumption and the meeting of basic health needs (Endnote 8).

Giving priority to revising policies takes note of the fact that other investments and initiatives are not likely to yield lasting benefits of the type desired without the proper policies and institutions. For example, successful individual localized projects will not become models for the nation. There will be little spin-off effect. General rural road construction (infrastructure) is a particularly good case in point. Rural roads are vital to development, and some must be built; but without national policies and institutions to serve the needs of those by-passed in the past, the primary beneficiaries will be large farmers and pastoralists, landowners, and relatively well-

to-do businessmen. Unless macro-policies are right, the poor, most of whom live in the rural areas, are unlikely to capture significant benefits such as improved food-nutrition or basic health services from economic growth, even in the second or subsequent rounds of the income flow. "In the quarter century after World War II the benefits of Third World economic growth didn't "trickle down" to millions of impoverished people, and they *couldn't afford* to buy good health care, let alone education or even sufficient food."<sup>18</sup> Programs and policies must be deliberately directed to meeting the needs of specific, identifiable groups who need help.

The *second priority* is to expand the national capacity to (a) develop and disseminate food-nutrition-health information and (b) manage and administer self-help programs and projects utilizing appropriate technologies, with emphasis on food production, food marketing, and health care. This priority involves three parts or elements. First, it is illogical to expect people to feed themselves properly or demand and get the health care they need if they are not aware of their bodily requirements. In the areas of nutrition and health, the "wisdom of the ages" cannot be relied upon. Information on (a) the nutritional content of foods, (b) daily nutrition needs, and (c) proper health care requirements must be developed and widely disseminated. Second, knowledge dissemination is not enough. The rank and file citizenry must have improved means to produce or buy their own food and health care needs. Experience to date in developing countries clearly indicates it is unrealistic to expect dramatic progress in improving food-nutrition-health care through programs which must be based largely on income or wealth transfer (see Part I and Appendix). With the possible exception of the oil-rich countries, the resources are simply not available. *Self-help is the key*. Third, increasing productivity of the human element must be the focal point in policies and strategy. The poor and services-starved segments of developing countries are in that condition largely because they are not very productive and realize little return from their effort. They are not productive due to poor health (little energy and sickness) and failure to utilize production-increasing technology. Technology transfers, which have been an integral part of all known developing country strategies to the present time, have not, unfor-

unately, been of much use to those who are now the poorest of the poor. Too much of the technology transferred was not *appropriate* for the cultural and physical environment into which it was immersed. The emergence of dual economies, discussed in the Appendix, is a symptom.

The logical conclusion is that revised national strategies must place major emphasis in terms of investment and programing on those industries and sectors which produce goods and services needed by the rank and file citizenry, i.e. more food and improved nutrition and health, and on means of production which will increase productivity and sales, thus, the real incomes of those in need. It follows that the strategy will succeed only if the nation develops the capability to develop and manage the programs and projects of the type needed.

Much of the technology needed to achieve the above objective, i.e. *appropriate technology*, is known, but it is not readily available to the hunger-prone or services-starved population. Also, there are many mistaken ideas about what is needed. For example, appropriate technology is *not* old-style, 1940-vintage technology, as some technicians who have not thought the problem through tend to think. Appropriate technology utilizes the best and latest insights science has to offer, adapted to the socio-economic situation in question. Much more than technology transfer is required.

There is great variation in needs, resources, and institutional capabilities among and within all developing countries. Each country in the Middle East, and each major region within the country, will need an organization to be concerned with appropriate technology development and adoption. The countries which achieve self-sustaining growth while meeting the basic human needs of the population the soonest may well be those which first create an internal system for providing a continuous flow of appropriate technology.

The *third priority* is to improve the small farmer-villager's access to information, purchased inputs, financing, and markets for food products. Increased food production offers a tremendous opportunity to increase productivity where it is most urgently needed in the Middle East. As indicated earlier, food is scarce and costly, the poor

are largely in agriculture, and the resources needed to increase production are available. The Middle East's food problem can become its greatest opportunity!

Limited use of purchased inputs and supportive services is a major constraint to increasing food production and distribution throughout the Middle East. Fertilizer utilization per hectare for comparable soils and crops in the developed countries is low, credit use is modest, and the fact that such a high percentage of agricultural production is on a subsistence level is illustrative of the low utilization of effective marketing institutions. The situation varies by crop and by area; in some countries, producers in the commercial sub-sector (often for export) have relatively good access to the inputs and services needed to increase production, but the vast majority of farmers and pastoralists do not.

The *fourth priority* is to create supporting physical infrastructure. Although substantial progress has been made, infrastructure remains a serious constraint to people meeting their basic needs in most of the Middle East, and little progress can be made without strengthening it. Unfortunately, infrastructure construction is a very tempting first priority to many countries because it is easy to manage and is highly visible. The problem is that infrastructure construction without the programs implicit above will contribute little to improving the food-nutrition-health situation. Many white elephants can be cited from past programs.

The tendency to overemphasize infrastructure in the policies and strategies of developing countries is a direct result of presuming that developed country experience is directly applicable. For example, if a road is improved in a developed country, there is a pool of managerial talent available to capitalize on the new resource and utilize it. Business develops along the road and soon the traffic justifies the expenditure. In developing countries, there is rarely a pool of managerial talent, nor is the capital, etc, necessarily available. *An integrated approach is required.*

### III. Making Integrated Rural Development (IRD) Succeed Where Other Approaches Have Failed

Parts I and II hopefully have demonstrated that Middle East countries should at least be experimenting with something more fundamentally different than simply stressing agricultural development and providing more health care services in the rural areas or striving for maximum economic growth with equity. The socio-economic development process must be made to reach out and involve vastly increased numbers of people. *Providing basic services and increasing productivity must become equal partners in a revised strategy*, and it must generate projects which reach the grass-roots level and are based on the people themselves as the "engines of progress."

How to do the above job is the relevant question, and in the balance of this report guidelines for preparing and managing projects which will meet the pressing developmental needs of the rural areas are provided. Since most of those by-passed by economic development in past programs are in the rural areas, beginning there is appropriate.

1. Increasing productivity of the human element in agriculture and the villages must be made an equal partner with delivering basic services on a project by project basis. In the past, national level planners have attempted to increase production in one set of projects and deliver services in another. In the minds of the people affected, a cause and effect relationship frequently was not established. Rural people have been criticized for not becoming more productive when, in their minds, benefits from attempting to do so were not as great as the costs. Simultaneously, they wanted, but were unable to obtain, many life quality-improving goods and services. Linking the delivery of life quality-improving services, such as community health care, together with productivity-increasing activities provides the incentive needed for people to become more productive and break out of the situation in which they are burdens to themselves, their families, their communities, and their nations. People must see and understand this linkage.<sup>14</sup>

2. Plans must be made on an area basis and the administration of agri-rural activities (which include community health programs)

must be decentralized. For many of the poor and basic services-disadvantaged to participate in, therefore benefit much from, development activities means that most of those activities must occur fairly close to where the people are currently located. Additional massive migrations of people are not acceptable. Also, the activities probably must rely largely on resources already under the people's control. As the UN report cited earlier indicates, the resources are simply not available from either international aid agencies or the central governments of most of the developing countries to provide basic human needs for a rapidly expanding proportion of the poor using any other approach. Therefore, projects must be designed in which the poor help themselves. Their labor and skills must be the key resources utilized to produce their basic needs.

Given the above, planning on an area basis has many advantages. A strong point in its favor is that it generally forces planners and policymakers to recognize that food and health care *are* serious problems, that local people *can* do something about them, and that, given the proper incentive and assistance, they *will* do something about them. Also, local area planning generally shows agriculture to be a basic industry around which development activities can be centered, and most of the people are already involved in it.

Planning for development, including health care needs, on an area basis is, of course, not new. Admittedly, the record for area planning to date falls far short of 100% success. However, recent IRD experience adds some new dimensions. For example, in the past, many area-oriented development efforts have been pilot projects which governmental leaders thought, if the project proved successful, would be repeated elsewhere. Two serious problems have discouraged spinning off and spreading the approach. They are (a) the establishment of special institutions (frequently autonomous) which could not logically become national in scope and (b) funding requirements which were beyond the capability of the national government to provide on a nationwide basis. Stressing *self-help*, as is done in IRD, avoids the problems.

Planning on an area basis and leaving implementation to functionally and vertically oriented general directorates or national level ministries generally have not proven desirable. The problem is that

for a developmental thrust to be effective and efficient calls for the coordination of activities, and the vertically oriented agencies simply will not coordinate their programs. Bureaucracies are by their very nature jealous of their prerogatives. The answer to the dilemma is decentralization of planning and implementation, i.e. area-oriented projects, making full use of local people in the process and including the proper mix of both production-increasing and service-rendering activities<sup>19</sup> (see also Endnote 9).

3. "People orientation" must be utilized in project planning. In the past, developing country planning has tended to be macro-economic and resource management-oriented. It is through "people orientation" plus the area approach that IRD projects can be different, and better. Planners who have had limited field, or only operational ministry, experience tend to fall into the trap of thinking in terms of a specific activity and stressing *what* is to be accomplished, while giving inadequate attention to *how* it is going to make a contribution to people. For example, agriculturists have been enamored with attempting to meet physical goals, such as increasing food production, without considering the full social and humanistic impacts. If food production is increased but the masses have no income to buy it, little has been accomplished. For IRD projects to succeed where others have failed calls for much more than saying "what needs to be done" in a physical sense in the project plan. Project objectives should be expressed in socio-economic terms.

4. Increasing food production and processing to meet local needs must be made the hard core (or central) activity wherever possible. Since in the Middle East food is generally scarce and expensive, producing and processing the food needed to meet local and regional needs is a logical first order activity through which productivity and real incomes can be increased. The numbers of people involved and the relative ease by which benefits can be channeled to those who need help all point to the desirability of a "food-nutrition first" thrust in most IRD projects.

5. Economically viable "delivery systems" must be established. Successful IRD projects deal with the problems of *access*. They provide access to productivity-increasing information, inputs, and services,

and life quality-improving services. Specifically, good IRD projects (a) create a delivery system for the inputs and services required for small farmers (sometimes called "villagers" or "traditional farmers") to become more productive; (b) generate jobs in the project area; (c) establish a system for delivering selected basic services; and (d) accomplish the first three aims at a project benefit-cost ratio high enough to make the project a bankable internal rate of return (IRR). It is vital for IRD projects to achieve a bankable IRR, because this is the only way "the resources are going to become available" for reaching the vast majority of the people with basic needs. Little headway is likely to be made in solving the problems of the rural poor in the Middle East or anywhere else if doing so is viewed as a national liability by those who exert the greatest control over national purse strings. The problems of the poor can be solved only by getting adequate resources allocated to their solution, and this will be done only when "it pays."

6. Obtaining *leverage* in project activities must be stressed (Endnote 10). For the *agricultural segment* of the project, increased leverage can be obtained by the following means. (a) Simple to manage self-help activities should be emphasized, with primary concern being focused on those rural folk who are typical or below in terms of availability of resources, managerial skills, and capital. (b) Production credit should be made more readily available, but its use should be linked absolutely and unfailingly to productivity-increasing activities and collecting the debt. (c) The production package approach should be utilized to obtain high yields in relation to input requirements and to get all the mileage possible out of project workers and expenditures (maximum net value of output). (d) Farmers should be dealt with in groups in extension, credit, marketing, and supply provision, rather than on a "one on one" basis. Cooperatives have a vital role to play in most countries. New concepts, especially efficiently operated multipurpose local units, are required. (e) Needed inputs should be readily available at a reasonable cost. (f) The market should be protected enough to induce a subsistence-, survival-oriented family to produce for it, but commitments that overstress the financial capacity of the government should be avoided. (g) Field activities should be coordinated. This presents an almost insurmountable problem for

many developing countries, but it remains the absolutely necessary ingredient. A multipurpose field organization under a single agency may be the only workable alternative. (h) Local industry and service organization development should be tied in with increasing agricultural production, especially food marketing, processing, and distribution and the local production of inputs. This means using development to beget development. Marketing farm products and producing inputs are logical starting points.<sup>20</sup>

For the *services-delivering segment* of the project, increased leverage can be obtained by the following means. (a) Local people should be used to the maximum extent possible in implementing the project. (b) Activities that minimize the use of high cost, externally produced goods and services should be stressed. (c) Preventive rather than curative medicine should be emphasized. (d) Services rendered should be linked to what the local people can afford. (e) Top priority should be given to those services which contribute directly to increasing productivity, especially in agriculture.

7. Projects should be operated through existing agencies insofar as possible. It is not wise to create new agencies because they are seldom much better than the old ones. However, new agencies are sometimes needed, and under no circumstances should the existing agencies be permitted to block full implementation of an IRD project by their refusal to cooperate or to perform efficiently and on time.

Most infrastructure should be handled by existing agencies; however, the project, as an entity, should be deeply involved in the planning. Agricultural extension and health care may be exceptions and new organizations generally needed. If health care is the responsibility of the existing agencies, the location and construction of health care centers, at least, should be decisions in which the IRD project leadership has a hand. The dynamic aspects of private initiative should be utilized wherever desirable, and quasi-public organizations may be useful.

In agriculture, the existing general directorates and other line agencies may not be able to do the job required, but they can probably stop anyone else from impinging on their territory. A way to involve them while delivering a coordinated program must be found. IRD projects may require legal revisions in order to succeed.

8. Project operations should be handled through multipurpose service centers. The centers should afford easy access to everything that will be needed to implement the production increases planned for the project and to deliver the basic services. This will help provide leverage (see Guideline 6 above), but much more is involved since the project should include guidance through appropriate agencies for creating village and other group organizations in which collective action of rural people can be channeled toward progressive improvement of the conditions of farm production and community life. This calls for a "bringing together" of the diverse interests and groups in the area.

At minimum, the service centers should be viewed as the potential nucleus of the socio-economic system for a viable community; therefore, the location should be approached carefully. Eventually, many stores, service organizations, financial institutions, etc. should find it wise to locate in or near the center. Intensive extension and loan supervision, marketing and input distribution, and health care facilities should be available at the centers from the beginning.

9. Development projects should be institutionalized. Most development projects involve a period of investment and institution development after which a regular ongoing agency or organization is expected to continue the benefit-producing activities. Unfortunately, many development projects are not institutionalized, and after the initial investment thrust the project collapses. Avoiding repetition of past bad experience calls for careful planning for project phase-out. In order to initiate a program in a timely manner, an IRD project may be required to operate certain activities itself which at a later date should properly be transferred. The important thing is for *all* activities, at the end of a specified period, to be in the hands of regularized agencies and organizations which can provide continuity. For example, agricultural extension which started as a project activity could be folded back into a reorganized extension department. Cooperatives could take over marketing and purchasing which was initially handled by project management. Certain aspects of the health program could be handed to regular agencies.

Institutionalization definitely does not mean that any activity

initiated by the project should be permitted to die or that all new project organizations should cease to exist. It means rather that once activities have proven their worth, they should be accepted by ongoing agencies or new agencies should be created to do the job.

10. The private sector should be included in the decision making. Throughout the Middle East, as in most of the developing world, the amount of resources under private control greatly exceeds that under the control of governmental agencies. If IRD projects are restricted to activities amenable to force account financing, they will not accomplish much. Planners of projects need to think in terms of providing the incentives which will induce decision makers, whoever they are and wherever they may be located, to make the decisions required to achieve project objectives.

11. The development of cooperatives should be included but new progressive thinking should be emphasized. Cooperative philosophy is completely compatible with IRD philosophy, and cooperatives are logically institutions of choice for implementing many activities. Yet, the cooperative's unique contribution to date in agri-rural development is hard to identify and evaluate. The past performance of cooperatives indicates they are not panaceas. In most countries, strengthening cooperatives at the local level and reinvigorating the whole cooperative movement will be required. A federated system, based on multipurpose local cooperatives which own specialized, functionally oriented, wholesale, terminal, and input-producing facilities, may be the answer.

12. Project management should be kept from becoming the Achilles' heel for projects. In IRD projects, achieving enough benefits to cover costs and yield a respectable IRR depends almost 100% upon efficient project management. Unfortunately, good managers are extremely hard to find in developing countries. Evaluations by aid agencies of all types of projects have consistently revealed that project management weaknesses account for an extremely high percentage of the failures. On this score, IRD is in no better position than any other project approach.<sup>21</sup> Segregating planning and implementing agencies invites project plans that are difficult to manage,

thus the projects produced may be failure-prone. Therefore, it would appear judicious to insist that those who are to manage a project must be involved in its planning.

Any agency or organization initiating a series of IRD projects would be wise to provide special training for project managers. Project reviews and evaluations should be formalized, and a feedback system which makes management a dynamic process should be developed. What is learned through experience must be utilized in future planning if IRD is to be more than another vogue through which we will pass in time.

## ENDNOTES

1. Numerous reviews of earlier strategies for development are readily available (see Refs. 1 and 2).
2. Many studies support these conclusions (see Refs. 2-5).
3. The views of A. Hoffman in "Were the Experts Wrong?", a highly publicized article on the 25th anniversary of the UNDP (several publishers), are enlightening. See also Ref. 1.
4. Resolution adopted by the UN General Assembly, December 21, 1976.
5. Unpublished AID documents, possibly available upon request to the authors: Leipziger, D.M., and M.H. Lewis, *A Basic Human Needs Approach to Development* (AID In-House Report); Streetnen, P., *The Distinctive Features of a Basic Needs Approach to Development* (AID Mimeo, 1977).
6. Weaver, J.H., and R.N. Blue, *An Approach to Integrated Rural Development: A Case Study of the Kigoma Region of Tanzania*, Unpublished American University Development Studies Program Report, November 1967, p. 4.
7. Most national leaders readily agree that people are entitled to improved life quality, but few are specific in terms of the "right to food." When a government accepts the second precondition, it will have moved a step forward from making rapid economic growth with equity the national goal. It will now make meeting the basic human needs and services the *growth industries*. Priorities, policies, and projects will be quite different from what they would be if the government was merely attempting to reshape a First Development Decade strategy, because income redistribution has become necessary in order to provide an acceptable degree of public order and harmony.
8. The Third World Women's and Ethiopian Women's Organization statements and the presentations of Fraser, Scott, Calloway, Graves, Burke, Howell, Hug-

- gard, Williams, Cox, Caton, and Dreyer to the International Conference on the Role of Women in Meeting Basic Food/Nutrition Needs support the priority assignment. See Ref. 1.
9. See also the various reports of PASITAM (Indiana University, Bloomington, Indiana, 1978-1979).
  10. Leverage is a financial term providing a measure of how many additional financial units of resources one unit of an individual's assets brings into play. In the context of this paper, project leverage refers to getting as many benefits as possible from limited project resources.

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## APPENDIX

### **The Basic Food-Nutrition-Services Situation in Developing Countries: A Synthesis with Implications for the Middle East**

The situation varies greatly among the developing countries, but they generally have two things in common: (a) the people are poor, and (b) many people are not meeting their daily dietary or service needs (Endnote 1). According to a recent World Bank report, almost a billion of the world's people suffer some degree of mal- or undernutrition, and most of them live in the developing countries.<sup>1-3</sup> As indicated in Part I, the Third World's population is literally exploding, and many new mouths to feed and babies who need health care are added each day. Poverty, misery, and despair blankets from half to three-quarters of the typical developing countries' inhabitants. Life in the rural areas, where two-thirds or more of the people live, has become too wretched to endure, and millions of people are abandoning the countryside to head for the cities—seeking jobs that do not exist. They are doomed to live in slums, or under near slum conditions.

The world is not new at the "development business." Many of the international aid agencies were created more than a quarter of a century ago. Various nations have tried almost every conceivable approach to accelerating the pace of development. We have learned much, i.e. we know *some* things about development, but there is also much we do *not* know.

What do we know about food nutrition and health in developing countries? First, we know that generally the people *most susceptible* to poor health, famine, under-, and malnutrition are: (a) rural residents with inadequate agricultural resources, and (b) recent poor migrants to the cities from the rural areas. We can also generalize that the food risk, which includes hunger and malnutrition as a result of high food prices, tends to be a periodic phenomenon, usually associated with food or forage crop failure, which is weather-based. We also know that post-harvest losses of food are high, and no one would go hungry or fail to get the most basic health care if the money were available. Poverty and inadequate food, nutrition, and health care go hand in hand.

The *rural sectors* where poor health, hunger, and malnutrition prevail are generally characterized by systems in which the typical rural family, utilizing a minimum of purchased inputs and relying on conventional wisdom-based technology, works a small tract of land or herds a few livestock (Endnote 2). The family spends many days of labor to produce a total food supply which will, under the best of conditions, provide only a meager subsistence. The family that produces the food consumes most of it; therefore, the system may be, and generally is, referred to as the "subsistence sub-sector." Money, including that needed to pay doctors and immunize children, is hard to come by. There is little opportunity for off-farm employment, even to process or handle the food which is exported to the urban areas.

In areas where people face the most serious food-nutrition-health problems, production is highly dependent upon weather and acts of God. When drought, flood, or pestilence strikes, less than subsistence requirements are available, and people suffer. Frequently, the labor requirements for the subsistence or major crops are concentrated into a critically short period; therefore, production cannot readily be increased. We thus find massive underemployment most of the year, but farmers complain about the shortage of labor constraining production. In many areas, women provide most of the labor, and in some areas they are the key production decision makers as well. In vast areas, rapid increases in population and ecological degradation are reducing the resource base per family very rapidly; hence, the number of people on the very edge of survival is increasing. In many areas there are large numbers of landless rural people, with few job opportunities.

*Dual economies* have emerged in most developing countries—a "modern economy" and a "traditional economy." Wages and salaries in the modern economy are high (relatively), and people who break into it have real incomes many times greater (sometimes 10 to 15 times) than those in the traditional economy. The modern economy is generally urban-based, and the skills required to break into it are *not* those most rural folk have. The number of jobs in the modern economy is very limited, yet many go unfilled because the

number of people with the skills, attitudes, and experience required is even more limited.

The dual economy concept can also be applied to agriculture. Dualistic agricultural economies have emerged in most of the developing countries—a commercial sub-sector and a subsistence sub-sector. The commercial sub-sector is often export-based; however, in some cases it is providing the food for urban consumers in the home country. Yields per hectare, production per person per year of labor, and return to investment in the commercial sub-sectors are frequently, perhaps generally, satisfactory. Development strategies of the First Development Decade tended to concentrate effort on export crops and on the commercial sub-sectors.

The *urban sectors* contain a relatively smaller share of the hunger-prone and sick than do the rural sectors, but there are still plenty. Many, and probably most, of the urban poor are recent rural-to-urban migrants; however, we cannot be certain of this. The crux of the urban food-nutrition problem appears to be the availability of more adequate basic services in the urban areas amid a lack of employment opportunities. Rushing to the cities without the skills required to get a job in a modern, progressive, commercializing and/or industrializing economy, the new arrivee is likely to be disappointed. Many live in slums which in developing countries tend to be new settlement areas, in contrast to developed countries, where the slums are the old decayed areas.

In spite of all the problems the slum-dwelling, recent rural-to-urban migrant family faces, the total family is likely to be better off than they would have been had they remained in a rural area, and in free societies they are not likely ever to return to the countryside. Education for the children and health services for all members of the family are likely to be much more readily available in the urban areas—even for the poorest of the poor. If the family was landless before migrating to an urban area, i.e. dependent upon labor only, it may find food cheaper to purchase in the city because of developing country policies designed to hold urban food costs down. Returning to the countryside is not a promising option for the urban poor.

Five key terms highlight the food-nutrition-health situation of the developing country and are extremely important in terms of strategy

development. They are majority, productivity, income, access, and technical and managerial skills (Endnote 3)

The *majority* of the people in most developing countries are dependent upon the agricultural sector for a livelihood. In most developing countries, the majority are in the subsistence sub-sectors of the agricultural sector where *productivity* of the human resource is very low. In agriculture there are those who have access to land, and there are the landless poor. The latter struggle to find jobs where few exist, and often live an almost animal-like existence, largely on family, village, or some other form of welfare. Real *income* is extremely low, and the numbers of people affected are so great that the average level of living in a nation so affected cannot be satisfactory. Those who have access to land, while generally much better off than those who do not, frequently lack *access* to production-increasing inputs and supplies and marketing services. In most developing countries, the *majority* of the farm families lack ready access to production credit, marketing services, or production-increasing purchased inputs. Almost all—the landed and the landless—lack the *skills and knowledge* needed to become more productive. Low productivity is thus the first order cause of rural poverty; this, in turn, is linked directly to malnutrition, famine, and poor health.

The urbanite on the thin edge of survival is equally likely to be in a family in which the productivity of potential earners is very low. The problem may be unemployment, underemployment, or employment in an occupation where the reward for work is low. Lacking income, people are unable to buy the food or health care they need. Food and health services are produced largely in response to a money incentive, and both flow to where the money is. The poor, lacking money, simply cannot channel the flow of nourishing food or health services in their direction.

The other side of the food-nutrition-health situation is that those farm, pastoral, or urban families with access to resources, capital, and markets and with the necessary managerial and technical skills are productive, have generally obtained reasonable incomes, and face no serious food-nutrition-health problems (Endnote 4). Poverty is thus the crux of nutrition and health problems.

Finally, we know that meeting the food-nutrition-health needs of all people will not be easier in the near future. Most developing countries face continuing population explosions. Inadequate diets and poor health are related to high fertility and the large families typically associated with poverty in the developing countries. Family planning, which is considered only peripherally in this paper, definitely has a place in food-nutrition-health strategies.

What do we not know? Within the framework of the above generalizations, there is much we don't know. Restricting the observations to food and nutrition (because the author knows much less about health problems), many developing country planning agencies have very little hard data on what and how much people actually eat, especially in the rural areas. Knowledge about the specifics of who goes hungry or is malnourished *and why* is very scarce. Many national plans are based largely on *myths*. The data needed to prepare a sound national plan for nutritional improvement are rarely available.

Knowledge and experience concerning how people can feed themselves more adequately and provide better health care in specific locations, and how a nation can design *self-help projects* which will reach large numbers of people and still be within the administrative and financial capability of the country, are very scarce. Where we have micro-studies available, we do not know how far we can extrapolate from them because local conditions vary so greatly. Few, if any, developing countries have progressed to the point where they have adequately identified the hunger-prone or the major health problems without further assessment and study to prepare a strategy which, building on the natural and institutional resources available, will move the country step by step forward to a condition in which *all* people will have a reasonable opportunity to meet their daily dietary needs and obtain basic health services.

Developing countries vary greatly in terms of resources and infrastructure; therefore, they differ greatly in terms of their potential to take corrective action for food-nutrition-health problems. In view of what is required to take even meager steps forward, the developing countries can be classified into at least three categories (Endnote 5).

In Category A we could place those poor countries that need

only the will, time, and technology, rather than large concessional capital transfers, to make progress. Included in this category would be the OPEC and similar countries (those nations in which development can be financed from oil or other natural resource exports) and nations such as Taiwan, South Korea, Mexico, and Brazil, which are developed enough to attract foreign investment and remain financially solvent while borrowing on regular commercial terms. In the countries in this category, most of those people not meeting minimum acceptable level food requirements could conceivably be turned into paying customers for food in the foreseeable future, and many health care needs could be provided by income-transferring policies. It is questionable whether any non-OPEC Middle East country falls into this category.

In Category B we could list those developing countries that have some natural resources, basic economic infrastructure, and enough trained technical personnel and able administrators to permit them to achieve self-sustaining economic growth in a decade. In the meantime they must make a herculean effort in terms of self-help, and, in addition, much financial help would have to come from outside the Third World. These countries will not be able to feed themselves from their own efforts for several years. The ingredients in a sound strategy for development for countries in this category may be quite different from those in Category A above or Category C, which follows. For example, heavier emphasis may need to be put on infrastructure, financed by grants or loans on very favorable concessional terms from outside the Third World. Several Middle East countries fall into this category and they are the countries with the greatest need for revising policies and strategies.

In Category C we could list those countries which have been rather cruelly, yet perhaps accurately, described (Endnote 5) as the "basket cases" of the world. These countries generally have limited exploitable natural resources, including soil, water, and climate; minimum infrastructure; and few technically trained personnel and able administrators. They will find it extremely difficult to achieve self-sustaining economic growth and development in the foreseeable future. They will need much assistance from external sources for

many, many years. The bulk of the people in these countries will not likely become cash-paying customers for all their food for many years, and it is questionable how much health care can be delivered. Do we have Middle East countries in this category? What more can be done to help them help themselves? Is available aid a constraint?

There is little unity among the nations in Categories A, B, and C, with the exception of a state of mind. There is much frustration on the part of their leaders and scholars who find it easy to be antagonistic toward the First and Second Worlds. They recognize their countries need help, and they want it; yet, they have not been able to articulate their needs clearly or to develop strategies for development which will make growth and development self-sustaining while providing all, or even the vast majority, of their people with minimum acceptable levels of basic needs and services. An illustration of the unity in "state of mind" can be seen in the Third World women's statement to the 1978 International Conference on Women and Food. The frustration and lack of unity surfaces in the workshops and discussion sessions of almost all international conferences. The Third World is definitely not monolithic, nor is the region we serve—the Middle East.

As we look to the future, with the exception of the few developing countries with substantial mineral resources, the natural resources upon which economic development must be based are soil, water, and climate. National leaders must face up to facts and recognize that agriculture is not a national liability but a *national opportunity*. Fortunately, in the developing countries the agricultural potential is substantial, and agriculturalists generally agree that almost all of them could meet their domestic food needs from local production. Most developing countries now devote at least lip service to achieving food self-sufficiency, but in many areas, including the Middle East, the dependency ratio is increasing (Endnote 6). This is unfortunate because just as the boom in California in the last century was due to agriculture rather than gold, so a continuing boom in the Middle East in this century will be due to agriculture and not oil. This sounds heretical at the moment, but time will prove me right.

Since the 1972–1974 world food crisis, national planners in developing countries (including those in the Middle East) and the

international agencies have placed greatly increased emphasis on the physical problems constraining food production. Interest and investment in research are snowballing. This is good, but we need to proceed with caution. There are indeed many physical and biologic constraints to increasing food production, and the revision in priorities is at least partially appropriate. However, individual and family food deficits and low incomes, even in rural areas in the Middle East, are not due solely (or perhaps even primarily) to inadequacies in quality and quantity of resources or lack of general knowledge concerning how to increase production (Endnote 7). Slow progress in reducing the number of people who do not have reasonable access to adequate daily diets is due primarily to socio-economic environments which are not conducive to higher productivity on the part of the vast majority of the people, especially the rural folk (Endnote 8). *Too many people have not been involved in the process of development.*

What we do not know about food and nutrition in the Middle East and the variations in each country's situation represent serious problems for planners and policymakers, but they are not sufficient cause for delaying action, i.e. doing little or nothing. The knowledge needed to start creating the proper environment for agri-rural development of the type envisioned in this paper is available. The "price" of doing too little is one false start followed by other false starts, leading to political and social instability, often ending in a chain of violence. The time is right for adopting the proper policies and preparing strategies for meeting the basic food-nutrition-health needs of *all* people. Health and agriculture have much in common, and neither can move ahead very fast without the other.

## APPENDIX ENDNOTES

1. This synthesis risks overgeneralizing in an effort to provide a basis for discussion. It is based on papers and remarks presented at the recent International Conference on Women and Food, and is supplemented by the author's experience in nine developing countries and by cited references.
2. Numerous sources for this conclusion are available. See Refs. 4 and 5.

3. Presentations and papers by Caton, Fowler, Howell, Cox, Sarica, Barnes, Littlefield, Knospe, Leeper, Stavrakis, North, Huggard, Durke, Finne, and others at the conference mentioned in Endnote 1 are supportive. See also Refs. 6 and 7.
4. This section draws heavily upon earlier works of the author and AID Africa Bureau strategy. See Refs. 4 and 5.
5. A special report, "Poor vs. Rich: A New Global Conflict," in the December 22, 1975, issue of *Time* classifies the Third World into three similar categories.
6. While there is general agreement, it is by no means unanimous. Also, for each developing country to be self-sufficient in food would mean some were not utilizing their resources to greatest comparative advantage or least comparative disadvantage; therefore, doing so may not be a desirable goal. See Ref. 8.

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## DISCUSSION SUMMARY

THE MEETING was fascinated by Dean Fischer's paper. There was, however, some doubt as to what he meant by a "packaged system." This, he explained, meant such services as agricultural credit and extension, education, and health care, all applied simultaneously in an integrated form. At the present time these services are too often fragmented and centralized. We should try to decentralize and integrate them. This means that multiple different services may need to be delivered by the same worker and that the specialist's role changes. Someone asked if it had been done successfully. There appeared to be no certain answer to this, but there were said to be at least some successful package projects. Community-based projects require that the people be actively involved and make some decisions themselves. Unfortunately, this is not popular in some ministries. Whether it is popular or not, community participation and self-help in the generation of wealth is the only solution, since there is not enough existing wealth for global distribution. The satisfaction of basic needs, particularly the need for food, must, Dean Fischer emphasized, be the main engine of development. These conclusions were, he felt, inescapable. Unless there was development, the "have nots" would in the end inevitably revolt.

Someone asked whether the emphasis should be on pilot projects or on trying to achieve institutional change. Both, it was agreed, have their place, but pilot projects must not be over-financed, over-managed, or over-advertised. Also, too many autonomous pilot projects are difficult for ministries to administer.

The global smallpox eradication project can be considered as a pilot project writ large. It has been followed by WHO's expanded program of immunization (EPI) against six diseases: tuberculosis, measles, polio, whooping cough, diphtheria, and tetanus. The smallpox program only succeeded because of its imaginative and rigorous programming and its multiple strategies. The EPI program shows these features, but in lesser degree. The PHC program so far lacks them almost entirely.

# *A Human Service Perspective on the Organization of Primary Health Care*

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IN THIS PAPER, I will take an organizational approach to the discussion of primary health care (PHC) and, in doing so, will emphasize the need for a human service perspective. In one sense this presentation will be a continuation of some of the issues discussed yesterday, but in another sense I will depart from the thrust of yesterday's discussion and argue that it is unlikely that basic health care will be universally available by the year 2000. My argument is based on research on the Indian PHC system. While the specific illustrations will be unique to the Indian case, I assert that some of the basic dilemmas encountered there are likely to exist elsewhere as well.

As it is somewhat unusual to focus on organizational aspects of the delivery of health care rather than on issues such as medical technology or health care needs, I will begin by arguing why I believe such an approach is important. In the remainder of the paper, I will present an open-systems framework for analyzing PHC organizations and then discuss the special concerns that flow from the "people-changing" character of these organizations. I will also address a number of organizational problems that are likely to curtail the effectiveness of PHC delivery in the developing world. These problems are related

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to the limited response capability of agencies charged with the provision of such care.

In spite of a fairly long history of public and private efforts to improve the health status of people in the developing world, it is a rare occasion when one hears of programs, such as the smallpox eradication scheme, that have been entirely successful. In many countries mortality and morbidity have declined slowly; even where change was quite rapid, it has been more attributable to economic gains than to specific health interventions. Thus, there is good reason to be less than fully satisfied with the contribution made by PHC delivery systems in the past decade. The reasons for this state of affairs are multiple. Among the most frequently mentioned are inadequate medical technologies, limited resources, and lack of emphasis on preventive health. Organizational factors, on the other hand, have rarely been acknowledged as important explanations for the continuing inadequacy of existing delivery systems. Yet, as I will document with the following examples, organizational factors are often critical.

Until recently, for example, the literature on PHC-based family planning programs was characterized by a total neglect for organizational concerns. Explanations regarding the failure of family planning programs to meet their often ambitious goals of reducing high birth rates focused on such issues as the character of the client populations, their knowledge and attitude toward contraception and family size, the nature of contraceptive technologies, or communication strategies, without paying attention to the process by which these various strategies were implemented. The important question of whether the agencies charged with implementation had the capability of instituting effective intervention strategies was seldom asked. Yet, organizational factors were often the source of program failure leading to implementation failures of severe magnitude. In India, the so-called "extension approach" to family planning, which relies upon intensive educational contacts between outreach workers and the rural population, has not failed, as one observer put it, but rather it has never been tried.<sup>1</sup> A large number of organization-related factors, having much to do with the nature of governmental bureaucracies, prevented the occurrence of systematic and well-

planned educational contacts between outreach workers and villagers. Workers were hired, posted, and paid, but they did not tour the villages regularly. When they did make visits, they failed to establish relationships of mutual trust and familiarity that would allow them to function as change agents in the rural context.<sup>1</sup>

These deficiencies are not limited to family planning. Similar problems afflict the delivery of preventive and curative services as well: malaria cases remain undetected because the process of identifying a positive case is bureaucratically tedious; patients who come to the primary health center do not get treated because the doctor fails to attend the clinic or because he charges high fees for services meant to be rendered free of charge; or vaccinations fail to protect children because vaccines were improperly stored or handled. In each of these instances, the very nature of the agencies in charge of implementing health policies were responsible for the failure to provide good care. The difficulties experienced could be directly linked to the patterns of supervision and training, the nature of control and reward systems, and the locus of decision making in the implementing agencies. Thus, understanding the organizational context through which PHC services are delivered and, especially, the conditions under which health care services can be made more effective are important areas of concern. (For a similar argument concerning human service organizations generally, see Ref. 2.)

Presented below is a conceptual framework which I have found a useful tool in the organizational analysis of the government-run PHC delivery system in India. This framework draws upon the general literature on organization theory and within that theory upon the insights of two related approaches: open-systems theory and the theory of human service organizations.

### *Open-Systems Framework for the Analysis of Primary Health Care*

In the most general sense (which will have to suffice for purposes of this paper), open-systems theory refers to that view of organizations which emphasizes the interrelatedness of the elements of parts within the organization as well as the dynamic interrelatedness between an organization and its environment. It is this latter con-

cern which distinguishes open-systems theory from previous, more traditional orientations. According to this newer perspective, organizations cannot be viewed in isolation, but must be placed within the context of a broader social, political, cultural, or organizational setting. (For a discussion of open-systems analysis of organizations, see Ref. 3.)

Below I will illustrate how a government-run PHC delivery system can be viewed within such an open-systems framework. This application of an open-systems model has been derived from a project on the Indian case,<sup>4-5</sup> but it can be adapted to other countries as well as to non-governmental systems of PHC delivery. While various levels of abstraction could be used in operationalizing an open-systems view, the specific model I will discuss is fairly representational. It closely mirrors the concrete organizational reality which it attempts to map, while at the same time introducing a degree of analytical order. In so doing, it captures the interrelatedness of various organizational levels as well as the important linkages with relevant sectors outside the Ministry of Health.

**Focal Organization.** Inherent in the open-systems model of organization is the distinction between the focal organization and its environment (Plate 1). The qualifier "focal" indicates which organization has been selected for study or is the focus of analysis. Merely to refer to an organization and its environment might be misleading, as the environment itself may be composed of complex organizations. In our case, the focal organization is the medical and health bureaucracy in a North Indian State. It is through this bureaucracy that the government delivers PHC. Identifying a focal organization and determining the boundary of that organization can be fraught with difficulties in situations where it has multiple responsibilities. In India, the delivery of PHC is not the only function of the Department of Health. The Department has several other important functions such as the provision of referral services and medical education. Moreover, while the medical and health department is the major agency in charge of public sector delivery of PHC, other governmental agencies are also involved, either on a regular basis or through special campaigns. For purposes of this analysis,

the medical and health department was selected as the focal organization because it is responsible for the major portion of the delivery of PHC. Other agencies involved in the delivery of PHC through governmental channels were considered part of the environment.

The focal organization consists of a complex hierarchy of administrative levels. Rural and urban primary health centers, covering a population of approximately 100,000 in the rural areas and a population of approximately 50,000 in the urban setting, are the basic administrative units. They are responsible for the delivery of curative and preventive health and family planning services. The administrative head of a primary health center is a physician who supervises the public health, family planning, and maternal and child health workers in addition to performing his curative responsibilities. In the rural areas, primary health centers are the main points of access to modern allopathic medical services and the organizational focus for outreach work in the areas of preventive health, maternal and child health (MCH), and family planning. The coordination and supervision of primary health centers is the responsibility of the district medical and health authorities, while detailed patterns of policy and implementation are decided at the state and central levels within the Department of Health. The organizational processes at each of these administrative levels are highly interdependent and shape the character of the vertical linkages from the state to the district, from the district to the primary health center, and vice versa.

**The Environment.** The environment of the focal organization can be conceptualized as "the set of all the elements external to the organization which affect its structure and operations and which are in turn affected by the activities of the organization."<sup>6</sup> It is useful to distinguish between (a) the task environment, further subdivided into the client sector and other relevant environmental sectors, and (b) general environmental conditions. Task environment refers to parts in the environment which are relevant to goal setting and goal attainment.<sup>7</sup> Actual and potential patients who avail themselves of the PHC facilities make up the client sector. Environmental sectors are groups or agencies other than the focal organization which

exert an influence or can be influenced to support the focal organization. When one deals with a governmental agency such as the Department of Health, other governmental agencies constitute important environmental sectors for the focal organization. In the Indian context, the Departments of Finance and Revenues and Planning are of major importance. Other significant environmental sectors are private practitioners and political or local influentials.

General environmental conditions are the economic, social, and cultural factors that affect the functioning of the focal organization and its relevant environmental sectors. In India, the poverty and deprivation which prevail in the rural areas act as major constraints upon the ability of the focal organization to function effectively. Cultural values and norms constitute another set of external influences. For example, since female health care providers are much preferred for women patients, the Department of Health is interested in hiring large numbers of lady doctors and auxiliary nurse midwives. But there have been continued difficulties in recruiting the required number of women because in many parts of India women are still forced to lead a traditional life and because nursing—especially if it implies work in rural areas—is held in low esteem. The general environment places a constraint on the effective operation of health providers.

### **Implications of Accepting an Open-Systems Perspective.**

Let me repeat that the most critical aspect of the open-systems notion is the openness toward the organization's environment. Organizations do not function in a vacuum; they are strongly influenced by the social, political, economic, cultural, and organizational forces around them. (For a similar argument concerning the health care system in India, see Ref. 8.) I am making this point to reemphasize that in studying PHC agencies it is not enough to concentrate on their internal functioning. It is also necessary to understand the extent to which they are conditioned by environmental influences. To underscore this point, I will refer again to the Indian case and discuss the relationship between the Department of Health and its environmental sectors.

Theoretically, environmental forces exercise influence upon the

structure and functioning of the focal organization and can in turn be mobilized to support its purposes. In the Indian situation, the latter is rarely the case. The Department of Health does not occupy a position of strength vis-à-vis its environment; rather, its relationship to the environment is a highly dependent one. In fact, the external pressures upon the Department of Health have led to serious displacement of PHC goals.

Within the larger governmental bureaucracy, the Department of Health occupies a position of relatively low prestige. Other departments, especially the Department of Finance, exercise great power due to their ability to sanction funds for various departments. Similarly, the Department of Health is dependent upon the Department of Public Works to construct primary health centers and sub-center buildings in the rural areas. This construction of physical facilities, especially in rural areas where rental space is generally unavailable, has been a critical element in the policy to provide PHC to the rural population; however, this policy has been impeded by the Department of Health's inability to secure the energetic cooperation of the Department of Public Works. Consequently, when the World Bank negotiated its two India Population Projects with substantial allocations for the construction of primary health centers, special construction units were established to by-pass the Department of Public Works. One could further illustrate how other bureaucratic agencies, such as the Department of Finance, have at times impeded the work of the Department of Health. But I would now like to demonstrate the dependency of focal organization and environment more generally.

As mentioned earlier, although a large staff of preventive health and family planning workers have been hired, the amount of outreach work performed by this staff has been minimal. This can be explained in terms of the nature of the outreach task; worker's motivation, social background, and job expectation; and lack of appropriate training, physical facilities, and supervision and reward systems. Such internal organizational weaknesses neither originate at nor are limited to the primary health center, but can be traced to more general structural problems that characterize the delivery system at its higher administrative levels. Rapid turnover of key administrative officers at the higher levels, frequent reorganization and changes

in policy, a professional medical culture that emphasizes curative over preventive aspects of health, and a general unwillingness to provide guidance and control to lower levels in the organizational hierarchy are among the more important factors.

Yet, it would be entirely misleading to look only inside the focal organization itself for an explanation of the low work output. The inability of the medical and health bureaucracy to enforce the most basic standards of performance is reinforced by pressures from the political sector, which in turn are fostered by environmental conditions. While political leaders have generally failed to be strong advocates of the preventive health or family planning goals of the government-run PHC system, they have taken a keen interest in those aspects of the program which provide a source of patronage and allow them to maintain or extend their political support base within the community. They have found it in their interest to help members of their constituency procure jobs as outreach workers in preventive health and family planning or to obtain transfers to the highly desired primary health centers located near the urban areas. In addition, they have been instrumental in ensuring that workers whose services had been terminated due to inadequate performance were reinstated.

Administrators within the focal organization have on the whole proven rather helpless in the face of such political pressures. (For a general discussion of the relationship of administrators and politicians, see Ref. 9.) They attend to the demands of the political sector fearing that resistance would influence their own careers unfavorably or lead to outright political harassment. Politicians are indeed known to have effected the transfer of what they consider recalcitrant administrators. They have also attempted to damage an administrator's position by lodging complaints with their superiors or by raising uncomfortable questions in the legislature. The dominant pattern has thus been for administrators to give in to the requests of politicians, even though these requests interfere with one of the most critical organizational functions—the selection and control of personnel. With this politicization of selection, transfer, and termination decisions, internal control over the work behavior has diminished

and supervisors feel constrained in their ability to improve the performance of their subordinates.

Why has there been such demand for the extension worker job in health and family planning, but no motivation to work once employment has been secured? This question must be answered in terms of the extensive unemployment in India. The job of extension worker, while not a lucrative one, is at least a job, and being a government position, it provides a sense of security even though this specific cadre of extension worker has not yet been regularized. Most would prefer an office job in an urban area, but have gladly accepted, and often paid dearly for, this assignment because it constitutes their only alternative to unemployment.

Concern for employment needs, especially those of the educated urban population, is also reflected at the policy level. A completed high school—or preferably a college—education is the minimum educational requirement for obtaining a position as a male family planning worker. The large majority of workers in these positions have, indeed, at least some college education, and many a bachelor's or even a master's degree in such subjects as geography, Hindi, English, or social sciences. There is reason to believe that these educational requirements are entirely dysfunctional from the perspective of program performance. College graduates are generally alienated from rural traditions and oriented toward urban life. Many of the field-workers' complaints about lack of facilities in the rural areas and their persistent difficulties in interacting with villagers stem from the fact that they have acquired both an aspiration for an urban lifestyle and a strong distaste, if not contempt, for that of the village. An eighth grade education would be more appropriate for the job, as people with lower educational levels are more likely to adapt to work in rural areas. But pressures to provide jobs for the educated-unemployed were stronger than a concern for the quality of the PHC delivery system.

Thus, as a consequence of external pressures upon the focal organization, the stated goal of providing PHC services to the rural population has been significantly compromised. Employment goals have displaced health care goals. Concerns of the political sector—maintenance of political stability and survival of individual politi-

cians obtained through creating employment opportunities for the educated—have taken precedence over concern for improvements in the health status of the rural population. Bhatt argues that many problems are created by the political processes and not primarily because the administrative system is weak.<sup>9</sup>

### *Human Service Aspects of Primary Health Care*

While the details given above are unique to India, especially to the situation in one particular state, they demonstrate a more generally relevant point that environmental influences can act as severe constraints upon the functioning of PHC agencies. The discussion of organization-environment relationships is not exhausted, however, with this reference to the role of environmental sectors. We also need to discuss the relationship between the focal organization and the client population. I will argue that this interface is of special importance in human service agencies, but for a variety of reasons PHC agencies tend to be unresponsive to the unique requirements of this interface.

Reference to the human service aspects of the delivery of PHC may appear too self-evident to deserve mention. Obviously, the establishment of PHC centers is an effort to serve people's health care needs. What is not so apparent, however, is that we need an organizational perspective which is sensitive to the special requirements of agencies with the major function of delivering human services. Open-systems theory and earlier organizational theories were derived from private business firms dominated by the joint concerns of profit making and industrial production and from public bureaucracies mainly concerned with the administration of law and order and the collection of revenue. Large-scale efforts to provide PHC and other welfare services have increased since World War II. Human service organizations charged with the implementation of such health, welfare, and educational services have been found lacking in their ability to adhere to stated service goals and have been criticized for wastefulness, for the inhumane, departmentalized character of their services, and for ineffectiveness.<sup>10</sup> These criticisms, one can argue, have come about in part because policy makers,

health practitioners, and observers alike have failed to recognize the special requirements of human service organizations.

Hasenfeld and English define human service organizations as "organizations whose primary purpose is to define or alter a person's behavior, attitude and social status in order to maintain his well-being." Such organizations, they argue, are "differentiated from other bureaucracies by two important characteristics: (a) their input(s)... are human beings with specific attributes, and their production output persons processed or changed in a pre-determined manner, and (b) their general mandate is that of "service," that is, to maintain and improve the general well-being and functioning of people."<sup>11</sup>

It is worth repeating that in the provision of PHC the interactions between the people whose attitudes and behavior are to be changed and the providers of health care service occur at the interface between organization and its environment. In our model, the client population has been conceptualized as an element of the organization's task environment, not as a part of the focal organization itself. While it is theoretically possible to view the clients as members of the organization—even though very temporary ones—viewing them as part of the environment highlights one of the fundamental dilemmas of PHC. The ultimate purpose of such care is to change the health status and health behavior of large numbers of people who have only the most tenuous relationship with the organization charged with generating such change.

Given the central importance of the "people-changing function" of service organizations, the interface between the focal organization and the client acquires an importance unequaled by other organizations. If PHC agencies are to be effective, they must pursue strategies for interacting with the client population that are not only tailored to the population's health care needs, but can be pursued in ways appropriate to economic and cultural conditions. Thus, human service organizations, especially those intended to bring about improvement in the health status of people in developing countries, require what Michael has referred to as a high "response capability."<sup>12</sup> They must speak to the needs, wants, and desires

of the people they are supposed to serve. Furthermore, since client needs and desires are neither stable nor necessarily known or predictable, health care agencies must function in an environment that is characterized by uncertainty. Evidence from my previous research on the delivery of PHC in India indicates that organizational capability to be responsive to client needs—and especially to changes in these needs—is low. Impressions from the literature lead me to believe that severe limits to organizational responsiveness in the delivery of PHC exist elsewhere as well.

### **Ideology as a Determinant of Low Response Capability.**

A large number of factors combine to bring about such limits in organizational responsiveness. One of the more important ones is the organization's ideology or what Michael has termed its "interpretative context." He argues that "the policies and programs of an organization derive from the beliefs held by its members about the organization and about the nature of the reality to which the organization responds through its policies and programs."<sup>12</sup> In the Third World context, health care providers and their patients are likely to hold beliefs about reality that differ sharply. The Western paradigm of scientific medicine is built upon notions of health and disease that are often diametrically opposed to the views held by traditional societies regarding the origins of sickness and its cure.

But more important still are the health care providers' attitudes and values toward the client population. If the purpose is to provide care that is broadly humanitarian, educational, and geared to the personal well-being and needs of the client, one must ensure that health care providers have the ability to empathize with clients. Yet, many health care professionals and social workers responsible for the delivery of primary health care in India are almost entirely lacking in their ability to understand the rural population. The social distance between even the lowest level preventive health and family planning worker and the average villager is very wide; although some field-workers are rural in background, they have generally rejected the lifestyle of the village. In their eyes and in the eyes of the physician, villagers are backward, stupid, ignorant, irrational, and dirty. They are people whose health behavior and

status have to be changed, but not people who must be understood. Research from other parts of the developing world has indicated that such views of the client exist elsewhere as well. (For a similar discussion concerning the organization's unresponsiveness to client needs, see Ref. 13.)

The assumption is that the provider system knows what should be done to improve the health of the people and is given authority to act accordingly. Recipients of services who wish to alter or reject the suggested change strategy are branded as deviants or outright troublemakers. For example, in the family planning literature it has been common to refer to people who do not want to limit their families as "hard core resisters," evoking the notion that people who do not accept the professional's interpretation of what is desirable are antisocial.

### **Use of Information and Organization Responsiveness.**

Michael argues that "the interpretative context" of an organization "strongly influences the kinds and quality of information that an organization uses to respond to its internal and external environment,"<sup>12</sup> i.e. information which contradicts the basic tenets of prevalent organizational ideology tends not to be collected at all or, if collected, remains ignored. This is also true for the Indian health care delivery system. For example, the Department of Health and its implementing agencies have for the past decade systematically failed to face the fact that the family planning extension approach has never been implemented. Existing evidence suggests that the basic strategy of reaching the rural population through an extension-based and coercion-free approach has floundered because of the bureaucracy's inability and unwillingness to mount the necessary outreach approach—not because of the unresponsiveness of the rural people. As indicated earlier, the field staff was hired and posted, but systematic educational interactions with the client population never took place.

In spite of the research studies that have repeatedly demonstrated these conditions, policy makers have developed plans for the next decades which are built around an expansion of the existing system, contemplating the creation of new rural primary health centers with

large extension staffs and vast requirements for training and supervision. There is no indication how these vastly enlarged training, guidance, and control functions, which have in the past been so thoroughly neglected, are to be implemented in the expanded version.

**Structural Factors Impeding Response Capability.** A high degree of bureaucratization is a major structural reason for the low response capability of the PHC delivery system in India. Policy as well as managerial decisions tend to be highly centralized. Minute administrative details, such as the transfer of the lowest level field-worker, are being decided at the state level while program details, such as staffing patterns and immunization and family planning targets, are laid down by the central government. At one point, for example, a State Family Planning Bureau—serving a population of over 100 million people—established a detailed schedule of field visits for the preventive health and family planning staff which was to be strictly followed by all staff working in this state. Under such conditions, flexibility and responsiveness to the client population are virtually impossible. Research on the relations between organizations and their environments has supported the notion that decentralized decision making and less formally prescribed roles are more appropriate in situations of environmental uncertainty.<sup>14-15</sup>

Reward and control systems emphasizing human service criteria are essentially nonexistent within this bureaucratic structure which tends to stress quantitative indicators of performance and bases its rewards on years of service rather than on services provided to the client system.

### *Conclusion*

The two dominant approaches implicit in most human service organizations, including those concerned with PHC, are characterized by a combined bureaucratic and professional-collegial model. The approach is bureaucratic in that power is exercised in strictly hierarchical order, functions are highly specialized, and rules emphasize strict adherence to formal procedures. There has been an emphasis on professionalism because change in the client's behavior is "brought about and judged by professionals."<sup>16</sup> Both the professional-col-

legal and the bureaucratic forms of organizing PHC services have inherent weaknesses that combine to make organizations following these patterns unresponsive to client needs. What then are the alternatives?

First of all, one has to recognize that as long as we are concerned with government-run PHC services, especially in countries with massive and complex public bureaucracies, structural impediments to response capability are difficult to remedy. However, even within the framework of the governmental bureaucracy it is possible to provide varying degrees of autonomy and flexibility that may free the implementing agency from some of the constraints of the larger governmental system.

Second, since response capabilities of government bureaucracies are inherently limited, it is important to search for ways in which some of the burden of PHC delivery can be shifted to organizations which are likely to be more responsive to client needs. While governmental control over the general direction of health policy is important, patterns of decentralized implementation of such policies are likely to lead to greater congruence between client needs and services provided.

Third, since the professional-collegial model, be it in a Ministry of Health or in the private sector, has a limited response capability, it is important to explore possibilities of organizing PHC services within the framework of what Crowfoot and Chessler have referred to as the "client servicing professional model." The basic purpose in this approach is the same as that of the professional-collegial model—to bring about improvements in the health status of the population. But in this approach the emphasis is on "the production of policies and programs that will serve clients, as they are judged and assessed by the client. . . . Competency is based on the professional's ability to satisfy the client and is monitored by the client."<sup>16</sup>

One way of ensuring that these efforts are legitimate, acceptable, and effective is to involve the client system in the development and implementation of health policies and programs. The notion that client participation is critical has been noted for development

efforts more generally. "Some of the most successful approaches to rural development," Moulik argues, "exhibit, in spite of basic differences and approaches, some fundamentally important characteristics, imagination, devotion to detail and scientific understanding of the prevailing socio-economic situation, willingness to listen and learn from people and insistence on local initiative. It is now increasingly realized that without active association and cooperation of the rural people social and economic development programs cannot make much headway".<sup>17</sup>

Providing opportunities for participation should be carefully distinguished from coopting clients into the organization. Katan's work has demonstrated that while many welfare agencies have employed "indigenous workers," i.e. nonprofessionals with close cultural affinities to the client population, these workers have tended to play a "conformity" or a "mediating role." They have little status, narrowly defined duties, and are at best allowed to perform a linking function between the client and the organization. They are not permitted to influence policy, introduce change, and are not given the right to "take action in accordance with the knowledge (they) possess of the real needs of the client."<sup>18</sup>

To illustrate the importance of distinguishing between client involvement through conformity, mediation, or change roles, I would like to refer to the community health worker (CHW) scheme, a recent and somewhat controversial innovation in the delivery of PHC in India. Under the CHW scheme, which bears some resemblance to the barefoot doctor system, each village with a population of 1000 selects a man or woman with at least an eighth grade education to be sent for a one-month training course conducted by the primary health center. Upon completion of this training, he or she is appointed as CHW on a part-time basis for the particular village where he or she was selected. Community health workers are given a small honorarium of Rs. 50 per month and a small supply of medicines on a monthly basis to allow them to provide first aid, help with minor ailments, and facilitate referral to the rural primary health center.

While this scheme is still looked upon with considerable skepticism,

especially by members of the medical community, evaluation studies have shown that villagers and members of the PHC delivery system view this innovation very favorably, but they do so for very different reasons. PHC workers and others from the medical and health bureaucracy approve because they hope that CHWs will assume the tedious task of identifying potential clients, educating the villager about available services, and facilitating access to the services of the primary health center. In other words, they hope that the CHW will perform precisely those functions which they themselves have hitherto proven incapable of performing. The expectation is that in this work the CHW will be under the control of the PHC, occupying the lowest position in the organizational hierarchy, even though officially they are not government servants.

Diametrically opposed to this conception is the view held by some village leaders and others outside of the medical and health bureaucracy—that the CHWs should be the representative of the village community. They should not be subservient to the government system of PHC delivery, but should ensure that governmental health care serves the needs of the population. It is hoped that they will mobilize the village community to attain greater awareness of their rights vis-à-vis the governmental health care delivery system, and that the resultant pressure from the client system will eventually lead to a more effective system of PHC delivery.

At this point it is too early to say which of these two views of the CHW scheme will prevail. It is not too soon, however, to argue that for the first time in several decades, an innovation has been introduced which has some potential to make PHC delivery in the rural areas more responsive. I began this discussion arguing that organizational factors are important in explaining why PHC delivery systems have not had the desired impact upon the health status of people in the developing world. The particular organizational approaches which I argued should be adopted must be sensitive to the dynamic interrelationship between the health care agency and its environment. The specific environmental influences which I analyzed here confront the focal organization with a set of conflicting pressures and requirements: the focal organization has a low capability

to respond to the needs of its client population, yet influences exerted by other organizations in its environment and by general environmental conditions detract rather than support goal attainment functions. Hope for improvement in its effectiveness lies in the adoption of organizational strategies that allow greater flexibility at the bottom of the organizational hierarchy, that utilize other organizations wherever possible, and that employ strategies built around the conscious mobilization of community participation.

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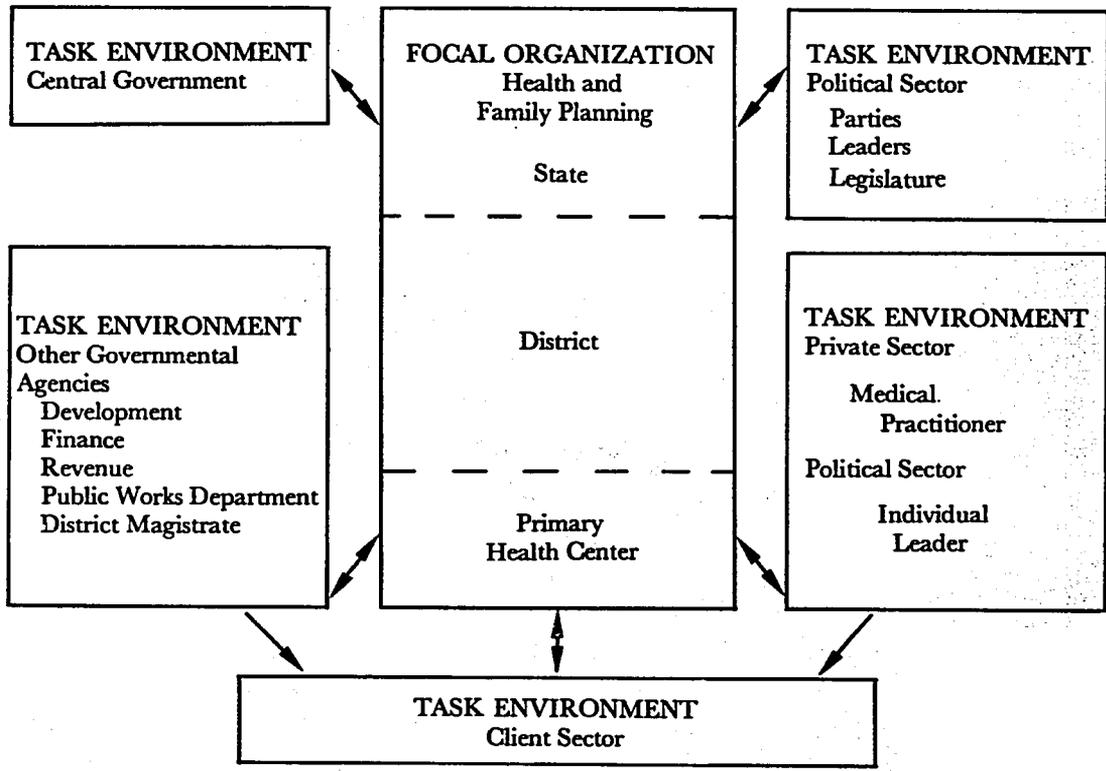


PLATE 1: OPEN-SYSTEMS MODEL OF A PRIMARY HEALTH CARE DELIVERY SYSTEM

## DISCUSSION SUMMARY

THOSE WHO KNEW India considered that Dr. Simmons summarized its administrative shortcomings very well. Some states are better than Uttar Pradesh, where she worked, and some are worse. Although the system is unresponsive, it could be mobilized for smallpox eradication in most states. In spite of the poor performance of the system, there are large numbers of people in most services who can be mobilized to do a very good job. Workers suffer from the disadvantage of not having their tasks clearly defined. Unless they know what to do, they will do nothing—a fact which has great implications for the Alma-Ata program for primary care. The problems facing India exist in greater or lesser degree in all other Third World countries. Absolute centralization, which is almost universal, is a legacy from the colonial past—centralize in order to dominate. Unfortunately, changes were not made at independence. Changes are difficult now, since they may mean political suicide. Deep in the structure of society is the dichotomy between “we” and “they,” the people and the government. Categorical programs, such as smallpox, are possible without changes in society. More radical ones, such as PHC, are not.

Both in the community and in government the most critically scarce resource was seen to be managerial skill. It can be defined as achieving goals by means of other people. It is required at all levels of society, and to produce the necessary managerial skills is, in effect, to become developed. Institutes of management are not the answer, rather management ability must be developed within each profession. The Indian Institute of Management, an elite institute, is doing all it can to improve management in the health services, but it cannot take on the whole health care system.

# *Primary Health Care and Community Medicine Training: The Jordan Experience*

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## **Introduction**

AS DEFINED by the declaration of Alma-Ata 1978, "Primary Health Care is a practical approach to making essential health care universally accessible to individuals and families in the community... with their full participation..."<sup>1</sup> Primary health care (PHC), as an approach to the provision of health services, presupposes the existence of a social attitude which includes, among other things, a drastic departure from the traditional concept of medicine in all its aspects: teaching, services, and even research. This new concept of medicine, which has evolved from new social realities, is called community medicine.

Although community medicine and PHC are not synonymous, the teachings of community medicine represent the basis on which a solid and durable system of PHC can be established. Understood in its broadest terms, community medicine is a discipline, which, although rooted in traditional medical sciences, is nourished by the humanities and attempts to provide as complete and comprehensive a picture as possible of both disease and patient. From an educational standpoint, which is our main subject in this paper, community medicine tends to complete the picture provided by other medical disciplines, and not to compete with them in the same field of responsibilities.

The new social realities which forced the emergence of PHC—as an approach or an attitude—are just starting to make their impact on medical school curricula. Until a few years ago, medical students

were taught that the highest and most prestigious form of medicine is hospital-based, physician-centered, and curative-oriented. Looking at health services from another angle, PHC is advocating a different system which is community-based, physician-supervised, and preventive-oriented.<sup>1</sup>

It is opportune to emphasize at this point that PHC does not negate the importance of traditional, curative, highly specialized medicine, but rather proclaims that it tackles only one aspect of the problem, and that this aspect can no longer make an adequate response to all the pressing needs of the community.

The necessary condition for this shift from traditional medicine to PHC is a change in the beliefs and attitudes of the society in general and the providers of health care in particular. This change can be achieved through different means, either from outside or from within the ranks of health professionals. We believe that in order for change to be effective and lasting, it should be achieved from within and at the earliest possible stage of formation. This conviction lies at the basis of our experience in Jordan.

### **Community Medicine in Jordan**

Although the University of Jordan was founded in 1962, the Faculty of Medicine was not established until 10 years later. From the start, the Faculty was community-oriented, and community medicine was among the first subjects to be taught. The Faculty curriculum is now divided into six years: one premedical, two devoted to basic medical sciences and three to clinical sciences, leading to a Bachelor's degree in Medicine and Surgery (MBBS), and one year of hospital rotating internship.

The community medicine curriculum did not take its present shape until the academic year 1978–1979, and it is still not finalized. Currently the Department is engaged in all aspects of academic activity: teaching, services, research, and consultation.

### **Conclusion**

The objectives of teaching community medicine are to help medical students:

1. Acquire a working knowledge of physical, social, economic, and

cultural conditions in the community and their relations to the health status of the population.

2. Understand the comprehensive nature of disease by relating the clinical phase, as seen in a medical facility, to the social and physical conditions of the environment.
3. Identify, analyze, and solve health problems prevailing in the community and among defined population groups.

The details of the six-year curriculum in community medicine areas are as follows.

**Year One.** The objective of this semester course is to familiarize the student with the fundamentals of sociology and community medicine, social relations and lifestyles, and their health impact in Jordan and other parts of the world. Field activities consist of site visits to selected urban and rural poverty areas and collection, analysis, and presentation of social and health data from these sites.

**Year Two.** No community medicine is taught.

**Year Three.** The objective is to familiarize the student with the basic disciplines and methodologies of community medicine and their field application. In the first semester, health care systems, primary health care, environmental health, demography, and population and health are covered. Field trips cover selected local activities, enterprises, and organizations relating to health, such as water and sewage systems, slaughterhouses, food-related and dairy industries, food inspection, refuse collection and disposal, etc. In the second semester, an integrated course in epidemiology and biostatistics is offered. Field activities cover classroom exercises and epidemiologic investigation of cases selected from hospital wards.

**Year Four.** The objective is to familiarize students with primary health services in Jordan and with selected health problems of a more complex nature. During this year, general medicine and surgery are covered. In community medicine, an integrated course in communicable diseases is offered. Clinical and epidemiologic aspects of selected infectious and parasitic diseases are covered. The Departments of Pediatrics and Community Medicine share the responsibility for this course. During field assignments, each student spends

two separate weeks in a general health center operated by either the Ministry of Health (MOH) or the United Nations Relief and Works Agency (UNRWA). Besides their exposure to this type of PHC delivery, students select an aspect of the operation or a health problem encountered for detailed study and reporting.

**Year Five.** No formal classroom teaching in community medicine is given. However, since obstetrics, gynecology, and pediatrics are given, each student spends two consecutive weeks in a Maternal and Child Health (MCH) Center operated by either the MOH or UNRWA. The Department of Community Medicine is responsible for this field work and a final report is requested from each student.

**Year Six.** No involvement by Community Medicine.

The most salient features of this curriculum can be summarized as follows.

1. Field activities represent the backbone of the program and relate closely to classroom teaching in community medicine and other clinical disciplines.
2. Students are given early and continuous exposure to the subject matter. Community medicine is started in the first year and is continued until the fifth. Interested students also have an opportunity to take community medicine as an elective for one month during their year of internship.
3. Team work is another important feature of the curriculum. Students work in small groups of eight or less. Groups are assigned separate tasks and team members are collectively responsible for completion of assignments.
4. For feedback purposes, reports are presented in class seminars and subjected to open evaluation.

**Problems.** During implementation, this experience suffered from two major shortcomings. The first problem encountered was the acceptance of community medicine as a legitimate partner in the Faculty, especially among clinicians. Long and tedious hours were spent in dispelling misconceptions and updating information. Joint appointments proved to be effective in this respect. The Depart-

ments of Community Medicine and Pediatrics were the first to cooperate in teaching, services, and research. Later on the Departments of Medicine, Surgery, Pediatrics, and Obstetrics and Gynecology accepted the allocation of two weeks in each of the fourth and fifth years for community medicine field training. The hurdle was finally overcome.

The second major problem encountered was the organization of field activities, such as preparation of field sites and topics, scheduling of assignments, and transportation. The most difficult one was actual supervision during field activities. Prior to student field trips, selected health and MCH centers were visited and their staff briefed on the objectives of the exercise and what was expected of them. Their response was gratifying. While at these centers, each group of students was visited frequently by a departmental staff member. These visits proved to be effective in solving problems.

**Other Teaching Loads.** Besides teaching its own curriculum, the Department of Community Medicine assumes full or partial responsibility for several other courses: nutrition courses offered by the Department of Pediatrics, the Faculty of Nursing, and the Faculty of Agriculture and family planning, community nursing, family health, and epidemiology courses offered by the Faculty of Nursing. A unique semester course in "public health" open to all University students is offered twice a year. The objective of this course is to contribute to the improvement of health knowledge and practices in Jordan through this group of future educators and social leaders.

### *Services*

Availability of time and space for the provision of specialized clinical services was closely connected with the problem of acceptance. Solving one helped in solving the other.

Currently, staff members are providing specialized services at the University Hospital in an outpatient clinic devoted to nutrition and metabolism. A Well Baby Clinic was also started in the Hospital and became an overnight success. Plans for its expansion are under consideration. Besides its regular functions, this Well Baby Clinic is also serving as an important site for teaching, research, and development of health management tools and techniques.

### *Research*

During the past three years, the Department of Community Medicine has been very active in research. Areas covered were nutrition, population, fertility, epidemiology, maternal and child health, health care administration, and disabilities. All research activities are directed toward priority problems encountered in Jordan.

### *Consultation*

This is the field where departmental staff have had a profound impact on promoting PHC in Jordan. Close cooperation with the MOH and other elements of the health sector have led to the adoption of this new approach as the official policy of the Ministry. Its implementation is in the planning phase. Departmental staff members are actively participating in many committees dealing with countrywide health problems. Currently, the Faculty of Medicine is entering into bilateral agreements with the Royal Medical Services and the MOH for training students in facilities operated by these two agencies, a step which the Department of Community Medicine realized two years earlier.

### **Conclusion**

Building Jordanian staff devoted to the principles of community medicine and PHC remains the necessary condition for the success of this whole endeavor. Community medicine is now an integral part of the Faculty of Medicine. Its fate is no longer in the hands of a few supporters. Its role is recognized and its own impetus is bound to become stronger and its impact wider. The new generation of physicians and nurses graduating from the University of Jordan will certainly carry with them the seeds of change. The dialogue and interaction between the Faculty of Medicine and other health providers have resulted in mutual benefits and improvement in knowledge, attitude, and practice.

It is anticipated that the new era of primary health care in its most comprehensive sense is about to start in Jordan.

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## DISCUSSION SUMMARY

SPECIALISTS IN COMMUNITY MEDICINE who listened to Professor Sami Khoury's presentation were impressed with his achievements in Jordan. At the present time there are 7,500 Jordanian students abroad, but efforts are being made to try to train more of them at home. The student going to the West finds himself in an environment where self-achievement is the major social goal, whereas what is wanted is self-abnegation and team work—"to complete rather than to compete." Community medicine has succeeded in establishing itself in the University by means of joint appointments and joint courses with other departments, and by offering a course in public health to any student in the University. This has become so over-subscribed that it has had to close at 170 students. This course, which is attended by students from the arts and agriculture, is considered especially important, since those who attend it will ultimately be the "wholesalers of community medicine." The Department also runs courses for nurses and a child welfare clinic in the hospital. The Department has had to fight hard, however, to be allocated two weeks in the fourth and fifth years. This time is used to show how particular health units, especially health centers, actually work. Professor Khoury was asked how he had achieved such good rapport with the Ministry of Health. This, he replied, depended on good personal relationships. He had been fortunate enough to be a classmate of several senior people in the Ministry. It was pointed out that Jordan has the great advantage of being small enough to be manageable; it contains about as many people as an Indian district.

Someone observed that community medicine is not synonymous with primary care; however, the status of community medicine is improved if its staff is delivering good primary care.

Finally, the American University of Beirut was urged to get out into the region. It has the great advantage of spanning two worlds and must not confine itself solely to the Lebanon.

# *Primary Health Care and Nursing-Midwifery Education*

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## *I. Introduction*

“HOW ARE YOU?” “Thank you, and you?” In all countries of the world this is the most common, and often the only, question that people ask when they meet. It is a demonstration of the importance that people attach to their own health and to the health of their neighbors.

Yet, health is not considered as a top priority by most governments. In fact, national health budgets are often among the lowest, in spite of considerable economic development. Social development including health lags behind so much that about two-thirds of the world's population, particularly in the developing countries, lacks basic health care facilities. This is not a new situation but the time has come to face it with determination. Indeed, it is offensive that in one country people die young while in another they may expect to see their grandchildren grow up; that in one part of a city nutritional deficiency diseases are common while in another part people worry about eating too much; that, despite the great advances in technology and the human sciences, there are over 500 million people in the world with an income equivalent to 50 US dollars a year.

A very important means for reducing some of these extremes that separate human beings is the promotion of primary health care (PHC) as a human right, without social or economic discrimination.

## *II. Setting of Primary Health Care: Concepts and Main Principles*

Primary health care means different things to different people and at present there is no accepted international definition. In the early days of WHO, we used to speak of “local health services”;

in the 1960s, the term used was "basic health services," and now we speak of "primary health care."

However, the terms "local health services" and "basic health services" (which promoted a number of health services for people outside hospitals) reflected, in a way, ideas imported by outside advisers or views of "elitist" national health leaders. Primary health care, on the other hand, is intended to develop from the people themselves; it is "health by the people." Primary health care is much more than the *primary* medical care provided in Europe.

Nevertheless, PHC activities in developed and developing countries share a number of basic or common characteristics.

1. There is a close relationship between the health needs of a population and the health care tasks involved in meeting these needs.
2. The country's participation in health care also means that the lifestyle and culture are likely to carry a great deal of weight in modifying the health status of the community.
3. Resources must be used as effectively and as efficiently as possible.
4. Primary health care is not seen as an isolated approach to health care, acting on its own, but as the most local (community-based) part of an integrated and comprehensive health system.

Thus, PHC is seen as bringing together primary, secondary, and tertiary levels of care. The word "primary" implies that there are secondary and tertiary aspects of health care. Health is a total concept; it cannot be split into primary and non-primary aspects.

Health is also a positive approach. All efforts which go toward prevention of disease and the promotion of positive values of health should be considered primary aspects of health care and all efforts which go toward treatment of a person once he has succumbed to a disease should be considered secondary aspects of health care. In summary, primary health care implies an approach which integrates at the community level all the elements necessary to make an impact upon the health status of the people; secondary and tertiary aspects of health care imply a "cure-oriented" approach toward health.

It follows that PHC is seen as making its contribution to general development along with education, agriculture, industry, transport, etc., which also use local resources and which, acting in combination,

play a part in promoting health and in enhancing the quality of life. The PHC approach emphasizes that community and individual health are affected not only by health services but also by numerous other influences (Plate 1).

Primary health care has been defined as a "simplified, though essential, health care which is accessible, acceptable and affordable." A more detailed definition was outlined in the "Declaration of Alma-Ata," which was adopted by 140 governments at the WHO/UNICEF International Conference on Primary Health Care held in the USSR during September 1978. "Primary Health Care is essential health care based on appropriate and acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain in the spirit of self-reliance. It forms an integral part both of the country's health system of which it is the central function and of the overall social and economic development of the community. It constitutes the first level of contact of individuals, the family and the community with the national health system."

WHO has summarized the seven general principles which should be followed if PHC efforts are to succeed (Plate 2). Primary health care, a front-line activity that ensures essential "health for all by the year 2000," as projected by WHO, must contain the following essential health-promoting elements: adequate food and housing, with protection of houses against insects and rodents; adequate water for cleanliness and safe drinking; suitable waste disposal; antenatal, natal, and postnatal care, including family planning; infant and childhood care, including nutritional support; immunization against the major infectious diseases of childhood; prevention and control of locally endemic diseases; elementary care of all age groups for injury and disease; and easy access to sound and useful information on prevailing health problems and the methods of preventing and controlling them.

### *III. Primary Health Care and Nursing Education*

As indicated by the Thirtieth World Health Assembly held on May 19, 1977, nursing-midwifery personnel as part of the health team

have provided and continue to provide the greater part of health care in most health systems.

#### A. WHAT TYPE OF NURSE IS NEEDED IN PRIMARY HEALTH CARE?

Community nursing or primary nursing was usually taught as a post-basic specialty. Nurses were frequently required to specialize in midwifery as well as public health nursing before they could work in community programs. Today's thinking is that the nurse working in PHC should preferably be a generalist, educated to function in an expanded role in the primary care setting. Therefore, the trend toward nursing specialists (such as midwives, home care (sick) nurses, and psychiatric nurses) providing PHC should be discouraged. Such specialists would be better employed at the next level (i.e. districts or regions) and available to the community nurse practitioner for advisory services or through the nurse practitioner to the client for provision of specialized nursing care.

#### B. WHAT TYPE OF PREPARATION DOES THE PRIMARY NURSE NEED?

A look at conventional programs in nursing education shows that the majority are deficient in regard to preparing nurses who can function effectively in primary care. This inadequacy stems among other factors from the following:

1. Training is disease-oriented or cure-oriented as opposed to training intended to keep the population healthy.
2. Training is hospital-based. In most schools teaching is conducted in lecture rooms and hospital wards. The student is given little opportunity to get acquainted with real life situations, in which he or she would have to face the problems of health and disease and deal with individual and family care rather than institutional services, or to work with other team members to understand their roles.
3. Training is often sophisticated, focusing on standard hospital and clinic practice patterns, thus making the future graduate ill-suited to the needs of the rural community. In teaching based on "cases," the individual as a social being, a member of a family and a community, is often forgotten.
4. Training has to be planned with complete relevance to the needs of health services and local conditions. However, there is often a

lack of participation, collaboration, and coordination between the responsible health administrators and educators.

Plate 3 shows the discrepancies in nursing education in relation to community needs for service. Nursing students receive most of their training in the care of hospitalized patients, with relatively little practice in community nursing. Yet, in PHC one should provide training from the grass-roots level upwards, rather than the reverse.

This inadequate and/or irrelevant training, the shortage of manpower, and the poor utilization and distribution of existing manpower, together with the fact that health service and teaching personnel continue to focus their work on technologies for the benefit of the privileged few because they were trained in programs where the concept and principles of PHC were not taken into account, are among the main obstacles in ensuring total coverage of the population with essential and socially relevant health care. Therefore, in the development of curricula for training nurses in their new role, it is important to promote conditions that will encourage the passage from traditional ways to an approach which prepares human resources to contribute effectively to the extension of health service coverage.

## C. DEVELOPING CURRICULA

### 1. *Factors to Consider*

First and most important, the curriculum should be appropriate to the health problems, health practices, and health needs of the people. The goal is to prepare primary workers who will promote the health of the population, care for the sick, and provide relief from pain, when possible.

Since health is not primarily a product of medical care, the responsibilities of the primary nurse may be quite varied, depending on the local situation. Therefore, the actual process of planning the training of primary nurses has to start with an analysis of the functions and the tasks to be performed by the primary nurses working in PHC, according to each different situation and based on community diagnosis.

Second, consideration should be given to the geographic locus of the primary nurse. If the nurse is to be located in a rural health

post, a district health center, or a community hospital, the curriculum should reflect the differences in types of problems seen in each setting.

Third, the curriculum should vary according to the degree of independence in decision making and zone of responsibility which the primary nurse will have.

The WHO Expert Committee on Community Health Nursing has described the needed changes in nursing education and what these changes should be aimed at achieving:

1. A curriculum should be people-oriented not institution-centered and should emphasize health rather than disease. Such a curriculum should produce graduates with a knowledge of the basic and behavioral sciences, with clinical skill in diagnosing illness and other deviations from health, both physical and emotional, and with the ability to prescribe preventive, curative, and rehabilitative therapy. The graduate nurse should be able to adapt health care to the family and community setting, using medical and other referral services for the greatest benefit to patient and family.
2. Traditional nursing education should be reversed: starting with healthy families in their social and community life, moving to the development of disease, disability, and social dysfunction, and so to treatment, cure, and rehabilitation.
3. Students and faculty should participate in community health through the examination of health needs and through working with the community in planning and providing health care, analyzing its effects, and studying ways of improving the pattern of care.
4. Opportunities should be provided for students to understand community life, its manner of functioning, and its effects on health or illness within the population. Given such opportunities, students would learn from a number of experiences of varying complexity among different social and cultural groups in their natural environments. They would also learn to work competently with others, to develop self-reliance, and to encourage this quality in others and in the community.
5. Students should be encouraged to develop a thorough understanding of life processes, which would broaden their understand-

ing of human life in general, of value systems, and of society's formal and informal support mechanisms.

6. Students should be oriented toward a dynamic conception of life and human relationships, in which disease and hospital care are regarded as mere episodes within the life span.

## 2. *Stages in Curriculum Planning*

Once the organizational setup of PHC within the health service system has been taken into account and the needs and resources identified, three main questions must be answered. "Where am I going?" "How shall I get there?" "How will I know I have arrived?" To answer these questions, the following steps are required.

**a. Definition of Objectives.** The objectives (Plate 4) will serve as criteria for establishing the broad lines of the syllabus, defining practical work, choosing teaching methods, and deciding on means of evaluation. There are three types of educational objectives.

1. Institutional objectives are at the level of the educational establishment (broad, all-inclusive).
2. Intermediate objectives are still broad, developed from the institutional objectives.
3. Specific (or instructional) objectives correspond to a given learning activity and are precise and measurable.

Educational objectives have to be compatible with the health policy of the country and defined to respond to community needs and health aspirations. These objectives should take into account the functions and tasks to be performed by the primary nurse working in PHC.

Decisions about what should be taught are extremely important. There is information that is essential for the student to learn, some that is useful, and some that is ornamental. One has to find a balance between the three because time is too short to teach everything that is essential, everything that is useful, and everything that is ornamental. The teacher's main responsibility must be to decide what is essential, what is needed for the job, and make sure that it is learned (Plates 5 and 6). Educational objectives should indicate the knowledge, skills, and attitudes which the student should develop by the end of the training (Plates 7 and 8).

**b. Principles of Learning.** Learning is a mental activity that results in behavioral changes. Learning cannot be forced. Basically, people learn when the following principles are taken into consideration:

1. Students learn in different ways and at different rates—that students vary in many ways should never be forgotten. Therefore, the basic task in education is to find strategies which will take individual differences into consideration, but which do so in such a way as to promote the fullest development of each individual. Unfortunately, what one generally sees is a fixed schedule, a fixed time, and a fixed experience for all.
2. Learning takes place more effectively when a student is ready to learn and because he or she wants to learn. A motivated student learns more readily than one who is not motivated. Learning motivated by reward is usually preferable to learning under the threat of punishment or the fear of failure.
3. Active participation in a learning task is preferable to passive acceptance of what someone else has learned. Traditional approaches have some value, although all too often lectures appear to “go from the notebook of the teacher to the notebook of the student, without going through the mind of either.”
4. A student learns what he or she actually uses, so learning, to become permanent and pertinent, must be used in actual practice until an accepted level of competence is obtained. Application of knowledge to the solution of new problems will be more efficient if the student has experience during learning of applying this knowledge in a variety of situations.
5. Learning takes place more effectively in situations where the student derives a feeling of satisfaction. Students who have experienced success in the past are more willing to set higher goals for the future. Realistic goal setting leads to more efficient learning.
6. Emotion as well as intellect is involved in the learning process. Consequently, the personality of the student may hamper or enhance his or her ability to learn from a given teacher.
7. Evaluation by both the student and the teacher is essential for determining whether desirable changes in behavior are actually

taking place. Learning is facilitated in an atmosphere which encourages people to be active, emphasizes the personal nature of learning, accepts that difference is desirable, recognizes people's right to make mistakes, tolerates imperfection, encourages openness of self and trust in self, makes people feel respected and accepted, facilitates discovery, puts emphasis on self-evaluation in cooperation, and permits confrontation.

### 3. *Content of Teaching Programs*

Training should be based on the nature of existing health problems. Therefore, each country must decide the specific content of its training program. Depending on the tasks of the primary nurse, the curriculum will be concerned with preventive care, health promotion and community development tasks, and curative care, as well as cooperation with other sectors. It will take full account of lifestyles, social values, and environmental conditions influencing health, to ensure that the training is socially relevant and will contribute to the solution of major health problems, particularly those of the most seriously affected population groups: the social periphery and among them the vulnerable groups such as mothers and children.

It is essential for the success of PHC programs that the nurse have a positive attitude toward this new approach to health problems. Therefore, training should emphasize the following:

**a. Aims of Primary Health Care.** These are the promotion of health in its broadest terms through education, support, and encouragement of self-care; the prevention of ill health by prophylaxis, early diagnosis, and education and advice on the value of early contact with PHC services; the care, treatment, and rehabilitation of those who are acutely or chronically ill; and the referral of patients to specialist services when necessary, with the provision of continuing care following specialist treatment. (The last two items deal with secondary and tertiary care.)

**b. Recent Trends in Health Care.** The student nurse must fully understand the new concepts of integrated health care which recognize the following: the health of the individual and that of the population depend not only on the action of the health sector, but also on the efforts of other sectors of society; participation by the

individual and the community in their own development is not only their right, but a decisive factor in the pursuit and maintenance of health; the notable shortage of physicians at the community level, aggravated by the tendency toward specialization in clinical areas; the rising cost of health care; and most important, the underutilization of the nurse who has the potential to assume a more direct role in the delivery of PHC, considered until now as the physician's responsibility.

**c. Pertinence to Local Area.** Adaptability to local conditions is essential. For example, when dealing with the problem of nutrition in children and pregnant and lactating women, nutrition education should emphasize locally available, homegrown foods. The primary nurse should also be taught to use the simplest possible materials which are available locally. For example, it may be preferable to use soap from the market rather than surgical alcohol which can only be found at a pharmacy.

**d. Receptiveness to Local Needs and Decisions.** Primary workers need to develop a new humility in their relations with the community. This involves a new orientation that should shift from automatically offering advice or taking direct action to a posture of listening to problems and priorities, evolving alternatives with community representatives, and accepting local decisions. The ability to work with a local organization will develop only when there is real respect for community capacities. The initiation of effective action depends particularly on these skills and on acceptance by local people.

**e. Concern for Community Health.** Primary nurses should learn to be concerned about the total population group they will be serving and not focus only on the illnesses of individuals. For example, in making a community diagnosis, they should not only be concerned about an individual malnourished child, but also about the shifting spectrum of levels of malnutrition in the total population of children. They should also learn that their contribution in solving community problems can reach many more people by supporting other front-line and community workers.

**f. Community Participation in Primary Health Care.** The

primary nurse should know that one of the fundamental principles of PHC is the participation of the community at all stages. For communities to participate, they need to feel motivated. In order for them to reach a point where they feel motivated and can reflect this motivation in their intelligent participation, they need to know what PHC is all about and what its implications are with respect to the health of community members individually and collectively. They also need to be stimulated to think about their role in PHC, not only as consumers but also as providers. This self-help process means that the community could provide labor and other local resources; it also means the cooperation of village development committees, of parent-teacher associations, of consultants, of schoolchildren counting the number of vaccinated children in the neighborhood, etc.

There is much that people can do for themselves provided they have the necessary knowledge, understanding, and motivation to prevent illness and improve the quality of their lives. This is the way toward self-reliance.

Sometimes health services do exist but may not be properly used, particularly if people think the services have been imposed from outside or if they do not understand how to use them. But if the community has expressed its need for a health service, has helped to set it up, and is contributing toward its upkeep, then people will be prepared to accept it (e.g. immunizations to protect themselves or their children against some of the communicable diseases). If members of the community have a say in the running of their own health service, they will understand the advice and counsel of their health workers and want to learn how to prevent nutritional deficiencies, to use clean water, to dispose of wastes correctly, etc. The primary nurse needs to be prepared to maximize public participation in health programs. He or she must learn to take into account the local culture, social structure, and prevailing traditions when trying to implement any health program. The primary nurse must also be able to recognize problems of community resistance and take necessary remedial action.

**g. Role of Family Members in Primary Health Care.** Family members, particularly the mother, have always been the main

providers of health care. Indeed, in most societies, mothers play a more important role than health personnel in promoting family health. For example, the major and essential part of maternal-child health (MCH) care in relation to health promotion, prevention, early diagnosis, and initial treatment takes place outside organized health care, mainly in the context of self-care within the family. In the home, the mother is usually the first person to provide health care and health training, and this exerts an important influence on the health behavior of children throughout their lives. In addition, food is recognized to have a major effect upon health, and women generally decide upon their household's diet and prepare the food.

**h. Role of Untapped Local Resources in Primary Health Care.** At the primary level it is essential that use also be made of other members of the community, such as schoolteachers, community workers, and women's and youth groups. They can be very important and effective in the routine tasks of monitoring health problems and preventive activities; communicating health education information on food, child care, hygiene, and family planning; and interpreting new ideas to stimulate the interest of community members in activities likely to enhance the quality of village life.

**i. Involvement of Traditional Medical Practitioners.** These practitioners may be important allies in organizing efforts to improve the health of the community.

**j. Importance of Teamwork.** Effective PHC activities depend on teamwork. Therefore, training programs should stress the skills and attitudes that facilitate teamwork. This training will enable the primary nurse to learn how to work efficiently in a team and to understand the responsibility of the team as a group; the role of each member in carrying out the team's responsibilities; the extent to which roles of team members overlap; the process of interacting as a team; and the part played by the team in the overall delivery system.

The primary nurse also needs to know that there are two major types of health care teams, interdisciplinary and intradisciplinary.

In both types, auxiliaries should be integrated into the health team as indispensable members and the key member of every team is the patient (client or family), who is receiving and participating in the health care (Plate 9).

The PHC team has been defined as “a non-hierarchical association of people with different professional backgrounds but with a common objective, which in any given setting is to provide patients and families with the most comprehensive health care practicable.” Therefore, it is a concept of “rotating leadership determined by functional requirements” but in which there are problems of status and conflicts in role perception. In addition, within the interdisciplinary team are overlap areas (Plate 10) shared by all three disciplines and even though this overlap is acceptable in terms of the technical soundness of services, it leads to insecurity, anxiety, and conflict among the members of the team. The primary nurse should be prepared to deal with the various problems faced by the different members of the health care team, such as values and ethics, knowledge base, communication between worker and consumer, etc.

If the health care team is to function effectively, there must be a certain degree of consensus on what the program is, who the clients are, and the need for continuous interpretation of both program and client. There must also be an understanding that cooperation entails surrendering status in certain situations. The primary nurse should be aware that one of the functions of the primary team is to form liaisons with the social work teams of local authorities, such as housing, education, and other agencies, and volunteer groups.

**k. Teaching Methodology, Management Techniques, and Equipment.** The primary nurse should have a working knowledge of teaching and communication methodology, management techniques, and the operation and maintenance of equipment. For example, the primary nurse should know how to use and maintain refrigerators and bicycles, to requisition drug supplies, etc.

The primary nurse should be able to provide the following functions and services at the end of his or her training:

1. Assess the overall health of the individual, the family, and the community and understand those mores, beliefs, and ways of life that bear on problems of health, involving the users in the diagnostic process and in discussions of how the problems should be approached.
2. Give direct integrated health care to the individual, the family, other groups in the community, and the community itself.
3. Initiate treatment or other measures within his or her sphere of competence or refer the patients to another level, make decisions in emergencies, and carry out health actions in accordance with program standards.
4. Follow the health-disease process in persons with stabilized or long-standing conditions and implement an appropriate plan of care.
5. Maintain epidemiologic surveillance in the community, take the necessary related measures, and report to the health system and to the community.
6. Provide for and carry out appropriate primary care measures with a view to improving the nutritional status of the population.
7. Educate and foster incorporation of the individual, the family nucleus, and the community so that they can identify and meet their own specific health needs.
8. Train cadres of traditional health attendants and volunteers for participation in community health programs.
9. Work toward improving the environment and the health status of the population, of the community in general, and of the family nucleus in particular, with the participation of the beneficiaries, coordinating this undertaking with the activities of workers in other development sectors at the local level.
10. Involve members of the community in the decision-making process with regard to the delivery and evaluation of PHC services.
11. Evaluate the results of primary care on a continuing basis with a view to generating information feedback.

#### D. METHODS OF TEACHING AND LEARNING

Effective teaching methods are those that take into account the student's interest, ability, and future functions and that offer the student an opportunity to participate in the learning process. The method chosen should also be the one best suited to the ability and personality of the teacher and best suited to the subject to be taught. Teachers can choose from a variety of teaching methods; however, they should be active (Plate 11).

Since primary nurses are to work in the community, the curriculum should prepare them to carry out a household survey, assess the problems of a community, participate in village meetings, cooperate with others on community projects, increase people's awareness of community health problems, and engage in health promotion activities.

Teachers should concentrate on increasing the student's capacity for problem identification and problem solving. If primary health care is to be effective, accurate recognition of health problems is essential. To prevent disease, the primary nurse must be able to identify the major possible risks to community health. These will include recognition of major environmental dangers in the community; customs and behavior of people which increase the risk of sickness, malnutrition, and epidemics; and groups of people most "at risk" of getting diseases, e.g. certain occupation groups, children under five years of age, pregnant women, relatives of patients with certain diseases (TB, VD), etc.

To treat curable diseases effectively, the primary nurse must be able to make accurate and rapid identification of the health problems of each individual patient. The primary nurse must also be able to make early diagnosis of epidemics which may develop in the community. To provide effective management of a chronic disability, e.g. polio, which needs treatment and rehabilitation, accurate identification of the health problem is essential. After the health problem has been accurately identified, an effective management program has to be developed. The management of health problems at PHC level is very different from the management at secondary and tertiary levels, because of the following variables: distance traveled by the

patient, ability of patient to attend follow-up, availability of drugs, availability of transport for referral, and patients' preference for certain kinds of treatment, e.g. injections, hence the necessity of training in problem solving (or management) exercises in both the classroom and in the field. For example, students may be asked to role-play or simulate a situation that may arise on the job or to present a problem they have experienced in clinical and/or field work and describe how it was met. Faculty and students then critique the student's efforts at dealing with the situation. Another method which does not put as much pressure on the individual student is to divide students into small groups, give them a problem to solve, and then each group shares with the others the way it chose to solve the problem.

All educational programs use some type of teaching aid or device. Books, manuals, models, clinical specimens, posters and other graphic arts, and blackboard or flannelboard have been used in the education of primary nurses. Teachers should familiarize themselves with the advantages and disadvantages of the different media, including consideration of cost, timeliness, convenience, durability, composition of audience, and skills required for use. Films, transparencies, and other audio-visual aids can be effective if the teaching program has the resources to bear the cost and maintain the equipment. Moreover, it should not be forgotten that classroom lectures and educational aids are inadequate in the most important areas of training: psychomotor skills required for diagnosis, problem-solving skills required for proper treatment, and team group skills required for community development work. These can only be learned by doing.

The needed clinical experience is usually included in the primary nurse's training, but students also need regular and systematic community health experiences, such as visiting villages and evaluating community health standards; carrying out an immunization survey or weighing young children; being responsible for providing home visits to a number of assigned families; counseling a woman through a healthy pregnancy; or following up special groups interested in family planning. Such field experience enables the students to observe, to practice, to keep records of their observations and work, to prepare reports, and above all to feel, understand, and enter into

relationships with other people, to work in a cooperative manner, and to gain valuable practical training.

Some instruction in teaching methods will make the primary nurse more effective in health promotion when working with individuals, small groups, and large assemblies. For example, health messages can be conveyed through role-playing, storytelling, audio-visual shows, or other events that would reach individuals in the community. Finally, recent experience has shown that techniques such as flow-charts and learning modules (Plates 12–14) can enhance the competence of health personnel.

The multidisciplinary approach in the teaching-learning process is the best. Therefore, whenever possible, teaching methodology should emphasize team training: theoretical, laboratory, clinical, and field assignments shared by students of the different health professions.

It is helpful to develop a student manual. The students can learn from it during training and then refer to it in practice. The manual should give explicit instructions on the type of preventive or curative task to be undertaken and where and how to refer cases which are beyond the competence of the primary nurse.

#### E. PRIMARY HEALTH CARE INSTRUCTORS

Teachers will always be the central element of the teaching process. Student motivation depends largely on personal attitudes. Teachers as human beings will have their own opinions, preconceived ideas, attitudes, and values to which they are attached. In their capacity as teachers, their interpretations and attitudes toward PHC will influence their pupils. It is therefore important that those involved in the training of primary health nurses should be oriented toward PHC and feel comfortable about it. Anyone unable to accept the PHC concept should not be asked to teach this subject to students. Moreover, they should teach in a way that encourages the involvement of students in their own teaching. The teacher should therefore avoid giving them the result, the solution, the summary, and the conclusion. This of course presupposes a great deal of humility on the part of the teacher to live with the class and permit the class to live.

Reducing the risks to individuals and patients and maximizing

learning for students calls for instructors who can supervise primary nursing students in their practical, clinical, and community experiences. Primary workers with outstanding service records make good teaching supervisors.

#### F. EVALUATION OF TEACHING

This is a continuous process which starts at the beginning of the course with the precise definition of objectives and the minimum level of performance demanded of the student. It continues during the course and even after it has finished. Several measurement criteria may be used, all of which must be objective, valid, reliable, and practical. Objectivity exists when the scores assigned by two independent qualified persons are identical (the same results). However, it is very difficult to be objective; many factors affect evaluation. The best way to secure objectivity is to score the answers to questions in advance and to make multiple true-false tests. The validity of a test is the degree to which it measures what it is supposed to measure. Reliability refers to the consistency or accuracy of the scores yielded by a test. However, reliability can sometimes be unreliable. Practicality refers to the time necessary for its construction, administration, scoring, and interpretation, as well as the general ease for its use.

The aim of the course is to bring about changes in the student by helping him or her to acquire intellectual skills (cognitive field), manual skills (psychomotor field), and particular behavior patterns (affective field). These changes may be evaluated as follows:

1. Cognitive criteria involve written and oral examinations, note taking, reports of field experience, and, possibly, psychological tests.
2. Psychomotor criteria involve observation of the student in the demonstration room and during probationary periods, comments of other students, and discussions between teachers and supervisors during training in the field.
3. Affective criteria involve observation of individual and collective behavior; group discussions; and communication, discussion, and relationships between teacher and student.

Students must be aware from the start of the rules and criteria of evaluation and should be informed of the results in relative and ab-

solute terms. Their comments, reactions, and opinions with regard to the course and their experiences should also be taken into account. Provision should be made for a retroactive mechanism which can introduce necessary corrections (Plate 15). There is a link between learning objectives and evaluation.

#### *IV. SUMMARY*

Primary health care involves a major revision of attitudes regarding the meaning of health and health care and a radical rethinking of ways of delivering health care and of promoting health. It implies the reorganization of the organized health system and, fundamental to this reorganization, it implies the development of curricula for the training of nurses that focus on the concept and principles of PHC.

The development of training curricula will have to start with a full knowledge and appreciation of the community and the needs of community level workers and build up from there to the curricula of their teachers and then of professional and supporting personnel at teaching institutions, universities, and postgraduate levels.

The training of the primary nurse should comprise the following objectives and activities: development of critical judgment and a spirit of initiative in regard to the health needs of the community; interdisciplinary teacher-student actions; incorporation of community-centered learning experiences into the teaching program (principle of integrated instruction-practice) from the very outset; and application of integrated instruction-practice, based on problem solving and learning-by-doing in real service-delivery situations. In the light of PHC strategy and in the context of health and overall development, the preparation of nurses for their new roles is a major challenge.

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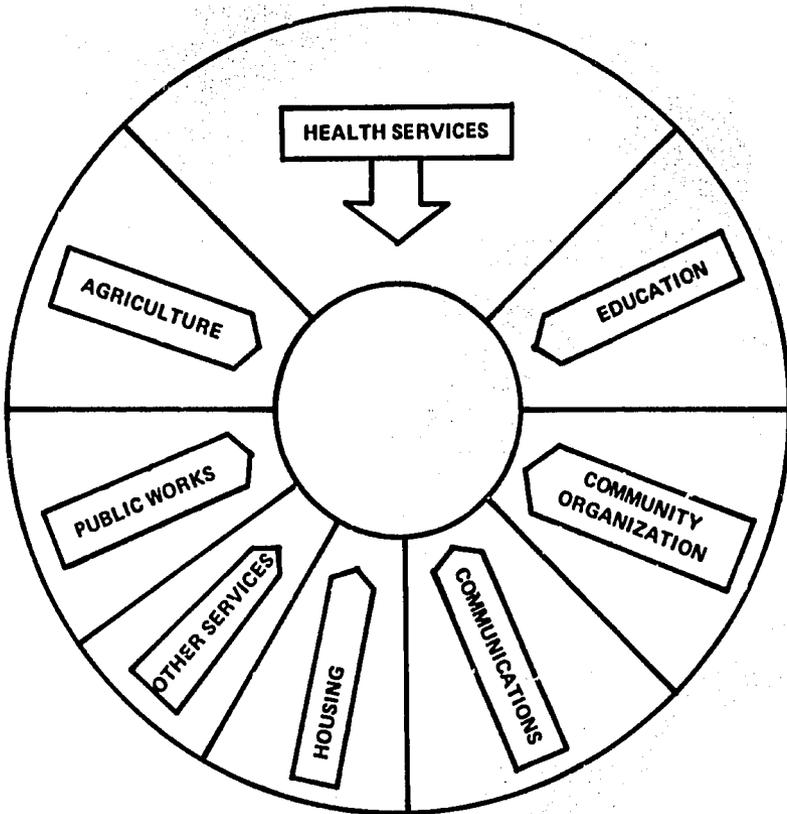


PLATE 1: PRIMARY HEALTH CARE APPROACH TO HEALTH

### **THE SEVEN BASIC PRINCIPLES OF PRIMARY HEALTH CARE\***

**Primary health care should be shaped around the life patterns of the population it is to serve and should meet the needs of the community.**

**Primary health care should be an integral part of the national health system, and other echelons of service should be designed in support of the needs of the peripheral level, especially with regard to technical supply, supervisory, and referral support.**

**Primary health care activities should be fully integrated with the activities of the other sectors involved in community development (agriculture, education, public works, housing, and communications).**

**The local population should be actively involved in the formulation and implementation of health care activities, so that health care can be brought into line with local needs and priorities. Decisions as to the community's needs should be based on a continuing dialogue between the people and the services.**

**Health care offered should place maximum reliance on available community resources, especially those that have hitherto remained untapped, and should remain within the strictest cost limitations.**

**Primary health care should use an integrated approach of preventive, promotive, curative, and rehabilitative services for the individual, family, and community. The balance between these services should vary according to community needs and may well change in the course of time.**

**The majority of health interventions should be undertaken at the most peripheral level possible of the health services by those workers most suitably trained to perform these activities.**

**PLATE 2: WHO SUMMARY OF BASIC PRINCIPLES OF PRIMARY HEALTH CARE**

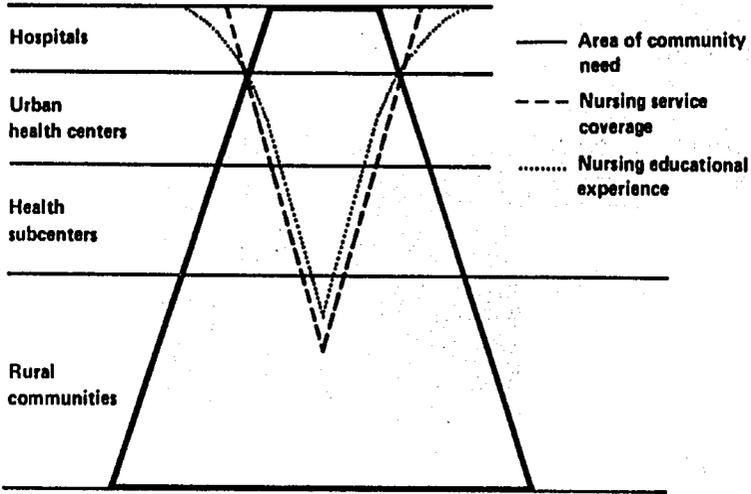


PLATE 3: EXISTING NURSING SERVICES RELATED TO COMMUNITY NEED AND EDUCATIONAL EXPERIENCES

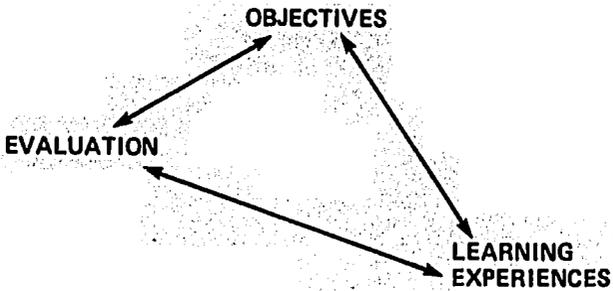


PLATE 4: EDUCATIONAL PRINCIPLES

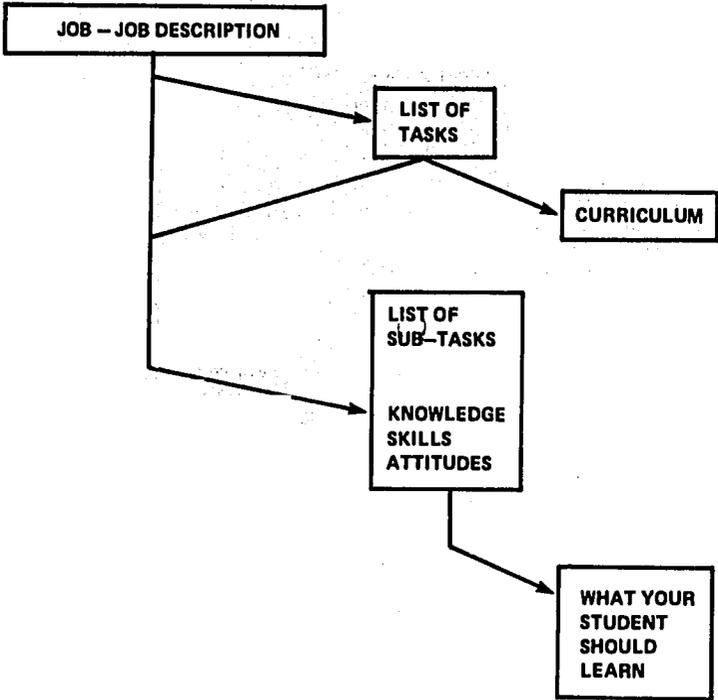


PLATE 5: DECIDING WHAT LEARNING IS ESSENTIAL

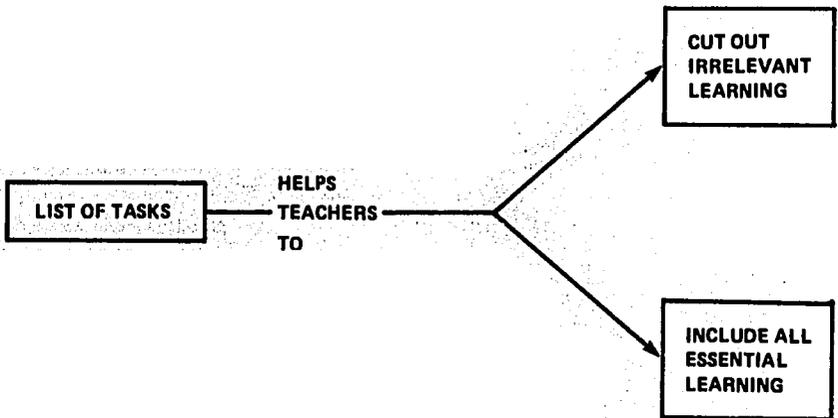


PLATE 6: WHAT SKILLS ARE NEEDED

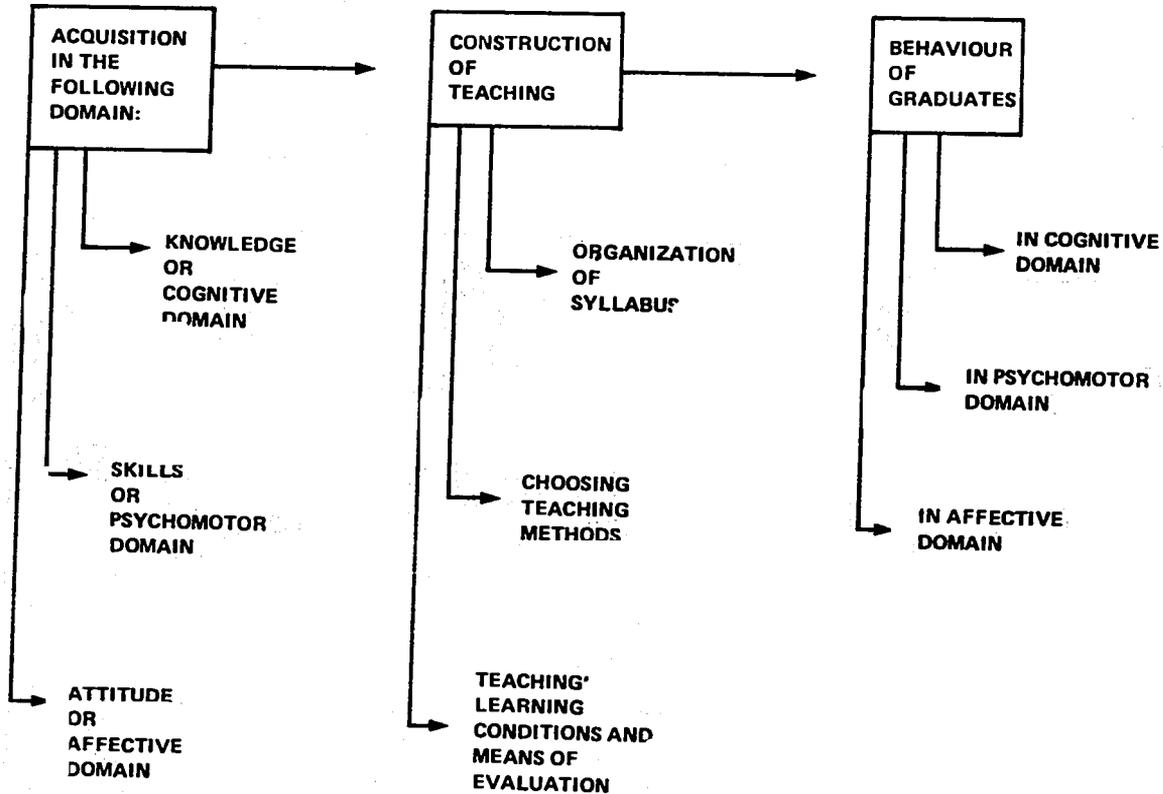


PLATE 7: DEFINITION OF OBJECTIVES

<i>Objective</i>	<i>Course content</i>	<i>Evaluation</i>	<i>Expected behavior</i>
<p><b>To be able to insert an IUD</b></p>	<p><b>Theoretical</b>  <b>Lecture on:</b></p> <ul style="list-style-type: none"> <li>- Anatomy-Physiology</li> <li>- Asepsis</li> <li>- Different types of IUDs</li> <li>- Indications, contra-indications, incidents, and accidents</li> <li>- Patient management</li> </ul> <p><b>Practical</b></p> <ul style="list-style-type: none"> <li>- Demonstration of IUD insertion and removal techniques</li> <li>- Clinical</li> </ul>	<p><b>Direct</b></p> <p><b>Observation of practical performance</b></p> <p><b>Indirect</b></p> <p><b>Audio visual Media:</b></p> <ul style="list-style-type: none"> <li>- Film with inbuilt errors</li> <li>- Multiple true-false test</li> <li>- etc.</li> </ul>	<p><b>Knowledge</b></p> <p><b>To be able to use his/her knowledge to understand the underlying principles of IUD insertion</b></p> <p><b>Manual skills</b></p> <p><b>To be able:</b></p> <ul style="list-style-type: none"> <li>- To insert an IUD</li> <li>- To explain the side effects and the possible accidents</li> <li>- To remove an IUD</li> </ul> <p><b>Attitude</b></p> <p><b>To be able to adopt a professional attitude toward the patient</b></p>


**Feedback**

**PLATE 8: RELATIONSHIP BETWEEN COURSE OBJECTIVES AND EVALUATION (E.G. IUD INSERTION)**

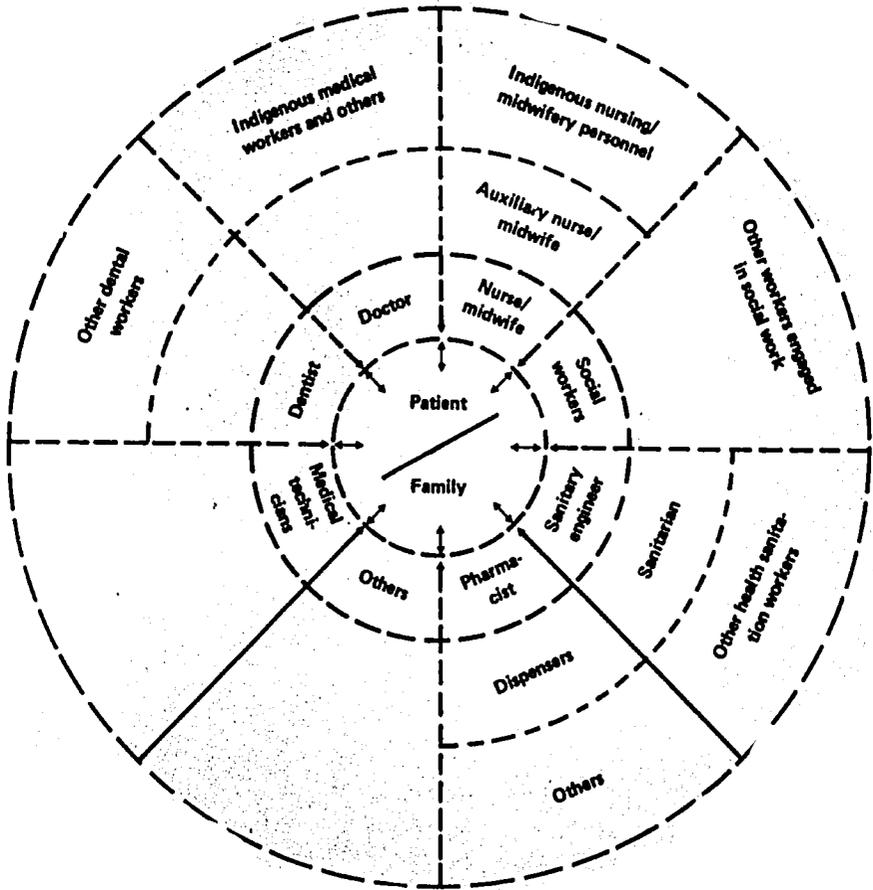
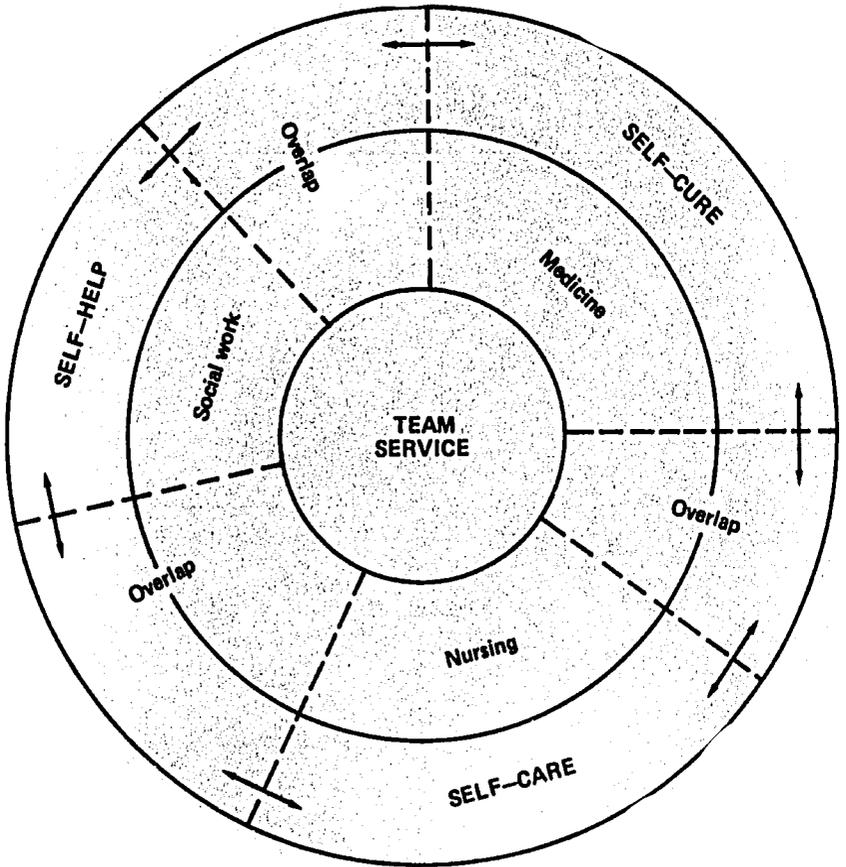


PLATE 9: HEALTH CARE TEAM



**PLATE 10: THE "CURE-CARE-HELP" APPROACH.** [The functions and/o activities of the overlap areas are shared by all three disciplines. Each is competent to carry out effectively and safely cure-care-help. In doing so, no one discipline becomes the auxiliary of another, and the primary function of each remains either medical, nursing, or medico-social work services.]

(This plate is taken from a position paper on nursing by D. Hall Regional Officer for Nursing, WHO Regional Office for Europe Copenhagen).

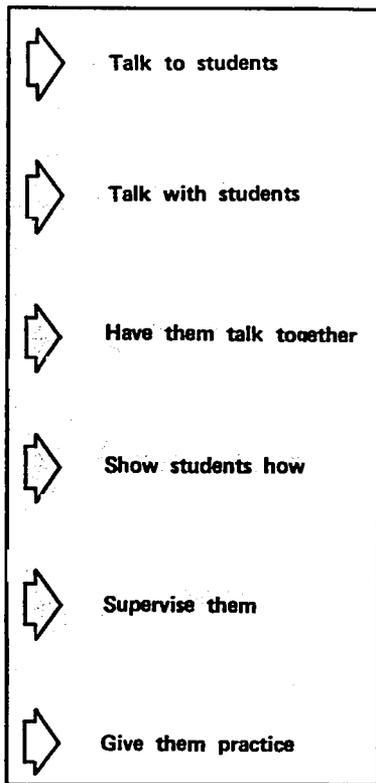


PLATE 11: ACTIVE TEACHING METHODS (Guilbert, J.J., *Education Handbook for Health Personnel*, WHO Offset Publication No. 35, WHO, Geneva, 1977)

◆ Treat in outpatient clinic

☐ Admit to nearest health center or hospital

▶ Refer to hospital

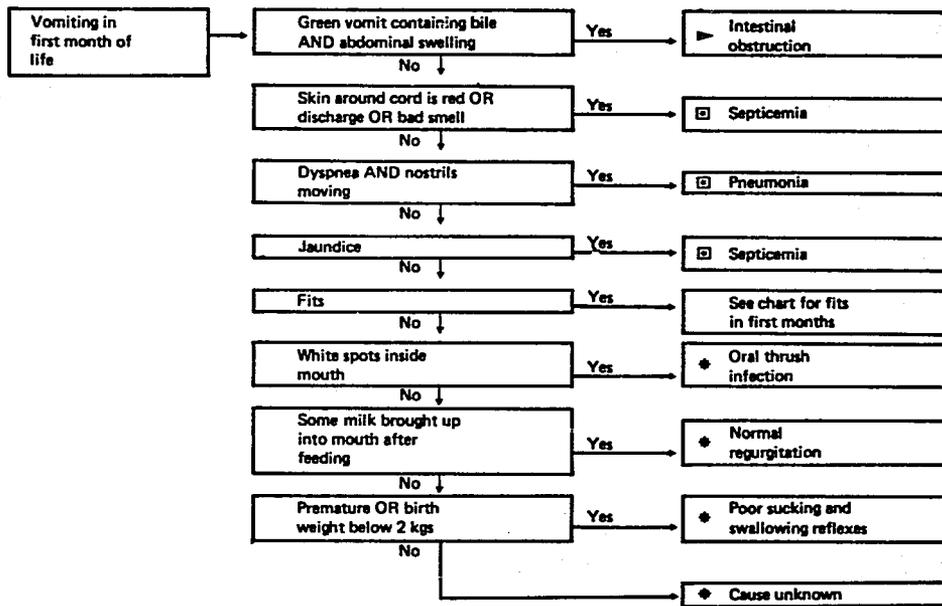


PLATE 12: DIAGNOSTIC FLOWCHART (Essex, B., *Diagnostic Flowcharts for Use by Health Workers in Developing Countries*, WHO, Geneva, 1977)

Problem: Burns

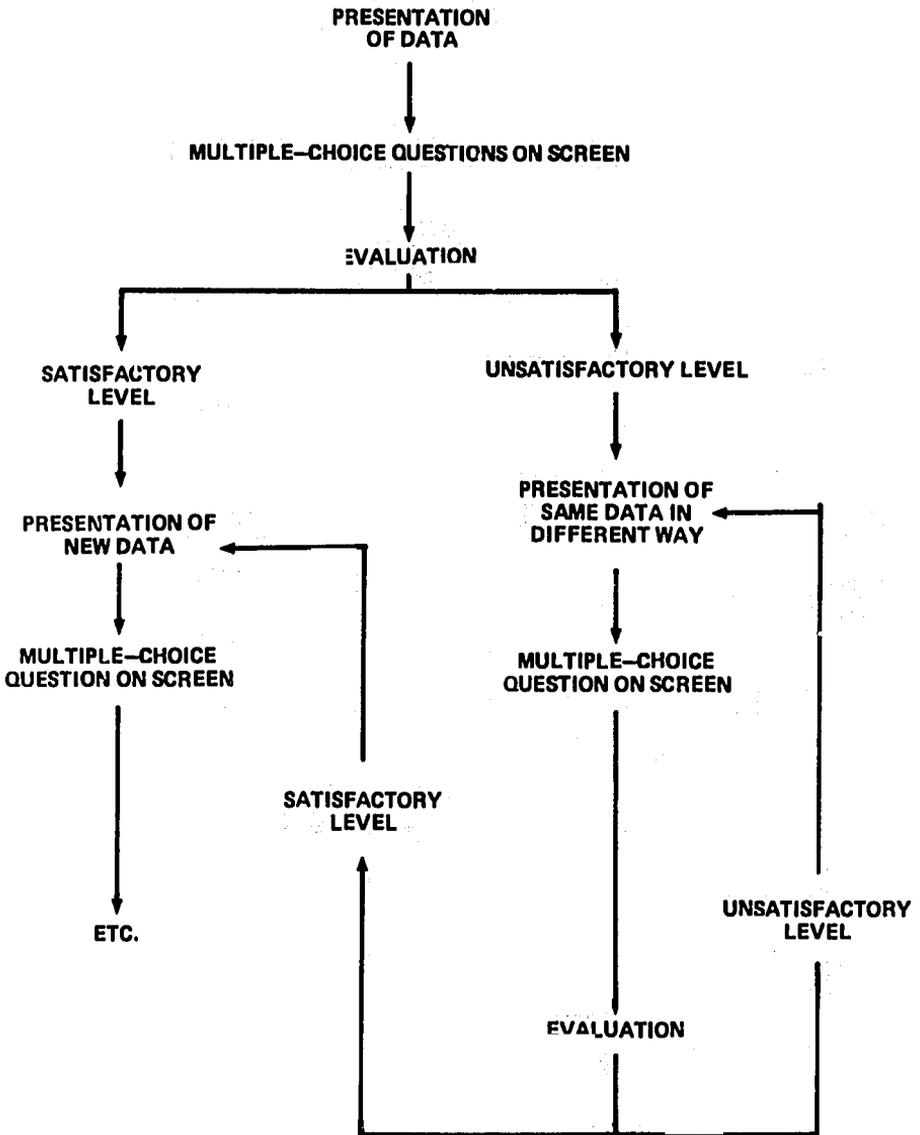
Learning objectives	Finding out what the PN already knows about this problem	Content		Using what a PN has already learned	Learning/teaching methods	How the PN is progressing (evaluation)
		What a PN must know	What a PN must do			
<ul style="list-style-type: none"> <li>- To be able to decide whether the burn covers a small or a large area</li> <li>- To decide when a patient with burns should be sent to the hospital or health center</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Has he or someone in his family ever been burned?</li> <li>- What did they do for this burn?</li> <li>- What happened to the person who was burned?</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- What causes burns?</li> <li>- How to prevent burns</li> <li>- Danger of a large area of skin being burned</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Teach prevention of burns</li> <li>- Give first aid, put on dressing, give fluid, take temperature</li> <li>- Give penicillin injection or treatment as prescribed</li> <li>- Send patient to hospital</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- How to do a dressing, an injection, take a temperature,</li> <li>- How microbes spread infection</li> <li>- How flies aggravate infection</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Observation of a burned person</li> <li>- Practical experience in treating a burn</li> <li>- Group discussion about burns</li> <li>- etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Observation of the PN: .Are his/her hands clean?</li> <li>- How does he/she examine the patient? .Does he/she speak gently with him and his family?</li> <li>- Does he/she give the right treatment?</li> <li>- etc.</li> </ul>

PLATE 13: LEARNING MODULE

<i>Sub-tasks</i>	<i>Knowledge</i>	<i>Skills</i>	<i>Attitude</i>	<i>learning experience</i>
1. Meet mother 2. Find out reasons for refusal 3. .... etc.	Common reasons for refusal (cultural, fear of procedure, prejudice due to reported experience) etc.	Ability to interview and obtain information from uncooperative people etc.	Friendliness, lack of prejudice, sympathy, patience etc.	Simulated interviews with peers and staff members, practice in interviews during home visits or village surveys etc.

**PLATE 14: LEARNING MODULE**

**Task: To persuade an unwilling mother in a remote area to take her child for immunization**



**PLATE 15: FEEDBACK TECHNIQUE**

(Guilbert, J.J. Education Handbook for Health Personnel, WHO Offset Publication No. 35, WHO, Geneva, 1977)

## DISCUSSION SUMMARY

DISCUSSION DEALT with problems of recruitment to and retention in the nursing profession. A distinction was made between the community health worker and the professional nurse worker, who, in addition to his or her role in primary health, is also a teacher, a role model, and a consultant.

Ms. Haddad drew on her experience with a program in Morocco involving 40 schools which emphasized local recruitment, a gradual expansion of the curriculum until a two-year training program evolved, a system of internal promotion, and a required commitment to remain in the area. The district medical officer, who was part of the system of internal promotion, signed a pledge along with the trainee to remain in the area. In the Moroccan program, about 80% of the nurses were male. The problem of recruitment of female nurses in this region was detailed. Ministries of Health have even considered ways of encouraging marriage between health workers to promote retention.

Jordan is experimenting with vocational training in secondary schools. Students are enrolled at the Brevet level (ages 14 and 15) for what is called a track in *taujihia* nursing. In this way it is possible to introduce the profession to students at an earlier age. Whether this will result in increased recruitment remains to be determined.

It was suggested that we might be trapped by a traditional curriculum, traditional training, and traditional degrees. Now might be the time to rethink and redefine what it is we want people to do in their jobs. It might be easier to attract and retain people for a specialty, such as a BSN in community development.

As a response to the suggestion that the working life span of female nurses might be so short as not to justify three years of training, it was countered that roles as wives and mothers benefited substantially, particularly in developing countries, from any training as a nurse.

Emphasis was given to the seriousness of the shortage of nurses, when it was pointed out that in some countries in this area there are more trained physicians than nurses.

# *A Systematic Approach to Planning the Appropriate Technology for Primary Child Care: A Necessary Step toward Realizing Alma-Ata*

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THIS PAPER concerns the essential technologies for the clinical part of primary health care (PHC) and argues that it is possible to define them. If PHC is ever to reach an acceptable standard, these technologies must be available in the languages of all the world's health workers in a systematic form. Such an objective is concrete and practicable. Its realization would do much to give substance to the Alma-Ata declaration.

## *The Problem*

The journal *Tropical Doctor* recently described how a ketamine drip can be used to produce simple, safe surgical anesthesia. The authors<sup>1</sup> received over a hundred requests for reprints. Considering the journal's minute circulation, this shows how great a thirst there is for the appropriate detailed technical information.

In view of the huge and ever-increasing volume of the world's medical literature, it is hard to see how there could still be any gaps, particularly in primary care. Yet, the first systematic account in English of how an auxiliary should examine a child or diagnose a lower respiratory infection in one was only published a year ago.<sup>2-3</sup> Also, it might be thought there would long have existed a detailed, appropriate, and readily available account of how Caesarean section should be done under the exacting circumstances of the smaller hospi-

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tals of the developing world. Yet, only now is one being prepared.<sup>4</sup> For lack of it, there are still doctors who say they had to do their first Ceasarean section "from the small print in Bailey and Love"<sup>5</sup> with the expected results. If this is the situation in English, what is it in Thai, Farsi, Bengali, Swahili, Amharic, or Lao?

Not only is there a substantial need for the appropriate technologies, but there is an even greater need which is not acknowledged at all. For example, there are still countries which do not use the weight chart,<sup>6</sup> and only a tiny number have even begun to use the compound labor graph, despite its proved usefulness in reducing maternal and perinatal mortality.<sup>7</sup>

There is thus a great need for appropriate knowledge, and an even greater "application gap" in which technologies of proven value are not even known to the people who might use them. The universal application of appropriate knowledge is perhaps an impossible aim, but the attempt to further it is certainly a practical one. There are two essential preliminary steps, both of which are largely attainable. Since there are such a large number of appropriate technologies in primary care, the first step is to organize them systematically in at least one language, and to keep the system continually under review, so that it is always up-to-date. The second step is to keep a careful watch on what is available in the languages of the world's health workers, and to try to fill as many as possible of the innumerable gaps, either by encouraging original writing or by translation. Although the description of a technology does not guarantee its implementation, good clinical care is impossible unless workers can read about what they should do. Such description is thus an essential step toward Alma-Ata's goal of an acceptable standard of primary care for everyone.

### *Can "Essential Health Care" Be Defined?*

No system is possible unless its contents can be defined. Theoretical arguments as to what is essential appear to produce few useful guidelines. In practice, however, when each procedure, drug, or item of knowledge is assessed on its merits, there is surprisingly little difficulty in deciding whether or not it is essential in terms of Alma-Ata's principles. For example, a wide measure of agreement was

obtained in deciding what to include in WHO's system of primary child care.<sup>2-3</sup> A similar consensus seems probable for the system of district hospital surgery now being assembled in Kenya.<sup>4</sup> Detailed examination of other fields of PHC will probably reveal an equal measure of agreement. Difficulties in defining essential technologies thus appear to be more theoretical than real.

With minor exceptions, the essential technologies for PHC are universally applicable. There are, for example, some countries which have chloroquine-resistant malaria and others which do not. In these countries the care of a malarial child will be different. Nevertheless, about 90% of the technologies for primary care are applicable everywhere.

### *Two Necessary Simplifications*

Primary health care is so complex that two initial simplifications are necessary. The first simplification is the level of worker to be addressed. It is current dogma that written materials should be addressed to one level of worker only. Fortunately, this does not appear to be absolutely necessary. Thus, in its Indonesian translation, WHO's system of *Primary Child Care*<sup>2-3</sup> is understandable, with some help, to sixth grade community health workers in West Irian. In English, it is popular with the medical students of Maputo and it is also required reading for postgraduates at Yale. Consequently, although different levels of workers may use different parts of a manual, and use it in different ways, a broad spectrum of readership is certainly possible. This is not surprising since many technologies are identical, regardless of a worker's grade. Spinal anesthesia, for example, is given in the same way by senior auxiliaries in Tanzania, by general duty doctors, and by specialist surgeons. Such a width of readership is only possible by writing for roles ("worker," "manager") rather than for grades ("doctor," "medical assistant"), and by paying great attention to language style in the manner described below.

The second simplification is to isolate appropriate technology, which is mostly applicable world-wide, from matters of culture and administration, which are highly specific locally. Fortunately, such a dissection is possible. Thus, in dealing with the all important

subject of cultural attitudes toward child care, only some principles and examples need be given. Details of local administration can be covered in local standing orders.

### *Six Ways of Promoting an Appropriate Technology*

The ultimate objective is for an appropriate technology, such as Perkin's traction for a fractured femur, to be adopted and applied to heal the sick. Technologies can be promoted in at least six ways (Plate 1). Not every way is applicable to all technologies.

First, the appropriate technology must be carefully and completely described step by step. For many technologies these descriptions are still missing in any reasonably available form. Thus, adequate detailed instructions for nerve blocks are not in any book that a developing country medical student could reasonably be expected to own, nor, surprisingly, are those for setting a Pott's fracture.

Second, the description of the appropriate technology must be accompanied by sufficient theory to make the necessary action seem reasonable to the worker. This is a conspicuous defect in many teaching materials for auxiliaries. Either there is too much inappropriate theory, or none.

Third, the necessary equipment must appear in a government medical store's list and in UNICEF's list. Thus, it is pointless advocating the use of a Sise introducer for spinal anesthesia, for example, if it cannot be obtained from medical stores. Surprisingly, there is still no satisfactory list of surgical equipment that should be supplied to a district hospital. Needless to say, inclusion in a list should, if possible, be followed up by adaptation, standardization, and local manufacture.

Fourth, the technology must be accompanied by the necessary evaluation procedures. At present, these hardly exist in any practical form. For example, it is possible to select a group of technologies for dealing with, say, diarrhea in primary child care, or anesthesia in a district hospital, and then to construct a set of objective tests for measuring a worker's knowledge of these technologies, as shown in Plate 2. Linking evaluation procedures to groups of technologies, rather than to grades of workers, is a new departure in medical

education and a promising one. Needless to say, it is not possible to test every dimension of a worker's ability in regard to a technology. Even so, to measure any of them is useful.

Fifth, a group of technologies must be accompanied by its appropriate management targets. Thus, a district medical officer must have before him a detailed list of what he should try to aim for in implementing the appropriate technologies for primary child care in his district. Again, the detailed compilation of such targets has only just begun.<sup>2-3</sup>

Sixth, the appropriate technologies must be accompanied by the necessary teaching aids. For example, if auxiliaries are to treat dehydration with oral rehydration salts, it is useful for them to be shown slides of the signs of dehydration. Although these signs are much better demonstrated on real children, the realities of many training schools are such that most workers are not going to see such demonstrations. Once more, linking teaching aids to a carefully chosen group of technologies has barely begun.<sup>8</sup>

### *Linking and Grouping Technologies*

Appropriate technologies do not exist in isolation. There are important links between them. They mutually support one another. Ketamine anesthesia, for example, is only useful because it is linked to and makes possible a wide range of appropriate technologies in health center and district hospital surgery. Similarly, the weight chart and oral rehydration salts are both linked to one another and to many of the other technologies in primary child care. It therefore follows that to promote appropriate technologies singly as "ketamine" or the "weight chart" or "oral rehydration salts" is to waste opportunity and labor. The unit for promoting appropriate technology is not the individual technology, but a group or cluster of technologies for such substantial fields as primary child care, primary mother care, health center surgery, or district hospital surgery. Expressed in another way, a cluster of technologies is only a statement of appropriate best practice.

Not only does one technology support another, but the various different ways of promoting the same technology support one another. For example, the description of how to use a pressure cooker should

be supported by a little elementary theory about how pressure cookers work, by listing pressure cookers in an equipment catalogue, by some multiple-choice questions testing what workers know about a pressure cooker, by some mention of them as a management target, and by slides illustrating the use and misuse of pressure cookers. Unless a technology is expressed, where appropriate, in all these ways, everything that could be done to promote its adoption has not been done.

Plate 2 illustrates the synergistic effect between the different ways in which a technology can be expressed. The interaction between the worker's manual for primary child care<sup>2</sup> and the multiple-choice questions included in the manager's guide<sup>3</sup> is an example of this effect. It was said in one school that nobody looked at the manual (then in poor early draft) until the multiple-choice questions arrived.

### *Defining and Measuring Quality of Care*

At the present time, the emphasis is rightly that everyone should have access to at least some health care. But the need to measure and increase the quality of that care is already being felt.<sup>9</sup> Whatever the theoretical arguments about the values and assumptions underlying evaluation, the ultimate test is practicality. What is it practical to measure under the difficult conditions of a developing country's health service? When the test of practicality is applied, the result is an extensive battery of evaluation instruments, measuring parameters which have some relation to quality of care. They include measures of outcome, process, knowledge, skill, attitude, and even the presence or absence of essential equipment. All these evaluation instruments measure aspects of particular technologies. Most of them also require that what should be done, or known, or happen should be carefully specified first as a realistically attainable "reference standard." Although this is impractical for individual technologies, it is readily possible for systems of technologies. Such a battery of evaluation instruments and suggested management targets has recently been assembled for primary child care.<sup>2-3</sup> Another is now being attempted for district hospital surgery.

The ideas behind defining and measuring quality of care are difficult ones to communicate to health workers. Plate 3 shows

an attempt to do this. A simple shape, such as a circle, is defined by one variable, an ellipse by two, but something so complex as primary child care can only be defined by many variables. Even when all the points in Figure C in this plate are known, the line between them still has to be interpolated.

*Der Teufel Sitzt in Detail\**

It is a formidable task to plan these detailed systems of technologies for primary care, or 'microplans' as they have been called.<sup>10</sup> WHO could do it by mobilizing the necessary talent globally; unfortunately, a Ministry of Health in a developing country cannot. At least 25,000 hours of studious labor are required to systematize the details of primary care down to such minutiae as the dose of lignocaine for axillary block, or the correct ISO fitting to specify when ordering an Ambu E valve. Yet, this detail is required, and the failure of health services to organize it is a significant reason for avoidably low standards of care. Most of primary care might be covered by a series of interfacing microplans, as shown in Plate 4. WHO is, theoretically at least, in an excellent position to do this microplanning on behalf of its member states. Fortunately, two recent developments in the technology of information handling and communication have made the task easier.

Recent advances in printing have now made it possible for a writer to prepare his manuscript so that it can be typed on a word processor in a way that enables a magnetic record of the script to be used for direct phototyping. All written materials can thus be held in a form in which they can be adapted, updated, and phototyped easily and cheaply. Once set, they can be printed, lithographically, anywhere. WHO's system of district hospital surgery is being produced in this way.<sup>4</sup>

Subtle, but nonetheless highly significant, advances in applied linguistics have now made it possible to describe and translate medicine more effectively. It is now possible to write in a language style which is easily understood by those whose knowledge of English is limited, easily understood by readers with little basic education,

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\* "The devil is in the detail," an old German proverb.

and, most importantly, easily translated into a simple version of a foreign language. It is these advances which have made *Primary Child Care*<sup>2-3</sup> understandable to community health workers and required reading for postgraduates. They have also been responsible for making translation one of the key tasks in the global program for primary care.

WHO, assisted by the bilateral agencies, has the power to define the essential technologies for PHC, to systematize them anonymously, and to encourage its member states to make sure they are available in the languages of all the world's health workers. This would encourage Ministries of Health to grapple with the detailed technicalities which too many of them presently avoid. It would improve the largely deplorable present standards of primary care and go far toward making them measurable. It would do much to link educational programs to service needs. It would increase the status of WHO and promote the demystification of medicine. What it would do for the sick of the world is almost unimaginable.

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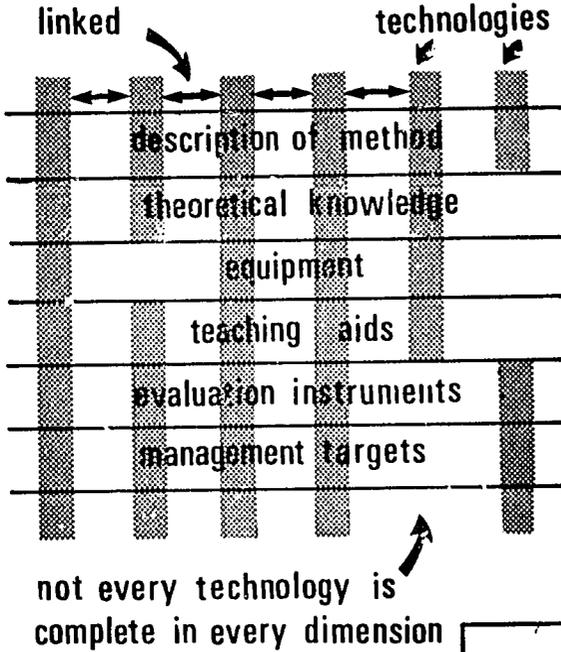


PLATE 1: THE DIMENSIONS IN WHICH A TECHNOLOGY CAN BE EXPRESSED

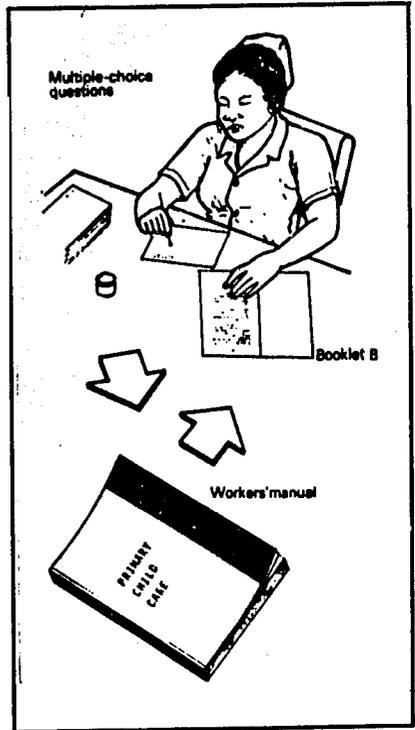
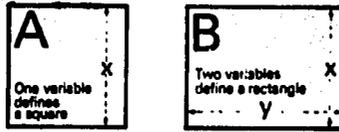


PLATE 2: INTERACTION BETWEEN MULTIPLE CHOICE QUESTIONS AND THE MANUAL



MANY VARIABLES DETERMINE QUALITY OF CARE

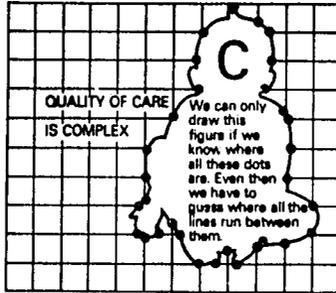


PLATE 3: A DIAGRAM TO HELP EXPLAIN SOME CONCEPTS OF MEASURING THE QUALITY OF CARE.

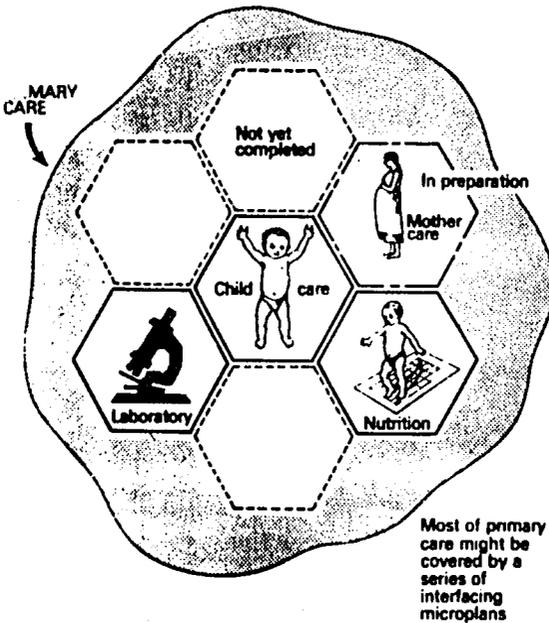


PLATE 4: SOME MICROPLANS FOR PRIMARY CARE.

## DISCUSSION SUMMARY

THERE WAS GREAT INTEREST in Dr. King's paper. It was pointed out, however, that he might be overemphasizing technology, and that the social processes that determine the recruitment, motivation, and support of health workers are much more important. He agreed with this, but considered that the two emphases were completely complementary. It was also observed that auxiliaries had often been well taught without the various components that had been described. Dr. King agreed to this also, but pointed out that his aim was to influence many workers, managers, and teachers, whom he could never meet personally, and who had no means of knowing what they might do or what targets they might reach.

Someone asked why the system of primary child care contained so many details and did not confine itself to guidelines? The answer was that good clinical medicine, even in primary care, depends on the successful application of many minute details which need to be described somewhere. Where details are missing, they are invented, and many primary health workers have insufficient basic education to do this reliably. Guidelines too often disguise an inability to fill in the details.

It was also thought that to provide such a detailed system would deny managers the valuable learning experience of thinking through the process themselves. Dr. King replied that the targets put forward were only suggestions, and that managers should be encouraged to make their own targets and instruments. Also, when managers and workers sit round a table to define their targets, they inevitably have to think them through for themselves.

Dr. King was asked what he thought might be the criticisms of his approach. He answered that some might say that the pattern of primary care defined in the manual he and his co-workers had written was too good to be practical, that the manual was too long, and that it contained too many of the less common diseases. However, there are places where care of this quality is given by auxiliaries. The purpose of the manual is less that workers should know it than that they should know how to use it. In aggregate, the rarer diseases

are comparatively common, and it is most important that the worker should be able to give a useful opinion on as many as possible of the children he sees. It could certainly be said that there is too much emphasis on multiple-choice questions, which occupy considerable space. However, one of the advantages of providing so many is that even a single copy of the manager's guide can be broken up to provide enough questions to distribute round a class.

How original did Dr. King think his work was? He answered that systems of the kind he described have not been put together before. Their value would be measured by how well they worked in practice, and this had yet to be determined.

Why did he place such emphasis on translation and adaptation, rather than on the creation of new microplans? To save time was his reply. Also, it is pointless to recreate what already exists and what is anyway public property. Besides, there is a great shortage of the necessary planning skills in the maternal and child health (MCH) departments of most Ministries of Health. In some languages the expression of the essential concepts of primary care is so difficult that translation must be considered one of the frontiers of medicine. In due course, however, these systems would inevitably be produced locally.

Someone suggested that teachers should do their own task analyses and write their own manuals. Dr. King said that this was exactly what he was trying to avoid, since teachers have neither the time, the skills, nor the facilities. Systems like the one he had described should be produced centrally so that teachers could be spared most of the burden of producing their own teaching materials.

If systems of the kind he described were as useful as they seemed, they should surely be monitored, developed, and promoted. What steps were being taken to see this was done? He replied that no steps were being taken, and he was looking for anyone or any agency that was interested in continuing where he had been obliged to stop.

# *Mobilization of Health Manpower to Meet Health Needs: Lessons Learned from the Smallpox Eradication Program*

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ON OCTOBER 26, 1977, over 18 months ago, the last known naturally occurring case of smallpox was diagnosed. Since then, thousands of health workers in the recently endemic countries have searched from village to village and house to house in an effort to detect other cases. A reward of US \$1,000 has been offered to anyone reporting a case. Tens of thousands of persons who were ill with skin rashes have been screened. Thousands of specimens have been examined in World Health Organization (WHO) laboratories. None has been smallpox. However, as you know, two further cases of smallpox occurred in August of last year, in Birmingham, England, as a result of an accident in a laboratory. The accident, although tragic, dramatized the potential risk of spread as a result of laboratory infection. It emphasized the need to reduce the number of laboratories retaining smallpox virus and to ensure that each provides maximum safety measures. Today, smallpox virus is retained by only seven laboratories and only one is conducting research. By the end of the year, the number of laboratories retaining smallpox virus should be reduced to four. In October of this year, international commissions to certify smallpox eradication will be visiting the last endemic countries in the horn of Africa. Based on reports of work already documented, it is fully expected that it will be possible to certify, on October 26 of this year, that these countries are smallpox-free and that global smallpox eradication has been achieved—the first disease ever to have been eradicated.

Are there lessons to be learned from this program which may be applicable to others? It is surprising to me today to find individuals who insist that the smallpox eradication program provides little or nothing of value to other programs. They argue that the program was a vertical one of a unique type, rigidly controlled by WHO Headquarters staff in Geneva, that it was heavily financed, and that it relied on an army of single purpose health workers. In brief, they question how the program could possibly have failed or what possible relevance it could have to primary health care provided by basic health workers. It is important, I believe, to examine these beliefs in the context of the history of the program and its development and in the context of what is meant by primary health care.

Global smallpox eradication—what might now seem to have been so simple and so certain—was regarded as anything but that in 1966, when the program was adopted by the World Health Assembly. At that time, there was probably not more than a handful who believed it to be a realistic goal. The Director-General of WHO himself, both privately and publicly, stated repeatedly that smallpox eradication was impossible. Only one of WHO's Regional Directors supported the program at that time. The scientific community, i.e. the public health community, was no less persuaded or committed. To illustrate WHO's attitude, those of us in the Smallpox Eradication Unit were explicitly instructed never to refer publicly to the 10-year time target which the Assembly had suggested, since it was believed that this target would ultimately and inevitably prove embarrassing to WHO and its member countries. Indeed, that 10-year time target was missed—but by less than 10 months.

There are few, even today, who appreciate how little financial support the smallpox program was given. The regular budget of WHO provided US \$2.5 million. If you divide that by 50, the number of countries in which programs had to be conducted, you will realize that this amounts to only US\$50,000 per country. We actively solicited donations and many eventually were received. They were extremely difficult to obtain. How much international assistance was provided? Including the amount from WHO's regular budget, from bilateral contributions, from contributions of money and vaccine to WHO, the total amount of international support of all types av-

eraged just over US \$8.0 million per year. It was pathetically little—less than half of what was being spent, for example, in one year in Ethiopia for malaria eradication alone. With so little money available, there was no choice but to depend heavily on developing full participation of those in the existing health services. I am amused when I am asked, as I frequently am, what the hundreds of thousands of smallpox workers will do when smallpox is eradicated. The armies of smallpox workers never existed. Staff exclusively devoted to smallpox were, at most, a few thousand persons. Yet, so far as we could tell, the smallpox program did not displace other health activities. Surprisingly, we found in country after country substantial numbers of reasonably well-trained people on government payrolls, ostensibly doing one task or another, but who, in fact, were without real supervision or direction, with minimal or no drugs, vaccines, or equipment, who were disinterested and disillusioned. I would say candidly that it was exceptional to find health staff performing at more than 5 to 10% of capacity. Thus, lack of manpower was rarely a problem and I suspect the situation is similar today.

Now, we are concerned with the development of preventive and curative programs for which funds are limited and which must depend on better utilization of those in the existing health services and of village volunteers. This is precisely the problem we faced in the smallpox eradication program. Let me then reflect with you on the principles which, in retrospect, I feel were essential to the successful culmination of the smallpox program. You may judge whether they are applicable to programs of primary health care.

I believe that the single most important factor in the success of any program is to obtain the most competent, imaginative leadership possible at every level and to support and encourage those concerned. I know this was true in smallpox eradication. It was no less true at the Center for Disease Control (CDC) where I had worked before, and it holds true at Johns Hopkins where I work now. It seems perfectly obvious. But how much time do directors of health services or program directors spend in identifying, recruiting, and supporting the best possible people that can be found to undertake a given task? How much time is spent working with those who have been recruited to help them do the best possible job of which they are capable?

How often do we transfer, fire, or otherwise displace those who are unable to do the job they are supposed to do? To all three questions I can answer that, in most programs, very little time is devoted to this task. If one has competent people who are encouraged to be imaginative and to take leadership roles, one can have an excellent program, even though funds are limited and planning is mediocre. But with a superbly planned and well-financed program, mediocre personnel produce a mediocre program and they will never do better than this.

In the smallpox program, we worked hard to identify and recruit the best possible people both for WHO and in the countries concerned. We prized intelligence, motivation, and vigor far more than we did experience. A retiring director of health services in a target country was more often than not a liability. He was frequently fixed in his ways, often reluctant to go into the field to try to better understand the problems and the needs, and rarely willing to work the necessary long hours to set a program in motion and to keep it going. Younger people generally proved more innovative, ready to try new approaches, and more willing to travel frequently into the field to talk with workers at all levels to determine what really was being achieved and to learn from others how the job could be done better.

Leadership in the health field is like leadership in an army. It cannot be exercised from behind a desk. We insisted that all of our WHO smallpox staff spend at least one-third of the time in the field. With WHO staff traveling frequently in the field, national staff usually did so, too. I myself spent from 50 to 75% of my time outside of Geneva. From country program directors, from field supervisors, and from local health workers we learned better ways to conduct the program. We developed principles and broad guidelines and then encouraged national program leaders to adapt and to innovate. We encouraged leadership. I'm proud to say that no two national smallpox programs were identical. In fact, many programs changed so much from year to year that a person returning after a year's absence often required reorientation. Ideas in regard to better ways to achieve our objectives came from persons at all levels. In fact, I can identify only one innovative idea which originated in Geneva.

To those who assert that smallpox eradication succeeded because it was rigidly directed from Geneva, I would counter by saying that it was as successful as it was because it was *not* rigidly directed from Geneva. Our objective was to foster leadership, and leaders emerged. The malaria eradication program is a lesson in contrast. Those responsible for malaria eradication developed extensive, detailed manuals which described exactly what each person should do at each level, precisely what forms should be completed, what maps should be prepared and hung on the wall at district and national levels, etc. The methods were rigid and expected to be applied in the same manner for every area in every country. Is it surprising that malaria leadership progressively withered, that competent, imaginative people left the program to those willing to do exactly what the manual called for? Different programs and different problems called for different solutions, but those who thought they knew better approaches were rarely permitted to try them. What was written in the manuals was actually referred to as "dogma," and all were expected to follow it to the letter.

I believe that a second principle of critical importance to the smallpox program was the insistence that every program have a method for assessment and evaluation and that the data obtained be used in guiding the execution of the program. Again, the methods differed from country to country but the principles were the same. Our ultimate goal was to reach "O" cases of smallpox. To determine our degree of success in progressing toward that goal, we needed to develop a reporting network to measure the number of cases which were occurring. Data regarding the cases needed to be carefully studied and analyzed to determine where and why cases were occurring. Each case of smallpox had to be regarded as a failure. By determining among which groups cases were occurring, better methods for vaccination and containment could be developed.

To obtain reports of cases, we needed the cooperation of health staff at every level. Again and again we learned that an order signed by the minister or director of health services demanding that all health staff report cases of smallpox accomplished nothing. In most countries, health personnel are accustomed to receiving hundreds of orders, instructions, and requests. Rarely does anyone check to see if they

are being followed. What proved most effective in a number of smallpox programs was to constitute a surveillance team of two to four persons to visit each health center, hospital, and dispensary on a regular basis. The team would explain the nature of the program and what was expected of the health staff, and would request them to send a report each week on the number of cases detected. They distributed vaccine and instructed health staff in proper techniques for vaccinating and preserving the vaccine. Each team was responsible for visiting all such health units in a population of between two and five million persons. Only after repeated visits did the teams achieve reasonable levels of cooperation. When cases of smallpox were reported, health staff went with the teams to investigate the reported cases, to discover additional cases and outbreaks, and to vaccinate the villagers. In this manner, they received training while working. A surprising number became highly motivated and began on their own to undertake special programs of case-finding and vaccination.

To sustain the interest of all the staff, we felt it was important to keep them informed about progress and to convey to them new techniques and approaches which others were using. Monthly, bi-weekly, sometimes weekly reports were regularly distributed—surveillance reports which described what was happening. Perhaps, this approach would seem to be an obvious one but, in fact, before 1967, no one expressed the least interest in reporting the number of cases which were occurring. Attention was focused entirely on the numbers of vaccinations performed. Through surveillance we learned, for example, that few people who had ever been vaccinated, i.e. had a vaccination scar, got smallpox. The vaccine protected for a far longer time than anybody imagined. Accordingly, it was possible to shift our emphasis from vaccinating everyone to an approach which emphasized primary vaccination.

Our principal form of assessment was directed toward ascertaining how well we were doing in reaching our primary objective—"O" cases of smallpox. What we termed secondary assessment was also employed. In the countries conducting systematic vaccination programs, assessment teams visited between 5 and 15% of all villages which had been vaccinated to verify the results reported. In many areas, a practical objective was established that, after a team had

visited, 80% of those under five years of age should have a vaccination scar on their arms. We had learned by experience that if 80% of those under five years had a vaccination scar, an even higher proportion of older persons would have vaccination scars. Evaluating only those under five years of age was easier because they were most likely to be at home and thus were most accessible. In many countries, the idea of assessment was not easily accepted. For example, to assign two capable supervisors with a vehicle simply to check how others were doing seemed a waste of manpower and money. The effect of the continuing assessment, however, was striking. The performance of field-workers was always far better when they knew that someone was checking their work. The idea that someone cared enough to check their work was in many areas an entirely new concept. I remember well in one country that vaccination coverage, when assessment first began, was about 50%. Within two months after an assessment team began work, it approached 90%. On several occasions, assessment teams found no vaccination takes and on investigation discovered that the vaccine was not potent. Corrective measures were promptly taken. In contrast, I could describe costly national measles vaccination programs in two African countries in which no assessment was performed. Major measles epidemics occurred within a year after the program concluded. Investigation revealed that little if any of the vaccine was potent. Continuing evaluation of every program is mandatory, and this information must be continually monitored and employed in providing guidance and new direction to the program's operations.

I believe that a third key principle—and one as apparently obvious as the others—is that the responsibilities of village workers in particular need to be clearly defined and that each worker must clearly understand what he is expected to do. In every program, this was the lesson which was most difficult to understand and to implement. Let me illustrate by describing some mistakes which we made. In the early stages of the program, when cases of smallpox were discovered in a village, a containment team was given the responsibility of going to the village and vaccinating its people. This would seem perfectly straightforward. In practice, the workers would arrive about 9:00 in the morning, vaccinate from house to house and in the market,

and return home about 4:00 or 5:00 in the afternoon. They would report that they had vaccinated everyone. And, indeed, it was usual to find that they had vaccinated everyone who was in the village at that time. However, many villagers were in the field, some of the children were at school, and others were at markets in other towns. During the following weeks, when active cases were still present in the village, people from other villages would visit and become infected. In consequence, outbreaks continued for weeks and months. A more detailed plan—more specific instructions—was obviously necessary. These plans gradually evolved and differed from area to area.

A typical plan called for the team leader first to sit down with the village leaders to explain what they proposed to do and to request that the village leaders accompany the team from house to house. At each house, a number was painted on the door for identification and a list was made of all residents. When this task was completed, vaccination was begun. Frequently, village volunteers were trained to vaccinate and to serve as guards at infected houses. The team was instructed to stay overnight in the village, so that those who were at the market or in the field during the day could be reached. They were told that they should move each day from house to house to inquire if there were visitors. If there were, they were to list them in the book and vaccinate them. With detailed, specific instructions such as these and an assessment team to ensure that they were carefully followed, outbreaks stopped promptly. I could provide other illustrations at each administrative level in which the productivity and efficiency rapidly and dramatically improved when each individual knew what his or her responsibilities were and knew that someone really cared whether or not he or she was performing them.

The indicator I use to determine whether a program is well enough defined for it to be carried out is quite simply whether I, as a supervisor, can explain to a village worker what he or she is supposed to do upon arriving in the village. If, as in so many programs I have seen, all I can say is “give health education,” “improve sanitation,” “give nutrition advice”—then I know that neither the worker nor the program will achieve anything. To convey this kind of direction requires continuing analysis of what is being achieved, continuing education

of each worker at each level to be certain he or she understands what to do, and continuing discussion with the workers themselves to help them overcome obstacles *and* to learn from them better ways to achieve the program's objectives. And this, in smallpox eradication, was a never-ending task.

To reiterate, the three principles which I believe constituted the foundation of the smallpox program's success are (a) leadership; (b) assessment, evaluation, and surveillance; and (c) clear definition of responsibilities and tasks.

Does this apply to primary health care? The answer is absolutely. Mottoes such as "Health for all by the year 2000" and definitions of primary health care such as stated in Alma-Ata represent slogans and philosophy. To undertake programs, one needs more than slogans and philosophy. One must define what it is that is to be achieved, how one is to measure one's progress in achieving it, and how to provide the leadership to do it.

I would venture to say that there is today in virtually every country sufficient manpower to permit dramatic progress to be made and that the limiting factor is not money but sensible plans and intelligent management.

## DISCUSSION SUMMARY

DEAN HENDERSON was asked how he could be so sure that eradication had taken place in a country. He said this depended absolutely on its particular epidemiology and man-to-man transmission. For smallpox to be transmitted over a six-month period at least 12 cases had to occur. The longest time during which transmission had occurred unknowingly was eight months. The offer of US \$ 1,000 as a reward for every correctly diagnosed case had helped greatly to encourage thorough reporting. It has been postulated that the virus might survive for a long period in scabs in such places as cracks in the floor. Fortunately, this has not proved to be so, nor is there any mammalian reservoir. All outbreaks, so far, have been traceable to a case or, on a few unfortunate occasions, to escape of the virus from a laboratory. International commissions are appointed which visit a country, go anywhere they wish, and talk to anybody during a period of several weeks in order to assure themselves that smallpox is no longer being transmitted.

What other diseases might be eradicated? Unfortunately, smallpox appears to be the only eradicable disease. Each disease behaves in a different way and must be tackled in a different way. All we can do with other diseases is to control them. For this we need measurements. Too little measuring is done, particularly in such fields as nutrition. Paradoxically, lack of manpower is not the problem. Often, there is an excess of health staff, many of whom are dedicated and only waiting to be shown what to do. There was a smallpox team in Afghanistan which walked for a week through snow a meter deep and took two months to return to base. But in the end they eradicated smallpox from those villages. The lack is not of health workers, but of health leaders.

The eradication of smallpox was the simplest possible thing that could be done in the field of public health. The expanded program of immunization and the six diseases it endeavors to control is the next most complex task. It can be seen as a step toward PHC, which is a much more complex program. For example, smallpox eradica-

tion needed only one supply item—smallpox vaccine. Primary health care needs at least 50 supply items.

There was some discussion about how far the global primary care program could be planned centrally. It was noted that there is a school of thought which says that PHC, since it must grow out of community involvement, cannot be planned centrally after the manner of the smallpox program, even if it is admitted that the critical parts of this program were planned centrally. Unfortunately, neither WHO nor anyone else has the means to enable a government to achieve widespread community involvement other than by major political changes.

The smallpox program depended on measurable, attainable, and reasonable objectives. It did not depend, as has been stated, on a large expatriate team. At the height of the campaign in India, there were only 60 expatriates—or one for every 10 million people. One of the features of the smallpox program was its flexibility. The program was never the same in two countries, nor was it the same from year to year. This will certainly have to be true for the PHC program.

Someone asked how serious smallpox had been. In 1967, the year before eradication began, 131,000 cases of smallpox were reported world-wide. However, in Nigeria and Indonesia, a comparison of reported figures with those derived from facial scar surveys showed that only 1% of cases had been reported. The true global figure for 1967 was probably between 10 and 15 million. Even under the most favorable circumstances, only 30–40% of cases were reported. If the true incidence is to be obtained, special surveys are needed. As in many other diseases, “quick and dirty” surveys are required which will give results in three weeks and which do not have to wait months for computer analysis. Some of these have now been developed by USAID and UNICEF.

# *Transfer of Educational Concepts for Health Manpower Development: The Bahraini Experiment*

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THE PURPOSE OF THIS PRESENTATION is to discuss some of the innovative approaches in educational methodology introduced in the College of Health Sciences in Bahrain, as well as to highlight the difficulties encountered in the process, trusting that the discussion to follow will help us to improve health manpower development schemes in our respective countries.

The College of Health Sciences is a new institution; it was founded in October 1976 by the Ministry of Health of the State of Bahrain. As such, it is a public educational institution, owned, funded, administered, and controlled by the Government. Its primary "raison d'être" is to prepare middle-level health manpower for the rapidly expanding health care delivery network of this island.

Each year, some 200 students are expected to graduate, equipped with the needed and relevant skills, knowledge, and attitudes to work as nurse-midwives; general and practical nurses; pharmacy, laboratory, radiography, and medical equipment maintenance technicians; and public health inspectors. In addition to these eight "formal" training programs, the College conducts programs in continuing education, such as maternal and child health practical nursing, and remedial work, such as English courses for health professionals.

So, in fact, we are very young as an educational institution. We might have decided to function simply as a roof under which separate training programs would coexist. Instead, we chose a different path

and committed ourselves to the harder road of an *integrated, coordinated* educational system, emphasizing the preparation of middle-level professionals with the competence to address Bahrain's health priorities. Our working philosophy throughout this early period has been very much akin to that of Thomas Huxley, who said, "The rung of a ladder was never meant to rest upon, but only to hold a man's foot long enough to enable him to put the other somewhat higher."

However, this very fact of being a new institution provided us with our strength. We were able to try out new ideas, to implement some of the more modern theories of education, to react to challenging concepts, and often to devise our own solutions. We had no traditions to reckon with, we had no precedents to worry about, and certainly no medical school with which to compare ourselves. The College of Health Sciences was therefore the first institution in Bahrain to train members of the health team. This island, unlike many other countries, chose to prepare the base of the health manpower pyramid first, and when that infrastructure had been strengthened, to think seriously about the incountry training of physicians.

From the very beginning, we recognized a number of educational challenges that needed to be addressed. We had first to fulfill the basic mission of the College: ensuring that its programs would be *relevant* to the health needs of the population and that the graduates would be well prepared to meet those needs. This challenge was met by adopting the *systems-analysis approach* in the design of all curricula. Before we admitted the first student, the curricula of all eight programs were designed using the systematic approach, which stresses competency, relevancy, and continuous evaluation of the student, to ensure that in fact the educational objectives have been met. In this methodology, as you well know, the professional responsibilities expected of the health worker, after graduation, are translated into specific, terminal, observable educational objectives. These are, in turn, analyzed into their respective components of skills, knowledge, and attitudes required for the satisfactory performance of that responsibility. Thus, the system of continuous evaluation ensures the relevance of our educational programs and the competence of our graduates.

But how could we determine the needs of this country? Fortunately, this has not been a real problem in Bahrain. The College, as has been mentioned above, is part and parcel of the Ministry of Health. College officials are actively involved in health manpower planning and in the design of the health care delivery system for the island. Furthermore, these plans are continuously challenged, revised, and updated. The health services manpower development (HSMD) concept advocated recently by the World Health Organization has been in practice here for the past decade. Thus, the "service versus education" issue, raised frequently in the literature, does not apply here. Professional standards and the requirements of external accrediting bodies, as important as they are or can be, are used only as guidelines and possibly as targets toward which to aim, but only as they fit within the primary goal, namely that of relevance to the needs of the graduate.

The systematic curriculum design methodology, when properly utilized, ensures the development of *effective* educational programs, in the sense that the graduate is competent in his or her field. However, the efficiency of the instructional process also has to be considered, particularly in Third World countries; it is of no use, in our minds, to develop a model that is too esoteric to adopt or too expensive to follow. How did we address this issue? The health care system on this island has developed and expanded dramatically in the past decade. To train a few technicians per year, or fewer nurses, was no longer acceptable. Therefore, the concept of running separate training programs, with little or no coordination and no pooling of resources, was just an invitation to duplication, wastage of teaching manpower, and plain inefficiency.

With this primary consideration in the forefront, we initiated at the College what has come to be termed the Common Core Curriculum (Plate 1). As the name implies, this curriculum includes educational contents common to, and required by, all the different training programs. The rationale that underlines that first phase of every program is that there exists a common denominator among entering students (all start with the Secondary School Leaving Certificate) and a common platform of basic instruction required by different members of the health team. We believe that this concept

of the Common Core Curriculum has been a successful and innovative approach for the following reasons.

1. Conceptually, all members of the health team are trained together, side by side, in the same institution, by the same teachers, with the same educational materials. Since all entering students begin at the same level of instruction, they learn from one another, interact together, and start adapting professionally.
2. The "undifferentiated" student has a unique opportunity during this common phase to test his initial career choice of a specialty in the health field. Recent data point out that, after the Common Core Curriculum, only 42% of the students select the same specialty they have initially chosen.
3. Administratively, this common phase saves considerably on scarce faculty resources, particularly in Bahrain, where many of the teaching staff are expatriates.
4. It also provides for the overall academic integration of the training programs in an institution that has already been integrated administratively.
5. Finally, but also most importantly, this phase of the curriculum bridges imperceptibly the gap between a secondary school pupil and a college student. Remarkable behavioral changes take place in this first seven-month period, leading to a more mature and increasingly self-reliant student.

Multi-professional instruction has met varying degrees of success elsewhere. The University of Jordan, for example, had a similar experiment with medical and nursing students, but it was later dropped, apparently because the aptitudes of both categories of students were not similar and possibly because of prior career and speciality determination, leading to some class distinction.

In Bahrain, the Common Core Curriculum has significantly increased the efficiency of the education process; however, it stresses primarily a faculty-oriented efficiency. Let us now focus on the student-oriented efficiency. Although the systems approach to curriculum design ensures a measures of relevancy and competency as terminal educational objectives, the actual process leading toward those student-oriented competencies has remained somewhat vague,

elusive, and at best variable. Commonly, decisions about how this curriculum would be taught were left to instructors or became a matter of collective staff opinion. In such cases, the past experiences of the teachers and the examples of programs elsewhere were the determining factors.

In order to increase student-oriented efficiency, we adopted what has come to be termed the *modular approach*. This instructional process has been gaining favor in recent years and promises to solve many of the problems we have experienced. Essentially, as you well know, a module is a unit of individualized, self-contained instruction having one or more specific educational objectives. It highlights what the student is expected to know by the end of the module, how he is going to acquire the necessary skills, and how he is going to be assessed, in order to ensure the acquisition of those competencies. Conceptually, therefore, the curriculum becomes a collection of self-contained building blocks converging to form well-defined responsibilities. How can this approach be helpful to us?

1. The primary advantage of the modular approach is the *flexibility* it provides the educational system. The usual mix of students in any institution may be grouped into three categories: the high scorers, the average scorers, and the low scorers. Whereas the instructional process usually focuses on the average student, as it should, the modules allow the low scorer to complete the curriculum by instituting remedial courses and/or by taking longer to graduate. It also opens up the sphere of self-tutoring and self-instruction through the use of appropriate technologies. The high scorer, on the other hand, goes on to acquire additional enrichment competencies. Certainly, the very weak student will not make it. This is indeed inevitable, but the low scorers are given a chance. This approach has contributed to the marked decrease in the dropout rate from 35% to barely 8%.
2. In the modular approach, additional instructional units become common to more than one specialty, thus contributing to integration within the health professions.
3. The continuing education of former graduates becomes much easier and directly related to the needs of their profession.

4. Within its increasing responsibilities to serve the region, the College discovered in the modular approach a practical system for coordination with other regional educational institutions; thus, students from other states in the Gulf could be enrolled at various levels, depending on their achievement in the pre- and post-tests and the characteristics of each module.
5. The most important gain has been in clarifying the educational career ladder and in devising a coherent basis for the evaluation of the students. The College of Health Sciences is firmly committed to the development of an academic career ladder, essentially for its own graduates, but also for other health professionals interested in promoting their own development through continuing education. The name of our institution, the College of Health Sciences and the Kanno Center for Continuing Education, although quite long, has not been coined by accident. It was an expression of our firm belief in this important aspect of the educational system that is being developed and applied in this country.

Bahrain, like many other developing countries, has to capitalize on its own resources. Any assistance by an expatriate group or institution has to be temporary and transient. In the long run, a country can only develop and progress through its own resources. The sources and types of manpower available, however, at any one point in time, are by necessity dynamic and ever-changing and depend to a large extent on the general level of development, particularly in the educational sector. Therefore, while a nation may be willing to make use of sub-optimal categories of manpower at a certain point in its development and self-reliance, provisions must be made, from the very beginning, to allow for an eventual transformation.

Nursing, in this region, is a case in point. In 1959, Bahrain started off by training primary school leavers to become general nurses and moved, in 1969, to intermediate school leavers. By 1972, only secondary school leavers could enter the training program. What then were the chances of career advancement for those who believed early enough in the profession of nursing, but who were now left behind, due to poorer academic qualifications?

The educational system adopted by the College will hopefully provide for this development transition (Plate 2). Steps have been taken, both in Bahrain and in the Gulf Region, to open a new line at the post-intermediate level of education, so that, through a coordinated education program, the trained practical nurse will be able to obtain, in addition, a secondary school leaving certificate allowing its holder to progress to undergraduate studies in the health field. In this manner, some will be able to function only as competent practical nurses, while others, more ambitious and better trained, will have a chance to serve their country at a higher level.

The same situation exists for general nurses (to continue using nursing as one example). The needs of Bahrain, at present, call for competent and well-trained general or diploma nurses. Only a few need to hold higher academic degrees. It is for this reason that the College has tailored its programs toward the Associate Degree in Health Sciences. I can assure you that our task would have been much simpler had we started off with a Bachelor's Degree. However, the urgent needs of the country dictated the academic level required, as well as the desired and expected product. The Associate Degree programs were nevertheless tailored to allow some of the better qualified graduates to continue their education toward higher degrees. It is within that context that the College's association with the American University of Beirut should be seen, in addition to many other corollary advantages.

The main dilemma that we face, at present, in some of our programs revolves around professional education versus technical training. In other words, can professionally trained health workers also be competent technically? Is there a basic inconsistency in these two goals? Personally, I firmly believe that professional education is not only consistent with good training, but, in fact, is also complementary and catalytic. On the other hand, I certainly concede that technical training does not always lead to professional education. Let me elaborate on this point. An educational system designed, built, and developed along the systems-analysis methodology cannot help but produce well-trained health workers. The continuous evaluation of the student, along with the educational process itself,

is designed to assure a specific product, capable of assuming well-defined responsibilities. Professional education provides for this product, but it also prepares the mind and develops the character. The statement of policy of the College of Health Sciences proclaims loud and clear that "the College stresses competency in training, and high principles of character. It aims to graduate citizens, who are not only professionally competent but who also possess a breadth of vision, a developed eager mind, a sense of civic and moral responsibility, and devotion to the fundamental values of human life and to the high standards of the health care profession."

Facts, concepts, and skills are not enough; the educational program should also be oriented to foster the development of appropriate attitudes, values, and problem-solving skills. We must not forget that we are preparing the future fathers and mothers of this society. Let us also be reminded that the respect due a profession results from the performance of its members and their contribution to their nation's culture. Professional education should not be understood, or rather misunderstood, to mean additional degrees; rather, it is a process, a methodology, a transformation of the student.

In our institution, the student is no longer viewed as a passive recipient of information but rather as an active learner. This concept, among many others, has resulted in a move away from the lecture to instructional procedures that require the student to take responsibility for seeking and manipulating information. Increasing use has been made of low-cost self-instructional materials, often prepared by the staff, of problem-solving exercises, of project work, and of small group discussions. Experiential learning, or on-the-job training, has been highlighted in our educational process. Considerable emphasis has been given, in all programs, to placing students in settings which approximate or simulate those of their future practice and hence provide for a more *efficient* learning experience. The use of small groups as a setting for learning has been advocated from the very beginning and has been made possible by a favorable faculty to student ratio. Research studies have shown the benefit of group dynamics in assisting students to learn by interacting not only with their peers, but also with their faculty. The counseling and advisory

system introduced in the College has achieved major strides in getting the student to interact with the staff and consequently to develop the spirit of belonging to the institution.

Now all of this sounds very nice and easy. However, the implementation of any innovative educational approach requires the presence of faculty members capable of introducing change and devising a different learning process. This takes time; there is so much that the system can absorb at one time. Although most of us have been trained in a more traditional learning environment, to a large extent we are still capable of adapting to change. However, the rate of transformation needs to be accelerated, and that has been our mandate. In addition, as I mentioned earlier, Bahrain's need to become self-reliant must be looked upon not only as an expression of a political will, dictated from above, but mainly as an act of faith in the development of local resources to meet local needs.

The College has taken important steps in that direction. First and foremost, it has created the environment conducive to attracting and keeping its staff. A strong and purposeful program of continuing education, conducted both in Bahrain and overseas, has resulted in the development of the faculty along the educational principles in practice at the College. Training Fellowships have been utilized, thanks to the encouragement of the Government and support of the World Health Organization. Several much needed and critical workshops and seminars have been conducted in this very same room. However, the greatest commitment to self-reliance and continuing education is manifest in the newly developed Unit for Educational Development. The philosophy and functions of this unit will be detailed by Dr. Chawhan.

The Teacher Training Program, due to start in September 1979, is primarily geared to prepare the local staff to assume increasing responsibilities in the academic sphere, thus paving the way for self-reliance and the efficient management of the College's resources. The regional role played by the College will be accelerated with this educational unit. Just two days ago, the Committee for Health Manpower Training for the Arab States in the Gulf recommended that the resources of this unit be drawn upon heavily to initiate the

process of change in the region and to prepare the groundwork for a common and unified educational system in the Arab Gulf.

You may wonder, after what has been said, where primary care is in all of this. Given the title of this conference, you may have expected me to focus specific attention on primary care. In fact, we do not have any particular "penchant" or "leaning" toward primary care in Bahrain. Primary care is only one important aspect of *total and integrated health care*. Bahrain has embarked, over the past few years, on a multi-prong approach toward comprehensive care for its people that certainly includes primary care, but is not restricted to it. You have just visited one of the health centers in our network. Tomorrow you will visit the new Medical Center, and you will note the careful integration and the purposeful coordination. The College's mandate is to prepare the needed health manpower for the total health care system in Bahrain. The great emphasis on primary care has come about because many countries focused *only* on sophisticated care, forgetting about the most needed community care. Bahrain has been different, developing a model which many countries may want to follow.

Why is Bahrain different? In the area of health manpower development, the difference may have been due to clear and specific guidelines and to administrative decisions initiated and sponsored by H.E. the Minister of Health, all pointing to what may be called the *management of change*. This philosophy is contagious and infects any person working in this College; in some respects, it is metastatic. It springs from a deep conviction that we will have to experiment in order to reach the optimal solutions to our social problems. It emanates from a keen desire to improve the quality of life for future generations. It develops out of a genuine commitment to the peoples of the region.

How did the College respond to all this? The organization system adopted by the College focuses on a "matrix" that encourages interaction between the various departments and programs. Regular and active participation by all staff members in standing committees is a daily feature. Faculty participation in planning, information gathering, decision making, implementation, and evaluation has

done a great deal to foster the feeling of belonging and to create an enriching and healthy environment conducive to hard work and creativity.

Each in his or her own way, within the context of his or her own work, has been invited to find ways to encourage innovation and to manage it properly, because the management of change is perhaps the most critical task facing our world today. The shape of the world's population, of our economies, of the social structure, of education—all are in a state of flux of more than considerable pace and magnitude. Our future will depend first, last, and always on innovation, on rearranging the known to create something new.

In 1513, Machiavelli had the following to say, "There is nothing more difficult to carry out nor more doubtful of success, nor more dangerous to handle than to initiate a new order of things, for the reformer has enemies in all who profit by the old order and only lukewarm defenders in all those who would profit by the new order. This lukewarmness arises partly from fear of their adversaries who have the law in their favor and partly from the incredulity of mankind who do not truly believe in anything new until they have had actual experience with it." We must thank our stars and the Almighty that this does not apply in Bahrain.

#### PLATE 1: COMMON CORE CURRICULUM

Orientation	Behavioral Sciences
	Life Sciences
English	English
General Sciences	General Sciences

Duration : 30 Weeks

Advantages : Better Career Choice  
 Trains Health Team Together  
 Integrates College Programs  
 Saves on Faculty Resources

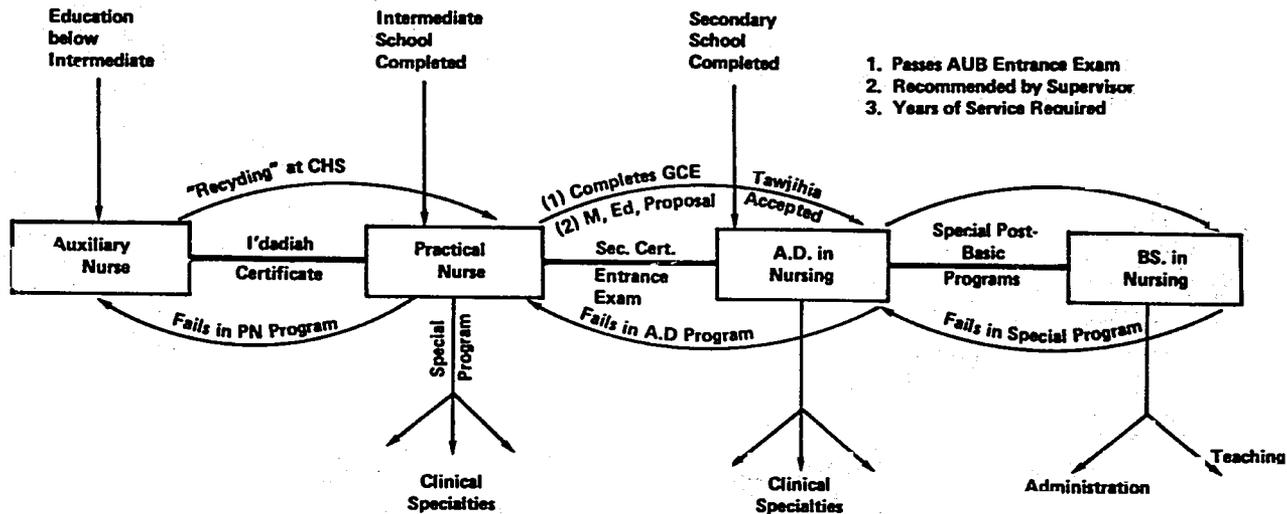


PLATE 2: EDUCATIONAL CAREER LADDER IN NURSING

# *The Unit of Educational Development: Roles and Functions in the College of Health Sciences*

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IT IS A PARTICULAR PRIVILEGE to follow Dr. Nabil Kronfol, who has given us a comprehensive picture of the philosophy, functions, and directions of the College of Health Sciences and has given me the chance to describe the role of the College's educational development unit.

During its developmental stage, the College of Health Sciences became increasingly aware of the need for an ongoing program which would utilize alternative and effective teaching-learning techniques for a rather small student to faculty ratio, make efficient use of the instructional technology, and facilitate the induction of new staff members into the College's programs. There was also a feeling that the staff members, although well qualified in their subject matter, needed assistance and training in program planning, instructional techniques, and evaluation of students to achieve the goals of the College and produce graduates who could deal with problems arising in their jobs.

Among the many different approaches to staff development programs, the most commonly used are the reduction of student to faculty ratios, the purchase of expensive equipment or instructional technology, and recruitment of highly qualified staff with supposedly fresh ideas in the subject areas. Those who are directly involved in higher education have come to view these approaches with considerable skepticism. As a result, the educational development unit (EDU) was created. The EDU by its nature is a support and develop-

ment unit composed of educational methodologists. Its primary function is to assist the faculty in addressing and resolving the educational concerns arising from the day-to-day functioning of the educational programs, in assuring and enhancing their relevance to the needs in health services, and in maintaining the standard of excellence in the student's performance of the job for which he or she is being trained.

The EDU was assigned two distinct functions: a teacher training program to train teachers of health sciences for the Gulf region and faculty development programs and services within the College. The former program is designed on a competency-based curriculum approach and, along with developing expertise in educational planning, instructional methodology, evaluation, and introducing change in the educational program, it also provides opportunities for student teachers to strengthen their own field of specialization. This is also a means to upgrade our junior teachers in content as well as process. The faculty development program is a planned, managed, and systematic process to change the institutional culture, systems, and behavior of an organization in order to improve its effectiveness in solving its problems and achieving its objectives. In this presentation, I want to focus on this second function of EDU.

## **Purpose**

The overall purpose of the faculty development program is to raise the quality and efficiency of the College's programs by assisting faculty members to enhance their effectiveness as teachers. The program functions as a catalyst to stimulate faculty interest in educational issues and to assist in the solution of educational problems. It also identifies and develops resources to help staff widen their understanding of educational issues, to increase their competence in educational designs and implementation, and to broaden their awareness of the options available in solving educational problems.

The unit, after careful analysis of the numerous inherent individual, institutional, and program variables, has developed and is implementing the following strategies for an overall program of faculty development.

## Strategies

The strategies adopted by EDU are based mainly on assumptions about educational change, assumptions about teaching and learning, and assumptions about the concept of and tools for faculty development.

**Training.** This strategy is based mainly on the assumption that change occurs primarily through giving people new skills that can be used in performing specific tasks like teaching, but also in the accomplishment of change itself. It assumes that for any change to be initiated, implemented, and sustained, the individuals involved should have conviction and possess new skills, attitudes, and behavior appropriate to the desired change.

To achieve this, EDU conducts short-term workshops on specific educational topics, which focus on new attitudes about teaching and learning. This is followed by classroom diagnostic services for those who show interest in adopting the newer techniques and addressing the educational issues.

**Consultation.** On the surface it may seem as if the training is on an individual basis, but essentially, after identifying the client as faculty, department, or management, he is assisted in clarifying his own goals and establishing sequences in achieving these goals. After making the initial step, extensive use of information collection, analysis, and feedback is made rather than predetermined solutions forming the bases for training. This is carried out primarily through departmental and individual meetings at this stage.

**Curriculum Coordination.** The College is following a modular approach to curriculum implementation, as described by Dr. Kronfol. This facilitates learning, but at the same time, if educators are not careful, it can lead to fragmented learning and the loss of overall conceptual development, so imperative for any profession. The EDU is continuously putting its efforts into overall coordination of the program and at the same time assisting faculty to increase their effectiveness through the use of alternative desirable approaches.

**Discussion.** This strategy reflects the traditions of academic culture and is readily embraced by and rarely threatening to most faculty

members. The EDU employed this strategy after realizing that faculty members willingly entered into in depth discussions about their teaching, assuming that through these discussions they will gain a new perspective on the teaching profession and more explicitly define their educational philosophy. These discussions may continue over an extended period of time, thereby producing significant and professional change.

**Student Evaluation.** The evaluation, a vital and integral part of any goal-directed teaching-learning situation, is often abused at the hands of the teacher who through mere ignorance uses it as a punitive whip. The word ignorance might seem strong and I apologize, but a closer look at the examination often reveals questions measuring insignificant and isolated pieces of trivia which the student keeps memorizing day and night, wondering how it is going to help him or her professionally.

The EDU adopted student evaluation as a strategy for change and is in the process of establishing an evaluation center. Through the evaluation committee, constant attention is focused on the relevance to the identified competencies and significant outcomes for our graduates. Hopefully, this will result in an ongoing program of discussing relevance in educational programs and will bring about an awareness of the diagnostic role of examinations, whereby students are given a chance to correct their mistakes in performance before graduation, rather than passing certifying examinations without any awareness of specific weakness. I strongly believe that the examination is a powerful teaching tool, yet it is more often used as a weapon.

**Reward System.** Most of the audience here would agree that support for faculty development must ultimately come through a set of planned policies and procedures which reward the improvement of instructional performance. Since it is difficult to measure in tangible terms, the rewards are directed to more tangible criteria like publications, thereby propagating a message that only research work is a worthwhile effort. The faculty development programs then have to resort to more subtle, but often fickle, motivators like student acceptance, institutional recognition, self-esteem, or a sense

of personal achievement. Through EDU the College is attempting to adopt a policy which provides: a) an equitable, objective system of performance evaluation; b) resources for faculty members to improve performance; and c) tangible rewards in terms of salary and promotion for the improvement and/or maintenance of a high level of instructional competency.

The question is often asked, "How do we motivate faculty to improve their teaching?" One answer to this question is a tangible reward system. If faculty are paid to teach better, then they will teach better. However, the institution must provide additional services to help the faculty member improve his teaching performance. Unfortunately, these supportive services are sometimes not available, indicating a simple-minded and mechanistic approach to change.

Like most people, teaching faculty do not enjoy doing an inadequate job in their chosen profession. Once faculty have acquired and begun to use new instructional methods or have improved their skills in using traditional approaches, they begin to experience greater success in the classroom. This experience, in and of itself, often motivates faculty to work even harder on the improvement of their instructional skills.

**Instructional Materials.** This strategy encompasses both training and consultative approaches, for in many instances new instructional materials are part of the process of a specified method or technology. The EDU, however, adopts an eclectic approach to the development of instructional materials, emphasizing a team approach whereby a process expert works with the content expert and together they identify the best material mode, prepare, implement, test, and modify.

The danger, however, is the flash of highly sophisticated technology, which, due to mere lack of expertise in utilization or limited resources to obtain it, results in more frustration. Individual and institutional energies are directed to spend whatever resources they have in acquiring these machines. Once acquired they gather dust. The EDU is focusing on simple, easy to produce and use instructional materials to fully utilize the local resources as its first target and to assist faculty in acquiring commercial materials, through a careful appraisal process, which facilitates the achievement of specified goals.

Initially, many faculty resisted the idea that an educational methodologist who is not trained in their discipline might be helpful. However, this type of service is being used with increasing frequency and success in many educational development centers in this region. Once the program gains credibility, the EDU staff can offer training programs both to acquaint faculty with the diversity of pedagogic tools that are available and to improve the skills of faculty in the design of their own materials.

In summary, EDU through these strategies is working to create an organizational culture, an institutional system, and a conducive atmosphere in which administrative policies can be operationalized by the joint efforts of students, faculty, and administration to achieve the desirable educational ends.

Absence of this participation reminds me of the new twist on the old story of the ant and the grasshopper. In his discontent with his winter scarcity of food, the grasshopper consulted the wise old owl. The owl thought for several weeks and finally said, "I have solved your problem; you must change yourself into an ant." The grasshopper responded, "Fine, how do I do that?" To which the owl, with hauteur, replied, "I only make policy decisions. That is an administrative detail. I am sure you can work it out."

## DISCUSSION SUMMARY

THERE WAS GREAT INTEREST in the College's matrix of programs and departments. Since programs cut across departments, they can be integrated and can be added or deleted without changing the organizational structure of the College. There are program directors as well as departmental directors. Presently, the College has 315 students. It will soon have about 500 students and 60 staff and will maintain that number. It is the first coeducational institution in the Gulf and is playing an increasingly important regional role. At the present time, however, 95% of the students are Bahrainis. Overall, the staff to student ratio is 1:10, with a ratio of about 1:5-7 for "on-the-job" training and 1:16-20 for didactic instruction. All teaching is in English and most courses start with instruction in the English language.

Service staff are used as teachers, and students go to demonstration rooms after periods of theoretical instruction. Nurses, for example, are issued a booklet containing a check list of procedures which they tick off as these are completed.

What were the disadvantages of the modular approach? The reply was that it fragments learning, and that satisfactory modules are difficult to make.

It was observed that many programs for improving teaching stressed the improvement of the process of teaching rather than its content, and that faculty should be given the opportunity to develop the content of their teaching.

# *Educational Technology: Principles and Practices in Medical Education*

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LET ME BEGIN by acknowledging that some of the important concepts of educational planning and their application to problems of training health care personnel as enunciated by my colleagues Drs. Chawhan and Kronfol are relatively recent developments in medical education. It was only 15 years ago that the first formal units of educational research and teacher training were established at three medical schools in the US. One of these units was the Center for Educational Development (CED) at the University of Illinois-Chicago, which is still very active in promoting the systematic application of pedagogy to the process of health manpower development. In my presentation, I will focus on such questions as why there is a need for a pedagogical center in a medical and/or allied health institution and how the field of pedagogy can contribute to the planning and implementation of health manpower development, in particular health manpower with an orientation toward primary care. In addressing these questions, I will draw my illustrations and observations from CED's experiences at the local level, i.e. the University of Illinois College of Medicine, as well as from CED's international project with the World Health Organization (WHO).

Let me turn to the first question. In the US, the medical establishment is beginning to recognize that the gains made in biomedical research have not been adequately utilized in delivering effective health care to its population. Professional government organizations, as well as private sectors, are struggling to find the means of designing systems which can provide adequate care to all sectors of the popula-

tion. Similarly, higher medical educational institutions are being challenged to produce graduates who are trained to function in the context of changing health problems, social needs, and economic issues. The Flexner model of education, used exclusively in the US since 1910, calls for emphasis on biologic research and is coming under increasing scrutiny by medical educators. Medical schools are looking into alternatives to the Flexner model. During the last decade, two alternatives seemed to stand out: *the health care delivery model and the integrated science model*. In the former, the medical school, in addition to training, does research in health care delivery, advises local authorities and health centers, and carries on continuing education for health personnel. In other words, the orientation shifts from inward, narrowly based scientific disciplines to external service while planning undergraduate and graduate curricula. In the latter model, most of the basic science course offerings are integrated with clinical sciences, thus emphasizing the learning of basic science disciplines in the clinical context.

Many American institutions began to experiment with these models, either as separate systems or in combination. Adoption of such alternatives required ravamping existing curricula, learning new methods of teaching, researching new ways of assessing graduates, and exploring innovative educational administrative structures. It is in these areas that medical schools developed familiarity with the profession of education. The major focus for turning toward the discipline of education was to utilize the domain of education in solving instructional problems. Thus, pedagogy was introduced *not* as another course or discipline to be added to the already expanding list of electives in medical school education, but rather in the form of educational research and methods to be applied to problems of curriculum development and organization and the teaching-learning process.

It was purely in this context that CED served as a pedagogical center within the College of Medicine. However, before I highlight some pedagogical developments, let me explain how the College of Medicine came to change its program from the health manpower perspective. The College of Medicine, being a state-supported

institution, was asked to address its program to the health manpower needs of the state in particular. A state-appointed task force made a number of recommendations concerning issues of health care delivery and training of medical graduates. Incidentally, the recommendations and issues raised by the State Task Force were consistent with similar points being raised at the national level. Some of the recommendations in Plate 1 may be familiar to many regions of the world, i.e. problems of distribution, shortage of manpower, and lack of community orientation.

The College took a radical approach in reorganizing and developing educational programs for training medical doctors. The first development was the recognition that the Flexner model of education was not adequate to address the health manpower task force recommendations. Thus, the 2+2 (two years of basic sciences and two years of clinical sciences) model around a single teaching hospital was abandoned. Instead, a decentralized health care-oriented model was adopted with emphasis on integrating basic sciences with clinical sciences. Thus, a decentralized primary care-oriented model with the following educational assumptions was proposed:

1. Curricula must be competency-based.
2. Basic and clinical sciences must be integrated.
3. Learning experiences (clinical) must be extended beyond hospital-based learning.
4. Early clinical experiences must be provided to increase motivation for learning.
5. Student evaluation (certifying) must be conducted through an institutional body rather than by individual department or faculty.

In order to implement this model with these assumptions, an organizationally single medical college was decentralized into six schools—two basic science schools and four clinical schools (Plate 2). The site for medical education was expanded to include communities which represent urban and rural demography. The revised curriculum consists of one year of basic sciences at two sites and three-year clinical schools at three sites. The specific description of each program is beyond the scope of this presentation; therefore, I will only highlight the major results of this reorganization.

A number of benefits have already been noted. The academic institution is beginning to play an active role in the delivery of health service in areas where it was considered inadequate (poor urban and rural areas). The new model of education has opened the door to primary care-oriented practice for graduates. The interest in primary care residencies has increased significantly. The College of Medicine has developed reliable and valid standards for measuring student performance. The community physicians as well as the academic physicians have learned new techniques of teaching which seem to offer very effective and efficient alternatives consistent with the new organization.

Now the major question is what was the role of CED, a pedagogical center, in this process. Let me mention some of the significant contributions.

**Curriculum Development.** The CED staff shared their expertise on curriculum design. Concepts such as the competency-based institution were scrutinized by medical faculty and administration for their feasibility prior to adoption. The most significant contribution was to orient the whole education program toward the concept of professional competence rather than the time-based and/or traditional discipline approach.

**Staff Development.** When the College expanded learning experiences around competencies and beyond the traditional walls of a teaching hospital, it required the training of faculty in areas such as small group instruction, self-study techniques, diagnostic assessment, etc.

**Student Evaluation.** A centralized system of student evaluation was developed to ensure that the quality of the program was maintained with the use of valid and reliable test instruments. The CED staff supported faculty in the development of such a system. Our examination system, in fact, is being followed by other medical schools, and some of the national specialty boards have started to utilize evaluation techniques developed at CED (higher level multiple choice, patient management, etc.).

**Program Evaluation.** The Center conducts institutional studies periodically to provide data for the College Committee and adminis-

tration on its educational program so that academic decisions can be based on data rather than impressions.

**Educational Research.** Physicians are extremely busy with the responsibilities of teaching, medical research, and patient load and have little time to extend their research interest in education. The CED staff assists faculty and administration by undertaking educational research. For example, research on the examination process in health profession and teaching methodology has been conducted over the last 10 years and reported widely in the field of health profession education.

**Development of Materials.** The CED staff has promoted the use of simple audio-visual technology. Many of the medical faculty have produced instructional materials which supplement as well as complement classroom instruction.

**National and International Role.** Beyond the local level, CED offers programs of training for health sciences faculty at national and international levels. For example, CED offers national workshops and special fellowships to health sciences faculty. Recent program offerings include such topics as problem-solving curricula, methods of evaluating students, alternatives to traditional institutions, etc.

The Center has also been very active in Teaching Training Programs with WHO. A Consultation Committee of WHO concluded in 1969 that "the problem of teacher training for the health professions is of such a magnitude and of such central importance to the health of the world community that a systematic, sequential, world wide attack must be launched without delay."

Thus, a global program of teacher training was initiated in 1969 (Plate 3). Basically, it called for establishing training centers in various WHO regions, and CED was selected as the Inter-Regional Teacher Training Center. From 1969 to 1974, CED trained key leaders in health professions from various parts of the world in the scientific process of educational planning, implementation, and evaluation. It was envisioned that such training in the educational process would ultimately influence the educational institutions to make their programs more relevant to the health needs and issues

of health care for the population to be served by the graduates. The CED staff trained directors of six Regional Teacher Training Centers (RTTC).

The WHO Eastern Mediterranean Regional Office located the RTTC in Iran. The RTTC in Iran has been very active regionally up until last year and has helped many medical schools in the Middle East to develop their own resources for undertaking teacher training. Although CED's contract with WHO as an Inter-Regional Center has been concluded, it continues to provide assistance through bilateral arrangements with individual countries.

**Other Educational Units.** Other medical schools have started to utilize educational development centers in a number of ways, varying from an educational center totally integrated into all aspects of educational planning and implementation to a peripheral service-oriented unit which provides assistance in either teacher training or examination service and in the production of audio-visual materials. Totally integrated models have been established in McMaster College (Canada), Maastricht University (Holland), and recently Fassa and Mammosoni Medical Schools (Iran). In this situation, health science faculty have learned the process of education to a point where the educationalist's role has become very limited. In such institutions an education center does not exist in an administrative or supportive sense. The peripheral service-oriented educational unit provides services to medical faculty in various educational areas. However, the role of such a unit is usually very passive and non-catalytic in initiating change. The research-oriented educational unit, such as the ones at Michigan State University and University of California, Los Angeles, employs the strategy of developing awareness and promoting change by providing research data on educational practices.

All these alternatives have application in certain settings, and it cannot be assumed that there is only one way of applying pedagogy to the problems of medical education. What I have attempted in my presentation is to share the ways in which schools preparing health professionals are utilizing the field of education to address the complex problems of training medical graduates.

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- GEOGRAPHIC DISTRIBUTION OF PHYSICIANS FOR SPECIALITY AND POPULATION
  - EXPANSION OF PHYSICIAN MANPOWER
  - ECONOMIC USE OF MEDICAL EQUIPMENT, FACILITIES, AND SERVICES FOR MEDICAL EDUCATION
  - INVOLVEMENT OF COMMUNITY HEALTH MANPOWER IN TRAINING PHYSICIANS AND OTHER HEALTH PERSONNEL

PLATE 1: STATE OF ILLINOIS HEALTH MANPOWER STUDY RECOMMENDATIONS

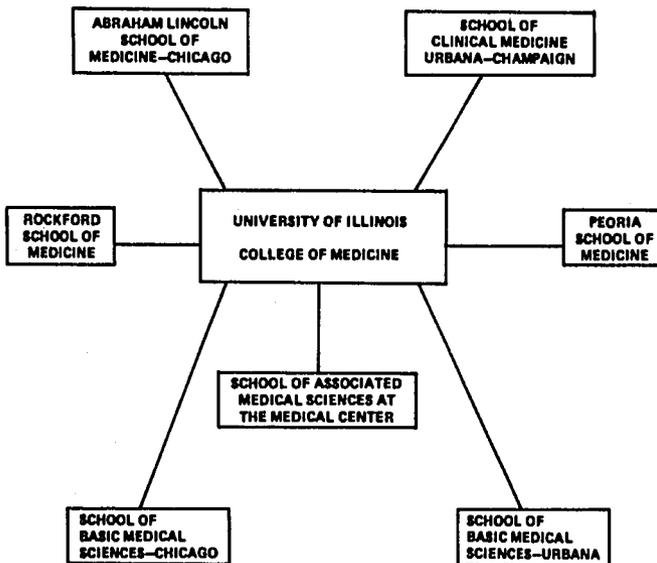


PLATE 2: DECENTRALIZATION OF UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE INTO SIX SCHOOLS

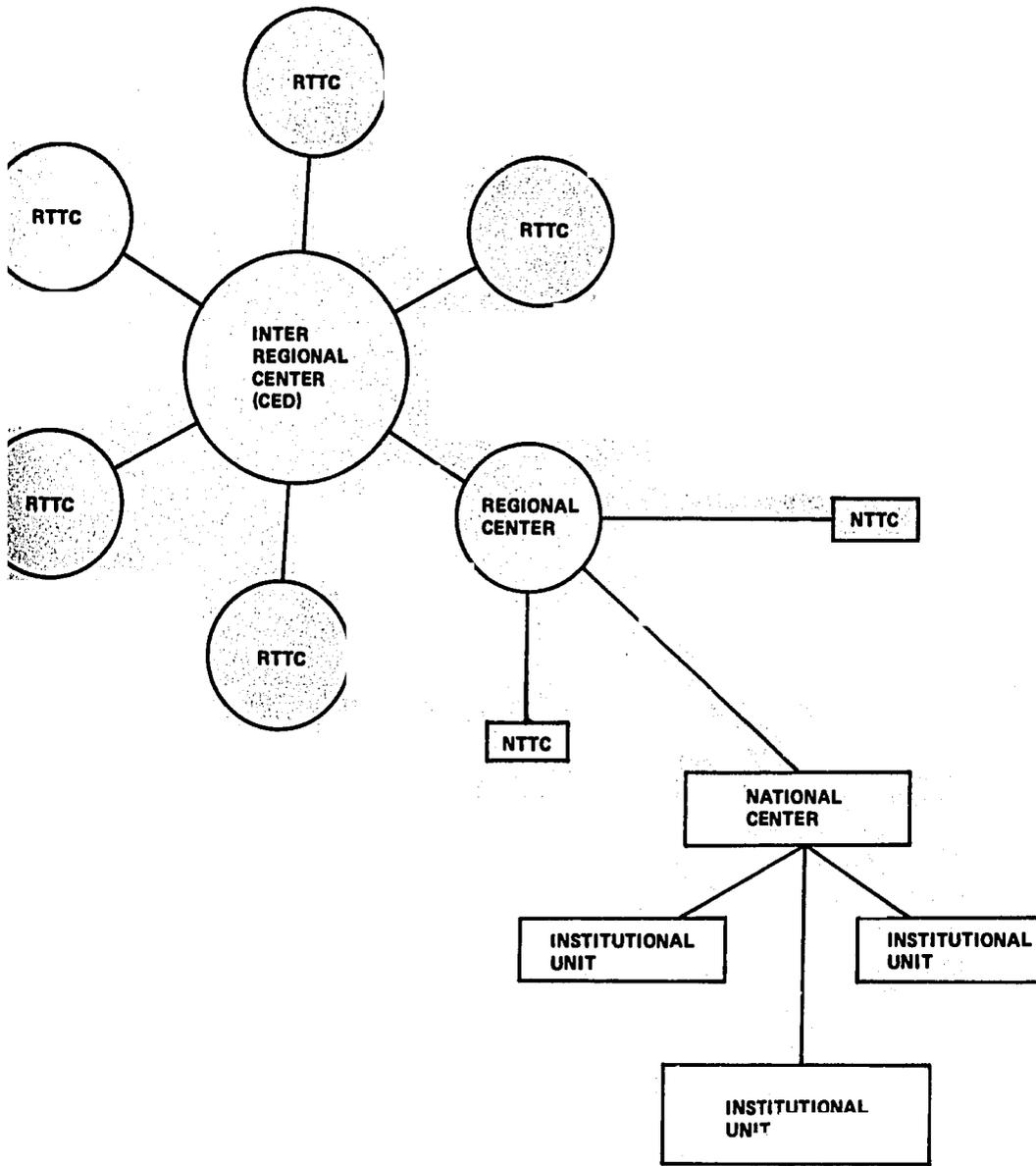


PLATE 3: NETWORK OF TEACHER TRAINING CENTERS

## DISCUSSION SUMMARY

IT WAS POINTED OUT that much had been said about evaluating students, but nothing had been mentioned about how the performance of the institute of medical education itself was evaluated. WHO had asked Illinois to evaluate the impact of its graduates on the schools to which they subsequently returned. One of their shortcomings was that they used educational jargon, but had not improved the content and relevance of their teaching. Community medicine was often tagged onto a program which was then said to be community-based. The residencies in primary care acquainted the students with unfamiliar situations and had proved very popular.

# *Mobilizing the Community for Participation in Primary Health Care*

Joseph Phares

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IN THIS BRIEF PAPER I want to define my understanding of health and community, discuss some points based on my research in this field in Lebanon, analyze the findings and relate them to the mobilization of the community, and deal with community health development as it relates to national policy at large.

Health is a complete state of physical, mental, and social well-being; it is not, in other words, the absence of disease, sickness, or physical illness. Health is a positive rather than a negative matter. It is necessary that health be recognized as a fundamental right of man and a social role that links him to society. To protect one's health must be recognized as a means for the achievement of the community's right to better health standards. This principle, however, can only be obtained if the necessary prerequisites of health standards are accessible, available, and within reach of the bulk of the population. It is worth mentioning here that there is no human community completely lacking in some form of health care, and it is within this framework that we, as agents of change, have to operate. The new must be grafted onto the old if it is to be meaningful.

The human community is a social group bound together by common values and interests; it is a territorial group which cannot be precisely delimited because its boundaries overlap. Concerning health knowledge and practices, it is important to realize that the human community is composed of interacting individuals who are tied to each other economically, politically, socially, and culturally, and that these ties may cut across geographic limits. Communities differ

widely ranging from isolated rural villages to complex urban settlements. In spite of these variations, they share within the same cultural area similar values and symbols with regard to a variety of social themes including health.

Between 1972 and 1975, I carried out research on a variety of health problems and issues in three different Lebanese communities: a village, an urban slum, and a suburban settlement. I must mention that the aim of the research was to assess the development of health problems vis-à-vis the social changes that have taken place in these communities. This assessment was intended to be a preliminary study which would lead to the establishment and development of social and health centers in these three communities.

The village community was composed of people who work in agriculture and who have known one another for generations. They were united by a very strong in feeling reinforced by a high degree of intermarriage. In short, the village community was a homogeneous group subject to more or less a single moral background. By contrast, the urban slum was composed of a heterogeneous group of people who had not known each other before and who had very little in common other than living in physical proximity. In fact, they had originally come from different parts of Lebanon and the Middle East—Kurdistan, Turkey, Syria, Armenia, and Palestine. Most of the inhabitants of the slum were unskilled wage laborers. The suburban settlement, on the other hand, was composed of rural-to-urban migrants who had come from basically one region of Lebanon. Even though they came from different villages, they were affiliated with a single religious community, sharing a common socio-religious background.

In spite of the basic differences in their historical origin, ethnic background, social composition, occupational structure, etc., these three communities reacted to the introduction of an innovation—The Social and Health Center—in almost the same way.

1. They all initially showed suspicion, fear, and reluctance to cooperate.
2. Their cooperation, as a group, depended upon the acceptance of the novelty by at least one individual.

3. The higher the status of the individual who accepted the novelty, the faster the adoption of the novelty by the community.
4. On the contrary, if the initial acceptor was a person of no status or social respect, the adoption of the novelty would be indefinitely delayed.
5. The adoption of the novelty was highly facilitated if the community was already aware of the problem and its potential solutions. Such information might be disseminated through mass media. By the same token, the less informed the community, the more resistant they would be.
6. The community accepted a novelty faster if the program of acceptance actively engaged some of its members. In other words, members of the community must, right from the beginning, be actively involved in the process.

The reaction of the three communities to the introduction of the novelty, irrespective of their differences, demonstrates two points. First, the community must be prepared to accept a novelty before the novelty is actually introduced. This preparation has to be carried out simultaneously in different ways through the mass media, training community personnel in advance, introducing health concepts in schools, and inviting community leaders to talk with the agents of change about community problems and the priorities as seen by the community itself. Preparation along these lines cannot be made without sufficient knowledge of the customs of the community and its general social and political structure. As a matter of fact, knowledge of customs and structure is the preliminary step in community preparation and later on adoption of the novelty.

Second, once a community is prepared to accept a novelty, it does not follow automatically that the novelty will be accepted. It all depends upon the procedure of introduction, and here lies the most delicate part of the process and at the same time the most difficult to describe. Adoption of the novelty depends upon the novelty in question, the introducer of the novelty, and the character of the recipient group. In my work, I have learned that if a novelty falls into the wrong hands it is unlikely to be adopted. In introducing new health knowledge

and practices, it is necessary to make sure that the health standards (a) will actually improve and (b) that this improvement will be substantially felt by the community. In other words, the introduction of health knowledge and practices requires continuous evaluation of the outcome.

An important part of the mobilization process is to make sure that the community concerned, which is the object of change, becomes aware of the different steps in the implementation of the programs for the achievement of the objectives. Feedback is absolutely necessary. I might add that numerical feedback that can actually be seen and observed has a great impact on the mobilization and further participation of the community. Numerical evaluation may relate to a comparative study of morality rate, morbidity rate, etc.—as these vary before and after the program is actually launched. It is through the continuous process of feedback between the agents of change and the community concerned that community participation in health development is gradually accelerated. Once this stage is achieved the community that has been the object can easily turn into a subject of change, a point on which I would like to elaborate.

No community health program can possibly achieve its aims if it is left to operate independently of other communities or programs. To be successful and fruitful, a community health program has to be fitted into a broader national policy of development. To carry on such a policy of development, a general survey concerning the socio-economic structure of the country is necessary. The survey would spell out the areas in which change is more likely to happen if not already happening.

My own experience in health programs has taught me the following principle: priority in development must be given to those areas where change is expected to happen, whether in health programs or otherwise, and the rest will follow suit in a chain reaction. I mean to say that change in agriculture, in an agriculturally based society, may positively affect health standards more so than the attempt to affect health standards without interfering in agriculture. In the research I conducted in the urban slum in Beirut, I found that job stability and improved working conditions were positively correlated

with desirable attitudes toward health programs. This means that working to improve health standards through mobilization of the community is a holistic rather than a partitive matter.

If we look at it this way, then we realize that the mobilization of the community for primary health care requires continuous reinforcement of the links between local resources at the community level and public policy at the national level, the community agent being the link which mediates the demands of one with the expectations of the other. This is a phenomenon that obviously requires meticulous training of the agent himself. In our experience, we have found that a generalist agent who knows something about many things is better in the field of development than a specialist who knows everything about one thing.

## DISCUSSION SUMMARY

IT WAS OBSERVED that there are only two ways of making a big change in popular behavior. The first is massive involvement of the people, as in China, where the community does everything. The other is profound philosophical change in a community, such as those brought about by religious movements, for example, when a Bedouin community becomes fired with Islamic zeal and is prepared to die for its beliefs. Since our health ideas are trivial philosophically, only the first method is potentially open to us. The trouble is that in health we are too constrained by what else is going on in society, and over this we have no control.

Someone remarked that it has been recommended that when any health action is proposed, the community should be persuaded to comply before anything is done. In Afghanistan, it was thought that only women could vaccinate women. Yet, in practice, male vaccinators proved perfectly acceptable. In Nigeria, an academic group of sociologists predicted that only 35% of the population would accept smallpox immunization, but, in practice, 80% of them did. The point is that in practice it is difficult to predict what the community will do until they are presented with the challenge, and this depends greatly on how the challenge is actually presented

It was observed that the American University of Beirut, like most other universities, exists to generate medical skills in people, not medical knowledge in society. The transfer of technology may deepen the rifts between different groups in society, instead of building bridges between them.

# *A General Description of the Health Care System in Bahrain*

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I WOULD LIKE TO SHARE WITH YOU some of our experiences in developing a system of primary health care in Bahrain. Some of you may remember the mens' hospital (Nai'm Hospital) built in the early 1940s. By 1968 this building was very old and dingy. Salmaniya Hospital was also beginning to crumble. In fact they were not hospitals at all, but bits and pieces of bungalows. Those of you who are going to visit Salmaniya tomorrow will see the contrast between the new and old parts of this hospital. I mention this because our patients were very unhappy about the physical environment and some of them would tell me that it was like an animal house. There was a rudiment of central administration. I don't want to go into details, maybe one day Mohammad Rahma will tell you about it, but the whole Ministry was composed of three or four people. Then we were unable to fill one building, now we are overflowing several buildings. There have been tremendous changes.

The Ministry was highly centralized in those early days. For example, hospitals did not have their own administrators. Catering services, maintenance, doctors, nurses, or technicians contacted the Ministry directly so that even the smallest service done in a dispensary or hospital had first to be discussed by the Ministry and a decision made. Now obviously this is a grim picture by today's standards. However, these medical services were considered at the time to be among the best in the area. I am not trying to diminish the achievements of our predecessors. I just want you to appreciate how we have changed this grim picture into a brighter one with an even brighter future.

I would like to emphasize 1968 as the departure point. In November of that year our first consultant on planning, Dr. Shubar Hassan of the World Health Organization (WHO), came to Bahrain and spent 15 days with us. If you read Dr. Hassan's report today you will find that many of his far-sighted visions are still applicable. The plan covered the period from 1968 until 1985, an unusually long period of time. Obviously when you plan for a 17-year period you can only provide a general description and outline, but this outline suggested a philosophy or approach to guide our efforts. Since then the following principles and practices of health care have been followed.

Our first consideration was the availability of health care. We realized immediately (and later put it in our constitution) that *health care is a human right*. It is the right of every citizen. Having put this in the constitution, we defined it as the responsibility of the State to ensure the availability of health care to everyone in the country. In order for the State to ensure this right, we had to work within the Ministry to remove any economic, geographic, or social obstacles. This explains why medical services are free of charge to citizens and those living on the island, why we are locating health centers all over the island, and why some of these centers have female doctors. We want primary health care to be available to everyone in the country regardless of their ability to pay, their location, or their customs. Once we allow the availability of our health services to be dependent on economic, geographic, or social factors we are guilty of discrimination. I want to emphasize this because I believe very firmly in it.

Our second consideration was financing. It became very clear that the Bahrain government could not continue to expand its health budget forever, especially with the rise in cost of drugs and personnel. This is a constant debate. Should we finance through the government budget alone or should we find some indirect financing and add it to the government budget? As some of you may know, the constitution states that all Bahrain's government income goes into one general pool, and is then distributed as a budget. We have been trying to see if it is possible to break away from this and get some extra money in the name of health to spend only on health. Many of our people (who have not paid taxes for many, many years) would refuse to pay

anything unless they know it is going to a service which is very dear to them. I am sure if we ask our people for money for the sake of health, they will give it willingly in the form of indirect or direct taxation. But the moment they know it will go into a general pool and that part of it may go to services they do not care about expanding, increasing, or strengthening, then the problem immediately becomes political.

We have already taken a first step when we imposed a sort of insurance premium on all companies that have more than 50 employees, to pay a small yearly fee per individual for what we called primary health care. The income generated from this is not so modest because it actually constitutes about 10% of our budget. Although this is a very small portion, we have used it as an indirect pressure on the government to accept this concept. Now, having generated some revenue, I think it is high time for the government to become generous with us. At the moment we are seriously thinking that we need to have some kind of insurance, if not for all Bahrainis, at least for some selected groups. I am sure that in the next one or two years something will develop in this field.

Our third consideration was the provision of comprehensive health care. The State of Bahrain must be responsible for all stages of health care delivery: primary, secondary, and tertiary. Just because Bahrain is a small country and cannot afford tertiary care does not mean that citizens should stop at the level of secondary care. We have indicated to them that whoever needs tertiary care outside Bahrain shall receive it free of charge, and the patient is sent at the expense of our government. We have emphasized, however, that primary and secondary care should be within Bahrain. I realize that secondary care is controversial. You can expand or reduce it as much as you want. I think we can define reasonable limits.

In order to provide good tertiary care, we had to coordinate our activities with neighboring countries in the Gulf area. For example, Kuwait has a very good radiotherapy center. We made an agreement with the government of Kuwait to accept our patients needing cancer therapy. We have a similar arrangement with Iraq which accepts our cardiovascular surgery cases. We send central nervous

system surgery cases to Kuwait and Iraq. We also send some patients to other countries, but we are trying to create centers of excellence in the Gulf region that will serve all the people of the region. Then a patient will simply move from our hospital to one of these hospitals as his right and as though he is just moving from Manama to Muharraq. There have been extensive regional surveys and I am glad to report that the response has been very favorable to our attempts to create tertiary care for everyone in different centers.

Our fourth area of concern involved shifting the emphasis from the individual to the family as a social unit. I believe that this was an important shift. Even if you provide primary health care, the moment you emphasize the individual you immediately de-emphasize public health and preventive health as far as I am concerned, but the moment you look at the family as a unit you promote public health and you promote preventive medicine. Since we took the family as a unit, we felt that primary health care must be comprehensive, taking into consideration the needs of men, women, and children and their interrelationships and their environment, which is the home and finally the neighborhood. You will learn from Dr. Armenian and others how we have tried to make this primary health care as comprehensive as possible. As we realized that health centers, for example, should have laboratories, should have x-ray facilities, we proceeded along those lines. We are incorporating our public health inspectors, public health nurses, health education, and so on into the health center rather than running them as individual bits and pieces here and there. Finally, because we are dealing with the family, we started thinking of the family physician as the main person to man the health center, so that he will be able to take care of the family as individuals, as social units, and as units in a community. This may be touched upon later by others.

At the same time, having realized that for 40 years we depended heavily on the outside world, we determined that Bahrain must become self-sufficient in all categories of health personnel. This was not easy and those of us who remember our first meeting in 1968 know what real problems we had to face: where to start and how to start. We had only a very small school of nursing and that was all; no medical school, no training programs in any other fields, very few

graduates of the nursing school, and no training abroad in any category. We started that year with a budget of 10,000 dinars for overseas training. Two years ago it reached about one-third of a million dinars. To have expanded this much in 10 years is an indication of the firm belief we had in training as many as possible, as quickly as possible, to man our services. At first we sent our students abroad. We had two in laboratory technology, two in x-ray, two in public health, and so on per year. It was soon obvious that we had false hopes of keeping these people. We started sending two but losing four for various reasons, especially when we had the economic boom in Bahrain. It was then that we realized that something much bigger and more solid had to be created.

This morning you listened to Dr. Nabil Kronfol speaking about the College of Health Sciences which I think has been a very effective answer to local training. However, we have continued with overseas training for certain categories and for further training of those trained in Bahrain. Finally, you will probably hear about the Family Physician Training Program that we are starting next fall in cooperation with the American University of Beirut. For the past two years we have been thinking that, having solved the problem of paramedical personnel, we must turn our attention to medical personnel. We initiated discussions with the Ministers of Health in those countries in our region that did not have medical colleges. We found them responding positively and it was through them, and thanks to them, that we convinced our Ministers of Education to start a medical school in Bahrain, hopefully in the near future, that will serve the four lower Gulf countries: Oman, United Arab Emirates, Qatar, and Bahrain.

We came to realize and to emphasize that public health was the responsibility of the Ministry of Health. Until 1968 there was no legislation in the field of health. Since then the most important legislation has been the Public Health Act. This Act designates that everything related to health is the responsibility of the Ministry of Health. We can delegate certain jobs to other ministries, to the municipality, to public works, and so on, but the moral and legal responsibility is ours; if they are not doing a good job, we are able to return the service to our authority. The second thing we did in public

health was to introduce new programs as quickly as possible. I need not go into details, but here are a few examples: we established a public health laboratory, we emphasized health education for the first time, and recently we have made what seems to be a good start in occupational health. Now we have good communicable disease surveillance, we have an extended immunization program, primarily in the schools, we have inspection and control of food in Bahrain (formerly under the municipalities), and we have introduced the public health nurse for the first time. We still have very few but we are attempting to have public health nurses operating a good many activities in the health centers. We still feel that our activity in public health is limited. For example, school health needs to be looked into and environmental monitoring hardly exists; we hope we can soon do something about these areas and nutrition, which, as far as I am concerned, has yet to be touched in Bahrain. Finally, we have had to think of physical facilities. Over the past 10 years we have spent 40 million dinars, approximately a hundred million US dollars, just to build hospitals and health centers and make improvements.

All of the ideas and concepts I have been talking about have come mainly from a few sources. I would like to mention these as a gesture of gratitude and at the same time to indicate that if expert "know-how" is shared with a ministry that is willing, a lot can be achieved: WHO experts, many of whom have visited and contributed; AUB, initially through AUBSCO, a service corporation, and recently as a teaching institution; MADGE, a corporation helping us improve our management and administration; and, recently, the University of Glasgow, helping us in a very specific field, the medical equipment center.

Now what are our future plans and some of our dreams? I have already touched upon some of them. We would like to see Salmaniya Medical Center become a teaching center. Now that we have established basic services, we can move to something else. After much hard work and effort on Bahrain's part to convince many of the Arab countries to establish the Arab Board of Medical Specialities, we have been encouraged to consider Salmaniya as a teaching center. It would be extremely difficult for us, a very small country with few graduates, to persuade people to come and learn here without the

possibility of certification. But now with the Arab Board of Medical Specialities in four areas, we can at least think of accrediting our hospital, raising it to the level of a teaching hospital, and then attracting doctors not only from Bahrain, but also from the region, from all over the Arab World, and possibly even beyond. When these doctors undergo training in our Salmaniya Medical Center, they can look forward to board certification, recognized at least within the Arab World if not outside.

In order to expedite this program, we developed a new curriculum. We have avoided the traditional. Usually people start in surgery, or medicine, or pediatrics, or obstetrics-gynecology. We decided to leave this till later and emphasize what we believe should be the future trend, the family practice physician. Family physicians are the ones that can make health care succeed or fail, especially in the future when resources may be limited and primary health care will have to encompass more than it does today. Then the comprehensive doctor would be essential. I have mentioned the possibility of a medical school. I would like also to mention the constant expansion of the programs of the College of Health Sciences. We believe in experimenting and I think we will be able to do so. We are at present discussing with the Ministry of Education a plan to have intermediate school graduates go directly into specialization as high school students. We would like to see a high school nursing school together with many other specialities not related to the field of health. This might be a very interesting system and would create good career development so that an intermediate school graduate could look forward to the day when he or she could earn the PhD in that particular field. We would like to experiment with utilization of non-medical personnel. We haven't yet done this since you cannot experiment when you don't have any, but we are keeping this in mind. We would like to see nurses filling more extended roles, more responsible roles, a new breed of technicians who are able to free doctors to concentrate on complex problems and highly skilled care of the individual and his family. This is an approach going on all over the world and there may be fine examples in Africa, in Europe, in the US, but I think here in the Middle East we must have our own kind of experiments.

We would like to integrate Bahrain fully into the Gulf region so

that the patient feels that the whole region provides his medical care. There is no need to create highly sophisticated centers in small countries. We have succeeded in convincing many of our neighbors of this and I think we will go all the way and become a model of regional cooperation. Similarly, we would like to extend the region to the second circle, the Arab World. To give an example, we now utilize the King Hussein Medical Centre in Amman for many of our complicated cardiovascular surgery cases. We find this arrangement very effective; we have similar arrangements with Baghdad and Kuwait. I see no reason why 99.9% of the needs of the individuals in Bahrain (I can speak only for Bahrain) should not be met within the radius of about 1,000 or 2,000 miles, which takes us to the other end of the Arab World.

To complete this picture, I would like to say that we have demonstrated without a doubt that a basic and fundamentally new approach, a new philosophy, can be achieved within the same circumstances, within the same structure of government, within the same structure of society, if those who carry the responsibility in a particular field firmly believe in it and work very hard for it. Even a system which is slow to respond will be persuaded by their dedication and hard work to support their efforts.

## DISCUSSION SUMMARY

SOMEONE ASKED about changes in vital indices. Unfortunately, the infant mortality rate is not known for certain. The figure of 20 is sometimes given, but is certainly too low. The other quoted figure, 60, is probably too high. The true figure is somewhere in between. Malaria is controlled, there is almost no poliomyelitis, and there is less trachoma and tuberculosis than there has been. But deaths from diabetes and cancer are increasing. The per-capita expenditure on health is US \$ 125 per head per year, excluding medical education.

How much health education is being given through the primary and secondary school systems? Unfortunately, it appears that almost none is being given anywhere in the Arab World. It needs to be improved on a regional basis. A regional center has been started for health education via the media, and health education is being given in primary care.

# *Model Systems for Primary Health Care in Developing Countries*

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WITHIN THE DISCUSSIONS of the present conference, it has been stressed that the transfer of technology is essentially the transfer of information from one level of technological development or know-how to another, from one group of persons to another. Efforts that facilitate communication and transfer of information would thus help in the transfer of technology.

In developing a primary health care (PHC) system, it is essential that the system is relevant to the culture and to the needs of the community. In this context, systems need to be adapted to the community rather than adopted passively. Thus, in addition to a simple transfer of technical know-how, much of the information and skills for a developing PHC system have to be generated locally within the communities where the system has to operate.

In this perspective, experimentation and evaluation would have to be an integral part of the PHC system in order to generate essential information for a variety of decisions about the system. The development of models is one avenue whereby such experimentation and evaluation could proceed. In experimental models, the effectiveness of the proposed system could be demonstrated within similar communities. We may adopt a new drug in our local pharmacopeia based on data about its efficacy from another country, but we have to adapt new systems based on data about effectiveness from our own communities, particularly for systems in PHC.

The present paper refers primarily to our experiences in Bahrain, not because PHC is ideal here, but because we have data on local experiments that have been generated periodically and used by decision makers within the system.

## **Guidelines for Model Primary Health Care Systems**

In developing a PHC system in a developing country, the major issues concerning the system do not relate to the content of PHC but to the diversity of ways and means of providing it. It is not necessary to do extensive studies to establish the need for adequate nutrition, safe water, basic sanitation, maternal and child health, immunization, health education, control of endemic diseases, and treatment of common disorders in most developing communities. There is always some agreement on *what* a PHC system should provide, but the problems are encountered when deciding *how* to provide it. For example, it was common knowledge that large sections of the world population needed the smallpox vaccine, but the problem centered on the choice of strategy to interrupt transmission by optimal use of the vaccine.

Basic policy decisions have to be made in formulating guidelines for planning a model PHC system. Such guidelines have been promoted recently by WHO and UNICEF in policy statements. Ideas such as community participation in PHC, a PHC system that is part of the total developmental effort of the community and that takes into consideration the attitudes and values of the community, present such a different perception of things for the more conventional care systems that in certain countries there have been problems in using such guidelines for the development of PHC model systems. Thus, in a review of PHC systems from 10 Middle Eastern countries, it was noted that only four of the 10 models had some evidence of community participation and in only one model was PHC an integral part of the total developmental effort of the community. It was further noted that almost all these models had provisions for safe water and sanitation, immunization, maternal and child health, health education, treatment of common disorders, and control of endemic diseases. Only four models had a nutrition program and only five systems had an assessment-evaluation mechanism. The need is thus for methods and innovative strategies of proven effectiveness in PHC. This is yet another situation where the *how* is more important than the *what*.

In order to reconcile basis guidelines and principles of operation

with the services that need to be provided in a PHC system, a matrix could be developed that relates basic services to important guidelines. As illustrated in Plate 1, for each service that the system has to provide, program characteristics would be developed that are consistent with the stated guidelines. This would help us formulate much of the needed details in program characteristics and priorities that would be used for a plan of action. Such a matrix could further be used in evaluating ongoing systems and programs.

Depending upon the community and the available resources, other guidelines and basic principles of operation could be established for developing the system. For example, bridging the information gap between the system and the individual could be an important principle built into the PHC system. It may be important to capitalize on the transmission of information about health care to encourage and improve self-care at the individual level, thus decreasing the dependence of the person on the system. It is conceivable that patients with a number of common conditions presenting to the PHC system could be managed at home. When accessibility to health care is a problem, primary care has to be provided by the individual, his family, or traditional practitioners. When plumbers become very expensive and inaccessible, you tend to fix your own bathroom.

### **Development of a Model**

In order to provide the needed services according to established guidelines, it is necessary to develop a plan of action that is appropriate. The development of the PHC system in Bahrain has gone through several phases during the past 40 years. These have been influenced by demographic and economic expansion over the decades.

At present the PHC system in Bahrain serves a young population in which 55% are below the age of 20 years and only 5% are older than 60 years of age. A review of utilization data reveals that in the past few years an average number of seven visits per person to the primary medical services have been recorded compared to 1.6 visits per person per year in 1941 in Bahrain. An analysis of these utilization data (Plates 2 and 3) shows that the category with

the highest number of visits per person is that of the housewives and preschool children and the lowest users of these facilities are the male heads of households. Plates 4–6 present estimated frequencies for some conditions that would be seen in a general practice of about 2500 persons. Compared to at least 900 persons consulting the general practitioner for upper respiratory infections in a year, it would take 30 years for a case of lung cancer to appear in such a practice in Bahrain at present rates of incidence. As illustrated in Plate 7, the government has been the major provider of health services in this country, and the development of health services has followed a well-defined evolving pattern.

In spite of the absence of an accessibility problem, there are important issues that are faced by the health care system at present. These include: (a) a dramatic increase in the use of services as illustrated previously; (b) problems related to the quality of services brought about by an increased demand for these services; (c) a relative shortage of health manpower as expressed by the high proportion of non-Bahraini health professionals; and (d) the increase in recent years of the non-Bahraini labor force that has strained the available resources in primary care.

In response to the need for a PHC system in Bahrain, the Ministry of Health established guidelines for such a system back in 1975 (Plate 8). In a recent review of these principles of operation, additional guidelines have been incorporated based on recent experience. Further, it was important to define the services that had to be offered from within the health center, considered the hub of PHC activities in the community. Plates 9 and 10 list the professional and administrative functions within the health center.

Rapid development of facilities required detailed plans to ensure the timely and proper functioning of new facilities. Such programs have been developed and implemented in five health centers at present. The need for training health manpower that is responsive and able to perform within the PHC system has led to the development of continuing education programs, and work is in progress on a Family Practice Residency Program that will start in September 1979.

## Evaluating the System

As has been stressed previously, the effectiveness of new approaches in PHC must be documented. The basic question is whether the system achieves its objectives. Little information is available as to the effectiveness of PHC models because they are so new. Exceptions to this include some of the PHC programs in Iran, where the impact of the new system was compared with similar data obtained from control communities. Thus, in the Kavar Village Health Worker Project, the infant mortality rate in the auxiliary villages was down to 64/1000 live births compared to 128/1000 in the control villages, and the crude death rate was 10/1000 in the auxiliary villages compared to 18/1000 in the control villages. These reductions were achieved within a period of 15 months. There were no differences between the auxiliary (PHC) and control villages as to other demographic measures including fertility rate, median age, literacy rate, and dependency ratio.

One of the major problems in evaluating the PHC system relates to the issue of valid indicators of outcome that can be obtained on an ongoing basis. Considering the difficulties and expense of building a full-time ongoing system of evaluation, the alternative of the periodic sampling survey approach could be developed. Such evaluation could be conducted by a central unit until the expertise is developed peripherally.

Within such a framework, some sampling surveys based on data from records and on interviews were conducted in evaluating particular aspects of the PHC system in Bahrain. In one particular study, patients were interviewed before and three months after the opening of the new health centers. As illustrated in Plates 11 and 12, patients were significantly more satisfied with the standards of service in the new health center and saw less room for improvement. Since one of the systems introduced in the new health center included the family folder and the family physician approach, more patients in the new health center knew the name of the physician who took care of them. (Plate 13). Furthermore, as seen in Plate 14, there seemed to be a difference in attitude toward the effectiveness of traditional medicine between the patients in the old health center and those in the new center.

These are a few examples of data dealing with specific aspects of the program and generated with limited resources. An overall assessment has to incorporate other data including financial information for an in-depth cost-benefit analysis.

**Conclusion**

The development of a PHC system in a developing environment must have relevant and appropriate guidelines for planning that are based on data generated from similar communities through well-designed evaluative research and information systems. The transfer of technology in PHC cannot be limited to a passive communication of information. Much of the appropriate technology in PHC has to be developed locally and transmitted through horizontal as well as vertical channels of communication.

PLATE 1: BASIC PRINCIPLES AND SERVICES MATRIX FOR A PRIMARY HEALTH CARE SYSTEM

<i>Basic services</i>	<i>Basic principles</i>				
	<i>Community participation</i>	<i>Part of total development</i>	<i>Effective methods</i>	<i>Total accessibility</i>	<i>Consider values of community</i>
Nutrition					
Safe water and sanitation					
Child health					
Maternal health					
Immunization					
Health education					
Endemic disease control					
Rx of common diseases					

PLATE 2: AVERAGE NUMBER OF VISITS PER YEAR BY AGE  
(IBN SINA HEALTH CENTER, 1977)

<i>Age group (years)</i>	<i>Average visits per year</i>	<i>Percent user/ total registered</i>
1-5	5.8	74.1
5-9	3.4	70.0
10-19	2.8	60.1
20-29	2.8	58.4
30-39	3.1	53.2
40-49	4.8	54.1
50-59	3.6	56.8
60-69	4.1	64.4
70-79	4.6	58.3
All ages	3.5	60.6

PLATE 3: AVERAGE NUMBER OF VISITS PER YEAR BY FAMILY  
MEMBERS (IBN SINA HEALTH CENTER, 1977)

<i>Family member</i>	<i>Average visits per year</i>	<i>Percent user/ total registered</i>
Father	2.4	49.4
Mother	5.6	69.7
Daughter	3.4	65.6
Son	3.3	59.6
Other	3.3	57.4

PLATE 4: NUMBER OF PERSONS CONSULTING PER YEAR IN A  
GENERAL PRACTICE OF 2500 PERSONS

<i>Type of condition</i>	<i>Persons consulting per year</i>	
	<i>Bahrain*</i>	<i>British general practice</i>
Minor illness (short duration—minimal disability)		
Upper respiratory infections	900	500
Common gastrointestinal ailments	700	250
Skin disorders	350	225
Emotional disorders	50	200
Acute major illness		
Acute bronchitis, pneumonia	50	50
Severe depression	4	12
Acute myocardial infarction (new)	2	7
All new cancers	1	6
Acute appendicitis	3	5

\* All figures are approximations based on survey data from health centers and the Hospital Medical Information System.

PLATE 5: NUMBER OF PERSONS CONSULTING PER YEAR IN A  
GENERAL PRACTICE OF 2500 PERSONS

<i>Type of condition</i>	<i>Persons consulting per year</i>	
	<i>Bahrain*</i>	<i>British general practice</i>
Chronic illness (short duration—minimal disability)		
Rheumatic conditions	200	100
Mental illness	15	55
Anemia	20	40
High blood pressure	50	25
Asthma	15	25
Epilepsy	5	10
Diabetes	10	10

\* All figures are approximations based on survey data from health centers and the Hospital Medical Information System.

PLATE 6: FREQUENCY OF SOME MALIGNANCIES IN A  
POPULATION OF 2500

<i>New cancers</i>	<i>No. of years for appearance of one case</i>	
	<i>Bahrain</i>	<i>United Kingdom</i>
Lung	30	1
Breast	6	1
Gastrointestinal	6	1
Thyroid	50	20

PLATE 7: COMPARISON OF PRIVATE PROVIDERS WITH  
MINISTRY OF HEALTH SERVICES (1976)

<i>Criterion</i>	<i>Private</i>	<i>Ministry</i>	<i>Total</i>	<i>Ministry/total</i>
	<i>(N)</i>	<i>(N)</i>	<i>(N)</i>	<i>(%)</i>
Physicians	37	165	202	81.7
Total personnel	409*	2,865	3,274	87.5
Hospital beds	119	926	1,045	88.6
Total inpatients	3,778	21,236	25,014	84.9
Hospital deliveries	464	7,064	7,528	93.8
Total outpatients	421,419*	1,607,400	2,028,819	79.2

\* Estimated number.

PLATE 8: PRINCIPLES OF OPERATION IN HEALTH CENTERS

1. Well-defined geographic boundaries for service
2. Comprehensive care (curative and preventive)
3. Family-centered practice
4. Health team approach
5. Community involvement
6. Manpower reprogramming

**PLATE 9: PROFESSIONAL FUNCTIONS WITHIN HEALTH CENTERS**

1. Family practice
2. Labor clinic
3. Walk-in clinics
4. Child welfare and antenatal services
5. School health
6. Health education
7. Dentistry
8. Pharmacy
9. Laboratory
10. Radiology
11. Medical and surgical specialties
12. Public health activities
13. Teaching
14. Minor surgery

**PLATE 10: ADMINISTRATIVE FUNCTIONS OF HEALTH CENTERS**

1. Medical records and information system
2. Storage and supplies
3. Housekeeping
4. Transport
5. Security
6. Maintenance
7. Personnel activities

**PLATE 11: ABSOLUTE AND PERCENT DISTRIBUTION OF OLD AND NEW JIDHAFS HEALTH CENTERS BY STANDARD OF SERVICES\***

<i>Standard of services</i>	<i>Old Jidhafs</i>		<i>New Jidhafs</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
High	26	52.0	44	88.0
Medium	16	32.0	1	2.0
Low	3	6.0	1	2.0
Undetermined	5	10.0	4	8.0
Total	50	100.0	50	100.0

PLATE 12: ABSOLUTE AND PERCENT DISTRIBUTION OF OLD MUHARRAQ AND SHEIKH SALMAN HEALTH CENTERS BY CHANGES NEEDED FOR IMPROVING THE HEALTH CENTER\*

<i>Changes</i>	<i>Old Muharraq</i>		<i>Sheikh Salman</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Yes	51	51.0	9	18.0
No	21	21.0	34	68.0
Undetermined	28	28.0	7	14.0
Total	100	100.0	50	100.00

\*  $\chi^2_2 = 32; P < 0.001.$

PLATE 13: ABSOLUTE AND PERCENT DISTRIBUTION OF OLD AND NEW JIDHAFS HEALTH CENTERS BY KNOWLEDGE OF PHYSICIAN'S NAME\*

<i>Knowledge of physician's name</i>	<i>Old Jidhafs</i>		<i>New Jidhafs</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Yes	2	4.0	32	64.0
No	48	96.0	18	36.0
Total	50	100.0	50	100.0

\*  $\chi^2_1 = 40.1; P < 0.001.$

PLATE 14: ABSOLUTE AND PERCENT DISTRIBUTION OF OLD MUHARRAQ AND SHEIKH SALMAN HEALTH CENTERS BY EFFECTIVENESS OF TRADITIONAL MEDICINE\*

<i>Effectiveness of traditional medicine</i>	<i>Old Muharraq</i>		<i>Sheikh Salman</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Effective	42	42.0	10	20.0
Not effective	54	54.0	39	78.0
Undetermined	4	4.0	1	2.0
Total	100	100.0	50	100.0

\*  $\chi^2_2 = 8.2; 0.01 < P < 0.02.$

## DISCUSSION SUMMARY

DR. ARMENIAN was asked what was the unique feature of the Bahrain system. He replied that he considered it to be the freedom to experiment. He gave as examples the steps that were now being taken to improve the quality of primary care. Someone added that the Bahrain system was also flexible, dynamic, and resilient.

Dr. Armenian was urged to complete his fascinating analyses of the PHC systems of the region.

# *A Model System for Community Care in Developed Countries*

John A. Forbes

Manager, Office of Professional Standards and Systems Analysis (OPSSA)  
Ministry of Health  
Manama, Bahrain;  
Adjunct Professor, Faculty of Health Sciences, AUB

THE DEVELOPMENT of a health care delivery system in any country depends on a number of factors, principally historical, social, cultural, and economic. It depends also on the state of health of the nation, because patterns of disease vary, and thus different countries establish different sets of priorities. It follows, therefore, that there can never be an overall plan of action which can be applied to all countries. It is possible, however, to establish certain principles when devising health care systems.

Most governments have become involved, to a greater or lesser degree, in the delivery of health care. They accept, at least in part, some of the responsibility for the health of the nation and contribute substantial sums of money, ranging from about 5–8% of gross national income, to promote good health and to supply the necessary services. Therefore, if governments, acting in the best interests of the people, are spending public money, they are entitled to have a say in the way their funds are to be spent and to audit the accounts. This may sound distasteful to professions who value their independence, but it is a fact of life. There is often a conflict between professional independence and state intervention.

Governments are concerned with equally important social issues such as housing, transport, and education, and so health competes in resource allocation with other social services. There are, however, distinctive features about health care. In housing, for example, it is possible, by calculating the number of families in a country, by

forecasting population trends, and by assessing the proportion of the population who cannot for financial reasons buy their own houses, to envisage a millenium in which all members of the population are housed to an agreed standard. Similarly, a utopia can be envisaged in which the needs of individuals, of industry and commerce—in the air, on roads, and by rail—are being met. So in housing and transport, an end-point can be contemplated. This does not apply in health. Health care can become a bottomless pit which devours resources, and consequently there must be some form of rationing, which is another way of saying that somebody or some group has to do with rather less than they need. Sometimes it is difficult to find evidence that an increase in resource allocation is having the desired effect on the nation's health. It is unlikely that any country, however prosperous, will ever completely fulfill the health needs of its population.

What evidence we have shows that when there is economic growth, health resource allocation tends to exceed that in other fields of public expenditure; however, during economic standstill or decline, health services tend to suffer more than other public services. The message is clear for those of us concerned with health. When your country is thriving, exploit the situation as much as you can in terms of carrying out experiments in health care and, if you feel it is proper, resource reallocation, because if you do not, you will find yourself in serious difficulties when the pendulum swings toward a less healthy economy.

Two other factors influence health care delivery. One factor is the rising cost of health care. For a number of reasons, health care has become increasingly expensive during the past three decades, increasing in excess of, but closely linked to, inflation rates. The other factor has to do with the health care expectations of the public. As people become more prosperous and better educated, their expectations increase, and this applies particularly in health.

In summary, there are five major factors influencing health care delivery:

1. Governments are involved in health care delivery and want value for their money.
2. Health competes with other equally important social issues.

3. Health fares well during economic growth and badly during recession.
4. Health care is expensive and so priorities have to be determined.
5. People's expectations are high.

All these factors operate in Britain, but there are additional ones which profoundly affect the provision of medical care. Britain has inherited a system of care designed for society in the late 19th and early 20th centuries, when health problems consisted of infectious disease, notably tuberculosis and water-borne disease, problems of sanitation, subnutrition, and bad housing. This is an oversimplification, but basically the late 19th century was the heyday, and a very successful heyday, of public health in Britain, when public health contributed more to the health of the nation than traditional medical intervention. Now Britain has a different problem.

In Western Europe and North America, health care is mainly concerned with people in middle and old age. Babies and toddlers don't often die; children survive unless they have an accident, malignant or metabolic disease, or a serious congenital abnormality; teenagers survive unless they take an overdose of drugs; young pregnant women survive labor; and young men survive unless they buy motor bikes. Most of us survive into middle and old age, but the penalty we pay for survival in health terms is the onset of the diseases of middle age, notably coronary heart disease, cancer, chest disease, stroke, arthritis, and mental illness—and in old age a combination of these, allied sometimes to mental deterioration—the multiple pathology of the elderly.

Diseases of old age and middle age have certain characteristics. Often we do not know the cause or the natural history. They are often prolonged and tend to lead to increasing disability. A number of professional people are involved in the care of those with chronic illness, and if one could devise an index, a unit of measurement, whereby one could determine the contribution made to the health and welfare of many patients in this category, perhaps members of the medical profession, other than those in a leadership or coordinating role, might find themselves in the bottom half of the league tables. Further, medical care in this context (as opposed to more sophisticated

therapy such as open-heart surgery or renal dialysis) need not necessarily take place in an expensive hospital setting. Indeed, better results may be obtained outside hospital.

There are demographic problems in health care delivery in Britain. It is difficult for those of you who pay short visits to London or our main academic centers to have a balanced view of Britain as a whole. We are a small congested country with a population of about 55 million, and the bulk of our population is concentrated in the commercial and industrial complexes. It is in these complexes that many of our health problems lie. To add to the picture, we still have major differences in mortality and morbidity in social classes 4 and 5. The areas of greatest need have the greatest shortage of resources (Inverse Care Law). Many, but not all, health problems affect the lower socio-economic groups. Social classes 4 and 5 have shorter and fewer consultations and are less likely to be referred for a second opinion, x-ray, or laboratory tests. There is a higher incidence of chronic disease and neonate death in social classes 4 and 5.

My brief is to discuss a model system for community health care in developed countries, and you may consider that I have devoted too much time to talking about health care delivery as a whole, but this is deliberate because one of the main difficulties in Britain, at least up until the early 70s, has been that the hospital has been the focal point of medical care in the community and hospital services have tended to dominate health care delivery systems.

This was not a deliberate policy decision. It was just that the hospitals, and particularly the teaching hospitals, became the center of medical power and political influence and received a major share of resource allocation in material, human, and financial terms. In recent years, there has been a swing in emphasis at last, and we have in Britain established the principle, though we may not yet have put it into practice, that a rational policy can only be developed if the requirements of health care outside hospital are determined first. Once you have decided, following research studies, what is financially viable, socially desirable, administratively feasible, and acceptable to the professions outside hospital and to the public and allocated resources accordingly, only then can you decide what

facilities should be offered in a hospital. We need to invert the pyramid of hospital and community care (Plate 1). This is, in a sense, a philosophical somersault which, if performed successfully, could lead to new notions about undergraduate education, vocational training, and the required amount and distribution of health care manpower.

The second point I wish to pursue is the use of paramedical, ancillary, and auxiliary staff. For many years, the case for using people less highly qualified than doctors in the developing countries has been more than justified. I believe the case in the developed countries is equally strong. If we wish to put into practice many of the health policies we advocate, there are not going to be enough doctors to go round. If we regard doctors as commodities, the method and cost of production and subsequent distribution and how they are to be used are major factors in health care delivery, and it is my belief that we in the industrial countries have been far too conservative in the use of paramedical and ancillary staff. It is worth noting also that there is some evidence that less highly qualified staff carry out certain tasks and procedures, traditionally performed by the medical profession, rather better than doctors. In Britain, there is one family practitioner for 2,500 people. I believe we could devise means whereby one doctor could look after a population of 5,000–8,000 with further extension in the use of paramedical staff. This would have to be acceptable to the medical profession. It would seem from studies carried out in the field that the notion is acceptable to the public.

This leads naturally to my next point. Whatever model for providing community care services is postulated, the size of the unit in terms of the population served is an important issue. In Britain, family practices range from populations consisting of 2,500 to about 12,000 people. A common size is about 7,500 people. I have been closely involved during the past seven years in exploring alternative means of providing community care services, and I am convinced that a population unit of about 20,000 patients is the minimum, except of course in rural areas, to introduce flexibility in the use of manpower and to keep costs down. On the basis of our research, we recommend the following guidelines, given adequate paramedical and ancillary staff.

1. There is still a place for the generalist, but his or her activities should be confined mainly but not exclusively to those between the ages of 15 and 65 years.
2. In a population of 20,000, there is sufficient scope for one doctor with special skills in psychiatry, one with special skills in child health, and one with special skills in geriatric medicine.
3. The total number of doctors required for a population of 20,000 in our model was six, but we believe on the basis of our research that this number could probably be reduced to five. We excluded obstetrics from our model. One medical model is shown in Plate 2.

Our research also highlighted a feature of health care with which you will all be familiar. It is the picture of acute care or, as I prefer to term it in a community care context, "urgent demand," which I would define as the need, as seen by patients (not necessarily by health care professionals), for some form of health care at short notice, at most within 24 hours. This may range from acute appendicitis or coronary thrombosis to less serious illnesses such as low back pain, sore throat, otitis media, and so on. It is a fundamental area in both hospital and community practice. Different countries tackle the problem in different ways. In Britain, urgent demand is dealt with very largely by the family practitioner and constitutes in numerical terms about 40% of his workload.

Urgent demand or acute care is a fact of life; it is not going to go away. In any community care model, investigation into methods of coping with this should receive high priority. Methods may vary, but until a firm policy is translated into day to day community care, other aspects of medicine (not more or less important) such as prevention, the long-term supervision of established disease, rehabilitation, and so on will tend to take second place.

I would like to summarize my comments as follows. They apply particularly to the developed countries but may have application in the developing countries.

1. Any health care delivery system should be built up using the community, not hospitals, as a starting base.
2. A system should be sufficiently flexible to meet local needs.
3. A built-in mechanism should be incorporated to ensure that

- evaluation in all its aspects is possible. The most important requirement is an information system so that data can be analyzed, and thus the quantity, content, and quality of care can be measured.
4. Large units of population are required (over 20,000) to ensure research flexibility and cost effectiveness. The size of the population to be served will depend on circumstances, but we should experiment with larger units of population to make research more flexible and to use available resources more effectively.
  5. Urgent demand or acute care is an inescapable component of direct access care. This should be recognized and steps taken to provide this service by appropriate means.
  6. Specialization in the community seems inevitable, but should evolve to meet community needs and not follow hospital specialty patterns.

I would like to conclude on a cautionary note which I hope will not be regarded by those responsible for health care delivery in developing countries as presumptuous. I have outlined the changes in the age-distribution curve which have taken place in Britain. I would like to emphasize that this has taken place over a period of about 50 to 60 years, a relatively short time seen against historical and social development.

I do not regard the term "developing countries," apart from its patronizing connotations, as particularly useful because there is a socio-economic league table in the developing countries. Some are relatively prosperous—or at least potentially so—and their rate of socio-economic development far exceeds other countries which, for a variety of reasons usually beyond their control, appear likely to be in the doldrums a century from now.

I refer particularly, however, to the rapidly developing countries, and I suggest to you that they may be subjected to the same influences as industrial societies within a relatively short time. Childbirth will become safe; newborn babies and neonates, infants, and toddlers will survive and in a few decades we will begin to see changes in the age-distribution curve, and although nobody knows whether, for example, ischemic heart disease, cancer, and mental illness will gain the same prominence in developing countries, it seems very likely

that they might. Allied to this, as a society becomes more prosperous, more people can afford to buy motor cars and motor bikes, thus traffic increases in density and accidents occur, and so you have to provide a more extensive accident service such as ambulances and casualty facilities requiring the skills of orthopedic surgeons, chest physicians, neurosurgeons, and anesthetists. Young men have sufficient money to indulge in prostitution, so the incidence of venereal disease increases, and the services to treat these diseases have to be expanded. There is urban drift which leads to overcrowding and a return of tuberculosis and diseases linked with poor sanitation and housing. Irrigation to provide better crop production may lead to an increased incidence of water-borne disease.

The message is very simple, and you may or may not accept it. Summarized, the problems facing developing countries are the conflict between public sector policies and private practice; the relative affluence in urban populations as opposed to poor distribution of health resources in rural populations; and above all, the insidious onset of the sort of health problems which are currently affecting Western societies. If politicians, health administrators, and those who control finances are concerned, as they should be, with the immediate future, then they should also be making policies which will have relevance in the future. The most damaging thing an administrator can do is to create a health structure which may have relevance now, but which is insufficiently flexible to cope with rapid changes in the structure of society in the future.

I conclude with a quotation from one of our most distinguished English scholars—a divine, a poet, and a philosopher. Even though the quote is out of context, its message has relevance for developing countries. What has happened in highly developed countries may happen to developing countries. Let's be prepared.

*And therefore never send to know for whom the bell tolls; it tolls for thee.*  
(John Donne, 17th century)

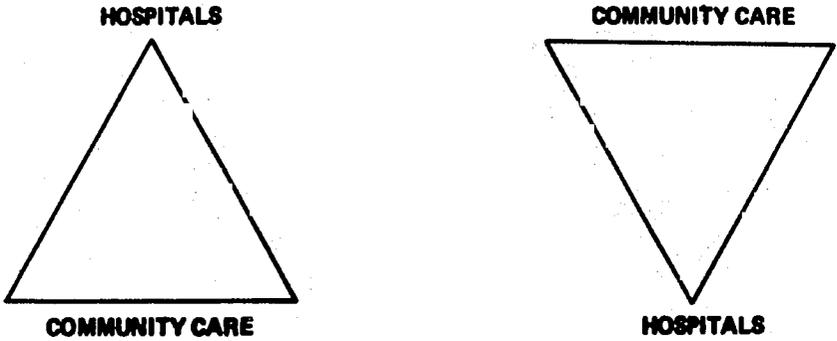


PLATE 1: INVERSION OF HOSPITAL-COMMUNITY CARE PYRAMID

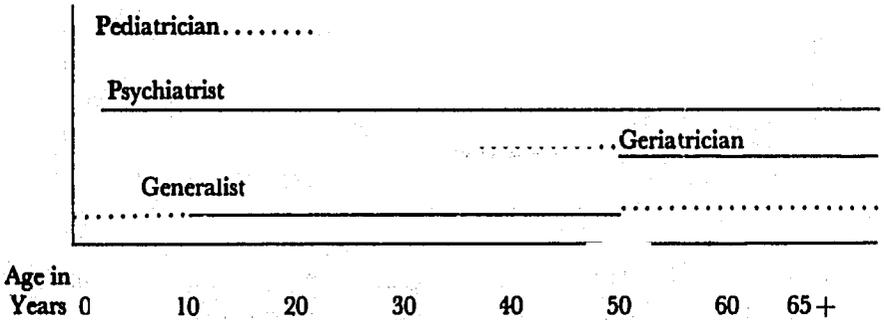


PLATE 2: SPECIALIST MODEL FOR COMMUNITY PRACTICE

# Conference Program

*Monday, April 16, 1979, AUB Alumni Club, Beirut*

**10:00 OPENING CEREMONY**

Welcome and Purpose of Conference

H.E. Dr. Salim Hoss, Prime Minister, Lebanon

A Global Perspective of Health, Vintage 1979

Dr. Eugene J. Gangarosa, Dean, Faculty of Health Sciences, AUB

David S. Dodge, Acting President, AUB

H.E. Dr. Ibrahim Shaito, Minister of Health and Hydroelectric Resources

Dr. Calvin H. Plimpton, Chairman, Board of Trustees, AUB

\* \* \* \*

Rapporteur for All Sessions: Dr. Maurice H. King

\* \* \* \*

**11:15 SESSION I**

Health Care Systems and Approaches

Moderator: Dr. Eugene J. Gangarosa

Conventional Health Care Systems and Meeting the Essential Needs of Underserved Population Groups in Developing Countries

Dr. Gabriel Riika, Director, Strengthening of Health Services, WHO Regional Office for the Eastern Mediterranean, Alexandria

Primary Health Care: Priorities in Developing Countries

Dr. Ashfaq A. Khan, Project Adviser, EPI/MCH/FP, WHO, Damascus  
Dr. Khan will also lead the discussions in Session I

Discussion

**12:30 Lunch**

**2:30 Primary Health Care in the Context of the Overall Health System and Social and Economic Development Plans**

Dr. Jamal K. Harfouche, Professor, Faculty of Health Sciences, AUB

Discussion

Coffee

**4:00 An Integrated Approach to Community Health and Development**

Dr. John L. Fischer, Dean, Faculty of Agricultural and Food Sciences, AUB

Discussion

## DISCUSSION SUMMARY

SOMEONE TOOK UP the point made by Professor Forbes that medicine has no right to assume that it should automatically recruit as many of the ablest school leavers as wished to enroll in medical school. Many qualities are required of the successful general practitioner, and a very high intellect is not generally considered to be an essential one. Also, the exceptionally able graduate might more readily become disenchanted with the routine tasks of primary care than his other colleagues with more average gifts. The greatest danger is, however, that since the number of unusually gifted people is limited, more going into medicine means fewer going into other disciplines, particularly engineering. Over the decades, this has perhaps contributed in Britain to the lower status of the engineer, compared with the doctor, and has had a highly deleterious effect on the British economy. Perhaps, the really talented person could make a greater contribution by providing jobs rather than by curing diseases. In developing countries, there has also been concern about the excessive proportion of very able people entering medicine. This fear has been expressed in Ghana.

Professor Forbes reminded his audience that Professor McEwan of Birmingham had forecast the need for age-specific specialization in general practice as far back as 1966 and had also seen that it would only be feasible in a group practice of about 20,000 people.

*Tuesday, April 17, 1979, AUB Alumni Club, Beirut*

**9:00 SESSION II**

**Primary Health Care: Training, Organization, and Utilization**  
Moderator: Dr. Jamal K. Harfouche

**A Human Services Perspective on the Organization of Primary Health Care**

Dr. Ruth Simmons, Visiting Faculty, Public Systems Group, Indian Institute of Management, Ahmedabad; Assistant Professor, on leave from Department of Planning and Administration, School of Public Health, The University of Michigan, Ann Arbor

Discussion

Coffee

**10:30 Primary Health Care and Community Medicine Training: The Jordan Experience**

Dr. Sami A. Khoury, Chairman, Department of Community Medicine, Faculty of Medicine, University of Jordan, Amman

Discussion

**11:30 Lunch**

**1:30 Primary Health Care and Nursing-Midwifery Education**

Wadad Haddad, Regional Officer for Family Planning, WHO Regional Office for Europe, Copenhagen

Discussion

**2:30 A Systematic Approach to Planning the Appropriate Technology for Primary Child Care**

Dr. Maurice H. King, Welwyn Garden City, Hertfordshire

Discussion

Coffee

**4:00 Mobilization of Health Manpower to Meet Health Needs: Lessons Learned from the Smallpox Eradication Program**

Dr. Donald A. Henderson, Dean, School of Hygiene and Public Health, The Johns Hopkins University, Baltimore

Discussion

*Wednesday, April 18, 1979, Beirut: Two Program Options*

**8:00 I. Historical-Archaeological Field Trip to Dog River and Byblos**

**II. Beirut Schedule**

## 218 PROGRAM

- 8:00 Tour of AUB campus. Meeting place: AUB Medical Gate  
Dr. Charles Abou-Chaar, Professor, Department of Biology, AUB, will share his knowledge of campus trees
- 9:00 Description and discussion of Nutrition Program  
Dr. Raja Tannous, Chairman, Department of Food Technology and Nutrition, Faculty of Agricultural and Food Sciences, AUB  
1st floor, Wing B, Agriculture Building
- 10:00 Tour of University Museum, Post Hall, led by AUB archaeology students
- 11:00 Discussion concerning a Residency Program in Primary Health Care  
Dr. Haroutune Armenian, Associate Professor, Faculty of Health Sciences, AUB, Medical Library, 3rd floor conference room
- 1:00 Group lunch (by invitation)—Alumni Club
- 4:00 Group departure by bus from AUB Alumni Club for Beirut airport, MEA flight 434 to Bahrain at 18:00

### *Thursday, April 19, 1979, Bahrain*

- 8:00 Field visit to Ibn Sinna Health Center, Manama
- 9:00 OPENING CEREMONY  
H.E. Dr. Ali M. Fakhro, Minister of Health, Bahrain  
Dr. Eugene J. Gangarosa, Dean, Faculty of Health Sciences, AUB  
Coffee
- 9:45 SESSION III  
Health Manpower Development for Primary Health Care  
Moderator: Dr. A.F. Abu Zeid, Director General of Curative Medicine, Ministry of Health
- Transfer of Educational Concepts for Health Manpower Development: The Bahraini Experiment  
Dr. Nabil M. Kronfol, Director, College of Health Sciences, Bahrain; Associate Professor, Faculty of Health Sciences, AUB
- 10:30 The Unit of Educational Development: Roles and Functions in the College of Health Sciences  
Dr. Aziz R. Chawhan, Head, Unit for Educational Development, College of Health Sciences; Adjunct Associate Professor, Faculty of Health Sciences, AUB
- Discussion

10:55 **Educational Technology: Principles and Practices in Medical Education**  
 Dr. Abdul W. Sajid, Acting Director, Center for Educational Development, University of Illinois Medical Center, Chicago

Discussion

11:25 **Mobilizing the Community for Participation in Primary Health Care**  
 Dr. Joseph Phares, Professor of Medical Sociology, Faculty of Medicine, Saint Joseph University, Beirut

Discussion led by

Dr. Fuad Khuri, Professor, Department of Social and Behavioral Sciences, Faculty of Arts and Sciences, AUB

12:15 Lunch

3:00 **SESSION IV**

**Systems for Delivery of Community-oriented Health Care**

Moderator: Dr. Ibrahim Yacoub, Assistant Undersecretary for Technical Affairs, Ministry of Health

**A General Description of the Health Care System in Bahrain**

H.E. Dr. Ali M. Fakhro, Minister of Health, Bahrain

Discussion

3:45 **Model Systems for Primary Health Care in Developing Countries**  
 Dr. Haroutune K. Armenian, Coordinator, Office of Professional Standards and Systems Analysis, Ministry of Health; Associate Professor, Faculty of Health Sciences, AUB

Discussion

Coffee

4:50 **A Model System for Community Care in Developed Countries**  
 Dr. John A. Forbes, Manager, Office of Professional Standards and Systems Analysis, Ministry of Health, Bahrain; Adjunct Professor, Faculty of Health Sciences, AUB

Discussion

8:00 Group dinner (by invitation)

*Friday, April 20, 1979, Bahrain: Optional Program*

9:00 **Visit to the Salmaniya Medical Center (650-bed modern public hospital, representing the backbone of hospital care in Bahrain) led by Abdul R. Bu-Ali, Administrator of the Medical Center, Ministry of Health; Adjunct Lecturer, Faculty of Health Sciences, AUB**

**220 PROGRAM**

- 10:00 Visit to the National Museum of Bahrain led by  
Dr. Sameer Khalfan, Head of Occupational Medicine. Ministry of Health.  
Bahrain
- 4:30 Sightseeing tour of Bahrain led by  
Dr. Sameer Khalfan

# *Conference Participants*

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