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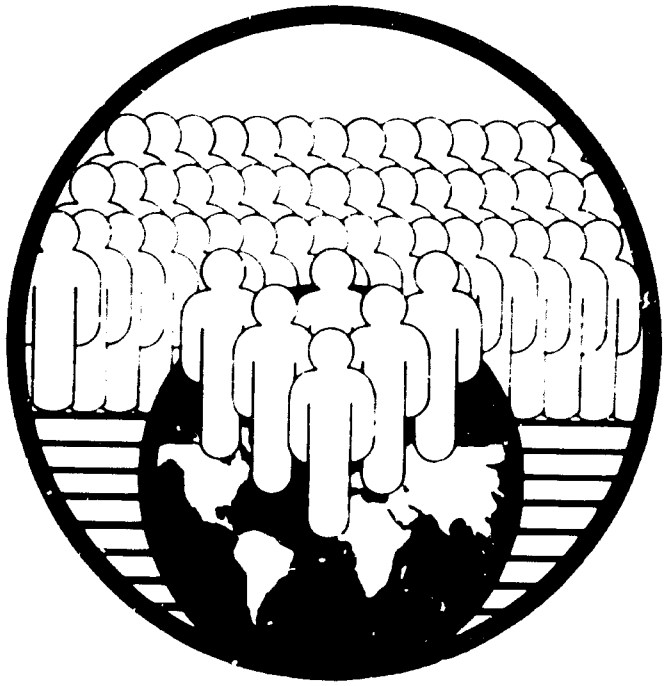

The Training and Support of Primary Health Care Workers

THE TRAINING AND SUPPORT OF PRIMARY HEALTH CARE WORKERS

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INTRODUCTION

In the past, the National Council for International Health (NCIH) has sponsored eight annual conferences to address major issues in improving worldwide health conditions, especially for the developing nations. These conferences have featured such topics as "Health and International Development," "The Private Sector in Primary Health Care," "The Health of the Family," "Child Health in a Changing World," and "International Health: Measuring Progress." The theme of the 1981 Conference was "The Training and Support of Primary Health Care Workers." "Training" was first proposed as a topic for the 1981 Conference by 70 percent of 1980 Conference participants. This large consensus, in view of the heterogeneous membership of NCIH, indicates that information-sharing on training and support of primary health care workers is of broad interest to the international health community. The timeliness of the theme comes from its central importance to the number and diversity of organizations that are presently involved in primary health care programs at the grass roots level.

The concept of primary health care was officially adopted by the World Health Organization as its main strategy for achieving an acceptable level of health throughout the world in the foreseeable future. As defined by the WHO-UNICEF Conference at Alma-Ata, primary health care is a practical approach to making essential health care universally accessible to individuals and families in the community in an acceptable and affordable way, and with the full participation of community members.1/ Furthermore, primary health care is envisioned as an integral part of a country's health system and of the overall social and economic development of a country.

The hopes and burdens of implementing a primary health care strategy clearly rest upon the shoulders of a new breed of health personnel: the primary health care worker (PHCW). Of course, PHCWs do not work alone. They must have the confidence and direction of the people in the community, and the support of other levels in the health system. Nevertheless, these community health workers are the key persons responsible for the delivery of certain essential promotive, preventive, curative and rehabilitative services. However, in the three years since the Alma-Ata Declaration, there has been growing concern among health professionals regarding the precise training and supervision that are necessary to fulfill the extremely varied expectations of PHCW job performance. As the implementors of the specific primary health care components enumerated at Alma-Ata, a village PHCW could conceivably be held responsible for patient care, vaccinations, pharmacy, health education, community sanitation, and agricultural improvement, as well as economic development --an astounding job description. The training of such workers with minimal time, funds and program support is an imposing prospect; especially since the form a PHC program takes will vary according to local political, economic, social and cultural patterns.

But the task does not stop there. With the expansion of primary health care, there is a need to train people at all levels to further the effectiveness of the service organization in providing basic health care. There is need to strengthen the management and supervisory capabilities of all PHC personnel, and to develop workable support systems, including timely and adequate provision of appropriate drugs and supplies. Furthermore, there is the important task of creating a new partnership between the community and the health services structure.

NCIH members have been actively participating in the design and implementation of PHC programs. Private and voluntary organizations have had a particularly rich experience in developing PHC programs at the community level, and speak to critical issues in the training and support of PHCWs from a field perspective. Additional expertise may be found among individuals from other NCIH member groups, including universities, religious organizations, corporations, consulting firms, government agencies, professional and trade organizations. NCIH has sought to foster increased cooperation and interaction among the many U.S. individuals and organizations involved in international primary health care efforts by providing a forum for information exchange on the varying policies and practices of training and support of PHCWs. Thus, with that purpose, the 1981 NCIH International Health Conference brought together from different organizations key people working in primary care, and gave them the opportunity to discuss what has worked and what has not in their practical experience, and to reflect on the policy implications distilled from those experiences.

Specifically, the conference participants examined these major issues:

1. <u>What Primary Health Care Workers Are</u>

   What has been the experience with PHCW selection in different local contexts? In actual practice, how has the expansion of the roles of existing health workers been carried out? What are the strengths and weaknesses of existing alternate approaches to the training of trainers? In policy formulation, what is the scope of PHCW activities and accountability of the PHCW? How may traditional and modern health systems be integrated?

2. <u>Strengthening Training of PHCWs</u>

   What are current practices in non-formal education and curriculum design, evaluation and revision? What policies should be developed regarding standardized training materials, financing of training, and extension of training to national programs?

3. <u>Increasing the Ability of PHCWs to Act Effectively</u>

   In practice, how are current efforts utilizing community resources and actual case-studies while providing continuing education for nurses? For policy considerations, how might surveys and surveillance tools be utilized? What is the role of NGOs? What are the priorities for future research and action?

4. Increasing Technical Support for PHCWs

What is the current research on the content and role of PHCW supervision? What are the most appropriate methods of in-service training, as well as education of health professionals, for producing PHCW supervisors? For policy considerations, what are the alternative methods of management training? How might communications strategies be utilized to supplement on-site supervision?

5. Review of Experiences with Different Forms of Program Support

In actual practice, what are the available choices of appropriate transport for delivery and support of PHC services. What are alternatives to the clinic-based family planning and nutrition programs? How does community organization contribute to better water and sanitation? For policy considerations, how might the supply and distribution of pharmaceuticals and vaccines be improved: What are the issues in the design, construction and use of facilities for PHCWs?

Conference speakers came from the medical, nursing, public health, nutrition, management, communications, architectural and economic professions, among others--a recognition of the intersectoral nature of primary health care. The NCIH increased the number of sessions available to participants from that of previous conference years, in order to include a wide diversity of views regarding program purposes and strategies. The organization of the plenary and small group sessions reflected a greater representation of women, multi-nationals and developing country participants. The NCIH Conference tradition of information-sharing and the exchange of program materials and resources was continued in the form of small group discussions plus a 1981 Conference innovation: an exhibit area, expanded to include an information exchange or "marketplace," where twenty specific PHC projects and their activities were displayed.

The NCIH hopes that the publication of these proceedings will stimulate further policy and program development for the successful implementation of primary health care efforts throughout the world.

NOTES

1/WHO-UNICEF. Alma-Ata 1978 Primary Health Care. Geneva: World Health Organization, (1978).

1. KEYNOTE ADDRESS

THE SELECTION, TRAINING AND SUPPORT OF PRIMARY HEALTH CARE WORKERS

Christopher Wood

Keynote Speaker

Failure, or at least incomplete success, is common in human endeavour. One of the established methods of handling failure, and one which is often used in the health professions, is to change the name of the game and continue as before. Thus sanitation and hygiene became public health, then social and preventive medicine, and now incorporated in community health. Birth control became family planning and then child spacing. Similarly there has been a progression from rural health programmes, through essential and basic health services, to primary health care. With each new name, however, there may be some change in concept.

The outstanding failure of current western medicine has been the inability to apply the fruits of the last 50 years of technical development to the large majority of mankind who need it most. This is not a problem of medicine in isolation, it is part of the whole political and socio-economic situation. The gap between rising expectations and the realities of the slow development of established health services has led to dissatisfaction and increasing demands for something else.

The focus of these demands has fallen on primary health care built around the relatively new concept of a community health worker (CHW) or primary health care worker (PHCW). The successful popularizing of the slogan "Health for All by the Year 2000" has led to CHWs and PHCWs becoming the most talked about, workshopped and conferenced group of health workers. If all this talk does eventually lead to greater resources being directed to primary health care, and supporting PHCWs and the system of health care they provide, it will have been worth it. But we should be on our guard against too much talk becoming a smokescreen for continued inaction or half-hearted dabbling.

There is a wide divergence in understanding about the meaning of primary health care. At one end of the spectrum we have those who regard it as the first of any type of care that a patient happens to meet. This includes not only first-aid and simple over-the-counter self-treatment, but also out-patient care at dispensaries and health centres and even primary surgical care; no doubt primary radio-therapy will soon follow. Jumping on this bandwagon are many others who realize that if they want to get money for any programme, their chances are increased by linking it, however dubiously, to PHC. At the other end of the spectrum are the genuine locally conceived and developed attempts by various groups of people to do something for their own health care. These are the so-called "community-based" programmes which often incorporate general development activities as well as health care. In between these extremes

lie the many programmes for either extending the established health services further into the community; or for assisting, stimulating or otherwise provoking communities into starting their own services. This may be done on a small local scale by individuals or voluntary agencies, or on a much larger regional or national scale by governments.

Behind many of these PHC programmes lie some new and important concepts, not only of health care, but also of development. These concepts which involve real changes in thinking and approach, may, for some of us who are used to the present kind of health care, be difficult to accept.

One of the most significant changes in the thinking about development and health care is recognizing the rights of individuals and communities to say what they want for themselves. This has profound implications for the health professions, systems of government, aid organizations, and even for conference organizers.

If it is our belief and intention that individuals and communities must decide for themselves what they want, then we must relegate our own role to assisting this process, and not dictating it. The health professions are notorious for arranging health services to suit their own convenience and they are well-barricaded against too much interference from the consumer. Governments are "in power" and reluctant to de-centralize decision-making or relinquish any of their authority. Politicians want to be seen to be taking decisions that will get them reelected. "Aid," even of the most enlightened variety, almost always has to be planned and budgeted for specified activities, and can seldom be made available in an open-ended way for such purposes as a community may decide for itself. Furthermore it is much easier to organize top-down conferences for directors of health services than prolonged discussions for the real local instigators and practitioners of bottom-up programmes, who are unused to travel or participation in conferences.

But how are we to help such programmes? Does it help to teach people why they need the programme, which we happen to have ready up our sleeves? Should we help at the beginning, or only after a programme has started?

When people have developed the necessary motivation (or conscientization) can they automatically do everything for themselves? It is in answering these questions that the biggest challenge to our existing ways of thinking appears.

It is, I believe, necessary to adopt an intermediate position--a readiness to respond to requests for help in an informed manner. To prepare ourselves for this there is much to be learned from the experience of others, particularly in the field of community development.

The nature of the help that can be provided for different communities will depend on a wide variety of factors. In particular it will depend on the community's needs, their resources and the pattern of their

community organizations. Even when these are similar, different communities are likely to react in different ways. In these circumstances there can be no one universal right way of organizing PHC. There is indeed a series of options which will be explored during this conference. I would like to mention some of these options, not so much by way of giving an "overview" but by giving a personal "underview" based on experience in two very different programmes--the national PHCP in the Sudan and some of the small-scale voluntary programmes in Kenya.

The key agent in almost all PHC programmes is the community health worker--also called, though sometimes with a little difference in meaning, the village health worker, medical helper or health promoter. The success or failure of PHC thus depends to a very large extent on the proper selection, training and support of CHWs.

Selection

It is now appreciated that a major cause of failure in the training of doctors and other professional health workers for community care results from inappropriate selection of trainees. Personal and social characteristics and ambitions are generally well-established before training begins, and are not necessarily those to be desired in a community care health worker.

Though these may be modified and developed during training, they are unlikely to be radically changed, especially when the emphasis of training is on acquiring technical knowledge and skills. Thus the selection of the right person is fundamental. In my experience we are generally too keen to get on with the training to spend sufficient time and trouble ensuring that the most appropriate person is selected.

How then are CHWs to be selected, and by whom, and on what criteria? In all PHC programmes, indeed in almost all health programmes, it is the respect, commitment, trustworthiness and continuity of service of the health worker that is of greatest importance. Technical knowledge and even practical skills, both of which can be inculcated during training, will be of little avail if the right personal characteristics are missing. Unfortunately there is no simple and reliable test for such qualities--no written examination or finger-prick test, that will give us the answer. Furthermore these qualities are not confined, or even very closely correlated, to any one group of people such as school-leavers, married women or older men. A frequent mistake, especially when training staff have a big say in the selection process, is to choose young, relatively well-educated men because they are likely to make good students. Often however their ambitions lie with opportunities outside their own immediate community. The more contact the selectors have with the potential candidates, the more opportunity they will have to assess personal characteristics.

How then should the selection be done? This will be one of the conference topics. Let me just say that I am sure that there is no one simple answer. Neither administrative officials, senior or local, nor health staff concerned with service or training, should make the selection alone.

Genuine community participation is essential and this takes longer than project timing often permits. A public meeting followed by a show of hands is not sufficient. Potential candidates must be fully aware of what is, or is not, likely to be forthcoming in respect to training, remuneration, transfer or promotion. Motivating and educating the community needs to come first--and this is what development is all about. However, even neighboring communities may be at different stages of development and, in an attempt to bring them all together, motivation and education may border on brainwashing.

Training

Different communities, guided to a greater or lesser degree by varying socio-economic and political factors, will have different aims for their PHC programmes which will require different knowledge and skill on the part of community health workers. This in turn will modify the nature, methods and duration of training.

A first consideration should be that the means of training should not alienate the CHW from the community that she or he is to serve. This is very much more difficult to avoid than it might seem, both in practical and social terms. Requiring trainees to be away from their homes for long periods may exclude married women, offend customs regarding the unmarried and prevent all from continuing their normal participation in local activities. In particular if people are away from their homes during the planting season they will have no food when they return. They will have been converted from subsistence-farming villagers to wage-earning civil servants and a difference--a potential barrier to communication and understanding--will have been created. In the Sudan the minimum period of training recognized by the Government is nine months. So all CHWs are taken away from their homes for this magic period which was not based on the time required to achieve any given level of competence.

For the training to be effective it should have clear aims. Undoubtedly the greatest danger is to include too much: this increases the likelihood of it becoming too theoretical, filling people with knowledge of doubtful value, not imparting sufficient practical skills, and inculcating an attitude of superiority.

The range of skills to be taught should obviously match the aims of the programme. Again this is easily said but much less easily achieved. If the programme has really been proposed by the community it is likely to have agriculture, water development and income-earning activities as higher priorities than health. In villagers' views of health, the concepts of the causes of disease and opportunities for prevention are often very different from our own. Demands for "giving injections" or "building a hospital" are common. On the other hand if the programme has really been conceived by the medical authorities, it is more likely to be predominantly medically oriented--with of course due lip-service paid to prevention--even though there is little support for it from the community.

Another difficulty with training programmes arises from the nature and competence of the teachers. It is important to realize that even an appropriate curriculum, carefully thought out, and expressed in terms approved by the World Health Organization (WHO) and the World Bank, is no guarantee that it will be implemented. Health professionals are conservative creatures and are apt to reproduce the dull and irrelevant lectures they received themselves 5, 10 or 20 years previously. We all like to stick to what we know best, and this is often curative and hospital-orientated and associated with classrooms and lectures. Excellent clinical staff with years of outpatient experience may, even after a teacher training course, find it difficult to teach the practical aspects of environmental health, let alone community development.

Also, especially in large or national programmes supported by foreign "aid," we are likely to be in a hurry to meet deadlines imposed by implementation schedules. This leads to accepting too many trainees for one course, with the consequent added difficulty of providing sufficient practical experience. One midwife training programme requires that each of the 20 trainees conducts 10 deliveries under supervision in the training hospital where there are relatively few deliveries; and because teachers who can not, or will not, do home deliveries, the intended nine-month course often extends up to two years. By this time the trainees have become accustomed to town life and are reluctant to return to the villages from which they have come and whose needs they were supposed to meet.

At this stage we must consider very carefully the changes that occur in trainees during their training, that were not part of the intended curriculum. One example will lead us into the next question of how to maintain CHW programmes. Attitudes are more likely to be influenced by the behaviour of the teachers than by what they say. Many programmes are trying to develop volunteer unpaid CHWs. How many of their teachers are unpaid? How do we justify this discrimination?

Support

By and large, activities or projects that are limited in time and have a clear end-point, such as building a building, training a student or attending a conference, are much easier to achieve than establishing an on-going activity. For primary health care to get off the donor agency project list and the conference circuit, and to be incorporated into the way of life of rural communities requires steady support from within the community as well as some from without.

Support by the community itself is the most important requirement and the most difficult to achieve. To develop it and to establish an on-going system for its maintenance is the stuff of development, and takes time. Rome was not created in a day, but we only have nineteen years till the year 2000!

Continuing community support only comes with understanding--real understanding by the community of what it is expected, or wants, to

support. A lot of groundwork is required to get a community to organize itself, formulate its needs and decide what it wants to support. If some of these, whether related to medicine or not, can be met, they will provide encouragement for further activities. Some sort of community organization is essential for development. This may be of a traditional type, or administrative, political or religious. Some sort of representative group or committee is required to formulate and channel ideas and to monitor change. The more this is really part of the internal working of the community and not an imposition from outside, the greater its chance of survival and success. Yet this sort of organization, or committee, if it already exists, is seldom related to health. Should a "health committee" be started? Or should an existing committee be helped to add health to its responsibilities? If the existing organization only represents a section of the community, or is bureaucratic or corrupt, will another one be any better? There is again no universal answer. However, such considerations are very important and often outside the usual range of concern of health professionals.

Internal support is mentioned first as it is often forgotten, but external support in the form of technical supervision, the management of supplies and back-up services is also crucial.

Are communities going to pay for the service? If they do, they are likely to concentrate on curative services. What community wants to pay someone to come and advise them to dig latrines? Where the programme needs multi-sectoral support, for example in health, agriculture and water development, this is more difficult to supply, especially from government sources whose experience in "integrated efforts" is not very advanced. Only where support is provided on a regular basis, and commitments are fulfilled, can some quality of service be maintained. This is most often seen in small spontaneous programmes. It is much more difficult in larger and national programmes. Cost is often the critical factor, though lack of commitment and administrative ineptitude are also important. Costs of supervisors' salaries, supplies--drugs, tools and paper--and transport are considerable. The slogan that prevention is cheaper than cure overlooks the fact that neglect is cheaper still! The real costs of primary health care programmes are only fairly recently becoming appreciated.

Finally in considering support we must think about the focus of this support--the CHW himself or herself.

Can communities--and we ourselves--really expect CHWs to contribute their services for nothing on a continuing basis? This raises many profound questions, the answers to which will vary in different circumstances--questions of full-time or part-time CHWs and their specializations, size of the community covered, charges for services and other co-operative activities in the community. Can we justify paying for services or drugs given by an unpaid partly-trained worker in rural areas, while providing free service from a paid worker in town?

In the Southern Sudan the PHCW is a paid government official, although chosen with some community participation. A recent study of the cost of

financing of the PHC Program showed that, of the initial investment cost, 77 percent came from external aid, 22 percent from government and 1.2 percent from the community, through contributions of labour and local materials. Of the running costs, government covers 25 percent, external aid almost 75 percent, and the community only 0.3 percent, which is in the form of cleaning a PHC unit or repairing a roof. Of course, these are aggregate figures and occasionally communities are much more active.

By contrast some CHWs in Kenya are as yet unpaid. However some form of recompense for CHWs is essential. If backed up and regularly supplied and supervised, job satisfaction will contribute. A first-aid box, weighing scales or a thermometer may boost morale and lower the emphasis on a cash salary. Even some more obvious form of recognition such as a badge or uniform, to be worn at least when visiting the reference dispensary or hospital would contribute to prestige. Perhaps, but by no means certainly, some opportunity for further training and increased responsibility would, for some, maintain motivation.

Probably real motivation only comes when the CHW feels that his work is part of his community's development; that what he is doing is for his community and so for himself. But in today's world how many of us have the privilege of that feeling?

The appropriate method of support for PHC programmes remains perhaps one of the trickiest problems to solve. Just as in clinical medicine we have learned the necessity of looking after the patient as well as treating the disease, so in PHC we must support and develop the community as well as supply drugs and dig latrines. As more governments, under pressure from WHO and donors, move towards large scale or national PHC programmes there is a very real danger that local community organization and initiative, on which success ultimately depends, will be overwhelmed.

In the year 2000 people should not look back and say "the PHC programme was a success, but the community died."

II. TRAINING OF PRIMARY HEALTH CARE WORKERS

IMPLEMENTING PRIMARY HEALTH CARE WORKER TRAINING IN TIMES OF ECONOMIC CONSTRAINT

Richard A. Smith

Seminar Speaker

The fragmentary approach in international health in general, and in primary health care (PHC) in particular, has given rise to many scattered health projects and vertical programs which lack long-term impact. If we are to make the most out of decreased resources, we should be looking for ways to strengthen developing countries' abilities to be self-reliant and to replicate and expand good program ideas. We should be cooperating in PHC programs that are part of national solutions which permanently strengthen PHC services, rather than projects which fade away because they are isolated from past experiences and support structures.

If both Third World countries and international institutions develop PHC action strategies from the same premises and clearly communicate to each other, then their resulting action strategies, based on technical and financial collaboration, would be easier. Collaboration could produce more meaningful programs since everyone would be moving together in the same direction rather than wandering in a search for targets of opportunity.

Problems in PHC Development

Experiences in the countries where the University of Hawaii's MEDEX group has collaborated in PHC programs have disclosed issues in manpower development and systems development which are common in PHC development. They mirror experiences in the Third World of other operating programs, identifying major problems that need to be addressed in developing action strategies in PHC. These problems recur over and over again in PHC in many countries:

1. Fragmented approach to health sector development ("Bits and Pieces")

2. Lack of broad-base support for a national program

3. Obsolete organizational structures for delivery of PHC services

4. Inadequate management support for PHC services

5. Failure to develop a functioning PHC planning capability

6. Lack of overall PHC-oriented manpower plan

7. Ineffective and inefficient training

8. Lack of on-the-job continuing education

9. Failure to link national and regional PHC programs with local community involvement

10. Cost

Some Principles for Application in Developing Country-Specific Action Strategies for PHC

As a result of PHC efforts and experiences from all over the globe, we can develop a generic set of principles that can be used to develop alternative action strategies for developing countries. These experiences add to our knowledge for formulating appropriate action responses to major problems and issues standing in the way of successful primary health care programs in many countries. Regarding the development of action strategies, these principles are appropriate for consideration by international organizations and NGOs, as well as developing countries:

1. Develop country-specific PHC goals and objectives.

2. Obtain a national commitment.

3. Encourage development of a PHC planning capability.

Consolidation of resources producing cost-effective and more efficient PHC and related operations included in such plans should be related to planning and training as well as to management.

4. Use a systems approach to rationalize the organization of the PHC delivery system.

5. Develop a tiered PHC manpower structure and a receptive framework for new and revised manpower categories developed.

Each manpower level should be involved in the training and supervision for the levels peripheral to it. Experience has shown that having middle-level health workers (MLHWs) train and supervise community health workers (CHWs) is a most efficient way of minimizing the costs and problems associated with creating tutor training institutions and supervising peripheral health workers. The greatest value of this type of manpower structure is that appropriate and competent health manpower becomes available from the operational center all the way out to the periphery.

6. Use effective and efficient training methods.

Collective experience dictates that manpower should be trained for competence. After examining the strengths and weaknesses of the most commonly applied educational processes, we have selected competency-based training as the most appropriate approach in most circumstances. The traditional, ad hoc, teaching approaches which use standard texts or even newly developed materials generally fall short of producing

competent health workers when the resources for training and training time are limited.

7. Make continuing education a part of the strategy.

8. Use mid-level health workers as critical links between the center and the periphery.

9. Analyze and strengthen PHC management support systems.

10. Use country-specific PHC strategy to plan resource allocation.

Personnel and finances are among the country resources that need to be inventoried. Subsequently, a separate inventory needs to be performed for external assistance, if necessary. Appropriate resources are then sought and targeted for application. Resources needing consideration in a PHC action strategy include:

a. Money (for specific purposes?)

b. Training in planning, management and training techniques

   1) short-term/long-term

   2) in-country/outside country

c. Technical assistance in planning management analysis, health personnel training, management training (short-term/long-term)

d. Technology in planning, management, training (that can be used with/without outside help)

e. Facilities construction and improvement

f. Funds for in-country training stipends, transportation, and training equipment. (Small amounts of money that are used to fill small, but critical program gaps.)

The action strategy that results from using principles such as these not only promotes the appropriate allocation of available resources but also prepares a coherent, comprehensive and rational basis for obtaining external resources. Such an action strategy can lead to the kind of quality primary health care program which has a good chance to be cost-effective, efficient and supported.

Conclusions

These principles can be used to coordinate a mixture of public, private and voluntary organizations within a country to strengthen and

expand a nation's PHC program. Such a strategy provides a country with a framework to direct and focus its own resources and those of technical assistance agencies, international organizations, lending institutions and private voluntary organizations. The savings, in resources for training and the development of management support systems, is huge when one considers redundancies, competition and the lack of coordinated cost containment measures that now characterize isolated PHC efforts. Further, some international institutions should welcome the opportunity to finally move beyond broad PHC policy statements and "hit and miss," "quick fix" projects to their own actions strategies based on field experiences. We are talking about action strategies that are compatible with the actual needs of developing countries.

The PHC task is so huge that private sector resources (money, expertise and people) should be incorporated within the overall design of national PHC programs. The bickering between public and private sectors, as well as the divisive and resource dissipating effect of competition within each of these sectors, should be harnessed into workable action-strategies for PHC.

A country should design its PHC action strategy and priorities; direct public and private institutions (local, national and international) to work on components of that strategy, rather than react to requests from such institutions; and cease to promote and allow outside groups to pursue their own objectives in isolation from each other. Then the necessary coalitions will be formed to assure the coordination among independent organizations.

PHC action strategies can work if they are based upon sound, appropriate principles and if available collective knowledge, experience and technology is harnessed and brought to bear on a country's specific problems. The mechanisms for bringing these ingredients together are available and need to be applied widely in this time of economic constraint. Success in PHC thus does not have to depend upon serendipity. It can be hastened by the sharing of knowledge, experiences, technology and the goodwill of all of us working to improve the total well-being of people.

PRACTICAL ASPECTS OF PHC TRAINING POLICIES AND PRIORITIES

Rita Thapa

Plenary Speaker

The primary health care (PHC) concept, in a nutshell, means a self-help mechanism at the people's level for improvement of their own health. The practical implication of this program differs from country to country as do their socio-economic profile and development needs. For example, primary health care in an industrialized country like the U.S.A. means mass-access to diagnostic, treatment and follow-up services rendered by a medical system equipped with high technology, manpower and management. Whereas for most developng countries primary health care means simple, low cost and effective health technologies rendered by manpower ranging from mothers to primary and basic health workers. The essential contents of the primary health care package, as accepted by the Alma Ata Conference in 1978, includes promotion of food and nutrition, supply of safe water, health education, basic sanitation, maternal-child health including family planning, immunization and appropriate treatment of common diseases and injuries. This reflects the basic needs of the world's majority, who live in harsh conditions imposed by limited resource and management capability. It is in this context that the primary health care worker is considered the possible and effective means of meeting such primary needs of most people.

The primary health care worker, however, in no way should be treated as the cheap second-class formula designed for poor people's health. A thorough understanding and commitment to this is an essential ingredient in the evolving effective training policies and priorities. The training policies and priorities should ensure that the performance of the primary health care worker is effective, as well as suitable to the local needs, apart from being less costly. For this, the primary health care worker requires support from community and organized sectors at each side. It is in this mutually supportive interface between the community and organized health system that a primary health care worker can deliver primary interventions effectively. The experience of developing countries like China and Sri Lanka in being able to meet basic human needs of most of its population testifies to this. The practical aspects of training policies and priorities, therefore, need to be directly addressed to the conditions prevailing at each interfacing side of the primary health care worker: i.e. the community on one side and the organized health system on the other. The single most important test of the policy is its multiplying effect, and this happens only when the policies and priorities are compatible with the needs and resources prevailing in the community and organized health sector. However, this is often overlooked and requires serious policy consideration.

The prevalent syndrome of poverty, ignorance and apathy poses serious doubts regarding the capability of poor communities to organize a

self-help mechanism for health. This is further aggravated by the conflicting demands usually arising from poor coordination among "inter" and "intra" PHC-related sectors. The potential role of professionals in augmenting this local capacity is constrained by their limited knowledge regarding the needs, expectations and behavior of local communities. These community factors obviously bear practical implications for a successful program. Therefore they require sensitive and appropriate treatment.

A strong policy commitment of the organized health system is crucial for successful application of primary health worker training policies. However, in most cases we find that the policy commitment is limited to only slogans and speeches. The practical implications of primary health care are not yet fully understood and appropriately linked to implementing infrastructure. As a result, we find that PHC is often viewed as an independent, new health program competing with others, instead of being treated as a cohesive approach based on intersectoral development, community participation and appropriate health technologies. Correction of this requires a systematic permeation of policy, all the way through to the local health units where the action takes place.

During the past decades, competing demands on the limited health sector resources from curative and various categorical health programs, each having its own separate administrative and service system, did not leave enough resource for creating a basic health system. Training policies and priorities cannot be effectively implemented in the absence of a basic health service system which is reasonably equipped and innovative in generating local interest and skills in identifying and solving their own health problems. This is a serious constraint faced by many developing countries. Strengthening the basic health system is complex due to resource constraints, and requires greater coordination and financial integration of various vertically operated programs. This is a difficult but essential planning choice. However, evidence from various experimental projects suggest the success of this approach. The Narangwal experience is one such study conclusion. In a recent evaluation of Nepal's national health program, integration of family planning, maternal-child health, immunization, tuberculosis and leprosy control services into a basic health service was found to be more cost-effective than that of the vertical approach. However, regardless of numerous positive findings, this approach still remains the most difficult and sensitive choice yet to be made.

There remains a few soul-searching questions related to the practical application of training policies and priorities:

1. Has the policy of primary health care training and its implication been sufficiently permeated through all levels of the health system so as to motivate it to undertake the extensive training requirements effectively? Does a medical officer working in a district hospital or a malaria field supervisor view the primary health care training with a similar degree of commitment

and motivation as evidenced in international seminars? If not, how can this be attained and how soon?

2. Given the resource constraints, how effectively can the limited and fragmented health sector resource be reorganized to build up a stronger comprehensive basic health system capable of supporting the huge training activities? For example, how motivated and capable are we to organize a cohesive central-training team by integrating the scattered training resources existing at various independent health projects?

3. How can a mutually supportive mechanism be developed and maintained among the organized health sector and the local community to institutionalize the primary health care training program?

4. How can simple and effective methods be developed to help local communities gather their own data, define priority health needs and formulate training policies?

5. How can the low morale and apathy of the community and the low credibility of organized health sector be improved to generate mutual participation in a primary health care training program?

6. How can we generate a local mechanism to finance the primary health care worker training program? Are we willing to delegate the authority of raising local development revenues to the local community? How can the local community mobilize resources to support the activities of primary health care workers?

7. What is the career ladder for primary health workers? In spite of the best motivation and dedication, a primary worker will need some means to live and thus will aspire to being a private practitioner at the local community or being linked with the health manpower pyramid. A clear policy on this is crucial to primary health care training programs.

8. Lastly, the validity and relevance of training policies and priorities need to be monitored continually through primary and secondary operational research programs. One such research effort would be to ask whether the primary health care workers, with only a brief training, have been able to perform the tasks for which they have been trained.

In order to transform the slogan of "primary health care" into a common experience, we should search for answers to these questions from the local community. Coordinated international assistance would undoubtedly help this movement.

WHAT PRIMARY HEALTH WORKERS ARE

Rajaratnam Abel

Seminar Speaker

Health programmes have always attempted to bring health services to the underserved populations. Various methods have been attempted such as setting up of mobile health clinics and constructing rural health centres. While each method was tried, it reached some people, but there were still significant number of people who did not have access to health services.

Based on the experience of the past few decades and with the current understanding of the failures of the past programmes, the concept of primary health care (PHC)[1] finally emerged at Alma Ata. With all its deficiencies, the ideas of PHC still took on the imagination of health leaders of the developing countries, leading to quick and specific action in their respective countries. To keep up the momentum of the enthusiasm, the gaps in the understanding of PHC needed to be quickly filled up. One such important area needing proper defining and better understanding was the PHC worker. Working guides[2] and other appropriate educational materials[3] became increasingly available to inexperienced workers[4] in the area of PHC. Many of these were based on programmes delivering PHC in many parts of the world.[5]

This article looks at the experience of Rural Unit for Health and Social Affairs (RUHSA) of Christian Medical College and Hospital, Vellore, Tamilnadu, India.

Planning the Programme

When the plans[6] were being made for RUHSA the concepts of PHC were being increasingly accepted by health planners around the world. Though ill-understood, PHC workers were chosen as the appropriate level of workers to provide health services in the programme area of RUHSA, having a rural population of approximately 100,000. The planning process within RUHSA consisted of three distinct steps:

1. Visiting similar programmes

Members of the staff likely to be involved in the PHC worker programme visited a number of programmes utilizing PHC workers. The emphasis during these visits was to identify the various methods of selection, training and utilization of PHC workers. Emphasis was made on identifying the strengths and weaknesses of the various approaches.

2. Adaptation to local need

On return from these visits the participants made an oral report to the rest of the staff. Together those approaches that were applicable to

the RUHSA programme were identified with appropriate changes. At this stage external consultants were also utilized.

3. The final plan

Having obtained the inputs from the staff and consultants a smaller group of three staff members were entrusted with the task of drawing the final plan. This consisted of listing the criteria for selection of PHC workers, the curriculum and the training schedule. As decisions were made reports were presented at the staff meetings to ensure feedback from the staff and also to ensure staff development in understanding the role of the PHC worker in the RUHSA programme.

Issues Considered During Planning

While the steps outlined above look simple and straight forward, much time was spent in identifying the various issues involved with specific reference to its impact on the selection, training and implementation.

1. Preventive and curative balance

This was the most fundamental issue to be decided. How much curative work would the PHC woker do after the training programme? One consideration that influenced our decision was a political decision stating that the people of the state were entitled to care by fully qualified doctors. In practice this meant that PHC workers were forbidden to do curative health work.

Another consideration was the observation of some of the health administrators of programmes visited. When PHC workers were trained in curative work early in the training programme, these workers tended to do more curative work, sometimes totally ignoring preventive work.

Based on these considerations it was decided that the emphasis in the job description will be mainly in preventive aspect with curative work restricted to those that were commonly accepted like oral rehydration.

2. Sex and age

Since women and children formed the major target group in the health field, women were considered as the ones who could deliver the services effectively. To ensure easy acceptance by the community a person who had gone through the experiences of marriage, child birth and bringing up children to school age was considered preferable. A mother with school going children was thought to have more time for visiting.

3. Who should select

The World Health Organization (WHO) describes the PHC worker as one "selected by the local community or with their agreement ..." 1/ The staff accepted this principle, but the problem was in eliciting community participation that is representative of the whole population. Various

methods were used in the process ranging from systematic sample interviews, discussions with informal leaders, selection by other PHC workers, selection by the village advisory committees and in village general meetings. Attempts were made consciously to keep out staff decisions biases. Whatever the method of selection, acceptance by leaders representing the majority of people was necessary before formal selection for training. In situations where there was a lack of community interest, selection was delayed till there was some form of community participation.

4. Level of education

Based on the experience of other programmes it was decided that education will not be a strict criteria for selection. Since the language spoken was uniform, the local language was to be used in training. However, to suit any illiterate workers appropriate records were to be developed. One illiterate worker paid a small portion of her allowance to a student to help her write the records even as the reports were simplified.

5. Working hours

The job description planned for the PHC worker demanded only part time work. The issue was however in deciding whether this would be a volunteer or paid work. To be regular and responsible all work was to be paid proportionate to the time spent in work. It was estimated that it would require approximately two hours per day to cover the 200 families allotted to each worker, visiting once in two weeks.

6. Who should pay

It had been originally planned that the PHC worker should be supported by the community. The initial socio-economic survey[7] had shown that nearly 75 percent of the population was below the poverty line. If such a community were to pay for a PHC worker the major contributions would be from the 10-15 percent richer population. In such situations it was assumed that the PHC worker may become obligated to the richer people and neglect the poor who needed the services.

7. Other occupations

Being only a part time work, and providing only a very small portion of income needed for sustenance, one of the recommended criteria was someone who had other sources of income. It was noted that over 80 percent of the selected workers had some means of income.

Training

Having prepared a curriculum appropriate to the job description, planning the training programme was the next major activity. Certain training issues were considered at the planning stage.

Place of training

It was decided quite early in the planning that the training would be conducted in one of the villages. Difficulties of transportation favoured a fairly central and easily accessible village. However, in many of the appropriate villages there were hardly any buildings that could accommodate the 20 trainees and the trainers. When the training had to be conducted at the programme headquarters, also a village, it was conducted under the shade of trees to give a rural setting. The trainers and trainees would sit on mats spread on the ground.

Duration of training

Health workers tend to forget the length of time taken to graduate from medical or nursing schools. PHC worker also requires certain duration of time to understand and retain the lessons taught in classes. The process of repetition has to be continued over some time before they could grasp the meaning of what they have learned. At this stage however it may be difficult to indicate the ideal duration of training.

Training schedule

The training schedule consisted of one week initial formal training. During this time the trainees lived together as a group, cooking their own food and having their food together. This brings about social interactions which is useful in bringing these workers together.

Following the first week of formal training was one month of supervised in-service training. This consisted primarily of trying to identify the population to be served, indicating the number in each family, showing the under-five children and pregnant women separately. This was followed by a second week of formal training. This week was also used to share the initial experiences of the workers. Following the second week of training the main training component was the weekly in-service training by the staff of the mobile team. In addition, once each month the workers came together to discuss their experiences, problems and also learn something new. There is probably no end to such training.

Training methods

Role playing was probably the most enjoyable learning method. In addition, slides, films, puppet shows, and visual aids were used. Laboratory demonstration of bacilli was very useful in explaining the cause of diseases. Clinical methods were also used when appropriate. These included Kwarshiorkor, Bitot's spots of vitamin A deficiency, scabies and fits associated with eclampsia.

The Future

Having selected and trained 80 PHC workers, it is useful to observe the lessons learned in this process. Is it the correct approach? What are the problems involved?

Change in attitudes

It is impossible to go through such a training process and fail to see changes in the attitudes of both the trainers and the trainees. The PHC workers begin to see disease and its causation in a different way. Once they are accepted as part of a health team they feel more confident in trying to change the attitudes of the people for whom they work.

The trainer also has changes in attitudes, especially in accepting the PHC worker as one who could be a partner in the delivery of health service. Even more significant is the readiness to learn from the experience of PHC workers and later use this in teaching others.

Further training and development

Having decided at the initial stages to emphasize preventive work, a time will come when the curative component will have to be emphasized. Only then will the PHC workers be able to meet the basic needs of the community.

PHC workers can also become important agents of social change in the rural areas. Appropriate areas of social change needs to be identified and suitably trained. Health is only a part of overall development. These workers could also be useful agents of developmental change. The development of home gardens, small rural industries, etc., could be channelled through these workers. Career development pathways should be identified and suitable workers should be encouraged.

Training of illiterate women

While illiterate women are taken for the initial training for work, it is not necessary that these workers remain illiterate throughout their life. Appropriate adult literacy programmes could be planned to help them read and write at least in areas pertaining to their work.

Recognition of PHC workers

Methods of recognizing the important contributions of PHC workers should be gradually developed. It is quite possible that local, regional and even national conferences could be organized where PHC workers can come together and share their experiences. This would be a means of upgrading this category of workers, broadening their outlook, increasing their self worth and accomplishing better PHC work.

Evaluation

The working of the PHC workers of the RUHSA has not been formally evaluated. Certain indicators to measure their work has been initiated. These involve the periodic enumeration of the acceptors of the following health services: ANC registration and follow up, complete immunization, family planning acceptance, and surveillance of specific diseases.

Conclusion

A beginning has just been made in the direction of providing PHC. A lot more needs to be learned. In the meantime the experiences of those programmes utilizing PHC workers needs to be pooled together for the benefit of those starting new PHC programmes. However good a plan on PHC may be, success depends largely upon identifying and selecting the correct PHC workers.

NOTES

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2/Primary Health Care Worker, WHO, Geneva, (1980).

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6/Programme Proposal, RUHSA, K.V. Kuppam, India, (1977).

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MOROCCO FOOD AND NUTRITION/HEALTH EDUCATION

Carol Adelman

Seminar Speaker

In 1975, USAID approved a $450,000 grant to Catholic Relief Services (CRS) to introduce nutrition education into some 250 social education centers which had been distributing P.L. 480 Title II food commodities. These centers, under the management of the Ministry of Social Affairs (MSA), are located throughout Morocco and accommodate some 150,000 mothers and 300,000 pre-school children annually. To launch the new education component, a nutrition school at Marrakech was established. This institute trained a cadre of competent Moroccan women at the provincial and local levels. Some 500 women from villages with social education centers were recruited to be trained as teachers. Many of these women had been previously with the program, distributing food to mothers and weighing children at the centers. But they worked as administrators and not as educators. Since they lacked training they were frequently uncomfortable in carrying out their limited cooking demonstrations. To back them up and provide a means of communicating with the teachers in their small and often isolated centers, a group of 30 mid-level supervisors was also trained. These were women with secondary education generally, selected through a widely publicized national contest and then sent to the Tunisian National Nutrition Institute for an intensive three-month training course in basic nutrition and health. Four Moroccans were selected, at the same time, for a three-year degree program in Tunisia so that afterwards they could assume the teaching responsibilities at Marrakech. With United States and Tunisian technical assistance a curriculum was developed which combined practical lessons in nutrition, sanitation, personal hygiene and the treatment of childhood diseases.

Two teachers at each center conduct the nutrition/health lessons, record the weights of children and distribute a food ration of some 3.75 kilograms per recipient per month. Mothers attend once a month on the same day and receive a ration for themselves, the child enrolled in the program and for a younger sibling. This food provides roughly 40 percent of energy and 70 percent of protein requirements. Since the ration sizes are relatively large and distributed to three family members, the food provides a substantial income supplement as well--up to 24 percent of the per capita incomes of these poor families. The center teachers receive a one-month refresher course each year at the Marrakech nutrition school.

Centers in each province are visited monthly by their provincial supervisor. She records monthly weights and other program information and sends this to the central headquarters. She also answers questions and solves problems that the center teachers may encounter. The supervisory cadre receives in-service upgrading through ten-day seminars twice a year. They also attend the month-long refresher course at Marrakech with the teachers from their province.

In-depth evaluations conducted by the Ministry of Social Affairs, Catholic Relief Services and USAID have shown that the program is extremely well-organized and running smoothly. There has also been a measurable impact on the nutritional status of children in the program. Since the grant terminated in December 1978, the program administrative costs have been assumed by the Ministry of Social Affairs, mothers' monthly payments (50 cents) cover center operating costs and salaries of the two teachers. The food continues to be funded by USAID.

The key factors underlying the operational success of this program are:

1. Tasks and responsibilities carefully identified

2. Frequent field visits and support of center teachers

3. Emphasis on training and upgrading of skills

4. Encouragement of local initiative and adaptation from both center teachers and mothers themselves

The shaping of this program to meet the community's needs was achieved through a combination of adaptation at the local level and strong central guidance. While community leaders (local Sheiks) were consulted about the program and assisted in the selection of the local center teachers, there were no community health and development committees formed to discuss priorities and needs. Needs assessment was carried out by the CRS and MSA central leadership through nutrition/health surveys, field observations and discussions with teachers and supervisors. Development of the teaching curriculum and teachers' lesson plans was based on these surveys and has been modified by new survey information.

An important aspect of the program is to select center teachers from the same villages where the centers are located. These are women of the same socioeconomic and educational level as the program mothers. Teachers are firmly rooted in the community and speak the same language as the mothers; they are thus accessible and understandable to mothers. The appropriateness of the teachers as educators of poor mothers has been questioned by some in the Ministry of Health. Some doubt that their education level is sufficiently high to understand health/nutrition concepts and then translate these to their clients exists. It was our evaluation team's impression that the teachers do very well, primarily because of the very detailed lesson plans and continual upgrading of skills. However, we also observed situations where center teachers made little use of the weighing process and growth chart as an educational tool. Also some teachers did not engage mothers in discussion of even minor illnesses, but referred them to the health center. The Ministry of Social Affairs is aware of this problem and considering solutions.

Training of the teachers at Marrakech is adapted to their abilities. One instructor at the school said that she divides her course material in order to cover it in twice the time for teachers from the southern provinces whose level of comprehension is lower than those from the

northern provinces. The school is also introducing a new course in principles and practices of communication to assist the center teachers. The annual month of continuing education for the teachers contains much recapitulation of material from earlier courses. For the first week the teachers themselves are assigned to teach this refresher material to their peers; they are encouraged to use student-active, question and answer methods of presentation. The school at Marrakech has a social education center right in its own courtyard. This affords a site and a regular schedule of mothers' classes for practical training in the afternoons to reinforce classroom teaching in the mornings.

At the centers themselves teachers encourage mothers to suggest discussion topics and relate their own experiences. There is lively interaction in a relaxed atmosphere between mothers and teachers. Rhetorical questions and practical demonstrations are emphasized. The arrangement of the room encourages this student participation with mothers usually sitting in a circle. The project leadership style--instructors and provincial supervisors listening to teachers' problems and ideas--creates a positive model for the teachers' interaction with the mothers.

While teachers do visit some homes of mothers, this represents only a small percentage of the 500 enrolled households at each center. Reasons reported for visits varied. Some teachers visited women who had not showed up for one or two sessions. Others visited homes of newly enrolled mothers to catch them up on topics already known to the longer enrolled mothers. Some reported visiting homes of mothers who had sick children referred to the dispensary.

Clearly defined central guidance is the important complement to the encouragement of local variation and initiative seen in the MSA program. Printed lesson plans, common teaching and weighing materials and formatted supervisory and teachers' reports are some examples of these management components.

In summary, the Morocco nutrition/health education and feeding program is an example of a successful program utilizing primary health care workers for nutrition screening, nutrition/health/hygiene education and referral of sick children to health centers. The program differs from some primary health care models in its more limited community-based involvement and outreach to families, but is similar in its encouragement of bottom-up communication and adaptation to regional and local needs and initiatives.

INVOLVING THE COMMUNITY: EXPERIENCES FROM THE FIELD

Phyllis Dobyns

Seminar Speaker

Is community participation a "custom more often honored in the breach than in the practice"? In the last five years many notable figures have written on the need for primary health care, and more recently on the need for community-based approaches. However, real and concrete applications of primary health care are few, and community-based applications are even fewer.

The Save the Children Federation is deeply committed to a community-based, integrated programming methodology. This methodology is based upon experience in working in more than 26 developing countries. The approach is holistic, recognizing that health problems are interrelated with the economic, political and cultural problems of society. Health is seen as only one component of the overall development of the community, improving the quality of life.

In implementing an integrated rural development plan, the initial goals and objectives of the plan itself remain open-ended and flexible. Planning is based on community felt needs, and not the needs as felt by the outside technicians. The field coordinators for Save the Children try to inspire, advise, motivate and demonstrate, but do not make decisions for the community. In general, they try to build from the grass roots up, and not give from the agency down to the people. In reality, of course, this is the only way enduring success can be achieved.

Any program directed towards a community can work only with the essential element of community awareness and community involvement in the planning and implementation of the program. It must involve those who live with the problems of disease and poverty and it must stimulate them to make the decisions and take the responsibility for their own health care and well-being.

Clearly, all of this sounds good in principle, but how does one make it happen? How does one bring about the requisite community awareness and community involvement? As Save the Children discovered very early, the answer to this question lies not in sophisticated organizational structures and strategies, but upon a few individuals with exceptional interpersonal skills. These are invariably people who recognize the inherent knowledge and resources of the community, and who are able to facilitate community participation.

There are as many definitions of what constitutes community participation as there are people working in the field. For some, a short lecture with a follow-up question and answer period is a community-based activity. Others believe that there has been community participation when a broad spectrum of the village members have availed themselves of the

project's services. With this perspective, a definition of community participation may be satisfied if the program serves many people on an out-patient basis. Save the Children differentiates between a community-oriented program, as illustrated by the lecture and clinic examples and a program based on community participation, where local people set the program objectives, mobilize local resources and are actively involved in the implementation of project activities that respond to local needs.

The success of any community participation effort depends largely on the community health worker's level of commitment and skill in using this approach. The next critical question, then, is what steps can be taken to develop community health workers' skills and commitment to an approach that may appear to conflict with the community health workers' own personal quest for prestige and status within the community. To some extent a community health worker can derive status by transmitting to others the sense that he or she has superior knowledge and training. The only role model that they have had is of the technician or teacher who imparts knowledge from on high. Implicit in this behavior is the belief that the "knowlege recipients" have nothing to contribute and that the "knowledge imparters" must fill some void. The fallacy of this belief remains one of the most dangerous pitfalls. To educate in its true sense means not to pour in, but to draw forth knowledge. However, being a provider, a kind of superior being, is tremendously seductive to anyone, and for some community health workers it is this desire for status that motivates them to remain on the job. It is important to take this conflict into account.

Save the Children has found a number of specific strategies useful in planning programs and training primary health care workers.

1. Assist the community in assuming responsibility for defining the community health workers' role and establishing selection criteria. This means that the community health worker is in effect hired by, and reporting to, the community itself.

2. Define the community health worker's job success in terms of community involvement. Thus, the exemplary community health worker is one who is working in a community where residents have launched their own health-related initiatives. Supervisory practices, particularly those related to evaluation, must be consistent with this emphasis.

3. Build on existing health-care practices so that community members are not relegated to the role of mere beneficiaries. Community members traditionally have engaged in both preventive and curative practices, many of them highly beneficial. The community must be helped to appreciate the value of what they already know so that they do not hold the community health worker in unnecessary and ill-advised awe.

4. Insofar as possible use community health worker teams. Members' abilities to understand and communicate with different segments of the population can complement one another so that no portion

of the community is left out of health-related initiatives. Often, teams composed of both men and women are very practical. Male community health workers in many cultures are more likely to be successful in involving a community in water and environmental sanitation projects than women. Female community health workers, on the other hand, can generally establish rapport with mothers and children more easily than males can.

5. Use participatory approaches in the training of the health workers themselves. Such an approach is one in which the trainees assess their own needs, engage in open-ended learning activities, and evaluate their own progress in meeting the learning objectives they have selected. In participatory settings, learners converse with one another and view other participants as resources. The trainer is not an information imparter but a facilitator, helping to set in motion a process whereby the group can build on its own experiences to solve problems and meet goals. Effective training also involves ample hands-on experience. A technique or tool might be presented to the group on a theoretical level, but it is not considered part of the trainees' repertoire until they have had several opportunities to experiment with it in the field and arrive at their own conclusions concerning its worth. Good participatory training also places a strong emphasis on the development of new skills and new attitudes. Attitudes and skills must be developed hand in hand, so that trainees will be motivated to use what they learn once the initial training is over. Peer feedback and other group dynamic techniques are important in building both commitment to and knowledge of community participation strategies. The net result of this approach will be that the positive experience of the health worker in his or her own training will be carried over into his or her work in the field.

6. Use follow-up to build community health workers' self-confidence and to reinforce those behaviors most conducive to enlarged community participation. Some techniques for this kind of follow-up generally performed by trainers include jointly facilitated community sessions where the trainer and community health workers work together to develop a community activity; organization of peer support groups where community health workers from nearby communities share problems, accomplishments, and solutions; and joint goal setting activities and subsequent workshops where skill needs identified by community health workers are met.

All of these strategies focus on the human element of primary health care. An element which still does not receive the attention it requires and deserves. Facts and figures aside, primary health care is above all intensive work with people in their communities. Ultimately, we must realize that the goal of health <u>for</u> all people really means health <u>by</u> all people.

SELECTION OF PRIMARY HEALTH CARE WORKERS IN EAST AFRICA: A COMPARATIVE STUDY

Michael S. Gerber

Seminar Speaker

It has been estimated that only 20 to 25 percent of rural populations in less developed countries have access to modern health care. While 80 percent of the people in these countries live in rural regions, 80 percent of the trained doctor and hospitals are located in urban centers. An unfortunate reality of the 1980's is that the world's poor, who represent a majority, are without access to the delivery of health care. Needed are alternative approaches to supplement limited existing resources.

One such alternative is the development of primary health care systems and utilization of a key element within those systems--the primary health care worker (PHCW) (often referred to as community health worker (CHW), village health worker (VHW), or health auxiliary). The International Medical & Research Foundation through its operational headquarters in East Africa, the African Medical & Research Foundation (AMREF), is currently undertaking two primary health care projects in collaboration with Ministries of Health in Southern Sudan and Kenya.

The design and scope of these efforts are different enough to provide some interesting contrasts. This paper will briefly describe both primary health care programs and highlight differences with specific reference to selection and training of community health workers. The experiences of AMREF as a result of working with the Southern Sudan Primary Health Care Program and Kibwezi (Kenya) Rural Health Scheme has definite implications for selection and training in future community health projects.

Southern Sudan Primary Health Care Program

AMREF's involvement in Southern Sudan dates back to 1972. Upon termination of the Sudanese Civil War the organization was requested to produce a health assessment which stressed the importance of village health services and training auxiliary staff. In 1975, AMREF's Medical Director joined a WHO team in preparing the National Health Program and a program for Primary Health Care in the Southern Region (PHCP). During 1976, AMREF was asked by the Ministry of Health to develop a detailed curriculum for training CHWs, plan a training program for teachers (tutors) of CHWs, execute the training program for selected tutors, conduct refresher courses, and assist in supervising and evaluating CHWs in the field. In 1978, AMREF received a grant from USAID for further help in implementing the PHCP.

A major goal of the Southern Sudan PHCP is to eventually train at least 800 CHWs who will then provide first level health delivery for a

population of over four million. In an area comparable to the size of Kenya, Southern Sudan has fewer than 60 trained physicians to serve these more than four million people. As specifically stated in the country's National Health Plan, the PHCP is a comprehensive health delivery system which (1) is community based and reaches beyond the health center and dispensary; (2) is designed to have responsibility for the entire rural and nomadic population; (3) lays stress on health services that are promotive and preventive rather than curative; (4) includes rural development activities and (5) relies on community participation and self reliance in the development of a rural health care system.

Since Sudan's PHCP is national in scope, the selection criteria and process for CHWs has been mandated by the Ministry of Health. AMREF is providing technical assistance to help the Ministry in implementing its own program. The Government of Sudan proposed that CHWs be recruited and supported by local communities and paid by local government institutions. To date, only local recruitment has occurred. Because village communities cannot afford to support CHWs these workers are being paid by the regional government and are considered civil servants. This status will continue until communities are able to fulfill the remuneration responsibility. Current salary for a CHW is approximately U.S. $662 per annum.

Selection of a CHW rests with three village groups: The Village Development Committee, the Sudan Socialist Union (SSU) and the Village Council. The first two function in an advisory capacity at the village level, while the third is the lowest ranking official government body. The Village Development Committee members are elected for one year. The SSU is a political party whose members are elected for two years. The Village Council members are elected to four year terms and are invested with executive authority. Besides selection of CHWs, these committees seek to integrate primary health care with other community development programs.

The minimum educational requirements for selection as a CHW is six years of primary schooling. Since training is conducted in the English language, an ability to both read and write in English is a necessity. On completion of a fixed nine month training program, the CHW is posted to the community which made the selection. Because of cultural considerations and high educational requirements, the approximately 200 CHWs trained to date in Southern Sudan have all been males.

Theoretically, in most primary health care programs, selection and compensation of CHWs is made by the communities they serve. There has been some deviation from this ideal in the Southern Sudan. Although selection is the responsibility of three elected village bodies, questions can be raised about how representative they are. Those questions generally apply in programs where CHWs are selected by some type of village committee. A lot more study is needed of the processes and group dynamics involved in selection of CHWs by village institutions.

Compensation in Southern Sudan does not come from the communities, but rather from the Regional Government, in effect making the CHW a civil servant. The Government of Sudan's plan is to pay salaries with eventual

responsibility for remuneration being assumed by local communities. The rationale for initial government compensation was that in order to get a national PHCP going, Ministry of Health funding for CHWs was necessary. It was felt that given minimum resources, villages could not and still cannot maintain support.

Strong arguments can be offered for local commitment and delaying programs until a village support system is worked out by the villagers themselves. There is little doubt that a greater burden of responsibility and accountability are placed on the CHW if compensation is derived from the group that did the selection. In Southern Sudan, a CHW works for the government and not the people being served. Salary levels set by the government for CHWs are quite high given village economies. It will be very difficult to make the transition from civil servant to "village supported" CHW. Is it reasonable to eventually expect CHWs accepting salaries lower than what they now earn or accepting in-kind compensation in lieu of cash?

The educational requirements for CHWs in Southern Sudan deserve some comment. Questions can be raised as to whether six years of formal schooling is not an artifically high level. There are other PHC programs where basic literacy is not a mandatory requisite. What constraints do educational standards place upon village selection committees? What are the implications for training CHWs if no minimum requirements are established? There is no universally accepted set of criteria for determining future effective performance by CHWs. However, existing programs have demonstrated that they can, with proper training, produce functioning CHWs who have never had any formal education.

Kibwezi Rural Health Scheme

AMREF is involved in one such program. It is assisting the Government of Kenya, Ministry of Health in the development of an integrated and comprehensive rural health service system for the Makindu Division of Kenya. Kibwezi's Health Center is serving as the base of operations. The health service will utilize health center staff as well as community health workers of the village level to meet health care needs of a target population approximating 100,000.

Kibwezi's Rural Health Scheme is aimed at creating a model for rural health care systems. Special emphasis is placed on community participation and maximum health coverage within the resources available for this area. Felt health needs, as expressed by community members, have and will greatly influence project implementation.

The project's training element is being funded by a three-year USAID grant made in 1979. A year and a half prior to funding, AMREF's Health Behavior and Education Department began working in the communities of Kibwezi and developed a relationship with village leaders and local development committees. Since there is no nationwide primary health care program in Kenya, AMREF had an opportunity to develop a program right from the start with input from and participation by villagers of the area.

The major methods of implementation and design strategy employed by AMREF for this project include: (1) baseline surveys and special studies carried out by the Health Behavior and Education Department; (2) construction of a health center in Kibwezi to serve as the referral and technical supervisory base facility; (3) refresher training for staff at existing rural health stations in the division; (4) training some 120 CHWs, a new category of worker selected by the community and given a few weeks basic training in close cooperation with the population to be served; (5) providing CHWs with the continuous post-basic training support and (6) development of varied teaching materials.

The baseline surveys were a major factor leading to evolution of a selection process, training program, and remuneration system. To introduce the surveys, community meetings (barazas) were held throughout Kibwezi. These barazas involved careful discussion of the meaning of primary health care with stress on prevention. They provided valuable learning experiences for all participants. AMREF understood that a bona fide community health program necessitates listening to villagers and discussing their health needs, their fears, their day-to-day problems and the gaps in their knowledge. With continuing discussions, interesting relationships emerged linking demands made by the community with their willingness to not only participate but to initiate programs. The long interviews frequently led to even longer discussions.

What emerged from field work by the Health Behavior and Education Department was a definite plan of action for selecting and training CHWs beginning the last half of 1979. Criteria for selection of trainees was discussed and agreed upon with representatives of the local communities. Several meetings were arranged in the villages to explain the objectives of the project and the role of community health workers.

Of four clusters included in the baseline survey, Kai sub-location was selected as the first area for CHW training, mainly because of its active self help groups. Kaungini and Syengoni were chosen within the sub-location. CHW trainees were selected by various self help groups with the idea that each group would choose a male and female trainee. In the first batch of 37, there were 18 males and 19 females.

The self-help groups preferred their trainees to be literate, if possible. This was the case with the exception of two. (While desirable, literacy was not mandatory.) Most had completed standard seven and the average age was 25. The main occupations were housewife and farmer. The villagers' perception of CHWs was that of a respected, mature person, having some credentials as a participant in community development activities. At the same time, it was felt that the CHWs own life should be fairly representative of his/her community. It was thus expected that many CHWs would have domestic responsibilities in the form of children and gardens and these responsibilities would preclude any extended absence from home for training.

Remuneration responsibility in Kibwezi rests with the communities. It was AMREF's position in consultation with the Ministry of Health that villagers should provide support for their respective CHWs, either in

cash or kind. Payment procedures are still being worked out and will take some time before there are clear cut policies. A significant problem identified from initial evaluation studies has been with CHWs and communities' wishful thinking that AMREF, despite repeated statements to the contrary, would produce salaries. At all preliminary barazas it was emphasized that this project was designed to be community-based and AMREF would not be paying salaries. But that position was not really believed. If AMREF could "build" an impressive health center, surely funds could be found for CHWs who are the center's outreach.

Conclusion

With AMREF's major training involvement in the Southern Sudan Primary Health Care Program dating back to 1978, and in the Kibwezi Rural Health Scheme to 1979, differences in the selection process have become evident. These differences, however, must be viewed within the overall context of both programs. In Sudan, AMREF was asked to provide technical assistance to the Ministry of Health with the purpose of assisting the Ministry carry out an already developed national primary health care commitment. At Kibwezi, the situation was more limited. There was no national program, the geographical area and target populations were much smaller, and AMREF was given the opportunity to create a primary health care delivery system with community participation from the beginning.

The intention here is not to do a comparative evaluation of the Southern Sudan and Kibwezi projects. The bottom line will eventually be what effect CHWs have on improving health in communities they serve, and it is much too early to determine that. However, with regard to the selection process (and training) certain lessons have been learned.

Communities to be served should participate in development of primary health care programs at the earliest possible stage. As AMREF's Health Behavior and Education Department's efforts have shown, the idea of primary health care and prevention must be accepted in villages prior to implementation of a program. Village leaders and local organizations can play an important role in promoting the expected benefits. A community must see the value of primary health care. Sharing in program design, having input in CHW selection criteria, and in determining the training component will increase a community's willingness for acceptance.

Besides being included in the selection process, local communities must somehow be given the burden for CHW remuneration and accountability. If a CHW is supported by government, he/she is perceived as a civil servant. There is a greater sense of responsibility and willingness to utilize services when the villages directly support a CHW, in cash or in kind. In Sudan, a decision was made for the Ministry of Health to pay salaries in order to get a primary health care program started. The feeling was that local communities could not afford support costs. The intention is to eventually shift payment obligations to villages. It is probably unrealistic to expect villages willingly absorbing an expense that government has been bearing. Given a lack of resources, the remuneration question has no easy solution.

Flexibility within a primary health care program is desirable. This extends to establishing selection criteria, a training time period and methodology. The greater the flexibility, the greater the acceptance of participation by the community. In Sudan, for example, fixed educational and language requirements are one factor in excluding women's participation as CHWs. Lack of women CHWs tends to limit the utilization of services by women. In contrast, at Kibwezi some non-literates have been chosen for training by their communities. Because training is shorter and more localized, the population from which CHWs can be selected is much broader. Active participation by communities during the design stage can help insure a more flexible program.

EXPERIENCES IN RECRUITMENT OF PRIMARY HEALTH CARE WORKERS IN VARIOUS CONTEXTS

Maria G. Mohseny

Seminar Speaker

Recruitment and selection of primary health care workers should be contemplated from the very initial stages of planning and launching of a primary health care system. Certainly it must precede developing a training program and formulation of basic policies of the program. In recruiting primary health care workers, local communities should be involved as much as possible. After being trained the primary health care worker will be serving their communities and if local communities have been involved in selection and recruitment, the trained PHCWs will enjoy their communities' trust, approval and support.

Selection Criteria

1. Age

Younger workers are more often literate and willing to change, but lack experience and respect from the community and are more likely to leave their native villages to upgrade their careers. Older trainees are slower to learn and often illiterate, yet they have experience and the faith and trust of the villagers. The age-range of 35 to 45 is very suitable.

2. Sex

This has to be determined by health needs of the target population, socio-cultural patterns and norms. For example, maternal and child health services in many developing societies are expected to be offered by female health workers. For other types of health services male health practitioners are required.

3. Literacy

Literacy, if possible, is ideal; but should not be obtained at the cost of other essential attributes, as it is very difficult to find literate villagers, especially women. By devising simple pictoral forms and a short course on reading and writing numbers this problem can be remedied easily. As an alternative, some literate villagers may help in filling out records for the PHCWs.

4. Residency

Difficult access to health services due to distance between the services and villages and general preference among villagers to use local community resources require that selection and recruitment priority go to candidates to be trained for their own villages. This ensures maximum utilization, acceptance and support of the community.

5. Traditional health practitioners

Health practitioners are old and have set habits in dealing with health problems. They are often not willing to be trained. Yet traditional health practitioners are accepted and trusted by the community in which they live. Therefore, if properly trained, they can have significant impact on the community as useful change-agents and promoters of self-help.

Methods of Selection

Option I

PHCWs are selected by a team from the government ministry of public health, as per predetermined selection criteria, with the possibility of excluding the community or selecting an unpopular or inappropriate person.

Option II

The community selects the PHCW trainee, with a possibility of provoking factional disputes in the community.

Option III

Selection of the PHCW trainee by a joint effort of the community and ministry of health. For this, the health officials set the criteria for selection, explain the purpose and requirement thoroughly and explicitly to the village council, committee, organization or whatever they are called, and the committee after explaining the purpose to the villagers, nominate 3-4 eligible candidates. The MOH representatives with the village committee together do a final screening and select 1 or 2 persons depending on the population to be covered and radius of catchment.

If a village committee or council does not exist, this is the suitable time to help villagers to form a council. This last option is ideal as the nominee is someone accepted and respected by villagers and also fits the selection criteria. The council will support the trained PHCWs and also supervise them. The nominees feel that they have been given a privilege by the village council, therefore they will feel motivated, committed and responsible toward villagers in general and to the village council in particular.

Full-time vs. Part-time PHCWs

This depends on several factors:

-- Number of population to be covered and radius of coverage.

-- Number of PHCWs in one particular area.

-- Means of remuneration for the PHCW. Government, community on an organized regular basis, or by clients on pay-for-the-service basis.

-- Work load in the PHCWs area.

-- Other means of supporting himself such as farming or shopkeeping.

The advantage of working part-time is that the PHCW will continue his other activities also, which keeps him involved in all aspects of the community life and problems. This prevents the PHCWs' growing apart from daily normal village life, or identifying himself/herself more with the organized health staff. This case does make supervision by the health staff of the PHCW's practice more difficult.

Employment Status

If primary health care workers are government employees the advantages are:

-- more accountability to organized health services staff; and

-- easier supervision of their practices.

However, the disadvantages often outweigh the advantages:

-- remuneration of all PHCWs needed for services to 80% of rural population will be very costly for the government health sector budget of the developing countries;

-- the community loses interest in supporting the PHCWs and look at them as government agents, not one of their own;

-- the primary health care worker when losing identity with his community gets more ambitious and seeks to further his career and live in cities;

-- the program will not be self-sustaining and income-generating for the community in the long run. It will collapse as soon as economic constraints force the government to retract on direct remuneration.

Integration with Other Health Activities

PHCWs must be supported by community and 2nd level health services staff.

-- Their referral cases should be given priority and good service to build up PHCWs credibility.

-- Incentives should be provided for their health promotional activities.

-- They should be replenished with supplies on a regular basis.

-- They should feel important and wanted both in the community and organized health services.

-- Their confidence should be built up and their skills expanded through organized continuing education and supervision systems.

-- Rapport and team-spirit should be created between PHCWs, their trainers/supervisors and 2nd level health workers.

-- Tasks, reponsibilities, scope of work and commitments of all parties involved should be specified, e.g. MOH - community council and villagers, PHCWs, all should be aware of their responsibilities and expectations.

-- PHCWs should be incorporated into broader framework of the organized health care system.

TRAINING OF TRAINERS OF PRIMARY HEALTH CARE WORKERS: STRENGTHENING NATIONAL TRAINING CAPABILITIES

Bruce Bennard

Seminar Speaker

In accordance with the major recommendations of the Alma Alta Conference, most countries in Africa and the Middle East are seeking to extend quality preventive health services to their rural populations. Realization of this goal depends on many factors, one of which is the development of relevant indigenous training systems that will produce paramedical workers who are responsible for providing rural health services.

The Program for International Training in Health (INTRAH), a five-year, international assistance program funded by the Population Office of USAID, provides technical resources to strengthen existing programs and develop new primary health care worker (PHCW) training programs in Africa and the Middle East. After 18 months of operation, INTRAH is working in a wide range of geographical, cultural and health care settings, with active programs in Egypt, Morocco, Tunisia, Kenya, Rwanda, Swaziland, Somalia and Mali. While INTRAH supports maternal and child health/family planning (MCH/FP) training of all catgories of non-physician health workers, the keystone of its strategy in most countries is the Training of Trainers (TOT). Recognizing that external technical assistance programs cannot realistically expect to train directly the large number of health workers required for extended service delivery, INTRAH improves the skills and knowledge of indigenous trainers and strengthens the training programs within which they function to create a multiplier effect, with the potential for improving the training of large cadres of PHCWs.

At this time, INTRAH's impact upon MCH/FP service delivery in Africa and the Middle East cannot be determined. However, the initial response by host country health officials to INTRAH Training of Trainer efforts has been enthusiastic, and the program has been invited to extend its activities in many countries and to initiate work in others.

INTRAH's approach to Training of Trainers is based upon a process of systematic program development that follows four discrete phases: I. Needs Assessment, II. Program Planning, III. Training Implementation, and IV. Follow-up Evaluation. The phases are standard, but the emphasis INTRAH gives to collaborative planning with African and Middle East colleagues is perhaps unique. The program's intent is to insure that host country commitment to TOT programs will endure after INTRAH's direct assistance is withdrawn. A critical aspect of this emphasis is INTRAH's extension of technical assistance to nationals through each phase of the program development process. An examination of each of these phases illustrates how INTRAH applies its approach and how this approach has shaped country programs.

I. Training Needs Assessment

INTRAH conducts assessments that focus on priority training needs. are oriented toward practice rather than research or policy, and are structured to immediately benefit the host country. The needs assessments are collaborative, in-country endeavors, closely linked with the training program development phase. They are utilized primarily as a means of assisting nationals in clarifying established national training objectives and determining how they can be successfully achieved. INTRAH's approach has led to at least two beneficial results in most countries the Program has visited:

1. In the collaborative process of clarifying broad training goals, nationals responsible for program development become familiar--often, for the first time--with a procedure for identifying and clarifying needs and goals, while INTRAH representatives better perceive the host country perspective on health training and service delivery. Discussions usually focus on the following areas:

   -- the purpose of training

   -- the potential of training for meeting broader health objectives

   -- country training program resources and capabilities

   -- training materials

   -- the scope and scale of training

   -- the training participants, including their post-training function.

   Evidence from Mali, Somalia and Kenya,among other countries, suggests that country health officials have not routinely given attention to such areas, particularly in connection with training needs identification

2. INTRAH has introduced the idea of in-service TOT programs as a viable way for countries to meet their need for developing well-trained PHCWs. By collaboratively exploring ways to apply limited national and external training resources toward the improvement of programs that are expected to increase the number of health workers, host country officials and INTRAH representatives have come to perceive TOT as a realistic and effective approach. This is especially true when TOT programs are designed as refresher courses for existing trainers or for preparing health service workers to become trainers. For example, INTRAH's TOT program in Mali is assisting the Ministry of Health in creating and preparing a national level, in-service training team by providing technical assistance and training to instructors from major pre-service PHC worker institutions in Bamako. A similar development is taking place in Morocco with selected

nursing personnel. Earlier this year, INTRAH began providing training assistance in Kenya to increase the capabilities of the training staff of the National Family Welfare Centre (NFWC). It is anticipated that the staff of the NFWC will become national Trainers of Trainers. All three programs were based on an appropriate goal established jointly by INTRAH and the host nation during the initial needs assessment visit.

II. Program Planning

INTRAH's detailed, in country planning of TOT programs with host country professionals represents the greatest investment of the program's resources to date. INTRAH views technical assistance in program planning as a means of intensive training for a relatively small group of professionals who have important national level responsibilities for PAC worker training. Typically, this planning is initiated by INTRAH representatives during one or more country visits after the initial needs assessment and before the implementation of training. Occasionally, program planning visits follow an initial training event, as in cases where INTRAH agrees to meet a request for an immediate training activity, which is then used as a basis for planning a longer training program.

The emphasis INTRAH places upon collaborative program planning appears to be worthwhile. In Somalia, this effort has produced the "Family Health Training Program," which involves the joint participation of Benadir Hospital and the Departments of Training, MCH, Primary Health, and Planning in the Ministry of Health. This program marks the first time that these departments have worked together. Program Planning technical assistance provided by INTRAH in Tunisia helped the National Office for Population and Family Planning develop a long-term, manpower training plan that extends beyond the actual scope of direct INTRAH involvement. The commitment that Moroccan Ministry officials have made to extended INTRAH involvement and, more importantly, to institutionalization of new training mechanisms, is largely due to INTRAH's flexibility and willingness to collaborate in the process of training program planning with these officials.

Nevertheless, INTRAH's strong emphasis on technical assistance in program planning has its short-term risks. It tends to delay initial training activities and probably reduces the total number of health workers directly trained by INTRAH. These are serious considerations for a program operating in a geographic region where the number of active trained health workers falls far short of the number required. Certainly, the importance given to program planning has slowed INTRAH's rate of training. For example, in Tunisia, Egypt and Somalia, at least two program visits were necessary before a single training activity occurred. In the long run, however, INTRAH's strategy should improve the quality of training by strengthening national training capabilities.

The following steps of collaborative program development clearly reflect the considerable time investment required:

1. During needs assessment, actual program planning begins with a dialogue between INTRAH representatives and host country officials. One or more specific needs are clarified, a preliminary strategy for addressing the need(s) is proposed, and determination of the type and extent of assistance that INTRAH can offer is established.

2. One or more follow-up visits are undertaken by INTRAH representatives to develop a comprehensive draft proposal with host country professionals for short or long-term training efforts.

3. The proposal is reviewed by INTRAH's Program Planning Committee, whose members represent different technical areas of training development. The Committee attempts to clarify and strengthen the proposal. The INTRAH representative who originally assisted in developing the proposal accepts or modifies the suggested revisions, taking country conditions into consideration.

4. The proposal is modified through correspondence or additional program planning visits. Eventually, a formal contract or memorandum of understanding is signed.

A successful Program Planning phase depends on the patience and interpersonal skills of the INTRAH representative. The representative must gain credibility by negotiating openly, by being attentive and receptive to host country needs, and by assisting national counterparts in raising and answering analytical questions associated with program planning.

III. Training Implementation

INTRAH's TOT programs usually consist of a series of workshops, two to six weeks in length, which are conducted in Africa and the Middle East. Workshop content varies considerably. In addition to training techniques, it includes curriculum revision, materials design and production, as well as health-related clinical skills. TOT programs begin with considerable external technical involvement, which gradually decreases until host country professionals provide most or all of the training. Whenever possible, nationals are used as co-trainers, beginning with the workshop planning phase when content, materials development, format, and scheduling are considered. National co-trainers generally take increasing workshop responsibility until INTRAH representatives are no longer required. This process of training implementation is well underway in Mali, Kenya and Swaziland. National trainers in these countries are gaining firsthand, direct experience in the full range of responsibilities associated with implementing high-level, quality Training of Trainer workshops.

IV. Follow-up Evaluation

During the needs assessment and program planning phases, INTRAH stresses the importance of collaborative planning of evaluation and follow-up. Since such programs are of value only if those trained are able to apply what they have learned in their work setting, careful evaluation and follow-up is deemed necessary to determine the extent of this

application and assess whether or not the effects of training are being diffused. Evaluation provides INTRAH and host country officials with information necessary to decide whether or not the TOT program requires modification. Upon acceptance of the viability and practicality of the above principles by all parties, provisions are made during the planning phase for evaluation and follow-up in any TOT program.

Typically, host country officials acknowledge the importance of formative evaluation as a means of improving program management, but they require assistance in planning and conducting specific evaluations and follow-up activities. INTRAH has provided such technical assistance in planning and implementation prior to or early in the actual training phase in Kenya, Swaziland, Tunisia, Morocco, Egypt and Somalia.

Long-term impact plans developed to date include field-based follow-up of TOT trainees on a sampling basis. These INTRAH field studies will rely upon on-site observation to chronicle what occurs at the training site or workplace. Although the methodology will be systematic, it will not depend on quantitative measures for results, and the criteria for each study will be adapted to the particular circumstances at hand. Most importantly, host country nationals will share considerable responsibility for all follow-up activities. This situation keeps follow-up procedures consistent with host country resource capabilities and assumes that trainees will be supported by their indigenous training system after initial training has occurred. INTRAH's experience reveals that evaluation and follow-up are often neglected less from lack of interest than from a shortage of resources.

Summary

To develop sustained national training capabilities for non-physician MCH/FP service personnel in Africa and the Middle East, INTRAH emphasizes a collaborative, systematic development strategy for long-term, quality Training of Trainer programs. This strategy, which includes the provision of technical assistance through each phase of the program development process, already has borne positive results in various countries: health officials are realizing procedures for clarifying their needs and objectives, national training teams are being considered as a viable means of reaching large numbers of health workers, institutions and organizations with common interests and directives are interacting, and new training mechanisms and plans are being put into effect. Finally, INTRAH's training partners are actively assuming more responsibility for training or are being prepared for responsibilities in other areas, such as follow-up field studies. INTRAH will minimize the short-term training risks inherent in its approach by building on internal potentials and capabilities in Africa and the Middle East to produce a broader training effect.

ALTERNATIVE APPROACHES TO TRAINING OF TRAINERS

Sif Ericsson

Seminar Speaker

Imagine that you have just been put in charge of a program to train village health workers in one of the West African countries. You are working with two nurses from the Ministry of Health who have worked in rural health centers, but who have never taught before in their lives. They, not you, are supposed to train the village health workers, since they know the language. You, of course, have had experience with training before and also know something about how to develop training materials, but perhaps not specifically for village health workers. Now what do you do?

1. You can decide that you have so many other things to worry about that you will let the two trainers take care of the development of the training program while you arrange other things. They are probably quite competent. You will set them down with the World Health Organization (WHO) manual for primary health care workers (PHCWs)[1/] and some other village health worker (VHW) programs you have scrounged up. Then you can give them help when they ask for it and review the program to make sure that all you want to include is there. You will also arrange the setting in which they are going to teach and supervise their teaching. You are not really worried. They are good people and you know they can do it. Everything will turn out fine.

2. Now if you have had some more experience and are not a born optimist, you will assume that the nurses do not really know how to develop a training program, but that they will probably teach it all right. So you will sit down on your own with the WHO manual and the materials you have found and develop the course all by yourself. You will of course show it to others to get some feedback, but it is basically your work. This will assure you that at least the training course is all right. You cannot do much about the way it is taught, but the content will be all right.

3. Well, if you are even more suspicious of the trainers that have been assigned to you, you will send them for training in Europe or the U.S. There are three-month courses which train trainers of VHWs. These courses are pretty good. The trainers will learn different approaches to training, different training techniques and see materials they can use. Of course, there is no actual field practice in a natural setting, and very little instructions on how to adapt the teaching materials to their own course. And some of the methods and materials they use may be difficult to use in the health center where they are going to train VHWs. But they will learn how to train others, and since you can develop

the course you will be all set to achieve a good village health worker training program. If it fails it is not because of the trainers or the program--it is for other reasons.

What is needed is an approach which provides training materials that can be adapted for local use and also gives field experience in developing and implementing a village health worker program. This author believes one such approach is more failure-proof than the others. (No one can guarantee success, but there are certain steps you can take to minimize the probabilities of failure.) This alternative has been developed with the assistance of the Strengthening Health Delivery Systems (SHDS)[2] project at the WHO training center in Togo. It is also used with certain modifications at the WHO training center in Nigeria.

In approaching the development of the VHW training course and the implementation of this program the following problems were raised:

1. There are no training materials available for training VHWs which adequately outline in a simple form a course that can be given by people with little or no experience in designing training courses.

2. There is a certain basic content that will have to be taught to the VHW. However, in most cases the content which we wish to teach the VHW is much more than we can teach in one short course. Thus, we have to select. This selection will vary from country to country, from region to region, from department to department.

3. The training methods that can be used are different from those used to train other health care workers. VHWs may be literate, but they have little if any experience with formal education. Thus, we have to use methods which are generally referred to as non-formal educational methods.[3]

4. People who are going to develop and implement VHW program have to be trained. They will need training in how to develop training programs, select instructional materials, administer training programs, teach the course and later on, how to supervise and evaluate.

These problems were addressed in a step-wise approach:

1. A VHW training course was developed based on objectives and with session plans which outlined the activities which would be used to teach the objectives and which defined the approach and content of these activities. It had to be designed so that it could be used as a base for VHW training in any of the African countries sending students to the WHO training centers in Togo and Nigeria.

2. A three-month Training of Trainers (TOT) course was instituted at the centers. The course specifically aims to train people to use the developed VHW course to train village health workers.

3. To further ensure success with the primary health care projects using VHWs in the SHDS countries, additional support is provided to graduates of the TOT courses with the planning, implementation and evaluation of in-country VHW training programs.

We have at this point developed the VHW training course,[4/] given three TOT courses in Togo and two in Nigeria and also provided follow-up assistance to graduates of these courses in two countries, Mauritania and the Gambia. The course in Nigeria differs significantly from the Togo course, mainly because the Nigeria center has access to a field site within commuting distance of the center. At the center in Nigeria they also have a different mixture of teaching methods and the TOT course objectives differ slightly from the ones in the Togo course.

The teaching methods used at the Togo center include mainly a pattern of individual readings of assigned materials, group activities, clarification of readings, case studies, field trips and practical work. No lectures are scheduled, but sometimes, for example in the second TOT course, panel discussions and short information talks are used to give the participants an idea of various aspects of primary health care. The students are also given the course objectives and a course program keyed to the objectives at the beginning of the course.

The first TOT course in Togo was divided into only three sections: (1) planning and implementing a VHW program (130 hours), (2) field teaching practice (195 hours), and (3) management (52 hours). However, the second course was arranged in six modules. The reason for the change was mainly that it more directly defined the area each facilitator would be responsible for. Each facilitator was assigned one or two modules; in the first course no one had been specifically in charge of a section. It also made it easier for the students to follow the design of the course.

The six modules are as follows:

1. Organization of personal and group work. (18 hours)

   The first TOT course as well as other courses at the center have shown that the students are not very well prepared to take the responsibilities for their own studies in individual and group work. Thus, in this course segment the students were shown how to use the library, practiced making synopsis of assigned readings, worked in groups with problems designed to improve group dynamics, etc. They were also given some case studies designed to give them some knowledge about how to build and work in efficient teams.

2. Planning a project to correspond to the community needs. (36 hours)

   It was shown in the first course that the students did not have a clear picture of what primary health care entailed. They also needed to know how to plan a primary health care project and how to obtain resources to implement it. The activities in this

section included panel discussions, a field trip to identify health problems in a village, and group work developing a plan for a primary health care project.

3. Planning and implementation of a health training program. (90 hours)

This module was based on the problems identified during the work in Module Two and the plan for a primary health care project the students had developed. The students identified the tasks for the VHW, wrote objectives, designed activities to teach the objectives, studied instructional methods and AV-materials, and prepared an evaluation plan and examples of test instruments. They were not asked to prepare their own course, but the activities gave them sufficient background for evaluating available instructional materials and selecting what they needed.

4. Using and adapting the VHW course. (90 hours)

In this module the VHW course was studied and the students used the objectives in the course to select session plans for teaching the VHW to deal with the problems they had identified in the village. It was also possible for them to write their own session plans for teaching a few topics they could not find in the VHW course. These session plans were patterned on the ones in the course and used activities that were similar to the course activities. This module was introduced since it was felt that it would be easier for the student to select and use rather than to develop his own session plans from the problems and objectives he had written. This turned out to be true.

5. Teaching VHWs in the field. (90 hours)

Togo does not have a primary health care policy including VHWs. Thus it has been difficult for the WHO regional center in Togo to find a site on which they can provide experience in training VHWs. However, there are church-sponsored programs for training villagers in primary health care and one such program was used in all the courses given at the center. The second course arrangements did not vary much from the first, although based on the previous experiences it was organized in more detail, the students were better able to adjust their session plans to the previous knowledge of the VHW and in general the training went much smoother.

6. Management of a training program. (36 hours)

This module was shorted but practically unchanged from the previous course. The students learned to do PERT and GANTT charts and something about how to administer and run a training program. They also were required to write a report on what they had learned in the course and how they were going to use this knowledge in their own country. In the second course, the evaluation

aspect was reorganized and some additional materials added to stress the role of impact evaluation in a training program.

The regional courses at the WHO training centers still suffer from some of the problems inherent in courses not given in the trainee's own country. Practice in training VHWs is provided, but due to language difficulties this experience is not as valuable as it would be if this training was provided in the home country. There is not sufficient time to train the trainer in the management of a primary health care program. However, with the follow-up assistance provided by the SHDS project to the 20 participating countries the graduates of the TOT course can receive the support they need and additional training in planning, implementation and evaluation of a primary health care program in their own country.

During the follow-up activities in Mauritania and the Gambia, the main tasks have been to provide assistance with the development of a supervision methodology and a continued evaluation program for the primary health care project. The development of the course in Mauritania, for example, based on a survey of prominent problems in Mauritanian villages, took about two weeks. In a month's time the graduates from the Togo course and two consultants from the WHO training center trained an additional six trainers to give the course. According to our information, the first VHW training course went very well. Of course, we cannot really tell the results until the VHWs have worked in the villages for a while. But the initial experiences from our approach are very encouraging.

NOTES

1/"The Primary Health Worker: Working Guide--Guidelines for Training --Guidelines for Adaptation," Revised Edition, Geneva, Switzerland, World Health Organization, (1980).

2/SHDS--Project for Strengthening Health Delivery Systems in Central and West Africa. This is a regional program for activities related to the improvement of health delivery in 20 countries in the region, carried out under the auspices of the World Health Organization Regional Office for Africa (WHO/AFRO) and funded by the U.S. Agency for International Development (USAID).

3/Srinivasan, Lyra, Perspective on Nonformal Adult Learning, New York, World Education, (1977).

Nichoff, Richard O., Nonformal Education And the Rural Poor, Michigan State University, (1977).

4/Ericsson, S., and Adjou-Moumouni, B.S.F. Training Course for Village Health Workers, Lome, Togo, Regional Training Center, World Health Organization, (1979).

ALTERNATE APPROACHES TO TRAINING OF TRAINERS

Ezbon Jen

Seminar Speaker

Since independence, the Government of Tanzania has been fully committed to the development of the country's most precious resource--its people. Ninety percent of its population live in rural areas. The government has placed a refreshing emphasis on rural development, which includes the delivery of health services.

After considering various models of health delivery in terms of cost and manpower, it was decided to concentrate on preventive services (detection, treatment and health education) with emphasis placed on maternal and child health. This fits in very well with the Tanzanian philosophy that "children are the future of the nation." Children and mothers between 15-45 make up 66 percent of the population.

Loma Linda University School of Health was contracted by USAID in a bilateral agreement with the Tanzanian government to assist in developing the comprehensive maternal child (MCH) services. A very important feature of this program is the training of a new type of worker--the MCH Aide. The role of the MCH Aide will be to deliver health services to mothers and their children. Her services will bring new hope and health to the mothers and children in the villages of Tanzania. In all cases the MCH Aide is to work under the administrative supervision of a medical doctor, medical assistant or rural medical aide and in cooperation with other health workers such as health auxiliaries, nurse midwives, local traditional birth attendants, village medical helpers, and village healers of various types.

One of the objectives of the MCH Aide Training Program was to staff every MCH clinic in each rural health dispensary and health center by 1980. This would mean that approximately 2,000 MCH Aides would be trained. In addition to assisting in the development of the curriculum, Loma Linda University's School of Health was involved with developing 18 maternal and child health training centers in the various regions of the country.

One of the most challenging aspects of the educational curriculum included two phases of training. Each MCH Aide spent 12 months of didactic training in a classroom laboratory setting. An additional six months of practical field experience took place at a health center or rural dispensary. Completion of the training procedures took 18 months. This may sound rather straight-forward. The challenge, however, was to incorporate methodologies that would help these MCH Aides achieve competencies in spite of the broad diversity of the students and teacher's background. Students may range in age from 18-40, with no more than eight years of formal education. Some are mothers with several children. In certain schools the students are mainly from the villages, others are

urban. Teachers may be recent nursing school graduates or experienced practitioners. Some may love teaching, others are assigned the task. Motivational levels for excellence, based on competency training, vary. Teaching skills also differ.

In light of this, alternate approaches to train trainers using workshops in teaching skills and content areas were found effective as well as necessary. Although regularly scheduled, they never seemed to take place often enough. Upgrading teachers also proved beneficial, but facilities and personnel were limited. In addition, this necessitated being out of circulation for at least nine months or more.

Frequently the search for possible solutions is in the direction of the highly complex and expensive. The search can also be in the simple and elementary areas. After considering various formats to enhance the learning environment, a very simple educational tool was suggested. However, it had to be pre-tested for acceptance and effectiveness. It was not meant to be the only teaching tool, but one of many which the teachers as well as students had access to--one which would complement the lectures and demonstrations. Computer assisted instruction and video systems were ruled out for the obvious reasons of cost and complexity. Motion pictures and slides could not be depended upon. The preceding four items had one common factor--electricity. Most of the schools relied upon diesel generators for power and we felt that we could not justify the cost nor the dependence upon a special commodity in developing countries. In addition, when it comes to higher technology and hardware, the learner is more involved with the medium than the content.

The flip chart became the educational tool chosen as an alternate way of training trainers: simple to produce, simple to use and inexpensive. Key topics were first chosen by the curriculum committee for this type of treatment. The essential segments of the total curriculum were to be emphasized in this particular form.

Even though learner objectives were listed in the curriculum, it was reasoned that comprehensive lesson plans would not be uniformly developed by the 40 different teachers of the various schools. Some teachers would have more time, talent and motivation to develop the lessons than others. The lessons were developed, key points listed and reinforced with photographs, drawings or graphs on the charts. Even the ill-prepared or unmotivated teacher would be able to interpret highlights by reading the materials from the flip charts. The lettering on the charts was developed so that it could be read from the back of the room. The students would also have access to the charts to review as often as needed.

The disclosure of information was developed in consultation with Tanzanians so that the thought process would be logical to them. These charts also allowed the various teachers to put their personality and creativity into using the chart. For example, teachers realizing the importance of participation and demonstration could get their students involved by having them read chart concepts or manipulating a real kerosene refrigerator when appropriate with the lesson plans. A teacher could also have one student read instructions from the chart while

another student (with the class members looking on) followed the instruction on the real model. Reference from the pictures on the charts is understood.

These charts were developed in the context of Krathwohl's three learning domains. Some of the topics contained in these flip charts were Children's Growth Card, Kerosene Refrigerator Maintenance, Child Spacing Motivation, Labor Examination Techniques, Child Screening Techniques, and Infant Nutrition Methods. Labor Examination was not taught from the charts only; the charts served as an introduction giving most of the important information. This was to be followed by instruction on an actual patient.

The charts measured 20" x 26", which is the largest size the printing press at the Ministry of Health could print. We wanted the Ministry to have the capability to reproduce these charts as additional needs would necessitate.

These flipcharts were first introduced at the second annual teacher's workshop. They were all instructed on the usage and capabilities, as well as limits. Ample time was given for practice and questions. Reception of the charts was enthusiastic for both the trainers as well as the students.

Other types of educational tools were also stressed, particularly those in the "folk media" category. During the yearly workshops, teachers were given special instruction on story telling, puppets and songs. They developed puppet scripts, health stories and wrote songs which they could use in their teaching. We should never underestimate the acceptance of "local" education methods. The utilization of "local" educational tools can be a very enjoyable experience for both teacher and student, and later for MCH Aides and their patients.

THE ACCOUNTABILITY OF COMMUNITY HEALTH WORKERS--TO WHOM AND FOR WHAT

David Werner

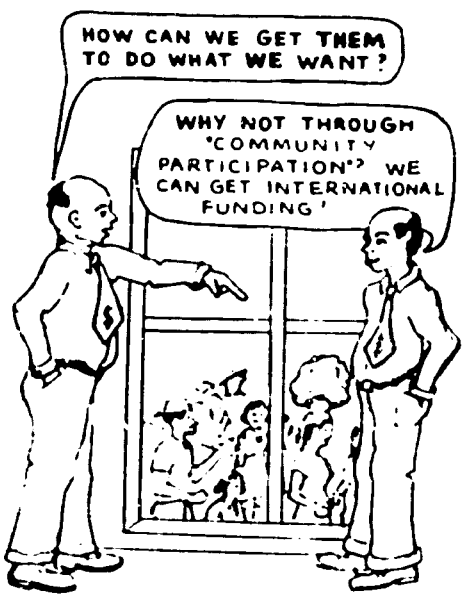
Seminar Speaker

Health by the People--Is it a Dream that Failed?

Two or three years ago, "Primary Care through Community Participation" was internationally "in." But today many experts and technocrats, even within the World Health Organization (WHO), are beginning to look at the community participation approach as an ideal that has been tried and failed. True, most large government progams designed to feature community health workers and community participation have had disappointing results. The failure, however, has resulted more from obstacles at the central level than at the community level.

Unwilling to let go of their control, health ministries, professionals, and experts have not given self-managed participation by the people a fair chance. In spite of all the rhetoric about decision-making by the community, what community health workers are taught and permitted to do depends far more on the wishes of central authorities and foreign experts (like most of us here) than on what the local people want.

In theory, community participation means that the poor majority in neighborhoods and villages take a leading role in major decisions and activities affecting their health and their lives. In fact, for most health authorities--whether of left or right wing governments--"participation" has come to mean "getting people in communities to do what we decide."



Harmony or Conflict of Interest as a Basis for Health Planning?

To listen to most health planners talk about community programs, one would think that citizens from every social level were in agreement to work together for the good of all. Health authorities are portrayed as striving to cover the rural area adequately in spite of their limited budgets. Community big-shots and local officials are expected to collaborate whole-heartedly in helping resolve the needs of the poor. Selection of a health worker by the community is supposed to be democratic just because a general meeting is called. In short, programs are designed as if those in position of leadership and control had the best interests of all at heart.

Presuming this kind of "harmony of interest" within the community and within the nation, the village health worker is blissfully seen as a "link between the health system and the local community." He is instructed to "obey the system and serve the people" (usually in that order). Since no major conflict of interest is acknowledged, the health worker is expected to give his allegiance to both those on the top and those on the bottom, without being torn to pieces.

In the real world, however, conflicts of interest between the rich and the poor, the powerful and the powerless, exist at every level--between nations, within nations, and within communities. Any health worker who is deeply concerned for the well-being of the people, sooner or later comes up against some of these conflicts. He or she may run up against ...

-- rigidly fixed requirements or 'norms' that do not coincide with the wishes or needs of the local people,

-- predictable failure of the central program to come through with supplies or promises,

-- supervisors who show more concern for rules and regulations than for innovation and search for better ways,

-- corruption or irresponsibility on the part of local or national officials,

-- underlying problems of land tenure, exploitation, and violation of laws and rights, all of which greatly affect people's health, yet which the authorities pretend not to see--or contribute to,

-- endless paperwork, filling out of forms, and stifling bureaucracy that waste the health worker's time and drain his energy, and

-- a paternalistic approach to public services that increases dependency on central institutions rather than helping people grow more self-reliant.

Training programs rarely prepare health workers to analyze or deal with three fundamental conflicts of interest. On the contrary, too often

they teach health workers to play the standard game, pretending that the rulers are generous and that such conflict does not exist. In effect, this trains health workers to turn their backs on some of the biggest needs of their people. It can cripple both the integrity and the potential of the health worker. Rather than being a courageous defender of the people's health, the health worker dissolves into a typical civil servant--a cog in the impersonal centralized machinery geared to pacify and regulate the poor.

Then we complain that our health workers lack initiative, work for the money only, lose interest, or become corrupt. In fact, they have simply joined the club! It is not surprising that large centrally-controlled attempts at community participation give disappointing results. To work well, governments and health ministries would have to become fundamentally decentralized--to redistribute their control, to serve rather than to regulate the poor. In most countries, this will require far reaching social change that is only likely to come from the bottom up.

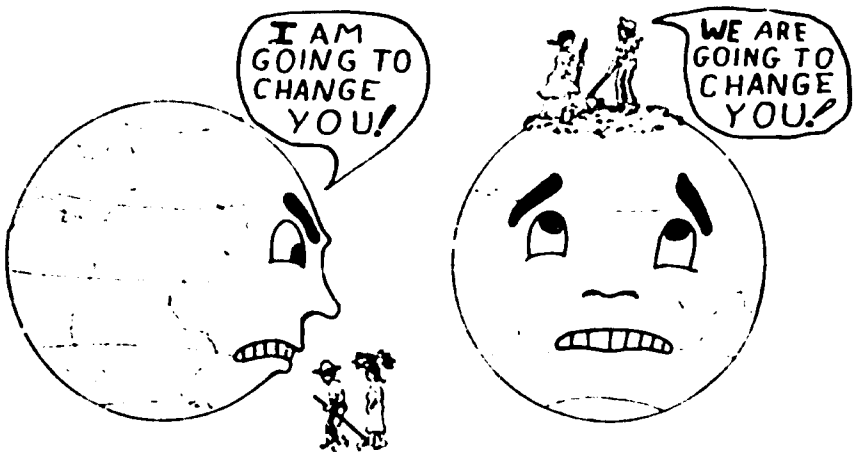
Health workers, to gain social integrity, need to be a part of this process of structural change. Even well-intending government programs have difficulty preparing health workers to play a dynamic people-centered role because of the top-down nature of training, command, and accountability. So for health workers whose chief accountability is to those whose needs are greatest, we must look elsewhere.

An Alternative: Community-based Health Workers Accountable Primarily to the Poor

In spite of the failure of most large, centralized programs to achieve any more than token community participation, in many countries there are outstanding examples of effective community involvement in health. This is especially true in small non-government efforts that have gradually taken form within communities in response to people's needs. In such community-based programs, a new kind of health worker has begun to play a leading role. There is a striking similarity in the social, political and leadership role of these health workers in community-supportive programs in many parts of the world--India, the Philippines, Mexico, Nicaragua, Honduras, El Salvador, Guatemala and Bangladesh.

These new health workers have in common an intense commitment to the poor. They strongly identify with and feel accountable to those in greatest need. Their goal is health for all--but health that is founded on understanding, equality, fair distribution of land, wealth and power, and political justice.

Whereas the educational focus of centralized programs is usually on changing the attitudes and behavior of the poor, the focus of community-based programs is to help people change the situation that surrounds them.



One of the most exciting aspects of this new world-wide community-based movement, decentralized and uncoordinated as it is, is that it goes far beyond any rigid religious or political doctrine. Contrary to accusations, most of those involved are not aligned with militant communist organizations. In fact, most of the leaders in these community-based movements recognize the dangers to ordinary people in any large, rigid, centralized system--communist or capitalist. They have a greater faith in small groups of working people than in large central government of any kind. Rather than accepting any established dogma, they are asking questions that still have no answers. Even though they may have strong opinions of their own, they welcome criticism and encourage others to observe for themselves and to draw their own conclusions. They believe in helping the powerless and oppressed gain strength by acquiring greater understanding of the factors that shape their health and their lives.

Around this practical human philosophy, a whole new approach to the training, role, and accountability of community health workers has gradually grown up. Ideas and methods are being shared and further developed through a series of informal networks around the world.

A few features of this people-centered approach are as follows:

1. Planning of both activities and training does not follow a predefined 'blueprint'. Plans are intentionally not "replicable," even in the same area from one time to the next. Instead, planning and programming go on continually as a part of a learning processs. Participants at every level (instructors, students and members of the community) are invited to help shape, change and criticize the plans. This helps the program avoid becoming static or stale. It evolves continually to better meet people's needs.

2. Instructors and students see and treat each other as equals. They respect each other's knowledge and experience (whatever the educational level) and learn from each other. This approach

helps health workers, in turn, relate to people in their communities as equals. They are better able to help people gain confidence in themselves, in their own experience, and in their ability to change their situation.

3. Uniforms, diplomas, big technical words and other symbols that tend to separate the health worker from the people or to mystify health care, are consciously avoided. Instead, the health worker is encouraged to share his knowledge and training freely, making fellow health workers of as many people as he or she can.

4. Rather than giving special praise and privilege to quicker students, while leaving slower students behind, those who learn more quickly are encouraged to help slower students catch up. Thus health workers learn that appropriate education does not favor the strong at the expense of the weak.

5. Development of educational skills, community organization, and understanding of "what makes people tick" are given high priority during training. On the principle that health activities should start with the wishes of the people, many community-based programs also provide health workers with a strong grounding in curative medicine. This gives the health worker the credibility he needs with the people in order to win their enthusiasm for preventive and social-change activities.

6. Learning is based, not on memorizing facts, but on developing problem-solving skills through actual practice. Learning takes place through observing, thinking, and doing. The center of learning is not the classroom, but the community. Classroom study, when it happens, involves many role plays and other ways of bringing learning to life. Lectures are replaced by group discussions, story telling, songs, drama, and similar forms of learning based on local traditions.

7. Teaching aids are simple, low cost, and imaginative. Students often take part in making or even inventing them. Rather than demonstrating ideas, the best teaching aids help students think things through and discover answers for themselves.

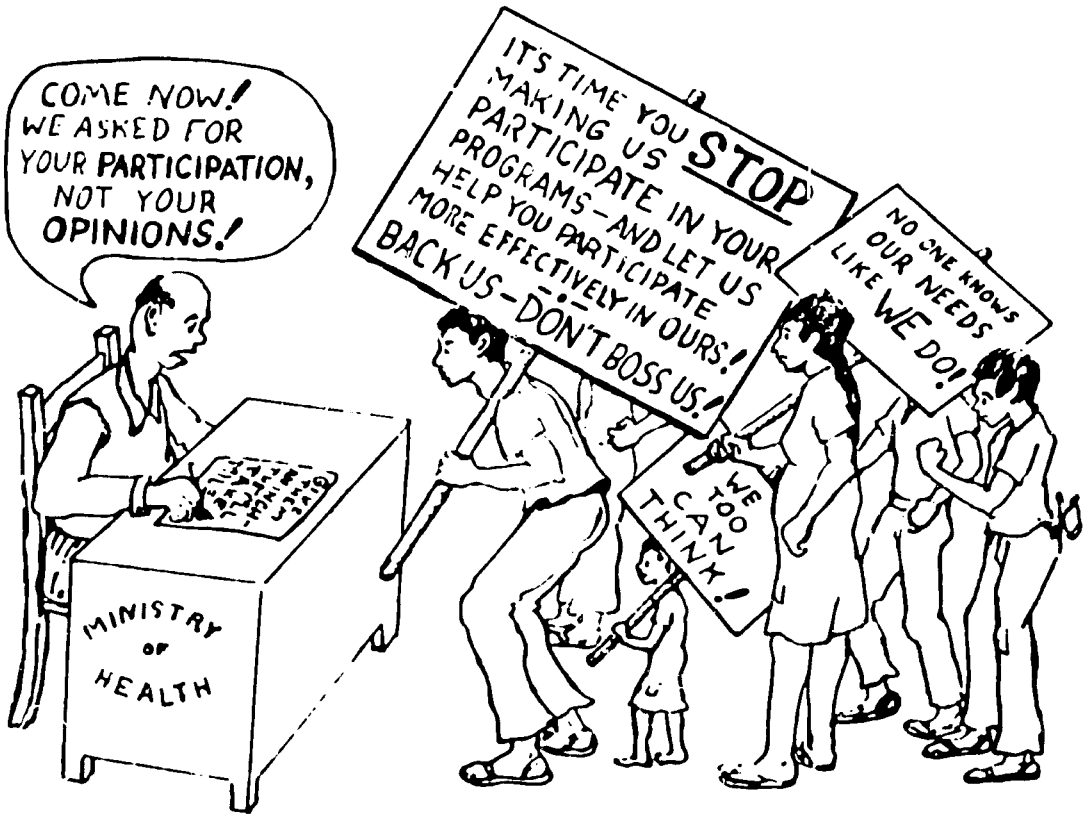
8. Health is considered a state of wholeness and well-being in which persons are able to work together effectively to meet their needs in a self-reliant, responsible way. A precondition for a fully healthy person is a clear understanding of himself or herself in relation to other people and to the factors that influence their well-being. Thus, activities that help to develop critical awareness have become a key part of health worker training, as well as of the health worker's community work.1/

Care needs to be taken that health workers are not only selected fairly by the whole community, but that they are representative of and sympathetic to its poorer members. In this way, both the selection and training of health workers, as well as the human commitment of the

program leaders, helps define their accountability. This new kind of people-centered health worker is primarily accountable to his or her own people--the poor and suffering in the immediate community.

This all sounds very nice, you may say. But what about accountability to government and the ministries of health? Clearly, community-based programs and health workers do not exist in a vacuum. At some point, they must relate to, work together with, and (if possible without too much compromise) receive support from existing government services.

Obviously, in one way or another, community health workers must be accountable to the existing system. However, their commitment is not to conform to the system, but to work toward changing it--to help decentralize our top-heavy institutions and make them more fully accountable to the people in a direct, flexible, and personal way. So community-based health workers are first accountable to the poor, and only secondly to the ministry of health and other central agencies.



They are also accountable to something far bigger. To paraphrase John Donne, no community--or even country--is an island unto itself. Today the health of people in a village or neighborhood is, in part, determined by factors that lie far beyond the immediate community or even nation.

As we all know, the powers-that-be have grown so great, so greedy and so dangerous that they threaten the survival not only of the poor, but of all life on this planet.

In today's world, health workers need to help people become critically and actively aware of the situation that surrounds them--in their villages, their countries, and their world. For the first time in history, humankind is one. The new village health worker, in a sense, needs to be accountable to the whole of humanity. On a small and dangerous Earth, it is the only realistic way. Together we either change or perish.

No one today needs to point out that the world is in a state of crisis. But one positive thing about crises is that they set the stage for major change.

Crucial, humanizing changes have happened before in recent history. Only 200 years ago, slavery was widely accepted. It was questioned only by a few unpopular "radicals." Then came the crisis of protest and emancipation. As a result, in most of the world today, direct ownership of one person by another is no longer acceptable or legal. Human consciousness, to some extent, evolved.

Similarly, through another more recent period of international crisis, poor nations are for the most part no longer owned outright by rich nations. Colonialism is no longer celebrated as a virtue.

So it must be with the present, health-destroying neo-slavery that so cruelly holds the weak and poor under the parasitic yoke of the powerful --whether in village, nation or world.

The seeds of change are already taking root. There are signs, in many small groups and personal ways, that humankind is on the edge of a critical awakening. As the working people and poor become more aware of their rights, the repression by those in power grows more severe. But cruel repression only awakens people more quickly to the call for change. And little by little, those on the bottom are awakening.

Small, independent, community-based health programs in many parts of the world are playing a key part in this process. This is not a response to doctrine of any kind, but merely a result of honest analysis of the underlying social causes of poor health.

In fact, in many community-based programs around the world, health workers are beginning to analyze the microcosm in which they live in relation to the macrocosm that surrounds them. This has led them to feel a more global accountability. They are beginning to feel a brotherhood with the poor and suffering people in every corner of the Earth, and to share with health workers elsewhere a commitment to working toward a fairer, more personal, more loving world community.

The kind of health worker just described, and similar workers in other fields of human endeavor, do exist. And in spite of the attempts by large government programs to absorb or destroy us, our numbers and our unity is growing.

NOTES

1/Many of the methods, aids and ideas referred to are further developed in a forthcoming book, Helping Health Workers Learn, by David Werner and Bill Bower, in print by Tate 1981.

THE SCOPE AND QUALITY OF PRIMARY HEALTH CARE SERVICES

Lincoln Chen

Seminar Speaker

Introduction

One of the major thrusts of the modern health care movement has been to link modern health knowledge and technologies with people and communities. While straightforward as a concept, this linkage process involves a whole set of social issues, such as how to promote self-reliance, de-professionalization of service providers, and the transfer of control of knowledge and technology from service providers to the people themselves. It should be recognized at the outset that the allopathic system of medicine which forms the basis of modern health care is only one school of medicine. Based on western concepts of well-being, allopathic sciences are often introduced into traditional societies with other systems of health and medicine. Western concepts of health are usually more biologically focused, whereas traditional systems often include not only biological aspects but also a concern with social, emotional and spiritual well-being.

In addition to this tension between biological and social well-being, the introduction of modern health technology into previously inaccessible populations is associated with at least three fundamental issues:

1. the approach of linking technology with people;

2. the prioritization of specific health activities within integrated programs; and

3. the role and function of the primary health care field worker.

Linking Technology with People

All health care programs basically involve technology and people. Technology refers to how a specific goal is accomplished. Technologies have characteristics: some operate through biologic mechanisms, like a vaccine, while others are primarily social or behavioral, such as hygienic or dietary behavior. People and communities who apply such technologies for their benefit also display different characteristics. People are not only individuals, but are organized according to relationships, such as family, communities, nations. Customarily, approaches to health care programs are biased along one of two directions. The technocratic, approach, which usually predominates, focuses on disease and technology. Examples of such approaches are immunizaton programs in which programs are organized according to the identification of a specific disease and the development, production, distribution, preservation, and delivery of a specific technology, in this case a vaccine. Other examples of such technocratic approaches are oral rehydration systems,

family planning, and malaria eradication. These examples are all problem-specific and their mode of operation is to apply the most suitable technologies by organizing people to achieve such goals.

Another approach is a people-biased approach. People are not only organized according to a set of formal and informal relationships, such as family and community, but they also have unique history, culture, identity and needs. Such needs are customarily holistic, in the sense that biological well-being constitutes only one limited dimension of the total needs and desires of people. A people-biased approach usually involves mobilizing people, particularly in groups, to undertake actions that are beneficial to the entire group. Such actions include socio-economic and behavioral change, but also involve the control and utilization of effective technologies.

Obviously, neither the technocratic nor the people's approach is wholly sufficient unto itself. One of the challenges of primary health care is to harmonize this basic dichotomy between these two approaches, for neither alone are sufficient.

Prioritization of Health Activities

Primary health care involves many activities. Among those customarily considered essential components of primary health care are: basic immunizations, (BCG, DPT, tetanus, measles, polio); oral rehydration therapy for diarrhea; water, sanitation and environmental programs; health education; nutrition activities including maternal nutrition, breast feeding, and infant feeding practices; family planning (pills, condoms, intrauterine devices, surgical methods); and first aid for simple emergencies. In addition to these medical activities, primary health care is also supposed to participate in improving the role and status of women, generating income, mobilizing the participation of the community, and undertaking other socio-economic activities.

This list of activities is extremely ambitious given the current state of health infrastructure in most developing countries. Further, the polarized debate concerning vertical (disease-specific) versus holistic (integrated) approaches is one of the most counterproductive controversies in the international health field. Clearly, there exists a fundamental tension between the scope of proposed activities and the quality and effectiveness under which specific components are undertaken. One approach to this dilemma is to place certain minimum criteria upon which initial vertical activities must adhere to ensure opportunity for growth in an integrated direction. As initial activities extend and reach under-served populations, their performance improves and fosters rapport and confidence between service providers and the community, other tasks may be added. One example of this approach was conducted in Matlab, a field station of the International Centre for Diarrheal Disease Research, Bangladesh. There, a field-based program distributing non-clinical contraceptives was initiated in 1975. When this program failed to generate satisfactory results, the program was completely overhauled in 1977 into a village-based maternal-child health/family planning (MCH-FP) program, beginning first, however, with the provision of

a wide range of clinical and non-clinical methods of contraception. As this program matured, other services were gradually introduced in sequence. These additional services included first tetanus immunization, then health and nutrition education, and more recently oral rehydration for diarrhea. Other basic immunizations are now being considered. The key to this program's success has been the capacity of the program to change and be responsive to the evolution of its interaction with the community.

The Primary Health Care Worker

At the interface between technology and people and at the forefront of the quality of specific services within integrated programs is the primary health care worker. These workers operate at this interface between new and traditional technology, modern and traditional knowledge, governmental bureaucratic organization and informal community structures, and the daily people-to-people interactions that makes up the heart of any social program. There are three issues worthy of underscoring with regard to these workers. First, irrespective of the duration of formal training, a "sequentiation" of activities should facilitate worker performance. In other words, pre-service training may and should include integrated concepts of biology and disease. In terms of the practical aspects of service delivery, however, it may be preferable to begin services with one activity at a time. As each activity is successively mastered, the time demands and requirements for the activity is reduced and new training and activities may be introduced without over-stretching the worker's time or undermining the worker's confidence.

A second concept worthy of highlighting is the interdependence of training and supervision. These are customarily considered as two functions, pre-service training and in-service supervision. In actual fact, training and supervision are really the same function, with the goal of supporting and improving the performance of village workers. What better training than to have continuing, supportive and constructive supervision and what better supervision than to have continuous, in-service training. In Bangladesh, we found that weekly meetings with workers to discuss common problems and solutions operated as an effective combined training-supervisory mechanism.

A third aspect of these workers is their important social change role. Field workers not only deliver services, but also operate as role models within their community. In Bangladesh, for example, the impact of the Matlab program must necessarily include the social revolution created by nearly 100 young married women working in a traditional, male-dominated society. The social change introduced by these female wage earners, the first in their community, may be greater in long-range impact than the specific health activities undertaken by the workers.

Conclusion

The theme of this paper is the scope and quality of primary health care services. In terms of scope, a "sequentiation" approach under many circumstances may be more appropriate and effective than a fully holistic

integrated approach at the outset. This is particularly relevant to societies where the health infrastructure is weak or non-existent. In terms of quality, caution should be exercised in the application of this concept. "Quality" has been customarily employed to "medicalize" and "professionalize" health care. "Quality" is a multi-dimensional term. One dimension worthy of underscoring is the quality of concern and commitment, for it is the quality of this human value which ultimately determines the success of any health care program.

INTEGRATING TRADITIONAL AND MODERN HEALTH CARE: PROBLEMS AND PROSPECTS

Dennis Carlson

Seminar Speaker

Astounding changes have occurred in official government policies toward traditional medicine in recent years. Ten years ago, few people would have predicted that national and international bodies would publicly declare the necessity and desirability of incorporating traditional healers, practices and medicines into local and country-wide health care systems. These changes have taken place by 1980: (1) more than 20 developing countries have established national institutes, service programs or organizations to study, use and promote the use of traditional medical elements in their national framework; (2) the World Health Organization has formally organized a unit in Geneva devoted to traditional medicine; and (3) the 1978 Alma-Ata Conference on Primary Care included traditional health practice as part of its strategy of "Health of All by the Year 2000."[1] Bilateral agencies such as USAID have developed official positions in their development guidelines which call for using traditional medicine as part of the structured system.[2] Significant progress has been made in many countries in forming a framework for traditional medicine to be included as a part of the recognized health services. Serious obstacles continue to exist, however, and prevent steady progress in putting these concepts into operation. The problems occur at several levels, from technical or procedural questions to conflicts at the core of value and belief systems. We will briefly review the progress and point out some of the most basic unresolved issues.

Collaboration with traditional midwives, or birth attendants, (TBAs) has moved most rapidly and effectively.[3] This may be partially explained by the practical, empirical nature of TBA activities and the relatively small economic or ideological threat they pose. Progress is slower in dealing with other traditional technicians such as "bone-setters" and circumcision experts. Recent scientific studies of herbal substances in developing countries have produced significant results in isolating active principles in plants, but even here, there are hindering problems. The question of "ownership" of secret knowledge is unresolved; the traditional herbalist wants to control his or her knowledge and trade, while modern indigenous entrepreneurs compete for financial advantage, and multinational companies also try to protect their interests. A set of more difficult questions arises with the consideration of therapeutic processes where there are multiple interactions involving chemical substances, religious rituals, and other psychological and cultural elements. A single active pharmaceutical agent may <u>not</u> explain the effect of treatment by a traditional healer; probably <u>several</u> dynamics are working simultaneously. Despite these unresolved problems, it seems likely that technical practitioners within traditional cultures, like traditional midwives, and herbal medicines will continue to gain respect and usefulness.

The category of traditional practitioners variously described as spiritual healers, spirit mediums, medicine men and women, shamans, or "witch doctors" is the most difficult to approach. A few highly successful collaborative efforts have been carried out (in Ibadan, Nigeria, by Professor T.A. Lambo, and the Navajo singers program in the southwest United States).[4] But there is usually an enormous chasm between modern and traditional healers in the areas of concern involving psychological, cultural and religious therapeutic issues and processes. It seems that if the problem is not primarily physical, chemical or biological, there is little chance for a successful joint enterprise between modern and traditional practitioners.

In order to understand more clearly why this is a problem area, it is helpful to trace the beginnings of the profound shift which began to include traditional medicine in the formal system. First, there are strong political, cultural, and economic forces at work. Pressure for equity and access to health services continues to rise in developing countries. More effective use of traditional practitioners might relieve some of those demands. There is the opportunity to contribute to national pride, which can be enhanced by using indigenous practitioners, patterns, and materials. The possibility of decreasing the financial burden of purchasing expensive pharmaceutical supplies from abroad is attractive; foreign exchange could be conserved and possibly increased, if medicinals from indigenous plants could be substituted successfully.

Conditions for these surprising changes have been developing for the past twenty or thirty years. Behavioral scientists and, particularly, medical anthropologists, laid the groundwork with careful research on health and disease in many traditional and transitional communities.[5] The theoretical framework for community health work has grown steadily, with particular emphasis on using the dynamics of a society which already are functioning.[6] Transcultural psychiatrists have begun to build a theoretical framework useful for modern practitioners.[7] A spreading awareness and appreciation of oriental or eastern thought and practice regarding health and disease has helped many westerners to see the weaknesses and limitations of modern "scientific" medicine. People in many settings are now more willing to try alternative ways to relieve pain and treat disease, such as acupuncture, learned from the Chinese.[8]

Despite pressure to collaborate from scholarly preparations, professional pilot projects, functional needs, political demands, economic pressures, and changes in cosmopolitan culture, the traditional and modern medical sectors remain nearly as far apart as ever, especially in the areas of disease and health care which deal with psychological, social, and spiritual processes. The distance between the various health workers appears to be fundamentally caused by basic differences in the world views, or cosmologies, of the persons concerned. For instance, in rural primary health care, there are at least three groups of people who hold beliefs which are in some important ways in disagreement with each other. These might be categorized as (1) traditional, animistic healers, (2) modern, scientific, secular practitioners and (3) modern, scientific,

religious practitioners. These three categories are not clearly differentiated, for many persons hold a combination of views; it is helpful, however, to understand something of these varying orientations.

The traditional animistic practitioner represents a view shared by the majority of the world's population, which believes that the universe is closely interrelated, that material and spiritual realities are essentially unitary, and that good and evil spirits exist and operate in nature and in the affairs of human beings. The healer is usually concerned not only with individuals but with the well-being of the family and community. The living are also involved with the spirits of ancestors. The ecosystem of the surrounding area, reflected in climate and fertility of soil, humans, and domestic animals, is considered important.[9] Other destructive spiritual agents may also be operating by casting spells and bringing harm to people and are forces to be addressed and neutralized. The modern scientific, secular practitioner, usually a government employee, prefers to believe that phenomena which can be observed physically, measured, counted, or experimentally controlled are real; all others are largely the figments of the imagination, "superstition," and something to be disregarded. The activities of the traditional spiritual healers are considered, at best, to be a method of manipulating the psychological environment in a harmless or, perhaps, useful way. But basically, the premises on which traditional healers work are believed to be false, and most of their functioning is a waste of effort.

Modern scientifically trained health practitioners with religious orientations are often found working in mission organizations in rural areas and frequently have significant influence. Not only are expatriot missionary physicians and nurses included in this category; their indigenous students and trainees often have leadership roles in the church as well as the medical organizations. Trained in an environment of modern science and western religion concomitantly, they often hold the view that what the traditional healers are doing is "hocus pocus," "superstition," and mostly detrimental to the physical and psychological well-being of the patient. In addition, the scientific religious practitioner also believes that somehow evil often results from interaction with "witch doctors," who are in nature satanic, actively working for the Devil. The religiously based modern practitioners thus often make two kinds of assumptions about traditional healers: (1) that their practices are based entirely on fallacy, error, or falsehood, and (2) that they are morally and spiritually destructive. A person making such assumptions will not try to communicate, much less collaborate with a traditional healer. Birth attendants, bone-setters, and herbalists possibly would be more acceptable in the modern realm, but traditional healers who deal mainly in spiritual and psychological dimensions are seldom viewed as potential colleagues by modern practitioners of either secular or sacred world view. The problem is compounded by the antipathy often felt toward old life styles and beliefs by those who are in rapid culture change and who are trying to leave behind old patterns of living.

Where, then, are the grounds for optimism for anything except a relatively superficial cooperation between those who deal with physical disease on a chemical or mechanical basis? People in varying sectors of public and private life increasingly recognize that most important aspects of health and illness are profoundly connected with values, attitudes, priorities, beliefs and life styles.[10] Thus modern medical workers are seriously missing a most important dimension of healing if they do not work effectively with those who influence the beliefs and behavior of traditional communities, particularly the "spiritual healers."

Are there ways that those in the modern sector can promote collaboration and participation? In fact, traditional spiritual healers are often more willing to include elements from modern practice than the other way around.[11] This may be partly due to the desire to share influence, recognition, and other forms of power with those in the new society. The traditional cultural world view is itself more congenial to including modern elements, because it is inherently open, unitary, and seeks to make connections between all material and spiritual realities. By comparison, both scientific and religious "belief systems" are more fixed, restrictive, and non-inclusive, in operational terms. This is probably most true for Protestant Christian belief and behavior, although there are significant exceptions to this generalization.

The first phase of cooperative effort probably is in the expansion of systematic studies of the practice and theory of health and disease held by all the groups involved--traditional and modern, secular and sacred. Medical anthropologists and sociologists and historians of religion will be helpful in this study, as will be transcultural psychiatric writings and those of misologists.[12] What will almost surely be realized is that there are many "good" healers present in most societies, chosen and trusted because of their honest, benevolent reputation and their ongoing effort to resolve conflict, promote reconciliation, and restore harmony between family and clan members, among the living and the dead, and in the human and natural environments.[13] It will be helpful to review and analyze the beliefs and practices within the "modern" groups. Those of Judaeo-Christian persuasion may discover that the world of the prophets, Jesus, and his disciples was deeply animistic in nature and that the Spirit of God, spirits, angels, demons, and other spiritual forces were very active in the minds of scriptural writers. There are other similarities between Judaeo-Christian development and contemporary traditional communities. Modern secular practitioners might discover that many medical scientists and theorists are much more aware of the limitations of science now than they were fifty years ago, and that they no longer believe that many of the ultimate answers to disease can be found within the realm of science. This kind of realization should help them to recognize the importance, validity, and value of some phases of traditional health care.

When open-minded studies are more actively pursued, there are numerous areas where practitioners with different world views can begin to collaborate effectively. Modern health workers can recognize that traditional healers are usually highly respected community leaders who should be consulted about health activities in the community. A closer, ongoing

collaboration may also result: some traditional practitioners have been willing to administer long-term medications for tuberculosis and other long-term diseases. Healers are sometimes part of the community health committee in village-based programs, and birth attendants are sometimes willing to be trained as generalist community health workers. It would be helpful if modern secular and religious health practitioners were to listen honestly and learn from traditional spiritual healers. The optimal pattern would be a shared learning relationship, with all participants truly learning from one another. A new synthesis, or more precisely, syncresis--combining of beliefs--might then emerge. Folk beliefs and scientific facts could be combined in a campaign to protect drinking water, for example, by citing benefits of improved water for drinking, cooking, and beer-making. Many other possibilities exist in the areas of theory and the belief where the interrelationships of nutrition, agriculture, climate, water, and disease are becoming increasingly obvious. Although factual and conceptual knowledge is important, it is probably essential that different types of practitioners and their students learn by experience with each other, spending time communicating, working, and playing together. The changes emerging may well promote a better quality of life for all and a closer understanding of similarities as well as differences among neighbors.

NOTES

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SOME THOUGHTS ON THE USE OF NON-FORMAL EDUCATION IN THE REAL WORLD

Susan Emrich

Seminar Speaker

In recent years there has been a great deal of interest in the use of non-formal techniques of education for training of health and development workers. The term is often ill-defined and misunderstood, but in practice it usually means the use of techniques that encourage active participation of the members of a group in learning through a process of identification of a real problem, examination of the problem as a group and discovery of possible actions the group can take to solve the problem. The "something" being learned is frequently a piece of information or a technical skill, but the non-formal method of problem solving is learned at the same time.

Non-formal education used as a technique to teach more or less technical skills has its applications, but in practice it walks an unsteady line between its origins in philosophies of education as liberation or political consciousness raising, and conventional schooling. The outcome of the use of these techniques depends greatly on the composition of the group, the orientation of the group leader, and the surrounding social-political climate.

The use of non-formal techniques, when they work at all, quickly breaks down the formal teacher-student relationship and establishes a relationship of equality and mutual responsibility for learning. This seems to be an obvious and desirable step, but in the context of political or racial repression it is literally explosive. The simple fact of treating oppressed people with respect, listening, and providing a place where they can work together is a much stronger message than whatever the topic of the class was supposed to be. This is especially true of groups with no schooling.

Groups of unschooled peasants make very little separation between perceiving the solution to a problem and the action to implement the solution. They may be slow to become convinced, but they are very quick to move on to concrete action, and that is where they come into conflict with the constraints of the prevailing social-political system. More sophisticated groups, on the other hand, can work through a non-formal exercise very smoothly and come to all the right conclusions, but they are much less likely to carry their conclusions into action, and so are less likely to come into conflict with the harder realities of their situation.

The group leader who uses non-formal techniques may find that the techniques lead him into territory he hadn't planned to explore or to conclusions that weren't part of his private curriculum. This style of learning is a group process that may be very difficult for the leader to

control. The following are a few examples among many from personal experience.

An Indian health promoter was trying out a new teaching aid with a group of Indian women. The material was a set of pictures about prenatal care. She showed the first picture to the group. It was a dull enough picture of a white coated male doctor, talking to a pregnant Indian woman. The promoter asked what the group saw in the picture. The replies came hesitantly at first, then in an angry flood: "He's scolding her", "He says she came too late", "He's telling her she has to go to his private clinic and pay a lot of money", "He doesn't want to touch her", "She is sad and wants to go home", "She can't understand his Spanish."

At this point the promoter had a choice between talking about the reality or continuing the fiction of talking about prenatal care which in practice is inaccessible to most people because of inadequate facilities, corruption and racist attitudes.

Another time I was teaching nutrition to a group of health promoters in a part of the country that is notorious for low wages. There were some very poor-looking people in the group including a young man whose skin and hair showed signs of vitamin deficiencies. I used a market game to teach price comparisons and the nutritional value of foods. Each person "buys" the foods he thinks best with the amount of money that he normally has to spend in a day for food. The foods can be real or pictures but they must be common, local and not expensive. The group evaluates each person's buying to decide how well they did with the money they had. The game went well with a lot of good natured joking and a minimum of technical information from me. When we got to the young man he said that he could not buy any of those common foods and in fact had not bought them for years. He was earning $.60 per day for plantation labor and had no other resources. His first two children had died of kwashiorkor and the third was born small and soon died. He said that his wife had stopped menstruating even though she wasn't pregnant and he wanted to know what nutritional advice I could give him for her. I had to say that there was no nutritional advice I could give him but that he and his wife should get away from that plantation and look for something else before they starved to death. Then another young man said the only real answer is to change the system that creates such poverty. I said yes but that was outside the limits of what I could allow the group to discuss in an open public meeting. The class broke up after that: most had learned a little nutrition and all felt bitter and frustrated at the young promoter's situation, and at my refusal to talk about it which they saw as hypocrisy.

In both of these examples the intrinsic power of the educational method combined with the reality of the people had overwhelmed the intended contents or subject matter. Non-formal education cannot be easily separated out into techniques for training on the one hand, and political awareness on the other. This is probably true of education in general but the particular power of non-formal education is that it is a collective process which promotes cohesion and cooperation within a group. The group as a whole discovers their problems, reaches conclusions and

desires actions, which have a greater or lesser political impact. The same number of people reaching the same conclusions one at a time in isolation, if that were possible, would not have the impact or visibility of a group, and would not be able to carry their conclusions into action. Because of the things that the group is able to accomplish they become visible and may become targets for political repression.

Successful health education is especially likely to lead to visible action. One of the goals of health education is to get people to give up their magical view of disease causation for an understanding of cause and effect, and the use of non-formal group techniques is quite effective in this respect. However, the fact that most of the people have a magical view of disease is one of the corner-stones of the social-political system as a whole. If through successful health education people come to accept a cause and effect explanation of disease they will start to feel the need for actions that the system is in no way willing to allow, and for services that the system can't or won't provide. In fact the magical view of disease causation can be seen as an adaptation of the culture to a situation of extreme helplessness maintained over a long period of time. It may be the only way for the people to avoid frustrating and dangerous conflict with the system. When a health worker is effective at helping people to discover cause and effect relationships and abandon their magical view of disease he himself becomes identified as a leader and becomes highly visible.

The health or development promoter often uses techniques that he has been taught to use in the relative safety of an officially approved course, given by government workers or foreign volunteers. In this setting he is protected by the status of an institution which has at least tacit support of the authorities; and by the composition of the group which will most likely be made up of schooled people who are used to playing with ideas and will not be inclined to take direct action of any sort. When he uses the same techniques with the illiterate peasants of the village all of these conditions change and he may be put in a very vulnerable position.

When non-formal techniques are used as a political tool, the group leader presumably knows where he is going and how to protect himself, but when they are used for other ends, the leader is often quite naive about the implications of what he is doing. If the attitude of the promoter is at times naive, the attitude of the agencies is more than naive: it is irresponsible. Both government and private agencies set up and finance programs to train promoters with very narrow, short-term goals in mind. Training in non-formal education is a means to the end of having X number of latrines installed within Y number of months, or some percentage increase or decrease in malnutrition.

But the use of non-formal education and the formation of cohesive, active groups in the community will not just go away once the latrines are built. People who learn how to analyze what is wrong with their water system are quite likely to move on next to what is wrong with their political system. And while the agency may have prepared people very well to deal with the water system, they probably did nothing to prepare

them to deal with the political system. The agencies and the people who work for them should be willing to admit that their project, whatever it is, exists within an historical context and will inevitably influence that history. In the context of social-political change, there simply are no neutral actions. They should also realize that the people they train will become active participants in historical processes and need preparation for political understanding and action at least as much as they need preparation in technical matters. To fail to do this is irresponsible and in really bad times comes to resemble a form of human sacrifice.

NON-FORMAL EDUCATION FOR PRIMARY HEALTH CARE WORKERS

David Hilton

Seminar Speaker

Rampant disease, burgeoning populations and scarcity of training resources preclude the realistic expectation that traditional approaches to health care can achieve the goal of "Health for All by the Year 2000."

With populations doubling every twenty to thirty years, even those Third-World countries with rapidly developing technologies cannot educate health professionals rapidly enough to achieve accepted ideal ratios.

Fortunately, the most common health problems, even though potentially serious and life threatening, do not require highly skilled manpower to control. A strategy most likely to succeed, therefore, could involve the people in bringing health to themselves through both prevention and intervention at the community level. The task is to provide persons in every community with the necessary knowledge and the motivation to put it to use. Since literacy is not immediately available to the majority of the world's people, non-formal methods of teaching are mandatory.

The Lardin Gabas Rural Health Project in a remote rural area of north-eastern Nigeria has been implementing such a scheme for the past six years with encouraging results. Communities are assisted to organize a health committee and to choose two persons from among themselves to be part-time health promoters for the community. Three month's training is provided by the project, primarily in the use of story-telling to effect change in the health practices of the community.

Story-telling has been an effective means of education for centuries. Pre-literate peoples traditionally learn aurally and often are only confused or distracted by pictures. Audio-visual materials are often eaten by ants or spoiled by rain in developing countries. William Barclay[1] points out several reasons for the effectiveness of parables in teaching.

1. A story makes truth come alive. Most people think in pictures and abstract ideas are much easier grasped through stories which make them concrete. Truth made into a parable becomes understandable.

2. A story commands attention while a health lecture, even with flip charts, often creates boredom. The surest way to interest people is to tell them a story. People who are interested will listen and learn.

3. A story about familiar surroundings begins with the things that people understand and moves a person on from there to new understandings.

4. Truth that a person discovers for himself becomes his own. A parable allows a person to discover the truth for himself. While a lecture is often forgotten or ignored, internalized truth is the motivating force needed for a change in practices.

Telling a story avoids confronting a person with his inadequacies, instead providing a role model who successfully solves a mutual problem.

In Lardin Gabas there is abundant evidence of the effectiveness of health education utilizing story-telling. The three most common causes of death are malaria, diarrheal dehydration and malnutrition (all in children), accounting for most of the nearly 50 percent child-mortality rate. It is not uncommon now, however, to hear a health promoter say, "There hasn't been a child die in the village in the last year." To individuals and groups, he or she has been telling the story of Madam Pokta,[27] a can and bottle seller in the market, and her son who is frequently sick with fever and finally dies in spite of traditional and commercial remedies. Then she learns from a friendly health worker from a nearby village that preventing mosquito bites and taking a monthly dose of pyramethamine will help the rest of the children avoid such fevers. The story ends with a happy, healthy family. In communities where this and other stories about malaria are being told a high percentage of the children attend the monthly antimalarial clinics and malaria is rare.

Diarrheal dehydration is now seldom seen in the health posts and dispensaries where the stories have been told of mothers who mix up their own sugar/salt solution at home when a child develops diarrhea. In Lardin Gabas it has become known as the "miracle medicine."

Signs of kwashiorkor are fast disappearing from the same communities after the telling of stories about families whose children grow strong and healthy on a gruel of peanuts and guinea corn started at four months of age. And so in these villages without doctors and hospitals the mothers are solving the three most serious health problems themselves.

One health promoter declared jubilantly that thirty-five persons in his village had dug their own wells in his first year of teaching with a story about a village where, like his own, people bathed in the polluted stream and suffered from the symptoms of shistosomiasis. The story related how villagers' health improved dramatically after wells and latrines were put into use, so the listeners reasoned, "Why not us?"

In another community, health workers were washing and bandaging tropical ulcers for forty school children daily during the early weeks after opening their health post. Then they began telling the story of a family whose children had this problem until they started washing daily with soap and water. Incredibly, the number of children with tropical ulcers diminished rapidly until only a few remained.

Neonatal tetanus claims a large number of babies in Lardin Gabas due to the custom of cutting the umbilical cord with a corn stalk and applying soil to stop the bleeding. Antenatal clinic attenders hear the story of a woman who had lost two babies with the symptoms of tetanus but

successfully avoided this with later ones when the midwife learned to wash her hands, use a clean cloth on the floor, and take care of the umbilical cord with a razor blade and piece of string previously boiled.

Family planning also has a prominent role in the health teaching in Lardin Gabas. A story about a father and son planting corn while discussing the value of spacing to make the plants grow tall and strong is followed by a discussion of how this can also apply to humans.

Students from cultures close to the oral tradition are extremely adept at creating interesting stories and at dramatizing them in interesting ways. The stories are always followed by questions to the listeners about the ideas embodied. They are used as entertainment at community gatherings, weddings and school ceremonies, as well as told to parties attending the clinics.

The essentials of a health teaching story are the teaching objectives and a scenario to fit the local culture. Teaching life-cycles and anatomy at the community level is often counterproductive. Health knowledge included need only be the minimum necessary to effect the health-improving change in behavior.

Teaching of village health workers is done mostly by teaching the stories, which are practiced by the students on each other and on groups near the school. It is known that students will teach the way that they are taught, so lectures are avoided as much as possible.

The students also write songs about the stories and make up riddles to go with them. Spontaneous dancing often breaks out during the classroom singing.

Students are also taught to use simple medicines to treat or prevent the common easily recognized symptoms such as fever and diarrhea, and also how to operate maternal and child health clinics.

Since 1974, over 250 health promoters have been trained by the Lardin Gabas program which was designed and operated by the Church of the Brethren Mission. Sixty-six percent remain active in health care, many with local government agencies but most in the communities that sent them for training. Sixty-four remote villages have health teaching and simple intervention where none existed before. In 1979 over 18,000 child welfare clinic visits and over 4,000 antenatal clinic visits were attended by the health promoters who screened for illness and high risk, gave simple prophylactic medications and, of course, provided health education by stories, drama and song.

This primary health care scheme[3/] would not become self-supporting at the training level. However, with a relatively small continuous input for the training, governments and voluntary agencies could see a large return in health improvement through its implementation.

It is said that there once was a village nestled among the hills. When residents travelled from the town, robbers often came down from the

hills to steal their goods and leave them wounded. The elders appointed a first-aid corps to bandage the wounds and bring in the injured. After many years the people began to say "Why not do something about the robbers?" So a posse rounded them up and jailed them and peace and happiness once again returned to the village.

And so it is happening in Lardin Gabas.

NOTES

1/Barclay, W., The Gospel of Matthew.

2/Hilton, D., Health Teaching for West Africa, Wheaton, MAP International, (1979).

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CURRICULUM DESIGN FOR PRIMARY HEALTH CARE: A RELEVANT APPROACH

N.R.E. Fendall

Seminar Speaker

The critical issues in preparing primary health care workers (PHCWs) are selection, curriculum content and supervision. Although much has been written about both selection and supervision, not all of it informed, it is in the realm of curriculum formation that the greatest weakness exhibits itself.

Definition

Primary health care (PHC) may be variously interpreted-- witness the term selective primary health care, which is a faintly disguised euphemism for specific disease programmes. The Declaration of Alma Ata[1] described primary health care as a mixture of concepts and functions embracing the philosophy of rendering to the needs of the family in its home or village environment. The whole concept includes all those health care activities to be rendered to a family outside of the hospital.[2] The primary goal is to achieve a total outreach. It must be appreciated and understood that primary health care can be, and is, delivered at differing levels of intensity and complexity dependent upon the resources available--mainly financial and educational. In addition, there are priorities within primary health care, for example the communicable diseases, and these will of necessity be approached on a time-basis. But the goal must always be to achieve the totality of activities, to fulfill the characteristics and to aim for complete accessability between community and services. Lastly, primary health care has to be planned and organized within the overall content of total health care. It is not an adjunct to hospital care. Indeed hospital care and referral care in general must be regarded as supportive to primary health care. Hence the importance of the referral system, team-work and informed supervision.[3]

Educational Objectives

Until quite recently, most programmes of nursing and medical training were based on the apprenticeship system. The emphasis was on the practical and vocational aspects of healing and caring for the sick, with practice being bolstered by theory. In this century we have generally reversed that process, with theory and academic learning given prime importance and supported with subsequent learning of practical skills. Yet the objective has been constant for professional cadres: to expose students to the whole gamut of knowledge and skills which constitute medicine, nursing and other health professions.

With primary health care workers, however, the objective is distinctly different. It conforms much more to classroom goals of school, where there is a pre-set and limited objective. With auxiliaries, teaching has

to be precise, limited to a specified area of work, a pre-determined standard of competency and pre-selected tools, drugs and facilities. Teaching must reflect realistic service requirements and settings. The vital question should be not how much can be included in the curriculum, but how much can be safely omitted. The overall objective must be to make the primary health care worker adept and competent at performing precise functions within the relevant circumstances and constraints of a particular community. No more, no less. We must be careful not to intellectualise education and training for primary health care to the point where it is irrelevant to the job to be done. Educational and service objectives must be in harmony. Although much has been written about the "brain drain" of professional health personnel, the problem can be identified specifically as mal-distribution, mal-utilization and mal-education for primary health care. Thus a secondary objective is to permit, through the appropriate training and provision of auxiliary health workers, the proper utilization of scarce professional talents. A tertiary objective is to reduce the burden of over-work, expand existing programmes and mount new ones by supplementing skilled labour with semi-skilled (but appropriate) labour! The end results are trained hands and disciplined minds for the application of the known and routine, the tried and true: not the latest or most expensive innovation.

Basic and Post-Basic Education

As for the professional health personnel, there is a clear distinction between the aims of basic and post-basic education. Basic training requires a set of functions in a supervised situation: namely, the screening of patients and problems, the coping with selected designated minor ills and problems, the referring of major ills and problems, and the rendering of first-aid. In all circumstances, a qualified individual should be assured of immediate, periodic and regular supervision.

The objective of post-basic training is not only the improvement of knowledge and skills or of "specialization," but more importantly, the ability to cope with emergencies--medical, obstetric, pediatric and surgical--under specific circumstances. The PHCW is not new in the business of alleviating sickness and promoting health, but in the practical business of saving life in the absence of more skilled personnel.

Concepts in Training

Thus we arrive at these fundamental concepts in training for primary health care:

1. Training to minimal input, compatible with safety, not a maximal input.

2. Training to the realities of a given situation.

3. Training to necessity.

4. Training to priorities.

5. Training not only what to do under supervision, but what to do when professional help and advice is not available.

6. Training to the safe, the accepted, the feasible, the effective and reliable (SAFER).

7. Training to simplicity but not inadequacy.

Method of Education

In essence, whereas the professional needs to be relieved of the routine and concentrate on the complex, the PHCW needs to consolidate learning and skills as applied to the simpler ills and problems:

1. Repetitive practice to consolidate 'good habits' and reliability is essential.

2. A heavy emphasis should be given to demonstration of skills to small groups and individual students.

3. A high proportion of time must be alloted to practicing under immediate supervision: and later in consolidating those skills with repetitive practice.

4. In order to consolidate theory and practice at this level, the "sandwich" approach of alternating theory and practice should be adopted.

5. Approximately two-thirds practice and one-third theory is an acceptable guide-line.

6. Demonstration and practice must be undertaken in a simulated work environment. The work situation is simulated in all respects except for the:

   a. selection of appropriate teaching material

   b. time element (for demonstration and practice)

   c. provision of a plentitude of informed instructors and demonstrators.

7. The technique of the school classroom rather than the university lecture: didactic, pragmatic, concise, slow and repetitive be adapted.

8. Emphasis on the spoken word, and in the vernacular.

9. The supply of mimeographed notes to produce at the end of the course a "field manual."

10. Re-iteration of the information.

11. Supervised field activities. Field practice should not be regarded as a form of cheap labour for service requirements.

12. Demonstration schemes should reflect reality.

13. Exams should not be an impediment to learning but test operational competency.

Content of the Curriculum

The content of the curriculum is often dictated by tradition: a modification of what went on before without a consideration being given to changed objectives, changed policies and changed circumstances. Also the curriculum content often is set by those who have least competency. It should be borne in mind that the imposition of a curriculum designed for teachers, but not with or by teachers, is the most certain method of ensuring disgruntled and disillusioned teachers.

If a systematic approach to the development of a relevant curriculum is desired, then it is essential to recognize a multiplicity of interests: the health administrator, the policy maker, the principals and teachers, the community and the professions. Their pedagogic skills, PHC skills, management skills and research skills are needed. However, the very least considerations are given to those with perhaps the most experience of actual needs--the PHCWs themselves.

The worst approach is to develop an abridged curriculum stemming from that of the original professional specifications. This ensures a "cram" course for a second-rate, inappropriate health worker. A logical approach stemming from a systematic analysis of the elements involved offers the surest means. The elements requiring analysis are the community, the disease pattern, the work-load, the facilities, the resources and constraints.

Conclusions

The most common causes of failure of PHCWs in their subsequent performance may be ascribed to poor selection of students, poor field analysis (both quantitative and qualitative aspects), inappropriate training programmes and ineffective supervision. These failures cannot be laid at the feet of the auxiliary, but are the responsibility of those who designed and initiated the programme. Until a logical and analytical approach is adopted to each of these critical aspects, there will be a degree of irrelevance between service and educational objectives and programmes.

Finally, primary health care requires team-work for its successful application. Team-work can be inculcated during studentship by providing common teaching for shared tasks. Shared teaching might also produce shared curriculum design.

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A TRAINING PROGRAM FOR TRADTIONAL BIRTH ATTENDANTS IN NICARAGUA

James Heiby

Seminar Speaker

Introduction

In many ways, the training requirements of the primary health care (PHC) worker are more severe than those of a health professional. Cost considerations often require that the initial training period be relatively brief. The trainees are unlikely to be academically sophisticated and their teachers are unlikely to have much relevant experience. Nevertheless, the newly-trained health worker will be expected to immediately begin providing high-quality, well-organized services that produce real health benefits. The margin for error or even inefficiency in this process is small.

Between 1976 and 1979, the Ministry of Health (MOH) of Nicaragua carried out a program that trained 768 traditional birth attendants, or parteras, to provide a limited range of health services in their largely rural communities. The program was designed to establish a rural health infrastructure rapidly and at a relatively low cost. At the beginning of the program, a team of four nurses was assigned to develop and teach the partera training course. Separate policy decisions limited the training course to five days and determined that the parteras would be equipped with simple obstetrical equipment, oral rehydration salts, oral contraceptives, condoms, the antihelminthic mebendazole, multivitamins with iron, and aspirin. The task of the training team was further complicated by the fact that the vast majority of parteras were illiterate.

The training team conducted 47 training courses before the program was eventually disrupted by general political unrest. Thus, many important aspects of the program are poorly documented. The program itself was service-oriented and did not have a separate research staff. This further limits program documentation, but this experience does illustrate a number of issues in the training and support of the PHC worker.

Development of Training Objectives

Under circumstances such as these, the objectives of the training course should be expressed in terms of the desired role of the partera in her community. The goal of training is not to simply provide a certain number of lectures on the appropriate subjects, but to convey discrete skills and knowledge in the alloted time. This implies that the development of the curriculum should be based on three principles:

1. An operational definition of competence: It should be clear to everyone involved in the program exactly what the parteras should know and what skills they should have at the end of the course.

This requires a detailed, written description of the partera's role that is specific, concrete, and exhaustive.

2. Systematic evaluation of each set of skills and areas of knowledge, and provision for unsatisfactory results: Certainly the traditional classroom practice of asking questions about the subject at hand is an indispensible technique. But it is not sufficient that the partera simply give the correct answer to a specific question. To be functional, the partera requires a level of skill that permits independent action. Evaluation should mimic field conditions as much as possible. For example, the ability of a partera to provide oral contraceptives cannot be evaluated solely by asking specific questions regarding contraindications and the procedure for taking the pills. A complete operational definition of competence would include describing a plan for introducing family planning services to the community, explaining alternative methods, screening for contraindications, explaining how to take the pills properly and possible side effects, explaining the steps to be taken if pills are forgotten and follow-up and referral procedures. Evaluation of training should reflect this requirement for the independent application of a relatively complex set of skills.

The inability of an individual trainee to carry out a given set of skills is of more than academic interest. The training course should make provision for unsatisfactory results by allowing for further training where needed. Further, evaluation during the course of formal training can only establish the abilities of the trainees; it does not guarantee that the parteras will actually apply their skills fully in the field. Direct evaluation by field superivisors is in many ways the ultimate basis for judging the training course and, if necessary, modifying it.

3. Establishment of training priorities: If evaluation of the training course indicates that a given content cannot be adequately conveyed in the time available, it would seem prudent to eliminate some topics. Setting priorities for which areas could be eliminated and which should be retained inevitably involves subjective judgement. Program managers accorded highest priority to training the parteras in the proper use of the drugs and equipment provided by the program. Knowledge which had no specific function and educational activities that required complex behavioral changes received lower priority in the planning process.

The Initial Training Courses

These are rather conventional training principles, but as illustrated by the training course that was initially developed for the program, they are by no means universally applied.

Development of the curriculum was not preceded by an operational definition of competence for the individual partera. A list of partera responsibilities was developed but this was limited to general statements such as "use clean and safe techniques" or "prescribe medicines according to the indications provided." The formal curriculum was comprised of

general topics that did not define discrete skills in detail. The oral rehydration section, for example, was described in three brief phrases: 1) technique for mixing, 2) method for giving the solution to the child and 3) what to do with excess solution. Thus the desired role of the trained partera was not explicitly defined, either in the curriculum or elsewhere.

The instructors used this curriculum in the first two training courses, and in practice, attempts at evaluation were minimal. Evaluation was limited to occasional student questioning covering only some of the areas covered, and in these interchanges were dominated by a small number of the more aggressive students. Even this degree of evaluation failed to duplicate field conditions and, with rare exceptions, the students required coaching from the instructors to give complete responses.

The curriculum contained more than 300 discrete skills and areas of knowledge, and the five-day period was adequate to present each topic only once. Much of the content was of dubious value, particularly in view of the fact that some parteras were evidently poorly prepared to use drugs and equipment whose misuse was potentially serious. Limited class time was devoted to teaching the scientific name of different intestinal parasites while the treatment of this condition was only briefly mentioned. Illiterate parteras were extensively instructed in the completion of a birth registration form, while there was inadequate time for practice in the preparation of an appropriate oral rehydration solution. There were also lectures on proper infant clothing, the physiology of fertilization, the disposal of the placenta, and other topics of questionable priority.

The Revised Training Course

Limited as it was, the partera evaluations carried out during the first two courses provided the basis for a complete restructuring of the curriculum. Even the most talented students had demonstrated serious deficiencies in the areas where they had been questioned. The revised curriculum represents an attempt to apply the principles of competency-based training. The revision was carried out by the training team themselves, with minimal outside assistance. This experience is of interest for both the areas in which it succeeded and those where it fell short.

The new curriculum specified in detail the skills and knowledge desired of each partera. Everything the students were expected to learn was described in concrete terms, in writing. Day-to-day classroom activities followed the curriculum closely, departing from it only to provide examples or restatements of the same content. This does not, of course, guarantee that the content is ideal, but it does permit analysis and criticism of the curriculum without extensive classroom observation.

The revised curriculum also specified student evaluations. The instructors systematically presented these questions to each student until the parteras could respond correctly without coaching, and provided verbal reinforcement for successful attempts. To duplicate field conditions, the instructors used role-playing sessions that included the use of the drugs and equipment provided by the program.

The content of the new curriculum represented a reduction of more than 50% compared to the original. Because the entire content was written, rambling, extemporaneous discussions were largely eliminated. Primarily as a result of these two factors, it proved possible to repeat each section several times, despite the time dedicated to evaluation. Neither the instructors nor the students objected to this pattern.

Remaining Shortcomings and Research Needs

While there was broad agreement among observers that the revised training course resulted in a substantial improvement in partera competence, serious shortcomings remain. The results of the student evaluations were not recorded. There is then room for doubt that every partera demonstrated minimal competence in each skill. An even greater source of concern derives from the programs extremely weak system for field supervision. Few of the parteras were visited in the field even once, and even these limited visits did not systematically evaluate the partera's actual performance. Even apart from its critical role in supporting high quality services and coverage of the target population, supervision provides the final basis for modifying and refining the training course itself. No evaluation in the classroom establishes the success of a formal training course, much less a five-day course applying an unfamiliar technology to inexperienced health workers. There are, to be sure, formidable logistical and practical obstacles to carrying out a rigorous evaluation of the performance of isolated rural health workers. The failure of the partera program to realize such an evaluation was, however, more qualitative and therefore more disturbing. The form of competency-based training was conveyed, but not the concept, and for this, the partera program suggests no easy solutions.

THE FAILURE OF PREVENTION IN PRIMARY HEALTH CARE EFFORTS

Joyce V. Lyons*

Seminar Speaker

Even today very little emphasis has been placed on the importance of preventive and promotive care in many countries. This is true even though two trends have recently emerged that have increased the awareness about the importance of preventive and promotive health services. First, the international health community has accepted primary health care as a desired goal of any health system. Secondly, non-physician practitioners are gaining acceptance by both physicians and community members.

Despite the increasing awareness of the inadequacies of a predominantly curative approach to health serivces, the shift in financial and human resources required to correct the current imbalance in services is slow to develop. The dominance of curative care persists even though community needs remain unmet and evidence show that curative care only provides temporary relief for many of the problems which have their origins in preventable conditions.

Barriers to prevention exist in many aspects of the health delivery system. In the development of manpower, the training is often inappropriate. In the area of finance, resources are skewed towards support of centralized curative services. And finally, there is little emphasis on sharing and integrating the resources of the Ministry of Health to support preventive and promotive activities. These barriers influence the extent to which health workers can provide primary health care services. When primary health care workers (PHCWs) are not properly trained and supported, their efforts to meet community needs are often inadequate, inappropriate or insufficient.

It has to be realized that the many elements of the health delivery system are interdependent, and changes in health delivery will only occur when the health services are systematically and appropriately mobilized. Prevention then becomes the responsibility of every level and component of the system.

Manpower development takes place when manpower requirements are defined through a process of 1) comparing the perceived health needs to the existing personnel resources, 2) projecting the present and future requirements, 3) defining the health team configuration most likely to facilitate service, and finally 4) developing workers to provide the necessary service.

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* Co-authors are Dr. Hugh Holder, Thomas G. Coles and Sunil Mehra.

Many countries have chosen to train non-physician health workers to provide primary health care. Often, in an attempt to maximize the utilization of these workers, the preventive, promotive and curative responsibilities are given to one category of multipurpose worker.

Training of these middle-level health workers (MLHWs) addresses many problems, but a major problem remains. Although mandated to provide comprehensive health care at the primary level, MLHWs often spend a disproportionate amount of time providing treatment for common recurrent health problems. Most of these health problems are caused by environmental conditions or personal health habits that can be altered by preventive measures such as sharing ideas about health and improving sanitation and water supplies. In assessing the effectiveness of MLHWs, three questions arise for further consideration:

1. Does the worker have ample opportunity to provide preventive, promotive and curative services?

2. Does the worker have the desire to engage in preventive and promotive activities?

3. Does the worker have the ability to provide preventive and promotive services?

Background

In 1977, the government of Guyana decided to train a new category of MLHW called "MEDEX." MEDEX were to help expand health services to rural populations and maximize the utilization of manpower. They were expected to provide primary health care services integrating promotive, preventive and curative care. The responsibility of the training, supervision and continuing education of MEDEX was given to the MEDEX Training Center in Georgetown, Guyana. Following competency-based training guidelines, the MEDEX Training Center developed training materials and methods. The Center is committed to provide relevant preservice and inservice training (continuing education) to the MEDEX. To do so, the performance of MEDEX who have graduated is routinely assessed and monitored by supervisors.

In 1979 an analysis of deployed MEDEX records revealed that approximately 30-40 percent of the cases treated by MEDEX could have been avoided by improved environmental conditions or personal health practices. Both the MEDEX records and supervisory reports indicated that, although clinic patients received adequate advice about the impact of good health habits on reducing the incidence of their current health problem, there was little involvement by the MEDEX in preventive and promotive activites outside of the clinic.

The chief medical officer attempted to change the situation by directing the MEDEX to close their clinics one day per week to work in the community to identify health risks and assist community members to change risk factors. A subsequent evaluation found the MEDEX performance unchanged.

Based upon the analysis of field experiences the training center staff prepared a continuing education program for the graduates, as well as a revised approach for teaching community health to incoming preservice students.

During training the student is required to:

1. Obtain information about the health status and practices of the people in a selected community.

2. Identify those social and environmental conditions which, if changed, would improve the health of people in the community.

Specifically, the revised program would enable the trainee to:

1. Recognize what disease patterns provide indications of community health status, i.e., diarrhea, hepatitis, communicable disease.

2. Identify environmental factors which will effect the maintenance of a pure water supply.

3. Describe effective and safe means of human waste disposal.

4. Describe methods for pest control, e.g., flies, mosquitoes, rats.

5. Describe the nutritional needs of children and pregnant women.

6. Explain the normal growth and development process for children.

7. Describe the social and medical factors which determine the potential for a child to be at risk of becoming ill.

8. Describe the benefits of immunization.

9. Conduct household interviews to obtain information about family health state.

10. Map a selected section of the community and display the following water sources, human waste disposal facilities, rubbish disposal facilities, potential breeding areas for insect and rodent pests.

11. Assess the quality of water supply, human waste disposal facilities, rubbish disposal methods, and pest control efforts.

STUDY

This study was conducted in Guyana in 1980-81 as part of a more detailed investigation about using student performance evaluations to assist in program decision-making. The objectives of this analysis were:

1. To assess the effects of revised teaching materials and methods on the learning achievement of preservice students.

2. To compare the effectiveness of inservice and preservice training approaches by measuring student achievement.

Student achievement was measured using pre and post tests of knowledge, as well as a simulated interview and recording procedure to identify student skills in applying their knowledge about family and community health risk factors.

Results

The preservice subjects obtained significantly higher scores on both the cognitive post-test and the simulated interview procedure. The interview scores of the two groups were also compared in each of the nine categories that are contained in the total interview; i.e., mothers' health, children's health. At this level of analysis there were no significant differences between the preservice and inservice group performance in the following categories: children's health, family health, nutrition, and insect control.

Discussion

The ultimate success of this program to increase MEDEX participation in community-based preventive and promotive activities will be evaluated after continued monitoring of their job performance. The preliminary results of the study suggest that the new preservice approach should be continued for the next class. After further field evaluation, the program staff will have enough information to consider the merits of changing the preservice training curriculum structure. One option is to shorten the preservice training time and allow the development of community-based skills during a continuing education experience. This approach would tend to fuse the medex to his community and have the added benefit of being less expensive for the training institution.

Summary

Conventions that tend to maintain an orientation to clinical medicine as the major service of PHC workers need to be addressed before the worker can perceive the scope of his role in the community. Training is one avenue for achieving this change in role perception. By redesigning training systems and developing creative approaches to learning activities, the preventive and promotive role can be emphasized. Such training efforts, although not sufficient in themselves are necessary components in the development of PHC systems.

ADAPTATION AND USE OF FIELD-TESTED PROTOTYPE MATERIALS FOR PRIMARY HEALTH CARE DEVELOPMENT

Eugene R. Boostrom

Seminar Speaker

The lead editorial in the May 1981 American Journal of Public Health, entitled "Health by All for the Year 2000," by Dr. Jean Pierre Habicht, offers four general principles to guide us in designing and implementing primary health care (PHC) programs:

1. Primary health care must be appropriate to local conditions.

2. Commitments to the objectives of PHC must be compatible among donor agencies, technical aid personnel, and health authorities at the relevant levels.

3. Health and other objectives must be translated into activities with measurable goals.

4. A PHC system is an organism in which each part must perform its allotted tasks in coordination with the other parts.

These four principles are certainly consistent with the experiences of the Health Manpower Development Staff (HMDS), University of Hawaii, in collaborating in the development of PHC programs in several countries. They are also consistent with the experiences of many other people in international health.

The final paragraph of the above cited editorial, however, seems to offer a challenge to groups such as the Health Manpower Development Staff, which are engaged in the development of prototype materials for PHC:

> A review of these four principles indicates what can and what cannot be usefully extrapolated from one situation to another: scientific knowledge about biological efficacy and the process involved in designing a primary health care program can be; the precise structure and mix of interventions cannot. This insight explains why many successful programs are described according to their objectives and process and why publication of exact procedures is dangerous, because they are too easily adopted unadapted.1/
> (Emphasis added.)

The HMDS, University of Hawaii, agrees with the existence of that danger, but believes it can be dealt with.

The adaptation and use of prototype materials can increase benefits from limited resources. Prototype materials are standardized, field-tested materials specifically designed for ready adaptation to help meet needs in manpower and systems development for PHC. Some of the advantages of adapting and using prototypes are that they can:

1. Reduce the lead time and costs required to establish, expand and strengthen effective national PHC programs.

2. Assure that all major areas (e.g, job design and task analysis, training, system planning, management support) are considered, and that appropriate technologies are considered in each.

3. Facilitate effective and systematic use of past experiences in PHC.

4. Maximize effectiveness of technical cooperation for PHC.

5. Facilitate effective use of technical cooperation among developing countries.

6. Enhance commitment to and identification with PHC among participants in the adaption process.

"Adoption without adaptation" occurs because it is often too easy to "adopt" and too hard to "adapt." One solution is to provide good materials which are easy to adapt, plus a specific structured approach for adapting them to local (national) conditions. The conditions or context to which prototype materials must be adapted include: the health problems of a given country or area; the resources available from various sources to prevent or combat those problems and to preserve and promote health; and host-country decisions regarding how, where, when and by whom various health services will be provided within the unique cultural and environmental characteristics of the country.

The University of Hawaii group has developed, used, tested and refined prototype materials through collaboration in PHC development in five countries: Micronesia, Thailand, Guyana, Pakistan, and Lesotho. Initially, emphasis was placed on the training of mid-level health workers, (MLHWs), using a competency-based approach proven successful in the United States. Experiences in several countries showed that the prototype materials, the modular format in which they were presented, (see Diagrams 1 and 2), and the adaptation process and related materials were readily accepted, adapted and used. Further, health officials find that the graduates of the resulting training programs accept and perform competently the tasks assigned to them in the PHC system. Formative evaluations carried out during the training and comparisons of pre- and post-training test performances indicate that relevant knowledge and skills improve during training. Ministry of Health officials have expressed satisfaction with the readiness with which the prototype materials could be adapted to their own particular situations and problems.

The HMDS has found that when MLHWs train community health workers (CHWs) whom they subsequently supervise, lasting ties are developed which facilitate effective PHC at the community and family levels.

In recent years, it has become increasingly evident in developing countries that MLHWs and the CHWs who work with them require strong support and continuing positive supervision. For the CHWs, most of this can be provided by MLHWs after appropriate training. MLHWs can be trained to do this and to make effective use of support systems provided by the Ministry of Health or other employing institutions. Prototype MLHW training materials include modules intended to help prepare the MLHW to train and support CHWs; portions of these materials are also specifically designed to be used in the actual training of CHWs. Other modules help prepare the MLHWs to carry out other "management" tasks and to make adequate and effective use of the support systems available to them.

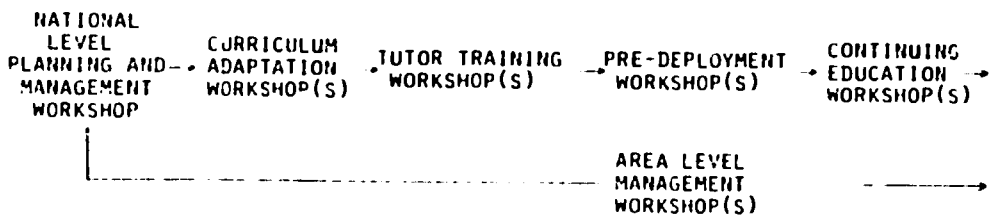
To the materials mentioned above, others are being added to facilitate the processes through which Ministries of Health and other organizations can strengthen their institutional and management capability for PHC operations and support. Some of the PHC prototype materials and guidelines for their use are still being developed. All are still being modified in light of on-going feedback from the field. The entire package of materials and guidelines is to be finished and ready for distribution early in 1983. An information volume to be distributed by HMDS in October 1981 explains HMDS approaches and materials and provides examples of both prototype and country-adapted material.

Much emphasis is placed on the adaptation process, since even the best training materials and training programs cannot be fully effective if they are not well adapted to local requirements and conditions by local health professionals. In the area of MLHW and CHW training, for example, the beginning point of materials adaptation is the "curriculum adaptation workshop." This is a two to six-week session in which health workers and officials from various levels of the health care system first work to finalize draft job descriptions and task lists for the MLHWs and CHWs. They then begin the development of a training program for each category of worker and revise (and sometimes devise) training and evaluation materials to assure that the trainees will become competent to perform all of the tasks listed for their job under the conditions which will actually prevail in the field.

At the completion of the curriculum adaptation workshop, the roles of both MLHWs and CHWs have been defined to the extent of analyzing job descriptions into tasks and duties, and in turn, into the skills and knowledge required. This forms the basis for the detailed adaptation of the individual modules. Plans for the completion of the student text adaptation have been made, and implementation of that process has begun. The adaptation of the student texts continues in small working groups for a number of months after the workshop. After implementation of the training program, feedback from training and from field operations is used to update and revise the materials.

Other workshops are closely related to the process of adapting training materials and approaches. These include workshops which form part of the processes of organizational and management systems development. The workshops are arranged to feed into one another, leading participants stepwise in development of infrastructure and support systems to help meet the needs of the communities and of health workers in preparation of competency-based materials for training PHC workers. Following analyses of organization and support systems, planning and management workshops produce specific action plans to improve systems. Some participants from these workshops also participate in the curriculum adaptation workshop. The tutor training workshop is held after completion of the adaptation of student texts and before commencement of MLHW training, to prepare tutors to use competency-based training methodology. The instructors' materials are adapted during this workshop. Prior to the CHW section of the MLHW training, a preceptor deployment workshop prepares tutors to train MLHWs to train CHWs, as well as preparing the tutors to manage the community phase of training. District-level planning and management workshops feed operations information into this workshop. After graduation of the first class, continuing education workshops are held to help tutors, supervisors and graduate MLHWs to plan a continuing education program closely linked to ongoing supervision.

One typical sequence of workshops is as follows:



Prototype workshop manuals are adapted and used to guide advisors and host government counterpart officials in planning and conducting workshops. These manuals provide materials which assist in the process. The prototype Curriculum Adaptation Workshop Manual, for example, includes: examples of drug and supply lists; a checklist of typical administrative and logistical requirements; a description of aspects of the health services delivery system which are implicit in the system of prototype materials for training MLHWs and CHWs; descriptive and explanatory information on competency-based training and non-formal education; task analysis tables for each MLHW training module; and other workshop aids. Prior to a workshop, the manuals are adapted for use in the country. They are used flexibly, choosing from the variety of materials available those which are most appropriate for the country and for the workshop participants.

The materials developed by HMDS facilitate adaptation of approaches and adaptation of the materials themselves. Prototype training materials, for example, are designed to facilitate adaptation by their:

--Inclusiveness in relation to common health problems facing PHC workers;

--Selectivity and emphasis in relation to high priority problems and feasible approaches to resolving or reducing them;

--Quality, both in terms of content and pedagogically;

--Appropriate (but flexible) sequencing of content and of learning activities (both within and across modules); and

--Controlled language and reading levels (including considerations of the problems of training and supporting illiterate CHWs).

Other materials also aid adaptation by facilitating, provoking or clarifying decisions regarding various aspects of the PHC system. Such materials include the task tables, other materials in the modules and instructor's manuals, and, with emphasis on those decisions, materials for systems analysis and development.

In summary, HMDS considers that prototype materials offer significant advantages in developing and strengthening PHC systems, and that they can help fulfill Dr. Habicht's four principles:

1. They can be designed for adaptation to local conditions.

2. Their adaptation provokes early analysis and consideration of manpower and support issues which test the compatibility of the objectives of the various parties involved.

3. They facilitate the move from policy statements to setting specific measurable goals.

4. They help in planning and establishing coordination of the tasks to be carried out by various workers, by promoting early decisions on task assignments at the peripheral levels and on design and operation of support and training systems.

As HMDS completes the development and testing of its guidelines and prototype materials, it faces the challenge of making them as independent as possible of the use of "outside" technical advisors, and of promoting and facilitating technical cooperation among developing countries where "outside" help is needed.

NOTES

1/American Journal of Public Health, May 1981, Vol. 71, No. 5, pp. 459-461.

DIAGRAM 1

COMPONENTS OF PROTOTYPE MODULES

MODULES (OR STUDENT) TEXT

- STUDENT GUIDES
- WRITTEN NARRATIVES
- TEXT VISUALS
- REVIEW QUESTIONS
- PROTOCOLS
- EVALUATION FORMS

INSTRUCTOR'S MANUAL

- TASK ANALYSIS TABLES
- TRAINING SCHEDULES (ALSO FOUND IN MODULE TEXT)
- TEACHING PLANS
- PRE-, POST-TEST, AND REVIEW QUESTIONS ITEMS AND ANSWERS
- AUDIOVISUAL MATERIALS (SUCH AS SLIDES WITH NARRATIVES)

EVALUATION MATERIALS

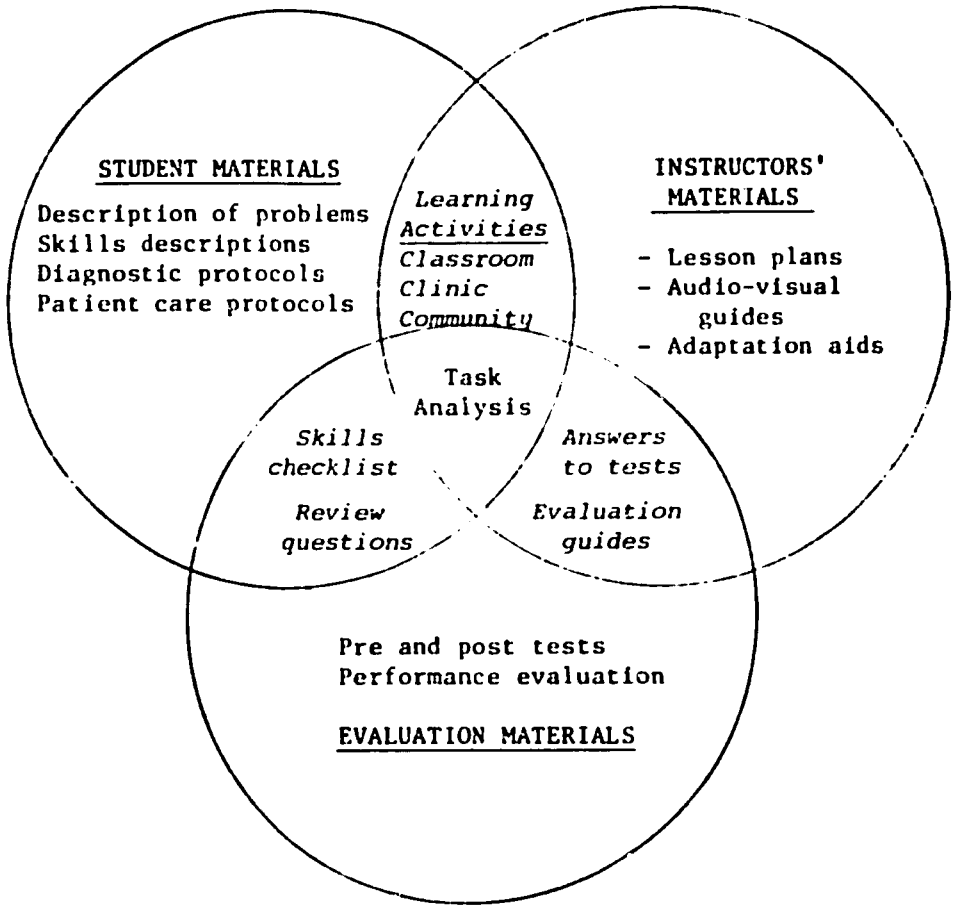
- PRE- AND POST-TEST
- PERFORMANCE CHECKLIST

ADAPTATION AIDS

- DRUG AND EQUIPMENT LISTS
- ALTERNATIVE AUDIOVISUAL MATERIALS
- ARTICLES/REFERENCES SUPPORTING CONTENT OF MODULE

DIAGRAM 2

MODULE COMPONENTS AND RELATIONSHIPS



ADAPTATION AND USE OF STANDARDIZED LEARNING MATERIAL

Daniel Flahault

Seminar Speaker

Introduction

The structure of the World Health Organization (WHO) with its decentralized organization (Headquarters, six Regional Offices, and offices at country level) has led WHO to produce learning material at various levels, including Headquarters level. In view of the fact that 156 Member States belong to WHO, the material produced at headquarters level cannot meet the needs of individual countries; consequently the learning material prepared has to be adapted at regional and country levels. We could thus consider that the material prepared at headquarters is standardized. Various manuals and guides, such as The Primary Health Worker, are prepared for specific categories of health personnel and material is also prepared for medical assistants, nurses, MDs and technical personnel. There are also guides prepared for all personnel, such as The Educational Handbook for Health Personnel. Learning modules have also been prepared; some can be found in the above-mentioned learning material and thousands of modules have been prepared all over the world by various institutions. The same applies to self-learning material as well as to audio-visual materials such as slides, films, drawings, taoes and transparencies, not to mention laboratory equipment or practical equipment such as dummies. Flowcharts will be specifically mentioned here since they seem to offer avenues for further development and possibilities.

If one considers that adaptation is the process by which a given learning material is modified to suit specific conditions and needs, these conditions are those which relate to the environment and influence life in the country: (1) the geographical and economic conditions which influence the disease pattern; (2) the cultural background, as it is important to take into account the local habits, practices and taboos; (3) the religious influences which may, for instance, prevent the utilization of certain foods; and (4) the resources available both in terms of financial means and manpower available for training, supervision, and referral. The needs relate to the people, both the health workers and the population who benefit from their services. The level of development determines the level of the health worker and the learning material has to be adapted to them. The needs of the population, once carefully assessed, have to be listed in order of priority so that the problems tackled correspond to those which need to be considered first.

Adaptation and Use of a Guide for Primary Health Workers (PHWs)

Take as an example one of the WHO publications: The Primary Health Worker: working guide, guidelines for training, guidelines for adaptation, which was prepared as standardized learning material intended for adaptation at country level. This publication was prepared at

headquarters level by a team of physicians, nurses and sanitary engineers, who had all spent part of their careers working at country-level in the field. It was considered that the PHW's duties depend on the "problems" met, or areas of concern faced, which vary from country to country; consequently it was impossible to draw up a list of problems which would be valid throughout the world. It was assumed, however, that some problems and concerns were common to all countries. This assumption led the WHO working group which prepared this guide to select the problems included in it on the basis of a few criteria:

--frequency of disease;
--demand from the public;
--danger to the individual;
--danger to the community;
--technical feasibility of action for a PHW; and
--economic consequences of the "problem."

From the problems selected, the functions of the PHW were outlined, covering both curative and preventive health care as well as community development activities.

The guide covered 34 problems, or areas of concern, which were considered to be the most common, therefore the most likely to be found in any given rural community. The problems were grouped under seven main headings:

--common diseases;
--maternal care;
--child health and nutrition;
--accidents;
--village and home sanitation;
--other common problems; and
--community development.

From the very beginning, the reader is repeatedly reminded that the guide is intended for adaptation to conditions in different countries or communities in order to suit the needs of its users and should not be used as such at local-level without modification.

A typical example of adaptation of this guide took place in Sudan in the following way.

The Government of Sudan convened a group of 28 medical assistants, under the chairmanship of the Director for Training of Health Personnel (from the Ministry of Health), for two weeks to review each chapter of the WHO guide, taking into account the priorities set by the Primary Health Care Committee, established at ministerial level. About 25 chapters were retained from the WHO guide, and new chapters were added, but changes were made in all chapters of the initial WHO model. Changes were made not only to the text but also to the drawings. The review group was assisted by WHO staff from both Headquarters and the Regional Office. They split up into working groups, each one of which dealt with seven or eight problems, and reviewed, rewrote and amended the problems according to their own perceptions.

The annexes to the guide relating to drugs, techniques, and equipment were also adapted to comply with the policies set up by the National Primary Health Care Committee and particularly with the list of essential drugs agreed upon by the Ministry of Health for utilization by Community Health Workers at peripheral level. At the same time a translation committee was given the responsibility of translating the new English version into Arabic. The Ministry of Health then published the Sudanese guide in a bilingual Arabic/English edition.

Subsequently this guide was used by the primary health care workers and their trainers working in the Sudanese Health Services, particularly in the South of Sudan. An evaluation of the use of The Primary Health Worker manual in Sudan was carried out by the national authorities which served as a basis for the preparation of a revised edition. At the same time a new edition of the first WHO edition was prepared and published in 1980.

Adaptation and Use of Other Learning Material

Other learning material prepared for other categories of health workers, such as The Educational Handbook for Health Personnel or On Being in Charge--a guide for middle-level management in primary health care do not lend themselves to adaptation in the same way. The principles of teaching/learning methodology, as well as of management, remain the same all around the world and only minor adaptations, such as examples better suited to local conditions, may become necessary. Otherwise a simple translation into local languages may suffice.

Concerning audio-visual materials such as slides and films, the films prepared for French-speaking countries by the National Film Board of Canada are an example. The National Film Board produced 31 educational films of an average of 30 minutes each for middle-level personnel in Africa. These films were produced with the involvement of governments and national and international experts. In Africa, climatic, geographical and cultural conditions vary quite a lot from the savana to the forest areas, from the dry to the humid zones and from the Moslem, Christian and "animist" populations. The films were made depicting examples in various parts of Africa. This does not represent a real adaptation to local conditions but gives examples of the prevailing conditions. Adaptation is still necessary to serve local purposes. This adaptation could be carried out by teachers and through the text accompanying the films explaining the conditions in which the films were made.

Adaptation and Use of Flowcharts

In recent years, training/learning material has increasingly been using the algorithm, or flowchart, approach. WHO used it for the first edition of its manual The Primary Health Worker, where decision-diagrams were presented together with the text prepared for each problem. In the subsequent editions, these diagrams were deleted because the village health worker with a limited educational background might have found them a bit frightening. It is not sure that the decision taken then was the right one, because although the diagrams could have appeared strange to

the village health workers at first, they may have accepted them at a later stage after careful explanations by their teachers.

The first attempt to use flow-charts was made in Tanzania and the method described in a paper entitled "An Approach to Rapid Problem Solving in Clinical Medicine," published in 1975 in the British Medical Journal. It is problem-oriented, based upon history-taking and physical examination and should enable a diagnosis to be reached within three minutes by PHWs and with a high degree of accuracy. Fifty-two flow-charts were designed to include 34 symptoms and 18 physical signs covering 150 diseases and health problems in Tanzania. Evaluation studies showed a 94 percent agreement with the doctor's diagnosis on the 2,030 occasions the charts were used. This method showed an acceptable level of accuracy and repeatability.

But these flow-charts were designed for Tanzania and could not be used as such in other countries. A research project was launched in 1976-78 to identify conditions and problems which could be considered as universally prevalent. The end result of this project was a set of 64 flow-charts designed for use by intermediate level health personnel in primary care situations in any developing country. Several evaluation projects of these flow-charts were undertaken, particularly in Guinea Bissau and in Kenya with the African Medical and Research Foundation (AMREF). The results showed an acceptable overall agreement between flow-chart diagnosis and consultant diagnosis. In the Guinea Bissau evaluation, out of 1618 patients seen, the flow-charts gave a serious wrong diagnosis in only 1.4 percent cases. In Kenya the evaluation showed that the flow-charts provided a higher level of diagnostic accuracy than conventional disease-oriented methods.

The flow-charts were then accepted and translated into French, Portuguese and Spanish, and a "manual for teaching and evaluating diagnostic flowcharts" was prepared and published in several languages by WHO in 1978.

The methodology was developed further to identify and analyze the complex management decisions which midwives have to face when dealing with 15 obstetric emergencies in a health centre. They were evaluated in the Sudan in 1979 as part of the Sudan-WHO interregional teacher training programme and it was found that the students showed a highly significant improvement in diagnosis and management. Adaptations of these flow-charts are presently going on in other countries in Africa and South America.

The 64 flow-charts mentioned above, to be used in any developing country, did not include mental health problems. To alleviate this shortcoming, WHO supported a three-year feasibility research project for extending mental health care. Evaluations were then conducted in Lesotho, India, Colombia and Egypt, showing again that the set of flow-charts provided intermediate-level health workers with a high level of diagnostic accuracy when compared with a consultant psychiatrist. A manual to teach trainers is presently under preparation.

All of these publications have been directed towards the senior-level auxiliary with a reasonably high standard of basic education. The programme is now developing along three lines:

1. Flow-chart-type materials are being produced for use by the village health worker, enabling him to correctly manage cases in the absence of direct supervision. The programme also includes the development of instruments to help him solve village health problems which affect the community as well as the individual.

2. Materials are being developed for use by traditional birth attendants, combined with a system for improving their literacy. This project is planned to be conducted jointly with UNESCO.

3. Whereas the preceeding programme elements represent the transformation of original sets of flowcharts for higher level auxiliaries to lower educational level, the whole process of identification of different types of illness by the flowchart process can permit a more accurate collection of data at the peripheral level. A project is planned for making use of this process in order to improve morbidity and mortality statistics at the periphery. This project is further expanded through a project jointly conducted with CERN on the use of microcomputers at district level to assure a more rational deployment of staff and supplies and to assist in the early recognition of epidemic conditions.

NOTES

1/Essex, B.J., "Technologies to Aid Decision-Making in PHC," WHO, (1981).

THE COST AND FINANCING OF PHCW TRAINING SCHEMES: SOME INITIAL THOUGHTS

Peter S. Heller

Seminar Speaker

To evaluate the cost of training of a primary health care worker (PHCW), a policymaker must initially decide on the role that the PHCW is expected to play in the community and in the preventive and curative health care systems. If the PHCW is to simply provide first-aid, the training requirements, and the costs entailed are likely to be very different, and presumably much more limited, than if the PHCW is expected to be the first point in the medical referral process, providing initial diagnosis, prescribing drugs and possibly referring a patient to a health center or hospital outpatient clinic. Is the PHCW also expected to be a source of guidance to families on preventive health actions? Again, this increases the length and depth of training required, and thus the associated costs. Is the PHCW expected to operate in a vacuum or will there be a regular procedure whereby his village or urban block is visited by a more experienced health worker or physician? If there is ongoing supervision of the PHCW, one might be able to design a less comprehensive training program initially, since there will be some opportunity for "learning by doing and guidance" as the PHCW works with and observes the physician.

The nature of the supervisory process and the number of opportunities for the PHCW to obtain some feedback on his or her performance will also dictate the frequency of the need for "refresher courses" or further training. One must presume that the type of person likely to be a PHCW, particularly in the rural areas, is someone of limited education--no more than a secondary level. One must also assume that there are limits to the amount of information which can be taught such a person, retained and effectively applied in the field, particularly if there is to be only limited ongoing supervision. This suggest that the requirements for training will not end after an initial 10 or 20-week course, but that there will be a need for some subsequent training, both in strengthening previous skills and learning new ones.

A critical dynamic factor shaping the magnitude of training is the need for the PHCW to be successful. This may seem obvious, but in most countries they are indeed new creatures on the health care scene. They neither possess the longstanding training via ancestry and apprenticeship of the traditional practitioner nor the credentials of the modern sector physician. To gain acceptance within the community, they will have to seem as an acceptable and relevant alternative to the traditional practitioner or to a trip to a health clinic. Proximity is not a sufficient attraction. This implies that the community will have to perceive that the PHCW has received sufficient training in the skills he or she is expected to deliver, and this also will be a factor dictating the character and cost of the training received.

The above considerations determine the length of the training process for any individual PHCW, imply something about what types of skills must be imparted during the training process, and suggest the frequency and duration of periodic refresher courses. Three other factors will critically affect the expenditure requirements associated with the training component of such a program. First, a critical policy issue is the desired density of such PHCW staff within the community. This determines the magnitude of the total enrollment that will be necessary to provide the requisite number of PHCW for the country. Should there be one PHCW for every 100 families? 500 families? 1000 families?

Second, some estimate must be made of the anticipated wastage rate of PHCWs, both in a short and medium term sense. Not all PHCWs will complete the training program. One must similarly anticipate that many PHCWs will either stop their "practice" or aspire to further higher training in the medical system. This will necessitate new streams of enrollment into the PHCW system. Third, the cost of training will be critically affected by the type of training program designed. One can imagine the courses being provided in a well-constructed building near a modern hospital, with small laboratory facilities; one can also imagine their provision in a small rural classroom with a limited number of medical teaching staff. While not fully substitutable, one can envision the temptation of the profession to mimic costly and perhaps inappropriate standards of training.

In summary, the total recurrent expenditure on training will depend on:

1. the number of new enrollees;

2. the number of enrollees in "refresher" courses;

3. the length of the initial and refesher courses, respectively;

4. the technological standard of training; and

5. the "wastage" rate of enrollees.

Given the uncertainty about the decision parameters discussed above, the newness of the PHCW concept and the lack of experience with their functioning, it is difficult to estimate the expenditure requirements in absolute terms. One can hypothesize that one is not dealing with a particularly expensive form of training, relative to the cost of training most other medical personnel for which the government has responsibility. It will presumably require the organization of a training center with dormitories in some centralized location, with some access to a rural-oriented primary care facility (or urban-oriented if one is considering urban PHCW).

How would such an operation be financed? There are several obvious alternatives: (1) directly financed out of the government budget, (2) financed by the PHCW participants themselves, (3) financing by the communities from which the PHCWs are coming and (4) external financing, either from private or foreign governmental sources. In the few countries where this has been tried, the first alternative appears as the chosen

approach. In the Chinese case during the Cultural Revolution, medical staff were effectively diverted and sent out to the rural area to train the so-called barefoot doctor cadres. Subsequent to that, the provinces or counties provided the resources for training.

In most countries, there is considerable competition for recurrent resources among ministries and within the health ministry itself. Yet the cost of this type of training program is not likely to be very significant compared to the overall budget of a Health Ministry. For example, in Kenya, the total cost of health training is only approximately 6.5 percent of the total Health Ministry budget, and if one focuses solely on the cost of paramedical training, the share of the budget is likely to be far lower. If the introduction of a PHCW is viewed as an important element in the elaboration of the health system of a country, the budgetary financing of the training program should not be that excessive a problem. External financing for such training is also likely in terms of the initial capital costs and the increased willingness of donors to finance start-up recurrent costs.

A more critical issue is how the services of the PHCW will be financed on an on-going, recurrent basis. Will this be an additional layer of the health system to be financed out of the Health Ministry budget? Will the PHCWs be volunteer workers? Will they be able to charge a fee for services? Will they be financed by the individual communities, as is the experience in China? These are perhaps the more important questions.

FINANCING THE TRAINING AND DEPLOYMENT OF PRIMARY HEALTH CARE WORKERS IN DEVELOPING COUNTRIES

Alan L. Sorkin

Seminar Speaker

There has been little systematic research regarding the methods by which primary health care is financed, particularly in regard to the rural areas of developing countries. The Syncrises volumes on the relationship between health and socio-economic development provide some statistical information of varying quality, but are rather incomplete sources of data.

The primary source of funds for financing the training and deployment of primary health care workers in developing countries is general tax revenues which are allocated by either the state or central government. For example, in Thailand an important primary health care worker is the auxiliary midwife. A priority of the Maternal and Child Health (MCH) Division of the Thai Ministry of Public Health has been the training of midwives. In the recent past there were five midwifery schools in Thailand, three of which were attached to MCH centers. The objective of the schools is to produce enough skilled midwives so that there will be one midwife for every 4,000 villagers in the rural areas. Production levels have averaged only 400 midwives per year. These schools provide tuition, board and lodging free of charge. The young women, selected from villages throughout the country, are required, upon graduation, to serve in a village of their home province. This policy has apparently been successful in keeping the trained midwives in the rural areas.[1]

A second source of funding for the training and utilization of primary health care workers is external financing. A USAID project in Senegal was fairly typical of this kind of activity. The $480,000 project created a cadre of village health workers and a network of village health posts where basic health services (first-aid, environmental sanitation, simple health and nutrition education, and preparation for vaccination campaigns) were provided and vital statistics were collected. The village health worker's primary role was to make periodic visits to each household, refer cases to the health clinic and carry out health education.[2]

While external assistance can serve as an important additional source of financing primary health care, there are two problems which must be considered. First, when the external assistance is terminated, the responsibility for financing the continuation of the activity becomes the responsibility of the government of the country which was the aid recipient. If the country's priorities have changed from the time external assistance was provided, the project may be discontinued. Secondly, if new facilities are constructed with external assistance, the additional operating expenditures must ultimately be borne by the central government and should be included in subsequent health plans.

Some financing of primary health care worker training is undertaken by missionary or charitable organizations. These organizations occasionally defray a portion of the costs by charging recipients some fraction of the cost for services rendered. In addition, some missionary organizations receive subsidies from government sources.

For example, Baptist missionaries have been active in the Vanga area of Zaire for 70 years, operating a mission hospital, which emphasized the provision of curative care. In 1961 the mission began to extend its activities to outreach health programs. A preventive medicine program began in 1967 with the establishment of formal ties between the local village authorities and the medical service of the Vanga hospital. The programs emphasized health education and sanitation programs. A grant from OXFAM in 1970 led to the establishment of a Department of Public Health at the Hospital and resulted in the inauguration of an extensive integrated health outreach program. The focus has primarily been on the five key areas of rural sanitation, maternal/infant care, tuberculosis control, nutrition improvement, and desired births.

Four mobile teams provide the vital link between the approximately 300 villages (of about 500 persons each) that the public health outreach program serves and the hospital. Each team is headed by an auxiliary nurse who has completed the three-year training program at Vanga's own nursing school. In addition, there are four health auxiliaries, each of whom has completed two years of secondary school and attended a four-month training course in the hospital's Department of Public Health to learn the techniques essential to practicing medicine as a member of the mobile team.[3/]

There appears to have been little discussion in the literature of innovative examples of financing primary health care worker training by the community itself. Moveover, it is also likely that many rural areas have come to depend on governmental or charitable sources of primary health care financing and therefore lack the appropriate incentive to mobilize community resources for this activity.

Financing Primary Health Care at the Community Level: The Case of China

In rural China the basic primary health care service unit is the health station which is staffed by one or more barefoot doctors. The health station services the production brigade, a community of 1000-3000 persons. The health station is totally financed by the brigade through a combination of health insurance funds and minimal charges to patients for specific services rendered.[4/] The barefoot doctor is assisted by one or more "sanitation workers," who have been trained by the barefoot doctor at the health station. Sanitation workers screen patients who come to the health station and provide preventive and first-aid services. They receive no additional pay for their services over and above their incomes as rural agricultural workers.

The next level of health care above the brigade health station is the commune hospital A typical commune hospital is staffed by 4-20 doctors, more than half of them being practitioners of traditional medicine.[5/]

About the same number of allied health workers including nurses, technicians and aides work with these doctors. Commune hospitals are financially self-sufficient with capital expenditures financed by the commune. Operating expenditures are provided by the brigades and are supplemented by small charges levied on patients.

Hu has undertaken a cost-benefit analysis of barefoot doctor training in several production brigades.[6/] Benefits accrue from (1) the reported reduction in working days lost as a result of barefoot doctor treatment and (2) the amount of traveling and waiting time saved because of the immediate availability of barefoot doctor services. The costs of barefoot doctor services were comprised of the following four elements: (1) the cost of providing training, (2) the cost of receiving training, (3) the cost of providing the services and (4) the cost of receiving the services. The results are indicated below:

Name or Location of Brigade	Benefit/Cost ratio
Chunshing	4:1
Tao-Long	5:1
Hwo-An County	4.5:1
Chantung Province	3:1

One of the most important issues relevant to the financing of primary health care worker training is the cost-effectiveness of integrating traditional healers into the government health care system as compared to training persons with no previous experience as health care providers. A number of related questions arise. Can traditional healers be trained to be a "modern" medical care provider in less time and at lower cost than other individuals? Would traditional healers continue practicing traditional medicine "on the side" to supplement their government salaries? Are there methods of treatment provided by traditional healers which are superior to those practiced by Western trained health care providers? Since in some countries, penalties are provided by law for unlicensed medical practitioners, it may be difficult to convince these indigenous healers that their participation in the government health services system is either wanted or needed.

Given the slow growth of fiscal revenue in most developing countries, additional support for financing the training of primary health care workers and their deployment in rural areas must either come at the expense of other social services and defense expenditures or via a reduction in funding of urban health services. While such redistribution of public funds may be economically justified, one must remember that the political elite (as well as the elite of the medical profession) are urban dwellers who may discount the value of rural social services and primary health care. However, if economic planners and health planners can work together to demonstrate the cost-effectiveness of rural primary health care services, perhaps additional funds can be allocated to this essential work.

NOTES

[1]/Paul Woolley, Jr., Syncrisis: The Dynamics of Health, Vol. XII, Thailand, Washington, D.C.: U.S. Government Printing Office, p. 57, (1974).

[2]/Robin Menes, Syncrisis: The Dynamics of Health, Vol. XIX, Senegal, Washington, D.C.: U.S. Government Printing Office, p. 109, (1976).

[3]/Karen Lashman, Syncrisis: The Dynamics of Health, Vol. XIV, Zaire, Washington, D.C.: U.S. Government Printing Office, pp. 58-60, (1975).

[4]/Dieter Zschock, Health Care Financing in Developing Countries, Washington, D.C.: American Public Health Association, p. 59, (1979).

[5]/Chi-pang Wen and Charles Hays, "Health Care Financing in China," Medical Care, Vol. XIV, No. 3, p. 247, (March 1976).

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THE EXTENSION OF SUCCESSFUL TRAINING PROJECTS TO PRIMARY HEALTH CARE WORKER TRAINING

Carl E. Taylor

Seminar Speaker

In discussions of international programs, one commonly hears "let's not have any more projects because there are too many skeletons of unimplemented projects littering the landscape of developing countries." The criticism seems to suggest that it is a mistake to conduct projects. It does not recognize the real problem, which is not with projects but with the lack of implementation. A particular aspect of this problem is the mythology that has developed around the word replication. The surest way of demonstrating sophistication in the jargon of international development is to respond to an otherwise well-reasoned argument by saying: "Oh, but that's not replicable." It is the ultimate putdown which can be used whenever one can't think of anything else to say. That criticism has become so powerful that all other discussions are supposed to stop until the issue of replicability can be resolved.

The use of the term replicability needs to be examined critically. The precise meaning of replication does not fit the reality of international development activities since it implies "folding back" or "producing an exact reproduction." The kindest thing to be said about use of the word is that it is a vestige of earlier naive days when development experts thought that if they could put together the right combination of program components in a replicable unit it could then be mass-produced on a national scale. The image was that of putting together a standard piece of machinery. Like biological clones, the services units from a demonstration project were supposed to multiply and still remain recognizable as they spread throughout a national health system.

Most people would agree that this is not what they mean by replication. Human activities can seldom be replicated precisely. Unfortunately, however, many people administering foreign activities have had little field experience themselves and don't seem to recognize the need for flexibility. All too often the term is used in a literal sense, and especially when combined with the need for identifiable and measurable objectives in a log frame it can be hopelessly restrictive. One result has been a reluctance to take chances and try something really innovative. It is much safer to limit activities to something simple with definable characteristics that can be completed and replicated within the three year cycle permitted by development bureaucracies. It leads to the exclusive use of process indicators rather than end results. One measures the number of trainees rather than the long lasting impact of a training program. If we concentrate only on the means of development rather than the ultimate objectives of social change we may find that the people don't necessarily want what we think they should want.

The term replication has been so abused that I think we should stop using it. Instead, we need to try to understand the much more fundamental and important concept of stepwise incremental implementation. We should have learned by now that the process of socioeconomic change is highly complex. Incremental implementation requires patience. We need to learn how to solve parts of a problem, to adjust, adapt, experiment and feed back with steady persistence in a long range process that fits local realities.

Several lessons have been learned from field research about the complex problems of training primary health care workers. The first lesson is that any training program should be developed out of local field realities. There is too great a tendency to develop curricula, syllabi and teaching modules while sitting around a table in an educational institution. Cooperation is needed between field workers and persons with educational expertise. For relevance in educational programs, teaching expertise should be taken to the field rather than just introducing persons with field experience into an academic setting.

A second lesson is that training of primary health care workers must not simply be a watered down medical college course based on theory. Instead the focus should be on developing the capacity for innovative problem solving in daily activities.

A third lesson is that training should grow out of a locally appropriate process of systematic improvement of primary health care. A valid process of task analysis should start with a careful definition of the problems that need to be resolved. This problem definition must balance professionally determined need against a systematic understanding of the perceptions of the public.

A reallocation of roles in the health team is the next step. All tasks should be routinized and delegated as far to the periphery as possible. Interventions should be chosen that can be implemented as close as possible to the village home. The most relevant interventions are those that the family or community can be trained to carry out themselves. In keeping with the "health for all" slogan of World Health Organization (WHO), the purpose should be to apply the public health dictum of adequate care for all rather than excellent care for the elite. A complete surveillance system should ensure coverage and focus access to care on those in most need. With this kind of task analysis the development of training programs is greatly simplified because behavioral objectives can be stated precisely and training modules follow naturally.

The fourth lesson is that initial training must phase into continuing education, if possible with the same teachers being involved.

The fifth lesson was to set up a process of evaluation and feedback so as to progressively improve the educational process. Obviously, in order to evaluate we had to start with clearly defined behavioral objectives. These were based on the task analysis and readily incorporated into the process of supportive supervision.

At the Narangwal Project in India, we learned how to apply project experience to national programs. As already indicated, the first lesson that we learned was the inappropriateness of overt replication. It would have been arrogant and totally unacceptable in India to have suggested that our service package be replicated in general implementation.

At Narangwal we had two parallel sets of project objectives. For scientific purposes we were testing formal research hypotheses relating to what we considered the two greatest problems in rural health care in India. "The interactions between malnutrition and infections in weaning age children" and "the integration of family planning with health services for women and for children." In an experimental design using eight clusters of villages the relative impact of specific combinations of interventions was tested. A second set of project objectives was to use each of the experimental groups of villages to evolve ways of adapting service packages that were appropriate to local conditions. The practical procedures tested were designed for subsequent implementation within the cost and administrative constraints of the government program. We were then able to tell officials and policy makers that our results offered a cafeteria of practical interventions with a price tag attached. From the alternatives, they could choose the particular combination that would be most relevant in their own situations.

For primary care and primary care training to be locally relevant, considerable adaptation will be needed to adjust to local ecological and epidemiological differences. This process of adaptation in itself should become a major subject of health services research. Internationally, we need a few health services research centers to serve rather wide regions. We also need multiple demonstration and training centers which adapt what has been learned in the research centers to specific local conditions. By using special projects for demonstration and training, it is possible to infiltrate a whole health system with the quality of caring that has, in the past, been considered to be a special characteristic of projects. At Narangwal we considered what came to be referred to as "the Narangwal spirit" to be one of our greatest assets. We learned that we had no reason to be embarrassed, as we were apparently supposed to be, when people said that this special spirit made our results less than replicable. On the contrary, we found that we were able to capitalize on this "spirit" in order to produce a contagion of caring. Improvements in the quality of care cannot simply be forced by regulation or even by incentives. The best way of promoting the characteristics that make the real differences we need in primary care is through providing contact with effective role models who demonstrate the needed values in their daily work. A frequent and gratifying experience at Narangwal was that visitors, ranging from high government officials to an auxiliary nurse midwife from a neighboring health center, would comment as they were leaving: "The greatest thing I have learned is that I can do what I have been doing, differently."

There were two practical means that were used at Narangwal to disseminate our findings widely. One was the annual conferences which were built into our original budgets and should be part of any field project. Some fifty or sixty senior government health officials, often including

the Central Minister of Health, State Ministers of Health and many professors, lived together in tents in the village for three or four days each year. We prepared for the conference by doing quick analyses of the year's data and presented the conferees with raw tables. We asked them to tell us what the tables meant and to interpret not only the findings but also the ways in which the project should be modified. As a result, a sort of club developed of senior officials who considered the Narangwal project to be their own project.

One of our greatest problems was that officials were always wanting to implement our findings before we thought the results were definitive. Data from the tables provided administrators with new insights and ideas of changes they could make in their programs. Each year as they gathered again for the annual meeting it was fascinating to hear the exchanges. A Minister of Health would greet a professor from Bombay and immediately launch into "you remember last year we were talking about (then he would mention a specific subject); well, I tried it and it doesn't work the way we thought it would." The ramifications of innovative thinking that emerged from having numbers to support and stimulate creativity was a marvellous demonstration of the reality that research and demonstration has a profound psychological impact if used deliberately for feedback into the services. Normally timid bureaucrats can become courageous if they have a few tables of data in their hands. Through the 14 years of field work at Narangwal and in the six years since then it has been most gratifying to see Narangwal results constantly flowing out of the cracks and interstices of national and international decision making. It should be accepted as a general principle that we should work toward and feel especially gratified when study findings return from local officials with no reference to their origin but with the implication that the official had come up with the conclusion on his own.

A second practical measure for facilitating practical extension of Narangwal results was in our publications. We concentrated on producing mimeographed annual reports which were widely distributed to decision makers in India. These reports were based on the annual conferences and provided a wide dispersion of direct feedback of results. Having concentrated so heavily on this rapid feedback during the project we could feel more relaxed in our analysis of the definitive data and eventual publication. There are constant complaints about how long it takes to get results published from field projects. Experience indicates that we should allow as much time as the field work has taken. Our project funds permitted only one year of analysis, which essentially permitted us only to produce the marginal numbers in univariate analyses but not to do the important cross tabulations needed to understand causation. We produced a mimeographed report (our "Orange Book") to complete our obligations to USAID. Then for two years we tried unsuccessfully to get funding for further analysis. Finally, the World Bank agreed to support our continuing work with a series of small grants. Now it is two years since the two definitive volumes have been ready in draft form but they are going through clearance and revision processes in the World Bank and the Indian Council of Medical Research. More than half the time that has elapsed since the project terminated has been because of situations beyond our control.

All efforts to produce internationally applicable manuals should be stopped. Each area needs its own manuals which grow out of local field realities. At Narangwal we took the piles of mimeographed standing orders and field instructions and gradually began to systematize them. Great effort by field workers went into making them relevant. We eventually published two manuals, "Child Health Care in Rural Areas: A Manual for Auxiliary Nurse Midwives," and "Manual for Child Nutrition in Rural India." They have been through multiple printings and are widely used in India for training programs. Most gratifying has been the fact that they have become a sort of Indian Dr. Spock's manual used by middle-class families for home child care.

Finally, we should appreciate the uses of charisma in leadership. As with replicability, somehow the mythology has grown that charismatic leadership is bad. When experts denigrate special projects, the charismatic leader is supposed to go hide in shame because he has influenced the results and taken project activities out of the normal patterns of implementation. The dictionary says that charisma is a leader's special gift of inspiring loyalty and devotion. The qualities that are most needed in improving service motivation in services are precisely those that are denigrated by critics of special projects. This means that people who object to demonstrating these special qualities of caring and concern have essentially decided it is impossible to improve the general quality of care because that is something that is supposed to be eliminated from projects in order to ensure replicability. This position is utter nonsense. A contagion of caring is created through contact with effective role models. We need to develop a deliberate process of using charismatic leaders to permeate a project with their quality of caring. Then we need to use the projects to permeate the services around them with the same quality of caring.

The extension of primary health care then may follow patterns that have been used so well in agricultural extension. Deliberate processes need to be developed to move innovations from research centers to demonstration centers and then through intensive extension education into regular practice throughout the villages of the world. Changes are produced in a systematic research and development sequence of incremental adaptation to local conditions, culture and preferences. The philosophy of insisting on producing replicable packages can be destructive, but incremental implementation is a process that itself needs research and careful introduction as the norm for health extension activities. The special delight of this approach is the surprise that one experiences when the most effective implementation emerges unexpectedly from situations not planned. The most effective international development is when local people consider the innovation to be a spontaneous result of their own creativity.

EXTENSION OF SUCCESSFUL TRAINING PROJECTS TO NATIONAL PRIMARY HEALTH CARE WORKER TRAINING: LESSONS OF THE CALABAR EXPERIENCE

Eugene Weiss[1/]

Seminar Speaker

The incorporation of the successful elements of externally funded health care projects into national primary health care programs is a laudatory goal--often attempted, yet seldom achieved. One such attempt from Calabar, Nigeria, was not necessarily successful, yet instructive nonetheless. The focus will be on the training and functioning of its key component, the family wealth worker (FHW), assessing the accomplishments and limitations and describing how a different training might have improved the effectiveness of the fieldworker. Finally, the national rural health services plan of Nigeria will be briefly reviewed and the relevance and influence of the Calabar project on it will be discussed. It should be noted that the comments presented are the author's own, and do not necessarily represent those of the sponsoring agencies.

The Calabar Rural Maternal and Child Health/Family Planning project was established in 1975 in Cross River State with funding from the United Nations Fund for Population Activities and with technical assistance from the Population Council. It continued for 5 1/2 years (ending early 1981), serving an exclusively rural population of approximately 200,000 persons living in 280 villages in southeastern Nigeria. The purpose was to demonstrate that the integration of family planning with health services was the most effective vehicle for promoting family planning. Given the low level of rural health services in Nigeria, the operational goal was to determine what it would take in terms of facilities, personpower, money, supplies and administration to provide basic maternal and child health/family planning (MCH/FP) services to all eligible rural women.

As do many countries, Nigeria suffers from a serious shortage of trained health manpower and health facilities. A more distressing factor, however, is that more doctors, nurses and hospitals are found in the cities than in the rural communities where over 80 percent of the population lives. Thus, a basic health problem for most Nigerians is the lack of reasonable access to any health facility. Further, many rural facilities are chronically short of drugs and basic equipment, and the number of trained nurses and midwives willing to work in the rural areas is in short supply. The basic objective of the Calabar project was to improve existing MCH facilities and services and to further extend services to the majority of rural women and children as yet unserved. The mechanism for accomplishing this was the development of a peripheral paraprofessional--the FHW--who would be based in newly established village clinics.[2/]

The FHWs were all married with children, usually in their twenties, and possessed a primary school graduation (6th standard). They were

recruited locally from the area where they were to work. Following training, they opened a clinic in a village selected to serve the maximum population that was as yet distant from a maternity/primary health center. The 35 clinics that were created were simple one-room affairs, sometimes even porches or verandahs, in existing houses made available by the village. All of the drugs and equipment could be stored in the footlocker at the end of the day.[3] The FHW held a clinic every morning and did home visiting in the afternoon. She treated common illnesses such as malaria, worms and skin eruptions, gave health and family planning education, screened children and pregnant women for referral to the health center, dispensed contraceptives and gave immunizations. She was visited by a supervisor from Calabar who brought supplies and vaccines and reviewed her work. Once a month the FHWs would gather at the nearest health center for in-service training, salaries and record keeping.

After initial selection, the FHW was first assigned to work as a clinic assistant at the health center in her area where she learned the practical aspects of treatment and also became familiar with the different components of maternal and child health services. Following three to nine months of practical training, the FHWs were gathered in Calabar for a one-month course of formal training at the School of Health Technology. Here, the etiology and management of the major illnesses were discussed, and preventive measures and health education stressed. Nutrition, family planning and sanitation were especially emphasized. Following this, the FHWs were returned to the health centers for further practical training before being posted to a village clinic, preferably in or near their home village. A total of 9-12 months of training was provided. Later, in-service training would emphasize the treatment of a specific illness, introduce a new contraceptive, or review a particular problem the FHWs were having.

While not all FHWs were equally effective, most became well-respected in their communities and provided much appreciated health services. They forged a useful link to the health care system represented by the limited number of health centers (seven) and hospitals (one). They doubled the number of under-six children treated by rural facilities and greatly extended the scope of immunizations, antenatal care and family planning acceptance. Further, most of the clinics became self-supporting in regard to drugs when in early 1980 modest fees--the amount depending upon the number and type of drug dispensed--were initiated. Thus, it was felt that perhaps a model for a national rural health service had been found: an inexpensive (no buildings, few equipment, and self-supporting drug supplies) peripheral clinic system that required few years of development and little technology and was adaptable to any area. It utilized local people and local resources. A technical/administrative staff was required to ensure its continued functioning through the resupply of drugs and supervision of the workers.

Despite the obvious advantages of the FHW/village clinic system, it was discovered later that there were serious limitations to its effectiveness. A medical and interview survey of women and children from 34 project villages undertaken in 1979 (2 1/2 years after the village clinics began) revealed problems both in terms of the proportion of the

population served as well as the effects of the services. It was discovered that the reach of the village clinic was not much beyond the boundaries of the village in which it was situated, and that still about half of the mothers and children in the project area had not had contact with any aspect of the rural health services. Perhaps twice as many or even more clinics were needed. The levels of home visiting and immunization were found to be far lower than had been expected. Even in villages with a village clinic, only 1/5 to 1/4 of the mothers had ever been visited by a health worker. Finally, using measures of growth (height and weight), anaemia (hemoglobin), and the incidence of recent illness (such as diarrhea), no significant improvement was found for those children who lived near a clinic or for those who had attended a clinic or had been visited at home, when compared to those who had had no interaction with the health services. The one exception was the better health status of children whose mothers had attended the series of antenatal clinics at the health centers.

While such negative effects on outcome measures are not unusual, several potential causative factors can be identified. In general, the FHWs seemed most effecive in their treatment of illness and least effective in the preventive measures, most of which required health education and patient compliance. Clearly, the amount of home visiting was limited. Why the reluctance? A possible interpretation is that the FHWs did not feel comfortable in home visiting as it emphasized health education. Further, as they were seldom supervised in this activity, they were left to their own devices. One hypothesis is that they had not learned ways of explaining proper nutrition and the other preventive health measures in a language with terms and concepts that they and their clients found understandable and convincing. The instruction for much of the training was by lecture in English--a second language only poorly learned by many of the workers. It was up to the FHW to translate the didactic lessons into her own language and context. In addition, it was not clear that the nutrition teachings were based upon the indigenous problems of the area, but were instead a compilation of the "commonly" recognized prescriptions. For example, the evaluation survey revealed widespread moderate wasting of children between six months and three years of age, resulting in the stunting of half of the children by age three. Before and after this period, growth appeared normal. The poor growth was likely due to the inadequate quantity (too few feedings) and quality of the weaning foods combined with the high incidence of diarrhea and other illnesses during this period. The project's services seemed to have had no influence on these factors. Widespread growth retardation was not identified as a nutritional problem during the training, and appropriate measures for detection were not given the FHWs.

The importance of utilizing indigenous language and concepts became clear in the development of family planning education[4/] where original efforts to translate birth control methods led to confusion and embarassment on the part of the village women. Eventually, an appropriate Efik language for communication about family planning was developed and used in an African-oriented flip-chart for use by the FHWs. While a large acceptance of modern family planning did not take place due to the strong pronatalist values and the widespread belief that methods of childspacing

other than postpartum abstinence are "immoral," the FHWs were instrumental in introducing modern methods to many women. Compared to an overall acceptance rate (ever use) of 6 percent, 18 percent of those who had discussed family planning with a health worker had ever used a method. Still a majority of women had not been informed about family planning. One interpretation is that the FHWs knew that it was a sensitive topic and did not bring it up with every woman, but only those who, perhaps because of a large family or other factors, she felt would be receptive. This analysis again points to the crucial role that comfortableness and indigenous cultural context are to effective health education.

A final factor must be mentioned. The most effective training may prove useless if the worker's skills are not kept updated by in-service training and supervision. In many ways, the FHWs' skills atrophied during the middle period of the project as a result of neglect of supervision. The arm bands for measuring wasting had been misplaced and never replenished; the sugar/salt solution as a treatment for diarrhea had been neglected and forgotten; the weighing of children became casual. In some ways, one could not blame the FHWs--they were out there in the villages on their own, only occasionally visited and not always paid. Perhaps there is a trade-off between the quality of the fieldworker (represented by the amount of formal education and specialized training) and the amount of supervision necessary--the more qualified worker can work more independently and with less supervision. The need for a peripheral worker to extend health care services is necessary, but should not be seen as sufficient. A preventive orientation is far more difficult to achieve in practice than in the training manuals.

Influence of the Calabar Project on Nigeria's Rural Health Plans

The advantages and disadvantages of the FHW/village clinic system developed in Calabar have not been very relevant to its acceptance or incorporation by the national health planners in their own plans. A quite different set of issues appears more important, some of which will be touched upon here. The official plan for rural health services, known as the Basic Health Services Scheme (BHSS), was drawn up at about the same time as the Calabar project was being planned. It envisages a four-tier system of rural health care: a comprehensive health center, a smaller primary health center, a health clinic and mobile health vans. In addition, there are a series of carefully delineated positions from Community Health Aide (the lowest) up to Director of Community Health. The detailed plans for the facilities, lists of equipment, and complete syllabi for all of the positions have been developed (in fact were ready three years ago). However, the scale and expense did not match well with the pocketbook of even oil-rich Nigeria.

The primary health center is as large as many rural hospitals and costs over $500,000. The clinics--the smallest facility--are equivalent in size and better equipped than most of the maternities/primary health centers that are at present the main rural health facility. All of the planned units were to be built anew and all were to be supplied by imported equipment. The health centers assume electricity and pipe-borne water. The three that have been built in Cross River State have neither.

In fact, they sit unused, waiting for such amenities, along with staff housing; one of them needs a bridge built so that it can be easily reached by vehicles. Completed two years ago, they are still waiting for much of the equipment.[5] The State has run out of its allotted money after only partially building 1/20th of the planned facilities. None of the smaller clinics have been built. Elsewhere in Nigeria, the BHSS has fared better, especially where local initiative allowed the more modest facililities to be given priority. However, the overall conclusion remains that a program far too expensive was designed, emphasizing buildings and equipment, and that it has been only minimally implemented while many existing health facilities have not enough of even the simple drugs with which to treat their patients.

In Cross River State, following a change in government, Ministers and Secretaries, a series of discussions were held between the project and the Ministry of Health concerning an extension of the FHW/village clinic system throughout the state. Even with promised external funding, the Ministry was not interested. "We have made our own plans," they said. "Besides, all these small clinics don't make sense. It's better to build a proper clinic and let the people come to it." The quotes are not exact, but the intent is the same. A low-cost low-status clinic system has little attraction for many of those in charge of Nigeria's health care system. Another objection was the use of local people as health workers. "How can this fit with our civil service system? The workers must go where we post them. And we have to take the most qualified on the tests, not just those from certain villages." It was suggested that the Community Health Aide of the BHSS would be appropriate as a FHW, though local recruitment was important. The final straw was the charging for drugs. The government is committed to "free health care." As of now, the FHWs of the Calabar project have been given a good supply of drugs and are on their own. Whether the state government supplies them again, offers any supervision, or continues their salaries is doubtful at this point. While there were other factors which led to the non-extension of FHW/village clinic system, I feel the clash of health care ideology was crucial.

At the national level, the project has had more influence. Many of the drawbacks of the BHSS have been recognized at the Federal Ministry of Health, including the inability of the government to finance its original ambitions. Thus, while keeping the outline and concepts of the BHSS, they are looking for alternative ways of implementing it that are less costly. In this regard, they jointly sponsored a conference in Calabar with the project this past January which discussed the problems of implementing the BHSS. Both governmental and voluntary health agency representatives from throughout Nigeria attended. However, since then there has been little progress in incorporating the concepts of the FHW/Village clinic system.

In conclusion, Nigeria faces a clear dilemma in regard to rural health care: it can't afford the elaborate system of rural hospitals and clinics it has planned for, yet it is reluctant to support a modest effort. It will not allow a self-supporting fee system for drugs while it clings to the ideology of free health care, which in reality means no health

care for many. While locally relevant indigenous training coupled with practical experience is most effective, it supports a standardized training throughout the nation based upon curriculums in English, the second language of the trainees. The road to primary health care for all by the year 2,000 is long indeed.

NOTES

1/(Former) Evaluation Advisor, Calabar Rural MCH/FP Project and Associate, International Programs, The Population Council. (Currently) Research Associate, Center for Population and Family Health, Columbia University, New York.

2/The description given is how the FHW/village clinic system evolved by early 1979; earlier, other organizational formats were tried. For a more detailed description of the project, its background and services, see: Weiss, Eugene and E.E. Ecoma, "Nigeria: The Calabar Rural MCH/FP Project (Country Report)" in Beth S. Atkins (Ed.), Maternal and Child Health/Family Planning Program Technical Workshop Proceedings, 31 October--2 November 1979, New York: The Population Council, (1980).

3/The list of drugs included: chloroquine (tablets, syrup, and injections), tetracycline (capsules and syrup), sulfisomidine tablets, aspirin, ferrous sulfate tablets, folic acid tablets, penicillin injections, antihelminthic tablets, antiseptic skin ointment, antiseptic dressings, and antibiotic eyedrops. Other supplies included a kerosine stove, containers, dressings, an infant weighing scale, record books, and take-home records for the clients.

4/For a further discussion of family planning and language issues, see: Weiss, Eugene and A.A. Udo, "The Calabar Rural Maternal and Child Health/Family Planning Project," Studies in Family Planning 12, no. 2, pp. 47-57, (February 1981).

5/In April, 1981, one of the Primary Health Centers became operational.

TRAINING AND SUPPORT OF PRIMARY HEALTH CARE WORKERS FOR A MATERNAL-CHILD HEALTH CLINIC IN GUATEMALA

John Emrich

Seminar Speaker

The idea of initiating a maternal-child health clinic in Santiago Atitlan, Guatemala, arose from:

1. learning of its effectiveness in Ilesha (Western Nigeria),[1]
2. realizing its appropriateness and need in this densely populated village of 22,000 Mayan Indians with an overall child mortality of 230/1000,[2] and
3. the availability of promising primary health care workers (PHCWs) with the potential and desire to operate the clinic.

Selection of the PHCWs is initially made from local resident women, bilingual in both the local Mayan dialect and in Spanish, who have completed six years of primary education and who show a desire to serve their community.

Training of the PHCWs begins with a formal two-week course in the basic "symptom-treatment" approach, using a reference manual[3] also designed as a teaching guide for the course. This approach, although oversimplified (e.g., aspirin for fever, expectorant for cough, iron for anemia, Piperazine for Ascaris worms), also places well-defined limits on the PHCW regarding which patients must be referred to the doctor (e.g., patients with bloody or purulent sputum, or bloody diarrhea, are referred to the doctor). With this knowledge, the PHCW begins to work alongside the doctor and makes some sense of the treatments given to each patient. She also becomes accustomed to seeing many patients each day and learns the importance of good human relations. Danger-signs and emergencies (e.g., unconsciousness, hemorrhage and shock) are also observed and explained at this stage, so the PHCW does not hesitate to call the doctor when indicated. The PHCW is also trained by a licensed practical nurse to take vital signs and to provide nursing care for patients in a small hospital.

Responsibilities of the PHCW at this stage include outpatient care alongside the doctor, and nursing care of hospitalized patients.

After one year of practical experience, training is continued with a formal six-week course in anatomy and physiology again using a manual[4] designed for the course. Copious visual aids, movies, models and dissection of a pig are used to visually impress the necessary concepts in the minds of the PHCWs.

As the capabilities of the PHCWs increase, they are taught to attend deliveries, treat patients in shock, treat burns and attend other emergencies, as a doctor is not always available. Emphasis is placed on recognition of one's limits, so that the doctor is called while first-aid measures and treatment are begun on very sick patients, or when the PHCW has any doubts about what is the appropriate treatment for a given patient.

The PHCWs are guided over the years in their understanding of human relations. They are taught to attend all patients that ask for help, at the hour they are approached, and to never reject anyone for one's own convenience. They are constantly reminded to approach each patient as a fellow human being in need of help, and that it is indeed a privilege to be in the position of extending that help. It thus behooves the PHCW to be responsible in his attitude toward the patient and to offer the suffering patient, albeit tacitly, a quiet humanity, confidence and security based upon the conviction that all will be done that can be done.

After two more years of practical experience, when it is felt the PHCWs have sufficient experience and ability to run a children's clinic, the idea is proposed. Their eagerness and desire to serve is evident, and plans are made.

After renovating a centrally located one-room building, the children's clinic was opened in December 1979. The objectives of the clinic are to provide low-cost curative and preventive care to as many children as possible, with the aim of reducing their morbidity and mortality levels. The activities include weighing of children on a monthly basis, providing vaccinations, preventive and curative health services and health education classes.

The friendly, low-key environment provides an opportunity for the mothers to socialize, discuss problems and learn from each other. The replacement of the traditional record-filing system by a home-based weight-for-age chart, for which the mother is responsible, has reduced waiting time to practically zero, an important consideration in the busy life of a mother who lives in Third World conditions. To further reduce time involved for the mother, medicines are prepacked and dispensed immediately as needed.

The weighing service is provided free of charge, but a child with fever, cough or any other symptom is charged 25¢ per consult. Medicines are sold at cost plus 10 percent. All the above adds up to a quick, efficient and inexpensive health care service.

Classes in health education, hygiene, food preparation and nutrition are provided regularly for the mothers by a rotating staff of nurses, nutritionists and PHCWs.

Training of the PHCWs is continued with a comprehensive course on history and physical examination of children, with emphasis placed on techniques of physical examination and proper handling of the otoscope

and stethoscope, as this is felt to be one of the most neglected, yet most productive areas in terms of establishing the diagnosis.

Correct diagnosis and treatment are then taught based on history-taking from the child's mother and physical findings, using a comprehensive, practical sympton-treatment guide for common diseases in children, written and used as a teaching guide and reference manual.[5]

All sick children are thus given a compulsory physical examination to include the ears, throat, neck (for lymph nodes) and lungs. This has allowed the PHCWs to take care of 95 percent of the children who enter the clinic. The remaining 5 percent are very sick children and are referred to the doctor. Children with severe malnutrition are referred to nutrition centers.

On-the-job training in the new clinic is provided by a physician daily during the first month of work, with physical examination of all patients performed simultaneously by both the doctor and the PHCW. During the second month this one-on-one supervision is provided every two days. The PHCW continues to work daily, however, and all referrals to the doctor are reviewed jointly.

Ongoing supervision is then provided twice weekly, with the doctor and PHCW simultaneously examining each patient before agreeing on the appropriate diagnosis and treatment. This close relationship allows the doctor to refine the physical examination technique of the PHCW and to guide her in reaching the correct diagnosis and treatment. More importantly, it allows the physician to remind the PHCW to constantly give advice to the patients on hygiene, nutritional habits and vaccines and to be aware of the daily problems she encounters.

When the PHCWs are felt to be competent in the pediatric consult, they are taught to provide prenatal care, including physical examination and education of pregnant women. Observation of the vital signs, danger signs and signs of malnutrition are stressed. Family planning services are also provided.

As an added service, the PHCW is also taught to use a microscope and to perform routine stool tests to screen for parasites.

As the capabilities of the PHCWs increase, they are given more responsibility and are able to provide more services. The new children's clinic thus has become a maternal-child health clinic, and also provides some laboratory services.

In the first year of operation, over 4,000 children have attended the clinic. An increase in attendance is anticipated in the years to come.

Continued teaching and support of the PHCW by the supervising physician is the most important ingredient to ensure the success of the maternal-child health clinic. He must provide as much information and knowledge to the PHCW as possible, constantly stimulating her curiosity and desire to learn, and raising the standard of care provided. This

also increases her self-confidence, as well as the respect received from her patients.

The supervising doctor must communicate, through his support of the PHCW, a philosophy of health care based on good human relations and on service to one's fellow man.

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NOTES ON AIDS TO EFFECTIVENESS IN TRAINING FOR PRIMARY HEALTH CARE

Nancy R. Garrett

Seminar Speaker

Introduction

The training of primary health care workers (PHCW) must be community-oriented and service-based, changing as community needs evolve. Thus service providers, whether in hospital, mobile unit, or health center, should be involved in primary health care training.

The success of such inservice training depends upon the development of three qualities in trainees: competence, commitment, and communication, in a team context linking preventive with acute care. This presentation will consider the relationship of these qualities to other components of training supervision and evaluation, citing two examples in Cameroon and India.

Training

In Cameroon, our Harvard project staff taught with Cameroonian doctors, nurses, midwives, nutritionists and health educators in a variety of centres. Except for refresher courses, training usually was scheduled like an academic year in three-month terms.

We had a model maternal and child health (MCH) program in a teaching pavilion adjoining the pediatric hospital service. We introduced students and trainees to immunization of hospitalized children, as well as teaching about parasite infestations, nutritional and communicable diseases, in the wards as well as in the MCH clinic. Hospital staff, whether in inservice or basic training, should be taught to teach primary health care. The first potential access to preventive care may be the hospital but it is rarely supplied. Thus we eventually linked acute with preventive care by making discharge orders on children include immunization in the outpatient clinic. These were verified by nurses and auxiliaries.

In addition to working with hospital staff, trainees learned how to work closely with another agency through assisting the mobile immunization team. This included instructing mothers, "cheer-leader" style, on the type, import of the vaccine and treatment of ensuing fever. Hence, they learned about the organization involved in immunizing vast numbers and that this organization disseminated information to mothers.

Competence

Competence brings confidence. So we tried to make trainees competent at basic diagnosis and treatment. We supervised repetition of procedures

until they were performed correctly each time. We were aggressively insistent about weight, height, age records. We used the road-to-health growth chart in pre-clinical simulation exercises on maternal and child feeding. But even with living examples of recording and feeding failures, plus close supervision, occasionally a malnourished child would be discovered. His weights were charted in missed appointments, thus appearing a month or two younger. So "underweight-for-age" was difficult to identify.

To prove mastery of theoretical material, trainees demonstrated, then supervised, such activities as menu preparation, shopping, meal preparation and preparation of rehydration fluids for children. In India, trainees were taught to make simple aids quickly, helped by a volunteer artist. Some auxiliary nurse-midwives (after energetic prodding) produced more creative pictures than did the teachers. The positive effect on self-esteem was a more important outcome than the aid itself.

After the classes and role-playing sessions related to nutrition, cultural biases and prenatal and child development norms, the Indian trainees planned and rehearsed teaching sessions for the community. This activity had to be done in the evening when they were tired. But the importance of requiring planning and rehearsal, with fellow trainees as critics, cannot be overemphasized. The demonstration in the community was invariably a source of pride for those who had practiced. Trainees were surprised that mothers showed interest and asked questions. They needed no other evaluation. They recognized that credibility comes with competence, which comes with practice.

In Cameroon we never missed a post-teaching evaluation. Each trainee had to evaluate the application of a principle of health education. Evaluation sessions were important to foster sharing, team relationships and reinforcing learning. But until trainees made their own aids and presented their talks, health education was treated with derision or boredom.

Commitment

Primary care workers will feel committed to their jobs and communities if they feel needed, as they did with the show of interest by village mothers at demonstrations. They also learned commitment from the exemplary behavior of staff. Consistent availability, day or night, and follow-up on projects assigned, with appropriate discussion and evaluation, demonstrate staff commitment to trainee learning and to primary care.

Likewise, consistent polite responses to client requests and the faithful performance of routine procedures--urine tests, weights and other record keeping--is fundamental. But these are too often the weakest areas of practice.

The exemplar role is a most effective way of changing behavior. We used the growth charts and exercises taken from actual cases to show the

dramatic results of inappropriate feeding and infections. But the best example of effective teaching can be seen in the changed behavior of students after observing respected professors preparing high protein treatment foods in the kitchen and feeding it to a child to show a mother how. Too often touching is avoided rather than encouraged. The teacher must teach primary health care workers to verify communications by performing the act requested, then watching the client do it.

Communications

To show Indian trainees the communication gap between the message transmitted and the message received, we took groups to a village for a week where they put up health and related posters. They then surveyed the villagers' impressions with a simple questionnaire. Typically most people either could not remember having seen the posters, understood a message other than that intended or removed it to decorate their own walls.

Trainees were encouraged to use the actual items of food or other articles such as the model suitcase for expectant mothers. Volunteers in India found their own bodies better aids for communication to an illiterate eye than a picture. A young medical student in Cameroon solved the problem when giving a talk to mothers in a clinic by using her own breast to show the correct angle to feed and stimulate suckling in a baby--needless to say, mothers understood and admiring trainees evaluated her performance "superior".

Support Systems

Supervision and evaluation mean support. The effectiveness of the PHCW is less likely to depend on training than on supervision and support. Yet decisions about trainer or trainee education and service support lie with the health planner, supervisor or nurse charged with training. Their training has often been in a big city hospital with no experience in primary health care. Opportunities for acquiring field experience are nil because social status prevents that experience at their present level.

To help bridge this gap in experience, the Canadian Nurses Association (CNA) has initiated an exciting new project which exploits Canada's unique health care conditions. With the help of the Canadian International Development Agency, CNA is bringing 16 nurses from developing countries, after an international congress in Los Angeles, for a two-weeks primary care experience in Northern Newfoundland. They will be placed in nurses' stations in conditions which in many ways resemble those in the developing world. The objectives of this program are specific to show the links between the needs of the people, relevant education of nurses and auxiliaries, and health services planning and support. At the same time they can be respectably ignorant so they can learn the basic problems and needs of primary health care workers.

In Newfoundland, the Ministry of Health, the provincial nurses' association, and the Memorial University School of Nursing will all be

involved. The nursing faculty will house participants for a 1 1/2 day program in the city. After a briefing at the regional center, they will be lodged with village health centre nurses for the rest of their stay. Nursing supervision will occur in the usual way, with possibly a typical medical visit for the larger centers. A similar program has been planned for French-speaking nurses to go to stations in Quebec.

Clearly, a two-weeks period can only sensitize these nurses to the realities of providing primary care, the skills needed and the importance of a strong support system. However, it is this kind of sensitization that results in attitudinal, political, and structural changes after candidates return to their prestigious positions. The work of primary health care workers will be more effectively facilitated by the policy-makers and educators who can identify with its importance.

Conclusion

These are examples from the past. What does the future hold for improved training, supervision and evaluation to make our primary health care workers competent, committed communicators? Is there a need to exchange between countries? Who? At what levels? With the willingness to meet the goal of Health for All by the Year 2000, the future can be bright.

A NON-FORMAL IN-SERVICE TRAINING PROGRAM FOR AUXILIARY NURSES IN BOLIVIA

Anne Rodman

Seminar Speaker

Introduction

Project Concern International is a non-profit, private voluntary organization dedicated to the development of low-cost, primary care health systems in the United States and throughout the developing world. Its emphasis is on training those who train primary care providers.

In 1977, Project Concern and the Bolivian Ministry of Health signed a five year agreement to develop primary care services in the frontier jungle state of Pando. During the next two years, 30 rural nurse auxiliaries were trained in six-month-long courses, and the support systems necessary for the provision of services were developed. In the rural areas of Pando, health care is provided by the nurse auxiliary, who works independently in an isolated post, except for monthly supervisory visits.

An evaluation done in 1979 by Project Concern and the Ministry of Health found that Pando did not have the financial or personnel resources to support a permanent auxiliary training school. To meet the small but steady demand for trained auxiliaries, it was recommended that a low-cost, rapid, on-the-job training course be designed.

Background

Pando lies outside the mainstream of Bolivian life. Compared to the rest of the country, the people are poorer, transportation is more difficult, the level of education is lower, the professional and health support staffs are often unprepared for their responsibilities, and the climate and pattern of diseases are different. In addition, in central Bolivia, the auxiliary works as an assistant to the doctor or graduate nurse, while in Pando the auxiliary is the only health care provider in the rural area. All these differences had to be taken into account in designing the training program.

The goal of the course was to train auxiliaries to function alone in a remote post; providing basic care for the most common diseases and conditions by following established norms for diagnosis, treatment and referral. The content of the course was based on a task-analysis of the auxiliary's work. The skills and knowledge to be learned were organized into five modules which could be taught independently: first-aid, nursing, simplified medicine, health education and administration. The requirements for the mastery of each module were listed by topic and these lists were used as a study guide, and as a method of evaluation.

In the past, new auxiliaries had been sent to work with no training, or they had been sent to observe for a month at the hospital in the state's largest city. In neither case were they prepared for rural work.

Description of Training

Briefly, the course involved a month of individual study under the guidance of an instructor--usually the auxiliary supervisor--followed by a month of supervised clinical work in a rural health post.

During the first month, the trainee meets frequently with the supervisor to outline a plan of individual study, tailored to the trainee's experience and needs. The lists of requirements for each module form the plan of study, although their order and the emphasis given to each is flexible. If needed, the course is prefaced by a "refresher" in literacy, numeracy and script. The trainee studies at his/her own pace, using filmstrips, movies, mimeographed handouts, and books; by participating in individual tutorials, group discussions and role playing, as well as by practicing clinical skills.

After completing the requirements for each module, the student is assigned to work a minimum of one month in a rural post with an experienced auxiliary. In this period of supervised clinical practice, he/she sees all the patients who come to the post, attends meetings and does prevention/promotion work in the community.

When the two parts of the course are completed, the auxiliary begins work in his/her post. The supervisors try to visit the new auxiliary more often than scheduled until he/she feels secure, and the auxiliary attends the twice-yearly continuing education meetings held in the state capitol.

The typical student in Pando was a twenty to thirty-year-old man who had attended some primary school a decade or more before starting work as an auxiliary. He had been working as a farmer or laborer, and had shown interest in health or community work.

Each trainee is given a set of health resources to use as long as he/she continues to work for the public health department. Most of these materials were written by Project Concern and public health department staff during the two previous years of work in Pando. These materials were: a manual for health promotors written in Peru, a manual for the diagnosis and treatment of common diseases written for Pando, a manual of health education talks written for Pando, a flannel graph, and the loan of a filmstrip projector. Since the auxiliaries work alone, the training stressed the ability to look up and find information in these materials, and not memorization.

The course was taught by the supervisors, who were regular full-time employees of the health department. The aim of Project Concern staff was to train them so that they would be able to conduct the on-the-job

training entirely on their own in the future. The supervisors were excellent teachers. They were themselves from the rural area, and were working there at the time of the course. They had been auxiliaries before being trained as supervisors, and had a practical knowledge of rural work. There was no linguistic, cultural or class difference between the students and the trainers. Because the educational background of the supervisors was limited, the course outline and study guides were simple and used no technical language.

Since the number of trainees is small--usually no more than two or three--and because of their close relationship, the supervisor can continuously evaluate the students' work. Evaluation was competency-based. The trainees had to demonstrate the performance of the auxiliary's work under "real conditions." For example, they prepared oral rehydration solution in a rural post or village home, not in the hospital or teaching lab. For most modules, the instructors judged the student's understanding of a topic by listening to him/her give a health education talk on that topic, using audio-visual aids. During the month of supervised clinical practice, the appropriateness of patient care was examined, as well as the record-keeping of the post's activities.

Perhaps the most effective learning and evaluation tool was the set of simulated clinical situations or "practice patients." Each student got a list of about 100 cases, keyed to their reference materials. An example is:

> Julia Balcazar is a thirty-year-old woman from Cachuelita. She comes to the post asking for a shot because she is tired, and feels drunk when she stands up. She has had nine children, five of whom are alive. She had her last baby two months ago, and had malaria when four-months pregnant.

Using their references, the trainees decide on the management of each case, and record all the information on their treatment, patient education and follow-up on the correct forms, just as if the patient had come to the post. This exercise ensured that the trainee would become familiar with the spectrum of common complaints, and would develop a problem-solving approach to health problems--and not just memorize facts. It allowed the supervisor to see the student's thought-process, and it rapidly taught the students to use their reference materials to fill out forms correctly. Many of the simulated clinical situations were acted out in role-playing.

Thus, the on-the-job training program differed in many respects from the nationally-approved, longer formal auxiliary training course:

--the curriculum was designed locally;

--the content was based on a task-analysis of the auxiliary's work;

--it taught only the essentials in a third the time, and eliminated material in the national course not relevant to the area;

--it stressed Simplified Medicine and independent action of the auxiliary;

--there was minimal reliance on written materials in teaching and evaluation;

--it encouraged the ability to use references, and not memorization;

--it was not taught by city-based nurse educators, but by the auxiliaries' own supervisors;

--the students learned on their own, and by a kind of apprenticeship;

--the module system allowed flexibility in the ways and times the course could be taught;

--the evaluation was practical and competency-based, and focused on the student's ability to teach others;

--the course was designed by PVO and health department staff, but administered and implemented by regular employees of the local health department; and

--the direct costs of the course are minimal and are almost limited to supplies and fuel.

Although the course was abbreviated, it contained almost as much useful material as a course three or more times longer, because it responded to local needs and was task-oriented. Parts of the course are appropriate for training volunteer health promoters. The topic and time-flexibility of the course might be even more advantageous in promoter training. The evaluation methods are particularly suited to the promoter level. The course can also be used as a refresher-course for trained workers whose skills may have lapsed. New modules can be designed to introduce new material to trained workers. The self-study system is well adapted to continuing education, since the health worker could study in the post and be evaluated by the supervisor during a scheduled supervisory visit.

THE TRAINING OF PRIMARY HEALTH CARE DOCTORS IN MEXICO

Roberto Castanon*

Seminar Speaker

Mexico, as a developing country, has been no exception in attempting to define and find the type of person who is able, in an efficient, effective way, to provide primary health care services to the poor urban and rural groups of the country.

In the 1970s a number of non-medical primary health care workers were trained in a variety of programmes. They were people from different backgrounds, with different academic levels and with varying identification with the communities they were going to serve. Some -- medical assistants, a large group of community health auxiliaries and a number of community nurses--were trained in this way. But given the increase in the number of medical schools, and the reorientation of their programmes, nowadays the provision of primary health care services to the whole population is being implemented by means of university-trained doctors. This assures better quality in the medical services provided.

In 1950 there were 16 medical schools in the country. Twenty years later there were 26, from which graduated 2,500 new doctors. The total number of doctors in the country in 1970 was 34,107. In only 10 years, from 1970 to 1980, the number of medical schools doubled to 56. In the same period 53,367 new doctors graduated, and at present there are 87,000 students registered.1/ Estimating the mortality rate among these professionals, and taking into account those doctors who abandon the profession or leave to work in another country, Mexico now has approximately one doctor per 900 inhabitants.

As far as the reorientation of the programmes for the training of general practitioners is concerned, in 1971 the Medical Faculty of the National University began a new programme which would be more relevant to the health problems which are found in the country, and require professionals with a greater social awareness, who are willing to work with those who most need their attention and give impetus to the activities of promotion of health and prevention of disease.2/ The population can be said to be represented by a pyramid, the base of which corresponds to apparently healthy individuals and families under a risk of ill-health; the middle area to an ambulatory population which uses general/family medicine and outpatients services; and finally the top of the pyramid which corresponds to patients who require hospitalization.

The curriculum of the integrated general medicine programme is structured to advance progressively from the base to the top of the

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pyramid, giving priority to the first two levels. This programme initiated by the National University, has been followed in large measure by the majority of the country's medical schools.

Of the most important characteristics of the programme, the following stand out:

It aims at the training of general practitioners oriented to the solution of health problems belonging to the primary health care level. That is to say, it aims at the training of doctors who are involved in the promotion of health and prevention of disease; general practitioners who are capable of understanding the personal situation of their patients; and doctors who can decide if medical attention is necessary, recognize and treat the most common ailments, and consult the specialists when necessary, work as a health team, and finally on call to deal with any other health problem which might occur in the patient or family group.

From the start, the student is put in contact with real life situations and problems and taught to find the information and means necessary to solve them. The curriculum reflects an educational structure more relevant to socio-medical, cultural and economic problems, and to the process of the provision of health care services.

The programme introduces a change in teaching methodology. This change is aimed at ensuring that the student learns for himself through practical experience while acquiring theoretical knowledge in a systematic way. During the programme, work is carried out, taking man as a psychobiosocial unit, by means of a modular plan which synthesizes knowledge in the following areas: Biomedicine, Psychosociology, Clinic, and Social Medicine and Epidemiology. Each one of these areas is related by schemes, which are coherent and closely in touch with reality, assuring both professional capability and scientific training.

The programme lasts for a total of five years and is divided into two parts of two years each, plus one year of social service. The first part is concerned with the study of the human being throughout the modules of introduction to medicine, ecology, nutrition, growth and development, and human apparatus and systems. The second part of the programme is concerned with the module of biomedicine, clinic and sociomedicine.[3]

The student works in academic units, attached to health centres of the SSA or to family medicine units or General Hospitals of the Mexican Institute of Social Security. In these medical units the student has direct and continuous contact with general and family practitioners, carrying out from the start activities of primary health care in the community and taking part in medical research, mainly into public health problems and the organization of the health services, especially in the area of primary health care. All the activities are carried out under the supervision and guidance of the programme tutors and of those health unit personnel who are course instructors. This is possible thanks to an agreement between the medical schools and the principal health institutions of the country (the SSA and IMSS), who are trying to consolidate the teaching service binomial.

The large number of doctors in the country, the large number of medical students, and the experience of almost 40 years of medical social service in rural areas, has determined the use of university-trained doctors in the two programmes for extending the coverage of primary health care services which are now being implemented by the SSA and the IMSS.

The SSA is implementing a programme to provide primary health care for more than 9 million people who live in proverty without health services in the 14 largest cities of the country. Graduate doctors are being used to form health teams, together with nurses and health promotors.[4]

By the end of 1982, the IMSS-COPLAMAR programme is intended to cover 24 million people in the rural areas of the country, using doctors doing their social service and nursing auxiliaries. If they achieve their goals, these two programmes will cover around 48 percent of the population of the country. If we take into account that at present 40 percent of Mexicans belong to some social security scheme and that of the remaining 12 percent of the population, a high proportion have the resources to pay for private medical attention, the goal established by the WHO of "Health for All by the Year 2000" could be reached in Mexico before that date.

By the end of 1982 we will have 100 percent capacity to provide primary health care services. The challenge will be to reinforce the administration and coordination of the health institutions, and fundamentally to motivate the community to participate in the solution of its health problems. To ensure the participation of the community, from September of this year, the health sector will be supported by 500,000 teachers of the national system of primary and secondary education.[5]

In order to carry out the primary health care programme for the poor urban population, the SSA implemented, through the Mexican Public Health School, an inservice training course for the primary health care team.[6] This course lasted 12 weeks, and was designed for doctors, nurses and health promoters. There will be a second course, and after both courses the total number of doctors trained will be around 3,000 together with an equal number of nurses and health promoters.

The basic content of the programme was as follows:

1. Primary Health Care and Public Health in Mexico.

2. Maternity and Child Care, and Family Planning.

3. Programmes and Technologies for Health Education.

4. Community Organization and Development.

5. Control of Communicable Diseases.

6. Non-Communicable Diseases.

7. Nutrition.

8. Environmental Control and Sanitation.

9. Administration and Statistical Records.

The inservice training programme lasted 408 hours, half of which were theory, with the other half spent in practice in the health centres and the community.

In order to guarantee the efficiency of the services, the correction of errors, and a rise in the standard of the personnel, an ongoing educational programme has been designed for the doctors, nurses and health promoters responsible for the primary health care services. For the design and implementation of this programme the SSA has had the support of some of the universities of the country and of the Mexican Public Health School. The responsibility for the running of the courses will lie with the local services in order to ensure the programme's permanence and suitability to the needs of the local health services.

The Mexican approach to achieving universal health care coverage is based on the reorientation of the training of doctors, enabling them to resolve health problems and maintain a high level of motivation.

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TRAINING FOR REGISTERED NURSES IN DEVELOPING COUNTRIES: THE APPLICATION OF THE ADULT LEARNING APPROACH

Robin C. Haines

Seminar Speaker

Since 1973, the International Nursing Services Association, Inc., (INSA) of Atlanta, Georgia, has been promoting and presenting nonformal, and short-term, continuing education programs for registered nurses from developing countries with the objective of enhancing the indigenous nurses' abilities to identify and meet health care needs as a part of the local health care team. Over 400 registered nurses from 33 countries have participated in INSA's U.S.-based and in-country programs. All of the courses and workshops are designed to maximize each nurse's abilities to become a self-directed learner in order to continue the learning process long after the course is completed. As Malcolm Knowles, adult education proponent, notes, "it is no longer realistic to define the purpose of education as transmitting what is known. In a world in which the half-life of many facts (and skills) may be ten years or less, half of what a person has acquired at the age of 20 may be obsolete by the time that person is 30. Thus, the main purpose of education must now be to develop the skills of inquiry."[1]

INSA is based on the philosophy that experienced, indigenous nurses in responsible positions can effectively produce needed health care changes in developing countries. As experienced, professional adults, the nurses are active in the learning process throughout each course. Using Malcolm Knowles' principles for adult learners, the INSA workshop presenters emphasize that the workshop belongs to the participants; therefore, the nurses are responsible for communicating their specific learning needs and their specific learning objectives. In addition to providing new information, the instructors serve as facilitators and guides to assist each participant in putting the learning needs and objectives into specific terms.

The major teaching objective for the workshops is to give each participant an experience of the significantly increased impact and power they have when they communicate ideas, plans and information with specificity and clarity. Many health care plans for a community or teaching plans for individual patients fall by the wayside when specificity and clarity are missing. Time, money, and manpower are wasted when those involved in health care projects are unclear about roles, responsibilities and expectations. To assist the nurses with local health care problems, the workshop content is problematic and experiential in nature, and based on what is needed and wanted by the participants. Each workshop includes problem-solving sessions in small groups to enable the participants to apply the new information and approaches presented.

The majority of the nurses attending INSA's continuing education programs express some concern and fear about being in an organized

teaching-learning situation after being out of school for as long as 30 years. Each participant is treated as an adult under stress in a new learning situation rather than as a child with little experience in coping. The workshop material is organized from the familiar to the unfamiliar to build confidence of the learners. The teaching is based on the premise that the participants do know what is needed and wanted in order to deliver quality health care; the learners simply need to discover new ways to organize and use the knowledge in a positive manner.

During health care planning discussions, the participants routinely get caught in a state of helplessness and express such constraints as too little staff, not enough money and not enough facilities or equipment. The instructors acknowledge all of these constraints early in the presentations on health care planning, and encourage the participants to plan in a positive way, using the resources they have. "Persons who approach their problems with an air of 'can do' are already far ahead of those who begin with a 'can't do' attitude, expecting defeat. With a positive view of self, one can dare to be open to experience, and confront the world with open arms and quiet certainty,"[2]. During written and verbal workshop evaluations, the nurses repeatedly mentioned an increased confidence in their own abilities to plan activities and make health care decisions as a result of the workshop content and processes.

All of the International Nursing Services Association's in-country workshops are developed in response to the expressed health care education needs of the local health care professionals and their agencies. The health care planning/communication workshops co-sponsored by INSA and Sister Cities International in Montego Bay, Jamaica (May 1980 and February 1981), illustrate INSA's adult-to-adult approach to continuing education. From the beginning, the participants were involved in the planning process. The public health nurses and public inspectors in the five-parish area around Montego Bay met and selected the workshop topics. The May 1980 workshop participants included 13 public health nurses, 12 public health inspectors, two health statisticians, and one nursing matron. Recognizing the staffing shortage and the need for uninterrupted learning time, INSA presented the same one-week workshop twice in succession to enable half of the participants to attend the workshop while the other participants staffed the clinics.

The main purposes of the workshops were to present information and provide an opportunity for practice in the areas of health care planning and communication in order to provide need-specific primary health care. The participants identified that the infrastructure of the Jamaican health care system needed to be strengthened in the areas of planning, communication and management. According to the USAID 1980 "Country Development Strategy Statement" for Jamaica, two of the principal constraints to primary health care delivery in Jamaica are the absence of both an effective planning and management system and a functional health management information system. [3]

In Jamaica, the presenters utilized the five-day workshop experience as a "real-life" forum to illustrate the practices of planning and communication rather than merely as a vehicle to transmit theoretical

information. For example, each workshop began with a session for the participants and presentors to get to know one another. The participants had an opportunity to honestly express why they were attending the workshop--which included such comments as "I came to learn more about how to plan for health care" all the way to "I am a last minute replacement from my parish." Each participant had an opportunity to choose to be in the workshop.

The presenters then communicated what the participants could expect of them, such as beginning each day at 9:00 AM and ending each day by 4:00 PM. The presenters indicated that the workshop would begin on time in order to accommodate those participants who were on time. Keeping time agreements is not of high priority in some parts of Jamaica, and the participants expressed the problems which this posed when trying to arrange planning meetings and activities. During the workshop, the participants had the opportunity to test their own integrity with regard to time agreements, and experience how meetings work when each person keeps their agreements.

By expressing their expectations of themselves and the others in the workshop, the participants and presenters developed a foundation for mutual respect and understanding. On the first day of the workshop, each participant was asked to write down three specific, individual learning objectives to be achieved by the end of the week. The presenters then asked the participants to share their objectives with the group. The instructors used the process to help the group specify and clarify their objectives on the blackboard as a learning activity. The objectives were reviewed at the end of each day to keep everyone in touch with the current learning needs of the group. The participants were able to identify how the format, agreements, expectations, goal-setting sessions and problem solving sessions of the workshop could all be applied to their job-related and personal planning activities.

Spontaneous role-playing sessions and discussions were used throughout the workshop to encourage participation. At the end of the workshop, participants expressed that they had a sense of personal accomplishment and responsibility for what occurred.

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POST-BASIC AND CONTINUING EDUCATION FOR NURSES
FAMILY NURSING EDUCATION PROGRAMS, KINGSTON, ST. VINCENT, EASTERN CARIBBEAN

Janice Jaeger-Burns

Seminar Speaker

Introduction

The strength of the Pan American Health Organization (PAHO) is based on its human resource capacity in providing technical cooperation and coordination and serving as a catalytic agent. In this capacity PAHO, one of the six regional offices of the World Health Organization, has continued supporting the development of continuing education programs for nursing with special emphasis on the redefinition and realignment of nursing education and services to primary health care as the principal strategy for health for all by the year 2000.

This paper will describe one such program entitled Family Nursing Education Project for the Eastern Caribbean.

The project focus is to improve primary health care nursing services at the community level including the training of nurse practitioners and to create public acceptance of the nurse in the extended role. Participating islands include St. Christopher (St. Kitts), Nevis, Auguilla, Montserrat, Antigua, Grenada, St. Lucia, St. Vincent, Dominica and Barbados. The program began January 1980 for 36 months duration.

The target population is an annual group of 16 experienced professional nurses who are also midwives from the eight participating countries. After the three-year initial phase, students will be accepted from out of the region. Health personnel in general benefit from the multidisciplinary regional and country continuing education programs which are also part of the project activities.

Donors include:

1. The United Nations Fund for Population Activities (UNFPA) which granted $940,329 to the program over a period of three years.

2. The Pan American Health Organization as the executing agency has provided professional personnel including the program director, family nurse practitioner educator and numerous short-term consultants, preferably from the Caribbean but also internationally.

3. The Technical Advisory Committee, composed of principal nursing officers representing the eight islands: a representative from the Regional Nursing Body, the University of West Indies, Advanced Nursing Education Unit, and PAHO nurses in the area.

This group meets bi-annually, sets direction and provides support and assistance for program development. A family nurse practitioner educator has been selected from the area for participation in the program.

4. The Policy Committee is composed of the eight permanent Secretaries of Health of the participating countries and territories. Their role is one of policy and fiscal planning. In March of 1981 the policy committee estimated recurrent costs of the program to be $138,500. This cost is to be assumed by the eight islands at the time of program phase-over in January 1983.

Project Plan and Activities

The purpose is to increase the capability of a selected group of experienced nurses in the provision of primary health care services to the population of the eight participating islands. (1) The objectives are to: a) prepare annually 16 experienced nurses, who have been recruited from the areas they are to return to serve, to function as family nurse practitioners, b) educate and support public health nurses, community health aids and other community health workers in primary health care. (2) To prepare Caribbean faculty to assume full responsibility for the ongoing practitioner program.

The functions and activities of the project are:

1. Establishment of a formal Family Nurse Practitioner Program as of January 1980.

   a. Students are selected for the 10-month post-basic nursing course by country principal nursing officers, permanent secretaries of health, nurse practitioner faculty and a representative of the University of the West Indies and PAHO nursing personnel.

   b. The PAHO project director, her Caribbean nurse practitioner counterparts and PAHO nursing consultants identified, approved and purchased physical examination equipment, text books, library books and audio-visual materials for the program.

   c. Course coordination and lectures were organized to prepare family nurse practitioner in general community assessment, taking of patient histories, performance of physical examinations, diagnosis and treatment of common health problems related to the Caribbean.

2. Identify and utilize sites for clinical training two days a week for 10 months in St. Vincents and for a six-month internship in the eight participating islands. This included the following components:

a. Orientate clinical and administrative staff of cooperating facilities to the nurse practitioner role and function.

b. Prepare experiential objectives and protocols prior to utilization.

3. Collaborate with counterparts in all aspects of program including curriculum development, testing, evaluation of students, selection of supplementary faculty and preceptors.

4. Review and combine existing protocols gathered from U.S. programs and adapt to local working conditions and resources.

5. Develop a written referral system for laboratory, X-ray, pharmacy and physician back-up system.

6. Develop and establish continuing-education programs for graduate family nurse practitioners and related multidisciplinary staff at regular intervals.

7. Establishment and utilization of module banks at the regional and country level, thus ensuring a multiplier effect in continuing-education programs.

8. Plan with technical advisory committee and policy committee and counterparts for gradual assumption of program responsibility including institutionalization of the nurse practitioner program through a form of affiliation with the University of the West Indies.

9. Legalization of the nurse practitioner under the existing Nurses and Midwives Act.

10. Develop plans for a third-year evaluation of the nurse practitioner program.

Organization, Leadership and Participation

Of the initial group of 12 students most were sought out although some requested application. All were employees of the Ministry of Health. The second group of 15 has been selected from a large number of applications, from employees within the Ministry of Health. All graduate family nurse practitioners (FNPs), with the exception of those seconded as faculty are to practice in their home communities.

This post-basic nursing program was initially requested by the Ministries of Health and nurses of the Eastern Caribbean who felt the need for nurse practitioner education but did not have access to a program locally. A consultant from the Pan American Health Organization was instrumental in the formulation of the Technical Advisory Committee and the Policy Committee and arranged for FNP study at the University of North Carolina for a Caribbean counterpart. Two years were required to secure program funding.

Outcomes, Results, Recommendations for Others

Reasons for success:

1. Strong support demonstrated by the Technical Advisory Committee and Policy Committee which since their inception has facilitated development of this program.

2. A number of physicians in the Eastern Caribbean have alredy informally used their nursing colleagues in the extended role of nurse practitioner and are favorable towards a structured nurse practitioner training program.

3. Prime Minister of St. Vincent and the Prime Ministers of the participating eight islands and the Ministers of Health have publicly committed themselves to the significance of the Family Nurse Practitioner program as a model for other developing nations to follow.

4. Desire for Nursing Associations of the participating islands to professionally and economically recognize the Family Nurse Practitioner, thus making the concept attractive to nurses.

5. Historical role of public health nurses in the Eastern Caribbean incorporated some duties of family nurse practitioners.

6. Enthusiasm and motivation of students despite the many problems inherent in any pioneer venture.

7. The high capabilities of the Eastern Caribbean nursing counterparts.

   a. Their minimal exposure to the practitioner and her role, and

   b. Sheer numbers of students enrolled in the program.

8. The program has had TV, radio and press coverage in all the islands prior to and since its beginning. The focus of the coverage was to acquaint the public with this new health professional.

9. Graduates of the first class were certified by the University of the West Indies, Faculty of Medicine.

CONTINUING EDUCATION FOR NURSES IN PRIMARY HEALTH CARE

Catherine W. Tinkham

Seminar Speaker

The nursing component of the Strengthening Health Delivery Systems Project (SHDS) in the 20 countries of Central and West Africa includes developing a regional post-basic nursing education center for the nurses from Liberia, Sierra Leone and The Gambia in the Anglophone countries; and collaborating with the faculty in the reformulation of the curricula with emphasis on primary health care in the World Health Organization (WHO) Training Centers for Post-basic Nurses in Dakar, Senegal and in Yaounde, Cameroon for the Francophone countries. Developing and conducting continuing education programs for the practicing nurses are two of the objectives in both the Anglophone and Francophone countries.

In 1980, a two-week workshop on Teaching Methods in Primary Health Care was conducted for nurses from the Francophone countries, and a two-week workshop on Nursing in Primary Health Care was conducted for nurses from the Anglophone countries. This paper will discuss the planning, implementation and outcomes of the workshop conducted for the nurses from the Anglophone countries.

Nurses are key members of the health team and have an important role to play in primary health care. How this role is defined and carried out may be the determining factor in the success of any primary health plan. Many of the concepts of primary health care, such as prevention of disease, promotion of health, health education for groups of people, self-care, identification of persons in the community at high risk to health, working with traditional healers and birth attendants, and indigenous health workers, and community participation with people making decisions about their own health are not included as part of the education of nurses or other health professionals. Primary health care, however, means that these concepts must become an inherent part of the practice of nursing and that of the other health professionals. For nursing it means a reorientation to the practice of nursing. It also means that nurses, as well as other health professionals, will have to apply their technical skills to solve health problems determined in the light of social needs; to guide, to teach and to supervise community health workers; and to educate communities on all matters pertaining to health. Nurses and other health professionals are therefore given social and educational functions in addition their technical functions.[1]

Some nurses are already assuming many of these responsibilities in their work situation even though these were not included as part of their educational preparation. Primary health care will recognize and make legitimate some of the current nursing practices.

A first step was taken in the reorientation of nurses in the Intercountry Workshop on Nursing in Primary Health Care that was held in

Banjul, The Gambia from 17 to 28 November 1980. The Planning Committee consisted of the Chief Nursing Officer of the Ministry of Health, Labour and Welfare, five nurses in leadership roles in The Gambia, the Director of the Primary Health Care Team and his Gambian counterpart, The Gambian counterpart to the EPI program, two WHO consultants, one consultant from Nigeria, the SHDS Nursing Field Coordinator for the Sub-region and the SHDS Nursing Coordinator. The committee met for one week in July, and the week prior to the workshop in November. This was the first inter-country workshop for nurses ever to be held in The Gambia.

The Planning Committee determined that the emphasis in the workshop should be on the concepts of primary health care and the integration of the concepts into the practice of nursing. With this in mind, the main objective of the workshop was:

> to explore all aspects of primary health care and the collaboration of nursing in the planning, implementation, and evaluation of activities whose purpose is to integrate primary health care in the different settings of the health services delivery systems of Liberia, Sierra Leone and The Gambia.

The specific objectives were that at the end of the workshop, the participants should be able to:

1. identify the objectives of the "year 2000" and its specific challenge to nursing practices;

2. enumerate the main concepts of primary health care with its eight components as contained in Alma-Ata, Article VII;

3. define the roles and functions of nurses in primary health care; and

4. prepare and present a plan of action for nursing activities in primary health care for Liberia, Sierra Leone or The Gambia.

It was recommended that the participants should be nurses from each country who were involved or interested in primary health care activities. Five post-basic nurses from Liberia, five from Sierra Leone and five from The Gambia were the participants. There was one observer from the West African College of Nursing and five from The Gambia. The format of the workshop was primarily group activity. Four working papers were developed and discussed with the participants.

The moderator for each day was selected from the Planning Committee or from The Gambia observers. A daily feedback sheet was filled out by the participants and changes in the program made accordingly. The Planning Committee met at the end of each day and reviewed the day's activities, the results of the daily feedback and the plans for the next day.

The first week the participants were in mixed groups except for Tuesday morning when they were in country groups. In the second week, the

participants were in their country group. Group activities and exercises with appropriate working documents were developed for each group session.

During the first week the group activity consisted of:

--An overview of primary health care and health for all by the year 2000; an examination of what health for all by the year 2000 means and how it can be achieved; developing workable definitions of the terms used in primary health care; and proposed solutions for priority health problems.

--Reports from Liberia, Sierra Leonne and The Gambia on their country's primary health care plan and the roles of nurses in the plan.

--Determining the roles and functions of nurses in primary health care settings; the constraints and strategies in carrying out the roles; and the methods of supervision and teaching of persons who provide primary health care services.

--A field trip to Mansakonko Regional Health Center and to Kwinella Village. The participants observed the activities in the health center and discussed the services offered with the personnel of the center. They also met with the Village Health Committee in Kwinella and talked with the members about the health problems in the village and their role as a health committee. Following the field trip, each country group presented a report in which they compared what they had observed to a similar situation in their own country.

During the second week, the group activity consisted of developing a plan of action for nursing activities in primary health care in their country. The activities included:

--identifying the role of nursing at the primary, intermediate central level;

--identifying nursing and other resources available in the country;

--determining priorities for nursing activities;

--developing behavioral and/or measurable short- and long-term goals for the priority nursing activities;

--developing a plan of action based on the goals;

--developing the implementation for the plan of action;

--developing an evaluation for the plan of action.

Each country group decided to whom they were to present their plan when they returned home. As they presented their plan to the workshop on the final day, the participants assumed the role of the group in the

country to whom the plan would be presented and attempted to respond accordingly.

Two of the countries identified the first priority as the need for nurses to be oriented to the concepts and philosophy of primary health care. The second was for nurses to be involved in primary health care activities. The third was for primary health care to be included in the basic nursing curricula in the country. The plan outlined a program for continuing education for the post-basic nurses currently employed, with the first activity directed at nurses working in the rural areas and in health centers. Actions for the inclusion of primary health care in the curricula of the basic schools of nursing were also included.

The first priority for the third country was for nurses to become actively involved in the immunization program of the country. The second priority was for continuing education for the post-basic nurses currently employed, and the third was for primary health care to be included in the curricula of the basic nursing schools.

The action plan for each country included both long- and short-term goals to meet each priority; how the goals would be implemented, the resources available and the estimated cost; and how the plan would be evaluated.

The participants worked very hard throughout the two weeks. They put in long hours and often worked late at night. Every effort was made to make their plan of action realistic to the needs of their country. They stated they had made a great deal of hard thinking and learned much about primary health care and the contribution nursing can make toward reaching the goal of health care for all by the year 2000.

Dr. Mahler, in 1978, stated:

> "To those who ask whether the "world needs nurses," my answer is that billions of people need health services and care, no matter what we may call the respective collectivities needed to promote such care. If those who are not called nurses, or will be so called in the future, are willing to confront the formidable challenges implicit in primary health care as the medium for achieving an acceptable level of health for all people in the foreseeable future, then the world does, indeed, need nurses. It needs nurses who can diagnose community health problems of populations as a whole, nurses who can care for the sick or the disabled, and nurses who can teach people to care for themselves."[2]

The Inter-country Workshop on Nursing in Primary Health Care was a small step in response to this challenge from Dr. Mahler.

NOTES

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A SURVEILLANCE INSTRUMENT FOR IDENTIFYING CHANGES IN HEALTH STAFF'S ADMINISTRATIVE SKILL, SERVICE ACTIVITY, AND CLINICAL SKILLS AND KNOWLEDGE

Clayton Ajello*

Seminar Speaker

During the past three decades, developing countries have been the beneficiaries of vast sums of development aid for health and population program activities. During this period, several trends in development aid emerged:

1. Allocations to promote an understanding of and acknowledgement of health and particularly population issues.

2. Allocations for establishing facilities and training programs for staff.

3. Allocations for health services delivery research to examine alternate patterns of service delivery.

A new pattern in the appropriation of development aid for health and population activities is now underway: ever-increasing support for improving the management capability within the social sector. This is a timely trend in development aid allocation, since future improvements in health status in the developing world will accrue mainly from better management of the existing, formidable, but largely disorganized, infrastructure already in place in many developing nations.

However, if this trend to support improvement in the management capability in the social sector is to have an effect, attention will have to be given to developing and adapting quantitative methodologies of evaluation for management purposes. These quantitative methods will have to be adopted to complement the qualitative management methods which dominate health care systems of developing countries today.

Program managers can adopt a quantitative approach in the conduct of program management at at least three points: identifying program priorities, monitoring output or process indicators, and measuring outcome or impact indicators. This paper focuses on the measurement of process indicators using a surveillance instrument designed to assist management decision-making.

Process indicators are important to the program manager because they can be proxy measures of program impact. But, unlike impact measures,

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process measures can indicate long before a program ends how well a program is meeting its objectives and how resources might be reallocated if program objectives do not appear to be being met.

Process indicators, however, even when these are logical proxies for impact measures--which often times they are not--can be difficult to quantify. Process indicators tend to be cumbersome, non-specific, and often do not accurately reflect program output. Hence they are not always useful for making management decisions. More specifically, where health program process indicators are being monitored (i.e., the number of any service activity performed), several assumptions are made vis-a-vis the aggregate data collected. The assumptions include: 1) that service activity by each staff member is similar, 2) that each staff member knows what to do and 3) that each staff member does his job.

It is not uncommon to hear Ministry of Health (MOH) officials attest to uniformly high individual worker activity by competent staff. Unfortunately, the poor health status indicators of developing countries tend to contradict these statements. It is our experience that the assumptions of aggregate statistics mentioned are generally not valid.

The "Strengthening Rural Health Delivery" Project (SRHD) was initiated three years ago with the underlying objective to improve the health status of rural Egyptians. It is doing this by testing and demonstrating different health service intervention packages and their delivery systems. Large-scale reproducibility is central to the project philosophy. A comprehensive evaluation system was devised to document the extent to which project objectives are met. Because of the long-term nature of the project, process measures have assumed great importance in determining how well the project is proceeding.

In this context, the evaluation section was concerned about the traditional assumptions mentioned earlier about aggregate process indicator statistics. We felt a need to document not only the individual levels of service activity, but also skill/knowledge competency and staff attitude toward the job. Documenting staff attitude has slipped from our grasp due to the complexities of quantifying this variable. It was felt that service activity and skill/knowledge competency (both administrative and clinical) could be surveyed, quantified and subsequently linked to supervision which promotes immediate and longer-term corrective actions, both ongoing management responsibilities.

The survey instrument was developed by listing all skills and knowledge deemed essential of each category of worker in order for him to function in the project. In addition, minimum levels of some service activities were established. In all circumstances only those items which could be quantified were selected for inclusion in the instrument. For instance, nurses in the SRHD Project must participate in home visiting during which they must be able to identify and treat children under five years of age with diarrhea. Since identification and treatment for diarrhea can be simplified so that a nurse either can or cannot perform satisfactorily, a quantitative assessment can be made a part of the

instrument. Similarly numbers of visits needed to cover the at risk population can be pre-determined and used as a baseline reference.

A survey instrument dubbed the Supervisory Feedback (SF) was developed for use by supervisors in conjunction with their regular supervision visits to rural health facilities. An SF form has been developed for each of the categories of staff found in the rural health facility: doctor, nurse, sanitarian and lab assistant. A special form for use by the district health officer has also been developed for his use in evaluating all categories of supervisors in his district. Although there is a different form for each category of staff, the format and overall substance of the forms is the same and includes:

1. Administrative Skills: This section requires the staff member being supervised to show that he can undertake the specific administrative tasks needed for supporting and guiding clinical service activity. For instance, the nurse SF form requires the supervisor to ascertain if the written records of the staff member are correctly completed; and that the nurse can retrieve the records of persons treated in the last quarter --just two tasks the project found nurses unable to do early in the project.

2. Service Activity: This section ascertains how the staff member's service activity compared with the expected and verifies the event of service activity. Again, using the nurse SF as an example, the supervisor determines the level of home visiting by the nurse from her records (all homes in the nurse's assigned sector must be home visited at least once each month). The supervisor must randomly select several of the households visited by the nurse, check the records prepared by the nurse of the visit, and re-visit the household to confirm the visit and the accuracy of the information placed in the family folder recorded by the nurse about the visit.

3. Clinical Skills/Knowledge: This section consists of four lists of skill/knowledge which must be acquired by the staff member to participate in the SRHD Project. A different list is substituted for each supervision visit. In the case of the nurse supervision visit we have cited thus far, the nurse is asked to demonstrate for the supervisor that she can, for instance, actually prepare oral rehydration fluids by various methods, actually weigh a child, and actually measure blood pressure. Clinical knowledge is also tested verbally. However, stress is placed on demonstration rather than verbal descriptions. Clinical skills/knowledge not adequately demonstrated during one supervision visit are re-tested during the subsequent supervision visit, presumably after re-training has occurred.

The Supervisory Feedback is the centerpiece around which the already existing and extensive formal evaluation system rotates. The SF is currently administered four times a year: once every three months, three months being referred to as a "supervision cycle." The instrument stresses demonstration by staff rather than just verbal interchange between a supervisor and a staff member, thus reversing the current direction of supervision by itinerant supervisors. The SF is linked to the

management responsibility of training and provides two ways for retraining to happen. As the SF is being administered, the supervisor gives on-the-spot instruction in areas found to be weak, but only after a particular skill is evaluated. After the SF is completed, a score for each worker is calculated. Staff members with a score of 60 percent or less (an arbitrarily set level) must be scheduled for a re-training session during the second and/or third month of the supervision cycle for continuing education in the area(s) of their weakness, along with other staff members with the same weaknesses. Once the SF is completed, and no longer needed for reference by the supervisor (usually a period of six months), the form is passed to the central office of the Project for aggregate analysis. The cycle is then repeated throughout the year. Central office aggregate analysis provides the link necessary for annual or even bi-annual adjustment of the Project's pre-implementation and in-service training programs.

We have recently tabulated the first round of data from the SF done as a baseline prior to any project training for nurses in one of four project districts. Using the SF, it was found that the majority of nurses could not demonstrate the correct method or procedure for all clinical skills, which are currently required of them (i.e., before SRHD training) and in which they have received training except for taking oral temperature. Seventy percent of nurses surveyed were able to take temperature correctly.

With regard to clinical knowledge, the SF revealed a similar circumstance that a majority of nurses could not enumerate correct answers to the majority of questions put to them for clinical knowledge.

As a result of the implementation of the SF, problem-specific group re-training has begun in SRHD Project areas. Unfortunately at this time the data from subsequent rounds of the SF system have yet to be analyzed centrally. It should be stressed that decentralized usefulness of the SF does not depend on central analysis, since supervisors tabulate the results of the SF locally for their own use. Central offices simply have not been geared to complete aggregate project-wide analysis of the SF provided to it from the field.

In summary, while all of the data generated by our supervisory feedback system is not yet tabulated, we believe we have developed a system which can detect changes in worker skills/knowledge and in the level of service activity by individual staff members. This system can be used by a regular supervision team to plan problem-specific continuing education. We believe this will eventually be a system essential to improvement and subsequent maintenance of a high-level rural health service in Egypt.

SIMPLIFIED SURVEYS AND SURVEILLANCE: TOOLS FOR IMPROVING THE USE OF PRIMARY HEALTH CARE WORKERS

Rachel Feilden

Seminar Speaker

Primary health care programs in less developed countries (LDCs) often start operating in communities which are uncharted territory. Usually there is no functioning vital registration system, and the statistical archives of the Ministry of Health typically contain no reliable data on the incidence or prevalence of disease. If anthropologists' reports and data from special purpose surveys (e.g., on nutrition, fertility, xerophthalmia) are available, they can provide invaluable backround material, but often do not include crucial information on certain aspects of the target population's health status. So the initial phase of a primary health care program frequently includes a household survey to collect this information systematically.[1]

There appears to be unofficial concensus among designers of questionnaires on the core elements of a household survey. The instrument usually includes a Household Register, which provides basic data for calculating several demographic indicators (e.g., age-sex structure, dependency ratio, household composition, family size). Questions about illness in the last two weeks produce data not only on prevalence of morbidity, but also about sources of treatment and resources spent on obtaining it. Questions on feeding children and treatment of common complaints give us information about health-related knowledge, attitudes, and practices. Felt needs concerning a wide range of topics--sanitation, water supply, spacing of births, health services--can be investigated. Simple questions, accurately translated, are easy to ask and to understand. Built-in consistency checks allow one to assess the data's reliability.

If the primary health care workers (PHCWs) will be asking the questions, the person designing the survey will be influenced to keep those questions simple. The planning staff have ample opportunity to investigate the level of sophistication and literacy of the PHCW trainees, and this helps limit the survey to concrete questions. Perhaps the epitome of this arrangement is a survey developed for use by mostly illiterate local birth attendants in the Yemen Arab Republic. All of the questions and answer categories, with the exception of numbers, are represented by pictures and symbols; as far as possible, these correspond to the pictorial antenatal card.

If basic random sampling procedures are rigorously followed,[2] and if fieldwork is adequately supervised, a well designed survey generates reliable information which can be used for two main purposes. First, it provides baseline information against which the effect of the program can be evaluated using data from a follow-up survey several years afterwards. Surveys which will be used for evaluating programs should include

indicators in which program planners expect to find change. It is not appropriate to use a survey to measure changes in morbidity incidence and mortality; the sample size does not generate enough instances of deaths or specific diseases to enable one to draw conclusions about changes with any confidence, and diagnoses made by respondents are not reliable. The regular reporting system should be used to calculate these changes, which take several years to become apparent. However, in the three to five year lifespan of most programs, one would expect to find a change in the use of health services and in knowledge, and possibly in attitudes and practices. The baseline survey should also include control variables, so that any changes that are found in the follow-up survey can be identified as being due to the primary health care program, rather than to general economic and social development.

Second, the survey provides concrete information with which to plan the PHCW's work. The general World Health Organization (WHO) model contains a lengthy list of activities which the village health worker could perform;[3/] attempting to carry out all of them indiscriminately would be discouraging and overwhelming. To direct the PHCW's energies effectively, health planners and trainers should examine the survey data to identify the major causes of mortality and morbidity in the target population. They should then decide which of these diseases can be effectively prevented or treated using techniques and procedures that the PHCW can master and practice safely. This process determines which activities will be emphasized as the PHCW's first interventions. As an illustration of the process, the Three Province Survey in Afghanistan found that 60 percent of all recalled child deaths were attributed to three types of illness: respiratory infections, diarrhea or dysentery, and jinns.[4/] PHCWs were trained to recognize these, and treatment protocols were developed and medical supplies standardized to correspond to specific therapy regimens.

Survey data can be used to choose not only the content but also the mode of training. If a few health problems are of overriding importance, the PHCWs could be trained to cope with these problems first, and after several months in the field, receive continuing education in other, less crucial aspects of their scope of work. Alternatively, the training course could cover most areas listed in the standard text books for primary care workers, simply emphasizing the treatment and prevention of problems which are common in the target population.

Data on felt needs, perceptions of problems, and current beliefs and practices indicate whether community beliefs are likely to reinforce or to undermine the PHCW's efforts. For example, in the Afghanistan survey, the villagers said that sanitation was unsatisfactory, and some respondents said that they would be willing to donate labor to improve sanitary facilities; projects to provide for safe disposal of wastes would be supported by the local community. On the other hand, this survey revealed that malnutrition, a severe health problem among young children, was not perceived as a major contributing factor in childhood morbidity and mortality;[5/] health planners and supervisors should expect that the PHCW's attempts to encourage early recognition and treatment of undernourished children will be an uphill struggle at the beginning of

the program. Similarly, feeding taboos make it harder for the community to follow the PHCW's advice about nutrition. Withholding liquids and food from children with diarrhea is another practice which the PHCW will be contradicting generations of beliefs and customs in trying to change. In all of these instances, survey data give prior warning of areas in which the village health worker will need extra support and encouragement, and frequent reinforcement of the "modern" practices he has learned.

A survey can indicate where the PHCW should concentrate his efforts, but it will not necessarily indicate what will be the most effective approach for achieving the goal. Program planners may need to obtain anthropological information about current practices and beliefs, or to identify "positive deviants,"[6/] whose success in raising children in an environment hostile to health may provide clues as to how other members of the community could improve their health. Pilot studies, undertaken primarily for research purposes may provide experience in organizing the delivery of health care, [7/] but program planners should take into account the amount of back-up support and supervision that were available to research-oriented activities; their protocols may be inappropriate for a PHCW working alone in the village. Planners of a primary care program could incorporate trial projects into the program itself, to test alternative approaches. Or they can learn from the PHCWs' experience, and try to identify the elements contributing to success. This information is collected during the course of supervision and surveillance.

Surveillance of the PHCW's work can be active (visits from the supervisor to watch work in progress) or passive (examination of monthly reports on number of consultations, number of home visits, community activities, reorder forms for drug supplies). By comparing the results of surveillance with the task analysis prepared from the survey data and with information on how other PHCWs are spending their time, a supervisor can tell whether a particular PHCW is concentrating on priority activities. For example, the supervisor may find out that some PHCWs are more interested in curative activities than in monitoring nutritional status; their reorder forms for drugs reflect the extra prescribing, and the Road to Health Charts are full of gaps. Supervision may bring to light a PHCW with a special interest in some aspect of the health program, who has developed an effective way to convey a health education message, or to organize community activity. Successful innovations can be shared with other PHCWs to use in their communities. Surveillance may also reveal that conditions in one particular community call for a slightly different emphasis of activities than was originally developed.

Follow-up surveys can be used to carry out a type of surveillance. For example, the Mid-Term Review in Nepal asked villagers whether they recognized the armband which the PHCWs were supposed to be using for measuring arm circumference.[8/] If the program is using a patient-held records system, a Household Survey conducted after the implementation of a primary health care system can record whether the evaluator finds a Road to Health Chart or vaccination card in the sampled household. The

enumerator could also record the last date on which the children were weighed, to collect information about the frequency with which the PHCW has been monitoring nutrition status.

The primary health care program can use the PHCWs themselves as gatherers of information. This strategy has several advantages. First, they come from the community, so they may be more at ease with the respondents and may obtain more accurate answers than a more highly educated outsider. Second, some programs (e.g., Montero) have used the community survey as a means of constructing a census of the catchment area; during the survey, the PHCWs make contact with all of the households in their area. Third, a structured questionnaire enables the PHCW to find out about felt needs and beliefs in a systematic rather than an anecdotal way; this is an epidemiological approach rather than a case-oriented one. Fourth, if the PHCWs are included in fieldwork debriefings and planning sessions, they will see how the information they collected is used to decide which activities will be their top priorities; later on, they may use a similar process to reassess priorities in their area. Fifth, after a training course which covers a vast range of fascinating and sometimes esoteric conditions, it is a valuable exercise for PHCWs to come face to face again with the relative frequency of disease in their community. Sixth, the interview will include procedures which the PHCW has learned during training (for example, determining immunization status, measuring arm circumference or height, weighing children, taking a medical history including sources of treatment and symptoms, and doing a brief physical exam). Interviewing thus reinforces his training experience.

One drawback of using PHCWs as gatherers of information is that planners cannot use the survey as a means of identifying likely candidates to be village health workers, as was done in Afghanistan. Since community respect is so important, the opportunity lost by using the trainee village health workers as interviewers may be significant. The choice of interviewing strategy will depend upon the philosophy of the program planners, the resources available, and the stage in the health care program's development at which the first survey is carried out.

NOTES

1/Programs which have used a community survey include those in Afghanistan[4]/; Esperanca in Brazil (see Community Systems Foundation, The Esperanca Program. Report submitted to PACT by CSF, Ann Arbor, May 16, 1980); Montero in Bolivia (see Frerichs, R.R. et al., Health and Illness in Rural Bolivia: A Household Survey. Los Angeles: UCLA, 1979); and the Tihama Project in the Yemen Arab Republic.

2/There are several acceptable procedures for ensuring that households are randomly selected (see the Training Manual for any of the National Nutrition surveys conducted by the Center for Disease Control).

3/See The Primary Health Care Worker. Geneva: World Health Organization (1975).

4/O'Connor, R (ed), Managing Health Systems in Developing Areas: Experiences from Afghanistan. Lexington, Mass: Lexington Books (1980).

5/Less than half the children aged 12 to 60 months were classified as well-nourished, using an arm circumference measurement.4/

6/An example of a positive deviant is a mother who is in the same impoverished environment and has access to the same food as the rest of the community, but whose children are somehow adequately nourished.

7/Berggren, W.L., "Administration and Evaluation of Rural Health Services: I. A Tetanus Control Program in Haiti, "American Journal of Tropical Health and Hygiene, Vol. 23, pp. 936-949 (September 1974).

8/Vaidya, B.N., Mid Term Health Review 2035. Ministry of Health, H.M.G. of Nepal (June 1979).

THE ROLE OF PVOs AND NGOs IN PROVIDING TRAINING SERVICES

Janet Gottschalk

Seminar Speaker

Basic Questions

It is most important for us to address a few basic questions--questions that should be answered prior to the involvement of any non-governmental organization (NGO) in the training of community health workers (CHWs) and at intervals during any such training program. The necessity of asking these questions come from this author's experiences in Kenya with CHWs and a recent trip to Palestine where there occured a discussion of the role of NGOs in the training of CHWs with field personnel of a variety of NGOs currently working in a number of projects. All aspects of primary health care are situationally dependent. As a result, no discussion of training CHWs can be held without consideration of the country/setting where the training is to take place.

The first set of basic questions refers to the need for training, as well as the specific elements required in that training. It is here that existing or planned training programs by other NGOs as well as government plans in this regard must be determined--something NGOs frequently omit doing. In addition, efforts should be made to find out if any local organization, university or health facility has the capability of conducting the training. And, it follows, of course, that the question must be asked as to the NGO's expertise and ability to complement the local capabilities in training CHWs. It should never be forgotten that the training of CHWs by NGOs must be looked at in the light of the capabilities of the government, the community and the CHW him/herself.

Given that the need for the training of CHWs has been established, as well as the availability of NGO expertise to complement local capabilities, the next set of questions which must be asked are ones which are adapted from those in AID AS OBSTACLE by Frances Moore Lappe and her collaborators:1/

1. Who are/will be the beneficiaries of the program?

   --Will the health status of the villages/communities be improved?

   --Will there be opportunity for the personal growth and development of the CHWs?

   --In areas of high unemployment/underemployment, can the training programs be easily expanded to technical training programs with the possibility of increased job security for the trainees?

--Will the principal beneficiaries be those related to the training programs themselves--administrative, field personnel?

2. How will the success of the project's beneficiaries affect the chances for progress by the majority?

   --What can be done to ensure that a majority of the CHW trainees use their new skills in ways that are beneficial to the village/community as a whole instead of intensifying local division/factions?

   --Is there a danger that the CHW's new status in the village/community will be used primarily for his/her own gain? How can this be prevented?

3. Assuming that the planned training program(s) is successful, can the project's success be multiplied on a broader scale, given the region/nation's limited resources and other constraints?

   --Is continuity/institutionalization of the broader program (for which the CHWs have been trained) possible? Locally? Regionally? Nationally?

   --Are there sufficient support systems in place (or projected in the near future) which will serve as back-up to the newly trained CHWs?

   --Is collaboration possible between the government and the NGOs?

   --Are the personnel of the nearby health centers/dispensaries willing and able to work with CHWs?

   --Is the Ministry of Health willing to have lesser qualified personnel interact in the field with better trained personnel from other Ministries?

4. If the government had sufficient funds, would it support CHWs as the most appropriate personnel to meet unresolved local health problems, especially in rural areas, or would it opt for personnel trained in high-technology Western medicine?

   In other words, would the government give only grudging support to CHWs?

Although not all the answers to all the above questions have to be "yes" before NGOs are involved in the training of CHWs, these questions should be asked and, as far as possible, realistic answers sought and evaluated before NGOs become involved in training CHWs.

Obvious Role for NGOs in Training: Whether PVO or NGO

1. Technical assistance support:

   --Design, testing and production of visual aids/manuals.

   --Development of new training methodologies.

   --Residential accommodations for trainees.

   --Consultation:

     --Providing a pool of local resource persons to communities

     --Establishing a national team of educational consultants

   --Training of trainers/supervisors of CHWs.

   --Actual training of CHWs.

2. Information exchange:

3. Clearinghouse for research/research requests:

   --Role of non-formal education in training and the overcoming of barriers to communication in the villages and in training programs due to the literacy level of the trainees.

   --Development of evaluation designs for CHW training programs and the impact of CHWs on the health status of communities.

   --Training/effectiveness of traditional birth attendants (TBAs) and traditional healers.

4. Pilot programs:

Strengths and Weaknesses of the NGO Position

1. Socio-cultural/historial factors (including religious factors)

Historically, NGOs, especially religious NGOs, have been involved in the delivery of health care at the local level.

In many areas NGOs have established stable links with various villages/communities and have come to be trusted community members. In fact, in some areas the religious NGOs have built upon and strengthened the pre-existing communal sense in the society, as for instance, the whole "basic Christian community" or *communidad de base* movement in Latin America. It is especially difficult for governments to replicate the motivation and commitment existing in such groups.

In contrast to the government's size, bureaucratic machinery and distance from the people, NGOs have frequently had a distinct advantage in local development efforts due to their often limited size, closeness to the community and flexibility. As a result, NGOs have often been able to risk more than national governments in local development efforts.

Unfortunately, however, the long history and tradition of NGOs in some areas has all too often tended to foster dependence on the NGO instead of community self-reliance and could be termed "community oppressive" instead of "community supportive."[2/] Where and when this has occurred, the possibility and/or desirability of certain NGOs being involved in the training of CHWs, especially at the local level, should be carefully studied.

The shift from institution-based, curative medicine to primary health care with the active involvement of the community in all its stages is not only a big step, but has been likened to a "leap of faith."[3/] In areas where NGOs have previously been heavily involved in curative medicine, the ability of these same NGOs/institutions to be involved in community-based health care, especially the training of CHWs, should not be expected without a period of transition for the development of and commitment to attitudes, priorities and structures more consistent with the delivery of local health care services by minimally trained CHWs and community members working in partnership with health care professionals. The technical expertise of professionals working in these institutions should be questioned as to its suitability for training CHWs especially where the institution has tended to ignore the local practitioners of health and existing informal community resources.

As all of you must be aware, some religious NGOs may have difficulty in developing/implementing training programs related to family planning, birth spacing, or whatever term is used. In many areas, this difficulty has been resolved, but where specific religious beliefs present an obstacle to the teaching of this content, care must be taken that the curriculum/practice of the CHWs are supplemented by others.

2. Economic factors

Just as the policy of many governments to provide free care for its citizens has created problems for NGOs in the delivery of services, so too, the question of funding/payment of CHWs is causing great difficulty and obvious differences exist between many NGO and government programs. Even in the same country, such as Kenya, some NGOs pay trainees and CHWs, other rely on motivation and non-monetary rewards to retain CHWs, and the government/UNICEF-sponsored program pays trainees and CHWs.

Payment or non-payment of CHWs appears to be one of the most difficult areas related to the training/practice of CHWs; even where the NGO has maintained from the beginning that no stipend/salary will be paid, the question continually recurs. And, when several programs exist in the same regional/tribal area, confusion and frequently resentment result. A similar unhappy state exists where trainees sponsored by an external NGO

have been led to believe they will eventually be employed at higher wages. Honesty, clarity of communication, and careful testing of expectations are essential. Even then, it is not always possible to avoid disillusionment and hostility. Short-term, poorly conceived and structured programs do no one any good--least of all, the unhappy CHWs. Villagers, who have been "burned" once, will certainly not be eager to risk involvement in a more carefully planned and implemented program.

3. Factors related to integration into national CHW programs

It certainly should come as no surprise to anyone that primary health care or community-based health care is, by its very nature, political--at both the local and national levels--and under certain forms of government, it is absolutely forbidden for NGOs to be directly involved in community health. In those countries, as in all countries where NGOs are or wish to be involved, NGOs must never forget that their role--in all circumstances--should be complementary to that of the national government. The concrete working out of that complementary role in such delicate situations as Palestine (Occupied West Bank), Ethiopia and the Philippines, to name but a few, require extreme delicacy, creativity, patience and tolerance, not to mention a sense of humor and a "long view."

The fact that it is not uncommon for PVOs and NGOs to be heavily funded by "home" governments makes their presence and activities--however constructive from an objective point of view--open to considerable suspicion from the "host" governments. Maryknoll is certainly not the only religious PVO that is seriously questioning its relationship to USAID and the development models it supports. It is not possible to avoid such questions when looking at the role of PVOs and NGOs in training CHWs.

With respect to the integration of small-scale NGO training programs for CHWs into national government programs, it is only fair to say that this is usually a problem for both NGOs and governments. It is true that programs, such as that of Miraj in India, have been successfully integrated into government, but more frequently, governments have not been particularly appreciative of NGO successes in this area, especially when the strengths of NGOs discussed above cannot be replicated easily in government programs. It has been said many times that extraordinary efforts and resources of personnel and funding produce extraordinary results. These are not the types of programs--training or otherwise--that can/should be integrated into national health schemes.

Conclusions

The role of a NGO in the training of CHWs was defined in a recent discussion with an ardent Palestinian clinical pharmacist who heads an extremely innovative program for CHWs funded by several NGOs. Her answers were brief and incomplete as it was the first anniversary of the day the West Bank mayors were injured by bombs. In almost stacatto fashion, she said:

1. NGOs should transfer information, not methods--the methods for community health work can only be developed/implemented by nationals thoroughly familiar with the local scene.

2. Aid, such as food aid which primarily benefits U.S. farmers and creates dependence, should not be given or accepted.

3. Health care, as understood and practiced by most NGOs, is based on the traditional, Western medical model and uses technology and medicines inappropriate for most developing countries.

Since road blocks were being set up and the university students were mobilizing for their protest against the Israeli occupation, there was no time for discussion of these answers. Regardless of what we--as PVOs and NGOs--think of this young woman's politics, most of us would be well-advised to take seriously the remarks of this extraordinary young woman.

NOTES

[1]/Lappe, F.M., et al, Aid As Obstacle, San Francisco: Institute for Food and Development Policy, p. 122, (1980).

[2]/Werner, D., "The Village Health Care Programme: Community-Supportive or Community-Oppressive?" Contact, Number 57, (August 1980).

[3]/Keny: Catholic Secretariat, Report of Catholic Health Conference conducted by Kenya Catholic Secretariat/Medical Department, Nairobi, (April 1979).

THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS IN PROVIDING TRAINING SERVICES

Sharon Stanton Russell

Seminar Speaker

In approaching the subject of the role of non-governmental organizations in providing training services related to International Health, it is useful to think within the framework of a typology of training locations, purposes and content. With respect to location, training can be divided broadly to institutional and non-institutionally based. The first type may include existing and/or developing host country institutions, home country institutions (in our case, U.S. based), and finally third-country institutions. The second type, non-institutional training, is generally host-country based and may be formal or informal.

A second dimension of the typology concerns the purposes of the training. Broadly, these may be to develop a new cadre of health worker, to radically retrain existing health workers (to develop a new set of skills and competencies), and thirdly, to provide pre-service or in-service training or continuing education for existing workers.

A third dimension of this typology is the content of training. It may focus on developing the so-called "technical" health-related and/or behavior-related skills, including topics such as management and community motivation.

Against this framework, this paper will briefly describe the roles and experience of one non-governmental organization, Westinghouse Health Systems. Health Systems is a professional consulting division of Westinghouse. We are a relatively small group of some 130 professionals from a wide variety of health and social science disciplines. The group has been working in International Health for over a decade. By and large, we work under contracts, which may be directly with the host country Ministries of Health, or through an international donor agency. This means that our primary relationships are with the government-sponsored health services.

As regards institutional training, the role of an NGO such as Westinghouse Health Systems tends to take one of two forms. We may be called upon to advise governments as to the types of training appropriate in order to develop the health manpower resources and to participate in selecting both institutions or programs and candidates for training. We are currently acting in this advisory capacity in our projects in Egypt and in Jordan. From time to time, for example in a health planning project in Korea, we also administer what is sometimes called "participant training." That is, we assist in the application and admissions logistics, provide support and counsel to the student during training, disburse the funds, and administer the reporting required by the organization financing the training.

The major emphasis of our work in training, however, is with non-institutional training. Because of the budgetary constraints noted earlier in the conference, training has tended to be with existing workers in the health system. Our role is best illustrated by some examples. In the Strengthening Rural Health Services Project in Egypt, we have been training physicians, nurses and sanitarians--the core team in the rural health facilities--to refurbish existing skills (in such basic areas as weighing babies, for example) and to develop new skills, such as outreach and use of oral rehydration therapy. Within the Manpower Component of the Health Planning and Services Development Project in Jordan, we have trained a group of 20 physicians trainers, who in turn are retraining the community-level physicians, nurses and assistant nurses toward the broad objective of reorienting the government's health services toward primary care. In addition to the basic health skills, training in both Egypt and Jordan also emphasises supervision, recordkeeping, health education and promotion and community outreach.

In another, very different project, Health Systems worked with the Caribbean Community Secretariat in the design and implementation of the Health Management Development Programme in the Ministries of the Eastern Caribbean. Here, focus was on training in basic management skills at all levels of the health service, from the district to the central Ministry. One in the series of training programs focused on development of the district health team, involving, wherever possible, actual health teams.

In all the examples mentioned, the trainers or training teams have been composed of Westinghouse staff, consultants, institutional subcontractors and host country trainers both from the ministries and from local or regional institutions including universities. We prefer this mix not only for reasons of cost, but also for two-way capacity-building and cross-fertilization.

We must recognize that in training within a health system, we have a responsibility to ensure that training is placed in a holistic or systems context. This is a responsibility which arises not only from a concern for the larger objective of improving health status of the population, but from the responsibility which the trainer has to the trainee. As outsiders to the health system we are often well-placed to ask some tough questions which seek to ensure that the context of the training has been carefully examined. With respect to participants in institutional training, this entails critically assessing the training needs and identifying the training context which will best meet those needs in light of overall program and health systems objectives. In addition, this involves working with government to formulate objective criteria for selection of candidates and serving as a "counter-weight" in the delicate and often political process of candidate selection. Once candidates are selected, it is often easy to overlook the important step of reexamining the proposed training content in light of an individual's prior training and experience in order to ensure an appropriate marriage between the individual and the program. Finally, and particularly in the case of those going for long-term training, it is critical to look ahead to the

context into which the trainee will return and to help ensure that replacement will meet the expectations and needs of both the individual and the health system.

The issues related to "looking out for the context" are somewhat different in the case of non-institutional, host country-based training. Here, we have a responsibility to ensure at the outset that the skills and competencies to be developed in training have been agreed upon and ratified. The answer to the question "ratified by whom?" may differ in different contexts. But if a nurse is prohibited by law from giving injections, it is premature to train her or him to play that role in an immunization campaign unless we first work to get the legal framework changed or agree that introducing a system of standing orders will permit the nurse to function within the law. Similarly, if pediatricians earn substantial income from intravenous rehydration, some prior or parallel effort to retrain or reorient the pediatric community's thinking with regard to oral rehydration (ORT) may be necessary before training basic health workers in ORT is indicated. This is by no means to say that we must or should live within the existing system; on the contrary, this is to argue that if we hope to change it, we have to attend to the interrelated facets of that system.

In a similar vein, it is important to ensure that those who will be working with the retrained health worker are prepared to understand and accept the new or modified roles and functions of that worker. To address this issue, approaches such as collateral orientation of colleagues, post-training team-building and involvement of supervisors in actual training are often useful. Similarly, systems must be prepared to provide the logistics support, such as drugs and equipment, if health workers are to be able to practice new skills.

If the training is to develop a new cadre of health workers, additional issues arise. Lines of communication and the relationship to the pre-existing health system need to be identified. Methods of compensation, whether non-monetary or monetary, need to be clarified and, if the latter, budgets must be projected to include those positions. Whoever is paying must be committed to bearing the recurrent costs.

Training is fundamentally a tool for transforming the health system. A key way in which training can work to accomplish that is through the choice of training methods. Here again, NGOs can play an innovative and catalytic role. Repeatedly, we have encountered initial skepticism about the acceptability of participative, interactive, adult learning approaches. Yet equally often, we have found that the use of such approaches as role playing, group discussions, structured exercises and learning contacts has met not only with enthusiasm, but with a new sense of activity, responsibility and possibility on the part of the health worker.

In summary, training represents a significant investment on the part of all involved. Because we are outsiders to the system, NGOs have a special responsibility to ensure that questions regarding the context of a given training effort are posed and answers worked out in concert with the training. Then we all can secure a return on that investment.

THE ROLE OF PRIVATE VOLUNTARY AGENCIES IN THE SUPPORT OF PRIMARY HEALTH CARE WORKERS

Rose Schneider

Seminar Speaker

Private voluntary agencies (PVOs), particularly those with a service delivery focus, can make a definite contribution to the training and support of primary health care workers (PHCWs). One way, though not necessarily the most common, is by the actual provision of training through in-house technical staff. Working independently, the PVO can conduct the initial training courses and periodic inservice training sessions for PHCWs. To make a commitment of this magnitude, however, implies the PVO hire and/or develop sufficient technical assistance capability within its staff to plan and carry out this training. The talent needed is considerable, for example, to provide skills in baseline data collection and analysis, development of curriculum, training methodology and materials, plus skills in evolution for curriculum revision.

The major alternative to using PVO in-house capability is to broker or mediate with other agencies, local or international, which will provide the needed technical assistance. While the technical assistance agency provides the same technical skills discussed previously, the PVO contributes by maintaining continued interest and momentum during the planning, training and follow-up phases. Because the orientation of the PVO is often directed toward a specific community, it can function as an advocate, coordinator and catalyst working to bring the correct mix of opportunities and services together to train the PHCWs. Official agency support of the importance of PHCWs through policy statements or agency guidelines can demonstrate to Ministries, the communities and others in developing countries the PVO's sincere intent and commitment. By increasing the credibility of the PHCW approach and the value of the individual workers, the PVO can influence the opinion of others to initiate or expand their support. Within the PVO agency guidelines, objectives for basic health service can guide efforts of the Ministries of Health and technical assistance groups working together to maintain a realistic focus which responds to the community's particular needs. This may be particularly needed if unduly sophisticated and/or research-oriented efforts need the balance to focus on the basics.

The PVO can further serve as an advocate for the PHCW and for the community itself. While training community health workers (CHWs) in consciousness raising and community development has its sensitivity, the community which believes in its rights will make better use of the existing health services. The PVO can initially advocate before authorities, the Ministries and others for the community. Later, it can train the CHW to assume this role independently. If current health services are overcrowded, the advocacy role can lead to pressure for increased services and facilities. In addition to orienting and advocating the community to use health services, they can also link it to opportunities

in agriculture cooperatives, credit and other sectors. Another contribution can be the moral support PVOs can give to PHCWs, their trainees and supervisors. Although moral support is needed during the planning and training, it is particularly needed during the implementation phases. After the initial excitement wans, the Ministry of Health speeches are over, and the certificates are awarded, the PHCW settles into a routine of hard work, often with great responsibility, decreased supervision and little or no recognition. PVOs can support periodic continuing training sessions, and provide stipends and other incentives to keep the PHCWs' interest high. Contributing to the ongoing supervision of PHCWs is another alternative. Through ceremonies and perhaps through less formal recognition during community, cooperative, mother's clubs and other meetings, the PVO can extoll the importance of the PHCW and thus support their morale.

Financial support by PVOs can take several alternative approaches. The PVO can exclusively fund the PHCW training and supervision and support them over time. Some PVOs, however, prefer to use their flexibility to provide "lead time" funding to set in motion the initial stages of large promotion programs--which anticipate major institutional funding in the near future. They can provide complimentary funding, adding small but important items, such as cold chain equipment and measles vaccine to projects of larger agencies where these needs were not anticipated or funding was not adequate for complete coverage. Complementary funding can also supply clinic services, construction and equipment, bolstering the capability of the system to handle referrals of the PHCWs. Emergency or special funding can also be provided by PVOs for sophisticated drugs, intervenous fluids or surgery when the needs arise.

In summary, the PVO can enter the arena to support the PHCW in initial, intermediate or later stages. They can work alone or can collaborate with other agencies. Their dedication, focus on the basic services and constancy of interest and support are great assets to the development of PHCW programs. Their credibility within the community fosters sincere cooperation and encourages the use of the PHCW as a major force in the improvement of health care.

INCREASING THE ABILITY OF PRIMARY HEALTH CARE WORKERS TO ACT EFFECTIVELY: PRIORITIES FOR FUTURE RESEARCH AND ACTION

Davidson R. Gwatkin

Seminar Speaker

Different perspectives are important, it is said, to promote new and innovative thinking. This is a point of view that is about to be severely tested.

The following three propositions are from an "armchair researcher" describing the current situation and priority needs with respect to the recruitment, training, and supervision of primary health care workers. It is hoped that these propositions will provoke new perspectives regarding the implementation of primary health care.

Proposition I: A great deal is known about how effectively to select, train, and supervise primary health care workers.

On the matter of recruitment, we have been told time and time again that locally-recruited indigenous people with characteristics, backgrounds, and outlooks similar to those of the people to be served are likely to be the most effective workers. Thus, for example, when mounting a family planning education effort, it is generally established to be far more effective to rely on older women from the community concerned who would have themselves borne children than it is to employ, say, well-educated but inexperienced young men or women from urban areas. The reason for the emphasis of such affinity is that personal relationships are extremely important for the provision of primary health and related services, and these are likely to be much easier to establish when provider and patient are both from similar backgrounds.

With respect to training, Joe Wray, Janet Wilcox, and this author concluded in our 1980 review of ten private primary health and nutrition care projects,[1] that several characteristics of their training programs appeared to be important. "Although important differences existed and full details were not always available," we wrote, "the most successful training programs . . . shared several common features. They were developed by health professionals thoroughly familiar with local problems, having themselves dealt with such problems under field conditions. Formal training was usually brief and carried out close to the homes of the trainees. Greater emphasis was placed on active, on-the-job training guided by experienced workers who were themselves capable of performing the required tasks within the constraints imposed by local conditions, and the initial training was reinforced with intensive continuing education based on frequent and regular meetings of field workers and supervisors." The experience of others reinforces these points.

Concerning supervision, there seems to be general agreement about the desirability of participatory processes which involve the workers themselves in making decisions about the tasks they are to perform and in

assessing their own performance. The idea is not simply to promote greater productivity on the part of health care workers -- although that is obviously a very important objective -- but also to provide important feedback to higher-level project personnel. Consistent with this general outlook, supportive supervisory practices seem generally considered greatly superior to authoritarian/directive ones based on punitive measures against those workers failing to measure up to specified norms.

Added together, these points constitute an impressive body of knowledge.

Proposition II: Little of what's known about primary health care worker recruitment, training, and supervision is effectively implemented.

Important as the points listed above may be for the selection, training, and supervision of field workers, they are honored much more in the conference room than in the countryside, more in breach than in practice.

This is especially so with respect to large-scale governmental organizations. The civil service rules and regulations which seem to rule supreme everywhere exist in and create a world of their own, far removed from considerations of program effectiveness. Educational qualifications continue to dominate the recruitment process, effectively ruling out any room for other, more relevant kinds of qualification. The hospital-based specialist medical professors are given the responsiblility for preparing training curricula for village-level health workers whose needs they cannot possibly understand. Organizational structures continue to be predominantly hierarchical, with most important decisions being made at the top and communicated downward through impersonal, authoritarian directive.

In the private sector, things are probably not so bad. Certainly, some private voluntary organizations seem very good. But not all are. There are some in which the personnel practices appear little different from those of the governments caricatured above; and no doubt there are many others whose overall approaches are also far from meeting the ideal described in the first proposition. Further, the apparently greater effectiveness of many private programs seems as much a result of size as it is of enlightenment. That is, one cannot help but wonder whether even the better private voluntary organizations would be able to maintain the effective approaches to personnel matters that they do were they faced with the challenge of serving ten million people with limited resources.

Proposition III: The highest priorities for research and action are to find out why what's known is not effectively implemented and then to do something about it.

If there's anything to what has been said thus far, the principal need of the moment is not to search for newer and better ways of recruiting, training, and supervising field workers. For we already know a great deal. But very little of what we know--or at least of what we think we know--is being effectively implemented.

This being the case, those of us concerned with primary health care would be well advised to attach a much higher priority to finding out why what we now know isn't being put into practice and to doing something about it than to efforts to find out still better ways of doing things that would go unimplemented even were they to be discovered.

A first step is a careful look at governmental bureaucracies which are at the center of organized primary health care provision today and which, for better or for worse, seem highly likely to continue occupying that central position over the decades ahead. How do governments receive information about new personnel practices? What factors do they take into account in evaluating them? What features make some approaches look attractive and others unattractive? The point of asking such questions, of course, would not be simply to seek understanding for the sake of understanding. It would, rather, be to identify those features of more effective recruitment, training, and supervision approaches that might appeal to the responsible government officials, and to develop workable strategies for introducing them into governmental systems.

A second line of inquiry would begin with a look at the approaches we think superior, as described in the first proposition, to determine their relevance for large-scale programs and to develop ways of adapting them in cases where their relevance is questionable. Ad e and effective as many of those approaches may have been when in ted by inspired leaders and in congenial organizational settings, work-ability in the more typical settings of large-scale programs remains uncertain. It is extremely difficult, for example, to run an organization of 100,000 people without a rather comprehensive set of written rules and regulations if workers are to be treated equally and fairly as required for the maintenance of organizational morale and effectiveness. Rather than blaming only the absurdities to which large-scale organizations are prone, it would be well to examine also the practices themselves, to see how they might be made more congruent with the constraints under which large organizations will inevitably labor.

Movement in the directions suggested here will certainly not be easy. However, efforts such as these represent the only alternative to the futility of continuing to develop effective approaches that are widely admired in principle, but almost universally ignored in practice.

NOTES

1/Gwatkin, Davidson R., Wilcox, Janet R., and Wray, Joe D., Can Health and Nutrition Interventions Make a Difference? Washington, D.C: Overseas Development Council, Monograph No. 13, p. 20, (February 1980).

PRIORITIES FOR FUTURE RESEARCH AND ACTION

Donald C. Kaminsky

Seminar Speaker

Given that the following pre-conditions necessary for introducing primary health care workers into a primary health care delivery system have been established:

--a government has formally stated its commitment to the primary health care system,

--a degree of decentralization in decision making is operating, recognition exists that primary primary health care will differ from region to region according to climatic, economic, social, cultural, political, biologic, and other factors, and therefore policies will need to be formulated after investigation and in response to local variations, and

--a philosophy exists that the health system will work with and not for the population,

we may state that the goal of our research in primary health care is to confirm and expand the present body of primary health care knowledge, which, in turn, will contribute to improved health care for more people.

Each of us will probably have a different frame of reference and various reasons to be interested in research or evaluation. Project participants are interested in research as a method of project improvement, and they are concerned that research will not be a burden on the project. Sponsoring and donor agencies are interested in research as a step toward generalization, transfer, and application (i.e., replicability) with considerations for cost-effectiveness; researchers are interested in contributions to methodology and testing.

What types of research are possible? A partial list includes:

1. Audit and compliance studies

Primary health care workers will be trained to undertake a large number of service activities. Health promotion, simple diagnosis and treatment, and health education services, among other activities, require auditing to assess their frequency of delivery, the manner in which they were delivered as related to guidelines and continuity of service. Patient compliance studies related to drug utilization and health promotion/education would be of interest. Compliance could be compared between categories of primary health care workers on a team, groups of primary health care workers in different settings, or between primary health care workers and other health providers. For example, the study

of tuberculosis medication usage and regularity of receipt of penicillin prophylaxis for post-rheumatic fever patients would appear to lead to improved quality of care at primary health care levels.

2. Description of training and service programs

Descriptive research has as its objective the confirmation of facts which are assumed to exist or the discovery of new facts. It is the simplest research to carry out and it is not explanatory research, which attempts to find relationships between and among facts so that it can offer explanations for what happened and suggest reasons why relationships exist. Descriptive research will often precede explanatory research and help as a baseline; it is appropriate in the present state of development of primary health care services.

3. Clinical topics

A number of specific clinical problems are considered to be within the domain of activity of the primary health care worker and system. These problems include diarrheal disease, nutritional problems, and common skin ailments. Research into diagnosis, treatment, and prevention modalities, including the use of traditional practitioners and remedies, is necessary.

4. Psycho-social issues

Primary health care offers an endless set of psycho-social issues for study. Psycho-social stress for practitioners of primary health care at all levels, lay support for primary health care delivery, patient mobility and consulting behavior within a primary health care system, study of the recognition of community mental health problems, and the support system offered to primary health care workers are some of the innumerable issues one might research.

5. Patient attitudes

Knowledge, attitude and practices studies should be done as a baseline activity for any community development program, including primary health care projects.

6. Management, including personnel utilization

First, what are some of the major issues which impact upon any research effort?

a. Who should have responsibility for the research? This issue depends upon the different expectations, as previously defined by donors, project implementors, and researchers. Only when these three groups come together and discuss their mutual concerns and constraints can negotiations lead to a research design which will satisfy the group. Any of the groups may be responsible. We simply need to designate who, why, which one, and for what reason.

b. How can the community be assured of a voice in the research proposal? This is an issue requiring study. It is just as important that the community express its views and opinions in the planning and operation of a research project in primary health care as it is for the community to be involved in planning the service activities.

The community may not want evaluation or research, the local authorities may not want national leaders to push research on them, and the local primary health care workers may be wary of research and threatened by it.

c. There are many practical issues which revolve around trainees:

(1) Do they have to train or conduct research outside of normal work hours? If so, is this consistent with the legal code and will they be paid extra? Some experience has shown that if one expects health workers to practice outside of their usual working hours, extra benefits need to be provided. It is a better policy to plan training and research within the normal work day. The above assumptions require testing in each local situation.

(2) Does the trainee need to travel to the training site or is the training team brought to the worker?

(3) What should the length of training be? If one expects the trainees to stay away from their families for any significant length of time, modules of training may be provided for short periods. These periods will differ for the housewife, village midwife or agriculturalist. The specific requirements for a system in any given location requires study.

d. Should resources be spent on research which may reveal change only after a significant time lag or on operational research aimed at emphasizing a management system with rapid feedback for decision makers?

The most critical issue requiring research around the world is: can a well qualified "superworker" be created who will be the cornerstone of a primary health care system? Studies must be implemented to investigate the mix of categorical and integrated services which may be carried out effectively by a specific worker type in a specific country with its specific health problems. This author is a firm believer in the concept of integration of functions within a sector and cross-sector when possible, but only after research has shown the expectations which we should assume in a given setting. The tools of task analysis and functional analysis are two study methods to assist us in research into new role allocations.

The second priority is for research into management and supervision functions and training. Primary health care is based on the efficient utilization of limited resources, yet the areas of management and supervision have been sorely neglected to date in establishing programs and training. The person managing primary health care activity in a community must know how to manage and to understand how those activities fit into the overall functioning of the health system. This knowledge is just as important and perhaps more so than knowledge of the local area which the national health planners must have.

Management and supervision research and training is required at all levels of the health system. Who needs this training more than the village health worker who is expected to perform multiple functions and coordinate various resources and who is probably least qualified in the basic tools of management? The community leaders themselves need training in management as do the supervisors, the government and university staff, and the students of health-related professions.

Research on different supervisory patterns in different settings should include the following questions:

1. Should the job be full- or part-time?

2. Should the work be voluntary or paid?

3. What should the compensation be?

4. Should there be an incentive program and if so, of what kind?

The third important priority area deals with continuing education. How often should one train and retrain in essential knowledge and skills? The elements to be studied are the frequency and the manner in which we should update information, reinforce prior training, present new information, and replace old information.

Finally, there is a priority need to study a community's satisfaction with the knowledge and skills of a primary health care worker after he/she has worked in the community for a period of time. In the ultimate analysis, it will be this satisfaction or dissatisfaction which will define the utilization of the primary health care worker, no matter how well or how poorly he or she is trained.

What every program needs is a mechanism to determine if services and training are effective. Maybe the word needed here is "proper management" for primary health care service training efforts because proper management will always define a system with a feedback loop to examine output compared to objectives. Then there will always be research and education built into the programs.

Universities and Ministries of Health are required to lead the way in classical research. It is necessary that a closer relationship be developed between the university [illegible] and the service system so that lessons

learned can be applied to change the system and vice versa. An advantage in the university system being interested in the primary health care activites is that their students will be the top level decision makers and in some cases, supervisors and trainers in the primary health care system. Their interest and support is important to the success of a true national effort. University student exposure to a primary health care system's training methods and expectations is important for the system's support.

In summary, all individual groups need to assess the research potential within their projects and they need to consistently plan for research activities as part of program activities to improve changes for optimizing project results. Some individual groups will decide to perform "pure research," dependent upon their resources and preferences, but all should undertake operational research. Funding agencies need to reinforce the need for research and to understand the different perspectives of funders, project implementers and pure researchers toward research. The agencies need to assure that a major commitment is made to financing priority areas of research and that significant funds are available for the variety of research efforts necessary.

No matter where in the world we direct our efforts, we must consistently seek new knowledge which will assist all of us in reaching the goal of "Health for All by the Year 2000."

III. MANAGEMENT AND SUPERVISION OF PRIMARY HEALTH CARE WORKERS

TASKS REQUIRED FOR TECHNICAL MANAGEMENT AND SUPERVISION IN RURAL HEALTH AND DEVELOPMENT PROGRAMS

Royal D. Colle

Plenary Speaker

Since there is no clear scientific definition of paraprofessionals, the term may include the kind of community health worker who has less than a year's training, and who has a large measure of day-to-day autonomy in providing health services to rural low income population. While there is a wide variety of local practitioners, a recent study concentrated on those who are part of an organized health system--usually its most peripheral service point--rather than independent entrepreneurs such as traditional birth attendants.[1/]

The study dealt with several aspects of the paraprofessional situation: roles, recruiting, training, compensation, supervision and support, and local community participation. Data was compiled and analyzed from an extensive collection of project documents and six case studies from Senegal, Upper Volta, Guatemala, Bolivia, the Philippines, and Sri Lanka. To these were added perspectives based on field experience, and those of others expressed in publications and personal communications.

One of the striking paradoxes emerging from the study was the very great stress put on the importance of supervision, compared with widespread failure to commit effort or resources to instituting strong supervision systems. The reasons vary from place to place, but inevitably they include the following:

1. Personnel shortages

Several factors contribute to the deficiency of supervision of paraprofessionals. One is simply the shortage of personnel. In Guatemala, Rural Health Technicians who supervise health promoters were supposed to be responsible for 6-10 villages, but as the program evolved, the technicians were covering as many as 20 villages. In our Sri Lanka case study, the Gramodaya Centers which are designed to assist local groups in their development efforts were originally expected to serve 10 to 15 villages within a 10 mile radius; in practice they were serving 30 villages located as much as 20 miles away.

2. Transport

The shortage of supervisory personnel is made more acute by another frequently occurring situation: a shortage of transportation resources. This presents a paradox: those paraprofessionals who are farthest away are frequently the ones who need supervision and support services most,

yet they are the hardest to reach. A Primary Health Care Strategy Proposal for Ghana responds to this problem by acknowledging that the greatest cost of the system will be transport. While a well-developed public transportation system in Sri Lanka makes supervision there physically possible, the time and expense involved discourage frequent visits by supervisors to the more distant villages. In fact, transportation problems in terms of fuel, vehicles, distances to cover, and state of roads were cited as the major constraints to regular supervision in all of our case studies.

3. Qualified supervisors

Another difficulty in supervision is the question of who should do it. Perhaps the most accepted pattern is to have a professional (doctor, nurse) travel to a service site making personal, face-to-face visits. Such professionals, however, may be inappropriate supervisors since they often are unwilling to leave their city environments, are unfamiliar with rural conditions, are disdainful of the paraprofessional concept, are overloaded with their own tasks, or simply feel that other activities have higher priority.

The Principal Tasks

We concluded that there were several key tasks that need to be accomplished before supervision systems can be designed which will be successful in overcoming these and other serious obstacles. We will identify them first, and then discuss them in greater detail later. The tasks include:

Ranking the most important elements of supervision for a given program. Not all programs have the same requirements: for some, control will be most important, for others in-service education. This task assumes completion of a vital, related task: making clear precisely what we mean by supervision, and what we hope to accomplish by it. There is a temptation to protest against what seems like an abstract semantic academic exercise of "defining terms," but the failure to indicate specifically what kinds of back-up will be given to paraprofessionals results in a lack of creativity and ingenuity in designing supervision systems that work. So most supervision ends up being dependent on a face-to-face system in which supervisors are supposed to visit field workers, or field workers are periodically supposed to visit a clinic or center to get in-service training and turn in their records. It's a "system" which does not face today's realities.

This relates to the second task: identify available mechanisms which might be used for supervision and specify to what extent each might contribute to the objectives. Our research suggests that existing arrangements need to be re-examined and alternative supervision patterns developed which better fit the needs and realities of rural development programs. Local officials, specially trained supervisors, "advanced" paraprofessionals, and communication media are a few of the possibilities. For example, it may be practical to shift some supervision

responsibilities from conventional in-person, on-site supervisors to a system using communication technology such as two-way radio, or to the community itself.

Once the first two tasks are done, the third is to mobilize training and related resources for those mechanisms being used in supervision. Use of the planning matrix suggested below will help clarify more specifically what this entails.

The fourth task concerns overall support from the entire health delivery system. It is essential to provide front-line workers with a continuous support system to go along with supervision. This requires a commitment to the paraprofessional concept, which should be formalized in a policy statement noting why paraprofessionals are needed, how they will be used, what resources are necessary, and what will be available to the program.

The Anatomy of Supervision (TASK I)

In carrying out the first task, it is essential to ask: what do we want to accomplish with supervision. Based upon our data, the following list specifies some of the various functions of supervision. Others could be added. Analyzing supervision in this manner allows for a more complete accounting of the various functions supervision can play in a paraprofessional program.

1. Legitimation

Personal, on-site visits by supervisors help establish the paraprofessional's legitimacy and credibility in the eyes of villagers. The significance of this became especially clear in our field studies. For example, in Guatemala, while a paraprofessional indigenous to the village is trusted more than an outsider, villagers see him as a peer who has no special knowledge or resources. The acceptance of paraprofessionals as legitimate service providers is not automatic. Their credibility and authority are enhanced when villagers have visible evidence that their community health workers have access to outside "experts" and resources.

2. Protecting role integrity

Given their non-professional status, paraprofessionals are in particular need of a system for preserving the integrity of their work. A supervisor can explain to a community and its leaders the health worker's responsibilities, thus showing how the person can contribute to the community while also defining the limits of the demands that can be made on the paraprofessional. The supervisor may be in a position to reduce or resolve tensions or conflicts resulting from different expectations about the role.

3. Motivation

Paraprofessionals (like everyone else) need to be encouraged in their work. Because most paraprofessionals are working in isolated areas

with little material compensation, sustaining motivation and morale are constant problems. Their initial enthusiasm tends to wane as the job becomes routine or when they encounter continual frustrations. Offering emotional support and encouragement is considered by most persons working with paraprofessionals to be a critical element of supervision. Also, motivation by the supervisor may be as important for villagers as for the paraprofessional to make a community-based program work, a factor observed in our Senegal case study. Villagers, for example, need to have reassurance that the health worker can deal with their problems.

4. Education and guidance

One of the most important function of supervision is to provide the paraprofessional with continuing education and guidance. Since the paraprofessional's pre-service training inevitably is insufficient on its own, most programs purport and intend to provide additional training after the person begins work. This may be done by having the paraprofessional travel to a training or administrative center, or by having the supervisor carry out systematic or ad hoc training in the field. Such a continuing education process is essential, not only for learning new skills to meet changing situations, but to reinforce knowledge and practices already covered by training. For example, research from India and Guatemala indicates that without supervision, trained midwives generally revert to their old methods.

5. Technical assistance

Paraprofessionals often encounter special problems for which their pre-service or in-service training did not prepare them sufficiently. An important feature of some supervisory systems includes ready access to diagnostic assistance and to expertise for dealing with such problems. In the Farmer Scholar program in the Philippines, for example, paraprofessionals are backed up by roving agricultural specialists who can assist in solving problems which are beyond the capability of the farmer scholar.

6. Linkage

An important function of supervision is linking the paraprofessional to resources--material and technical--beyond those available in the community. These may range from linkage to credit for agricultural inputs, to linkage to specialists for combatting crop disease; from linkage into referral channels to linkage to medical supplies for health programs. In Senegal, for example, regular supervision includes assisting village members and village health workers order and pay for replacement stocks. While paraprofessionals themselves may routinely be responsible for linking community needs to external resources, the initial contact and establishment of regular channels (such as for referrals) is probably best done by the supervisor who has greater status and power.

Equally significant as a linkage function is making paraprofessionals feel part of the larger body or agency with which they are associated. In Sri Lanka, for example, although district field workers have no

special preparation for supervision and thus are not able to address some of the critical problems facing the paraprofessionals, our research revealed that just their visits encouraged the workers, making them feel an important part of their Sarvodaya Movement.

Linkage operates in other ways. Supervisors can serve as communication channels between and among paraprofessionals and other agency personnel, contributing to a spirit of team effort; supervisors may also serve as advocates for the paraprofessionals in their relations with higher organizational levels, an important and necessary function given paraprofessionals' lack of professional status and often isolated existence.

7. Monitoring and control

This function includes administrative activities related to the paraprofessionals' day-to-day delivery of services. It may, for example, deal with the character of the service itself, or with the specific performance of the paraprofessionals. In Guatemala, the Rural Health Technicians seem to be instrumental in the health promoters maintaining a balance between curative and preventive health services. Monitoring paraprofessional performance and the development of the program, checking the distribution and maintenance of supplies and equipment, as well as such administrative tasks as collecting and recording data and paying salaries all may fall within the supervisor's responsibilities.

8. Evaluation

This is identified by many as an important responsibility of supervision, but there is little evidence, either in our case studies or other project documents, to indicate that evaluation of paraprofessionals has been systematically or rigorously implemented to any significant extent. To assure that paraprofessionals are performing satisfactorily, and to provide data for making appropriate planning decisions and for assessing the cost-effectiveness of a paraprofessional strategy, on-going evaluation needs to be a part of the supervision package.

Mechanisms for Supervision (TASK 2)

Several examples indicate the possibilities of using alternative mechanisms for supervision. The following list does not pretend to be exhaustive.

1. Intermediate level personnel

Inasmuch as professional level staff are unable, unavailable and in some cases unsuited for supervisory assignments, particularly in rural areas, increasingly efforts are being made to augment the personnel system to accomplish more and better supervision. A notable example is the introduction in Guatemala of a new level of auxiliary personnel, the Rural Health Technician (TSR). Recruited from the rural areas and restricted by law to health practice there only, the TSR serves as an intermediary between the health promoter and the health center. An

explicit and significant part of his training and responsibilities relates to the supervision of health promoters (unlike the physician for whom this kind of supervisory responsibility becomes an added task).

Other programs are remedying the lack of suitable supervisors by upgrading experienced, competent paraprofessionals into supervisory positions. Their demonstrated ability and motivation in working in rural areas and their knowledge of the paraprofessional environment often make them sensitive, capable supervisors. Behrhorst in Guatemala notes that a promoter elevated to the supervisory position does a better job than the MD who makes personal visits. Behrhorst attributes this to the promoter's experience and his cultural affinity to the paraprofessional in the field.

2. Community supervision

In an effort to create community-based programs, to make paraprofessionals more accountable to their constituents, and/or to compensate for the lack of supervisory personnel, some programs are looking to communities themselves to carry out some supervision functions either through local committees or through local leaders. This approach is tied in with the current emphasis on "local participation" in rural development. Our research indicates that such supervision--the form it is to take and the means for implementing it--remain largely undefined. Consequently, where some supervisory activities were to be the explicit responsibility of communities, these functions frequently have not been carried out. Rural communities often lack the experience, organizational sophistication and, most important, the information needed to take on the responsibility of actively guiding, supporting and monitoring the paraprofessional. The challenge is to clarify and make more explicit what the community's responsibility should be in supervision and how it will be realized. These issues need to be carefully analyzed and clarified during the planning process.

3. Communication media

When supervision is analyzed according to its sub-parts as indicated in Task I, possibilities for modifying conventional face-to-face on-site practices become clearer. For example, in the Basic Village Education program in Guatemala (a project designed primarily to help farmers increase their agricultural output), audio cassette tape machines were used to supplement conventional in-service training by a supervisor. This arrangement substantially reduced the amount of training the supervisor had to do. In Colombia, radio broadcasts to the public were used to enhance credibility of health promoters in dealing with nutrition matters. This reduced the need for the supervisors to legitimize the promoters. In the Philippines, "nutrivans" equipped with a video tape deck, a television monitor, and a driver are carrying out some responsibilities normally considered those of a supervisor, such as providing training and technical information support to field workers. In Alaska, two-way radio provides community health workers with access to expert diagnostic help.

In all these cases, communication technology was used to do some of the supervisory tasks conventionally done (if at all) by in-person on-site visits. By using communication media, some aspects of supervision can be done more frequently or on a different schedule than might be possible if they had to depend on an on-site personal visit of a supervisor. For example, continuous motivational reinforcement can be given to remote rural promoters through radio spot announcements or dramatizations which highlight the role being played by promoters.

Planning and Training for Supervision (TASK 3)

It is clear that there is not a single model or even a best model for organizing supervision of paraprofessionals. The nature of the supervision mechanism will be influenced by a range of factors, such as the nature of the health workers' role, conditions of their employment, amount of training, number and quality of supervisory personnel available, structure and capabilities of the local community, funds available for salaries, training and transport.

What seems most important from a planning perspective is to disaggregate "supervision" into its essential functions as we have suggested and identify available or accessible means for best accomplishing their objectives. The "means" may include: (1) professionals from outside or within the community itself, such as MDs, district agricultural officers, school teachers; (2) subprofessionals such as auxiliary nurses, extension assistants, supervisory technicians, or upgraded paraprofessionals; (3) community members such as those forming a supervisory committee, local leaders or senior paraprofessionals; or (4) communication technology such as radio, newspapers, or cassette tapes. A mix of these various "mechanisms" will probably provide the most effective and efficient system of supervision for paraprofessional programs.

We could propose an "ideal" system but it would either be too general or too site-specific to be useful. The challenge in program planning is to establish a system which accomplishes the necessary objectives of supervision according to the given situation, while being affordable and acceptable to the various constituent parties. Use of a simple planning matrix will make explicit the variety of supervisory mechanisms available and indicate specifically who will have responsibility for which different supervision components. It will also suggest where there may be deficiencies in the system to sustain the kind of supervision needed by the program. A sample matrix is shown in Diagram I. Potential supervisory mechanisms have been listed across the top of the matrix. Others could be added and/or some eliminated, depending on the particular situation.

The vertical listing includes the various supervisory functions discussed earlier. These are in rank order for this illustration. Again, situational factors might dictate a different order. In this exercise we have placed numbers in the matrix to indicate how heavy a burden a particular mechanism would carry in various of the supervisory responsibilities. Numbers could be used in a similar matrix to indicate how well the mechanism might handle the functions. Obviously, a completed matrix would look different for different programs or communities.

Examination of a completed matrix would help clarify several important issues: which important supervision functions are not being handled; where does the emphasis need to be put on training and resources to make supervision effective; and what are the duties that need to be made explicit for the different mechanisms. Regardless of who provides supervision, they need training in their tasks and responsibilities. Likewise, they need job descriptions which serve not only to clarify the role, but also provide a basis for designing an appropriate training program and for assessing performance.

The kinds of persons required for in-person supervision might be made more flexible if it were accepted that media or other agencies could carry some of the burden. For example, older persons with good experience but less suited to the rigors of travel to remote territory could be employed. More community health workers might be given personal on-site supervision if some supervisory functions were assigned to other parts of a supervisory system.

The Support and Management System (TASK 4)

The fourth task concerns clearly relating community health workers to the total enterprise. Relatively few aspects of any rural development program are well funded, and support services for projects using paraprofessionals are no exception. Indeed, it may be a more chronic problem with these kinds of projects because of several factors: (1) the use of paraprofessionals may be seen as a cheap solution to a problem, and once the paraprofessionals themselves are "in place," the problem is perceived as being solved; (2) additional resources may be considered to be the problem of someone else; and (3) the clientele of these programs generally have little power or influence over those who ultimately control the resources.

Our six case studies found, as in other development efforts around the world, that the paraprofessional's ability to perform effectively was hampered by: under-financing; excessive red tape and delays in releasing materials and funds even when they are budgeted for; difficulty in establishing reliable supply lines to isolated, rural areas; poor coordination and cooperation among service agencies working in the same area; and ambiguity about who was responsible for what. As a result of these kinds of conditions and because they lacked resources--particularly knowledge, supplies and equipment--to perform their jobs, the paraprofessionals in a majority of the villages in our study were greatly underutilized. Paraprofessionals commonly express a desire "to do more for our villages" but feel thwarted in their efforts.

Their potential will continue to be unrealized until paraprofessionals receive reliable support from their sponsoring agency. Tacking paraprofessionals on to an existing overstrained structure is clearly not the answer. Paraprofessionals are only as good as the support unit immediately above them; and that unit depends upon the level above it, and so on. All levels in the program need to be strengthened and re-oriented to changes in the service delivery system. Specifically, instead of diminishing the size and capability of support units as one moves away from

central cities, serious consideration needs to be given to strengthening the peripheral operations that sustain those actually providing services to consumers.

Without this commitment at the highest policy-making level, including a clarification of the program's relationship to other programs and agencies, and without the establishment of linkages among international, national, regional and local resources, the paraprofessional strategy will continue to be compromised.

Diagram I

Planning Matrix for Supervision of Paraprofessionals

	Supervisory Mechanisms							
Supervision Functions (in priority order for a hypothetical situation)	Doctor or Nurse	Local Village Official	Community Committee	Local Radio Broadcasts	Two-Way Radio	Professional Supervisor	Audio Cassette Recordings	Other
Motivation	3	4	3	3	2	4	2	
Education/Guidance	3	0	0	2	2	4	4	
Technical Assistance	5	1	1	1	5	1	2	
Linkage	2	3	3	0	3	3	0	
Evaluation	3	3	4	0	0	4	0	
Legitimation	5	0	0	4	0	2	0	
Monitoring/Control	1	4	3	0	1	5	0	
Role Protection	5	4	4	0	0	4	0	

* Numbers indicate how much of the supervision responsibility will be carried by each mechanism. Higher numbers indicate a larger amount of responsibility. Numbers in this example are for relative ranking only and have no absolute value.

Some interpretations for planning:

1. The key medical participants will spend most of their supervisory efforts on technical matters.
2. Local officials and the community committee will need training in organizational management.
3. Suitable people need to be trained on both ends of the two-way radio system to process diagnostic and referral information reliably.
4. The function with least back-up is "legitimation" so it should be monitored closely, or add it to others' supervision responsibilities.

NOTES

1/Assistance for this research project has been provided by Cornell's Rural Development Participation Project supported by A. I. D. (AID/ta-CA-1). It is described in detail in Milton J. Esman, Royal D. Colle, Norman Uphoff and Ellen Taylor, Paraprofessionals in Rural Development, PP No. 1, Center for International Studies, Cornell University, Ithaca, N.Y.

PRACTICAL ASPECTS OF IMPLEMENTING TECHNICAL MANAGEMENT AND SUPERVISION OF PRIMARY HEALTH CARE WORKERS

Peter R. Carr

Plenary Speaker

Introduction

The term technical management is intended to emphasize the techniques which could be employed in the management of primary health care workers and does not indicate any special type of "technical" management which differs from other forms of management. In addition, the distinction between management and supervision is merely an indication of the different organizational levels at which the process of planning, organizing, implementing and evaluating of health activities takes place. It is not intended to emphasize two separate and independent processes. Depending on the organizational structure of the primary health care system at the field level, there can be a field manager supported by supervisory personnel in the delivery of primary health care services. In keeping with these general observations, some brief comments will be made on the concept of management as it relates to primary health care after which the practical aspects of managing primary health care workers will be examined.

Management and Primary Health Care

Management is the process of utilizing resources (manpower, money and materials) towards the achievement of specific objectives. This process is essentially the same in all forms of enterprises and at all levels of organization although the goals and environment may differ considerably. The main components of this management process are planning, organizing, staffing, directing, controlling and evaluating. These elements interact on a continuous basis in the execution of the management process in any organization. The overall purpose of the management function is to introduce changes in the environment and this is no less true for the management of primary health care services. Most primary health care systems are part of the public administration system of a given country. Since primary health care services are aimed at improving specific aspects of the health environment, the management process involves interaction with the sociological, political, and economic environments of the target population for the services being provided. The primary health care manager, therefore, has to make a careful analysis of all these environmental factors and develop objectives, strategies and plans of action that would not merely provide temporary relief for the particular problem but deal with the underlying causes to avoid or reduce the recurrence of the problem. This is relevant in such cases as malnutrition, water-borne diseases or health problems caused by poor garbage disposal techniques.

The management process is thus envisaged as a system which involves an interaction between the political directorate and the administrative (civil service) organization to determine policies and programs, and to make decisions on the use of financial, human and material resources in the pursuit of these policies and programs. The use of these resources results in an output aimed at improving the health and "well-being" of the community served. The extent to which the community's needs are met is assessed through a feedback mechanism which becomes an input to the decision-making process involving the political and administrative arms of the management process. All these actions have to be guided by the social, economic, financial, political and administrative environments and the culture values and traditions of the community served.

Primary Health Care

The World Health Organization (WHO) definition states that "primary health care is essential health care based on practical, scientifically sound and socially 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 at every stage of their development in the spirit of self-reliance and self-determination." The characteristics of this approach is that it forms an integral part of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system and constitutes the first element of a continuing health care process. It addresses the main health problems of the community, providing promotive, preventive, curative and rehabilitative services. It contains at least the elements of health education, food supply and proper nutrition, safe water supply and sanitation, maternal and child health (including family planning), immunization, promotion and control of locally endemic diseases, appropriate treatment of common diseases and injuries, and provision of essential drugs.

This definition outlines the main programs to be provided through primary health care and suggests some of the strategies which should be used in their implementation. These strategies include intersectoral coordination, in keeping with the concept of well-being, and community participation not only to enlist the support of the community in the planning and delivery of services but also to ensure that the services provided are appropriate to the community's needs and stage of development. As would be expected, the primary health care concept and consequently the composition of the primary health care team varies from country to country, depending on the human resources available. In Cuba, for example, the poly-clinic is the basic unit for providing primary health care, and is staffed by doctors, nurses, pharmacists, etc., while in poorer countries these services are provided by an auxiliary nurse. The management process will therefore vary with the quality of staff available and the type of health services provided.

The Management/Supervision of Primary Health Care Workers

The health environment

Since management involves the implementation of changes within a given environment, the first task of a primary health care manager is to understand the health environment under his jurisdiction. He needs information on the health status of the community (diseases, illnesses and health), the population of the catchment area by age groups and locality; births and deaths; housing, water supplies; schools; leaders and community organizations. He should also have information about the organization of the health services, of which his unit is a part, and of the health staff and other resources allocated to him. Some of this information may have to be obtained from other sectors while some may have to be collected from records and reports. In some cases simple house-to-house surveys may have to be organized to collect basic data about the community, e.g., household information, health and health-related information. It is important also to obtain information from the community about the people's health. Such information can cover the kinds of health problems and why they occur, the traditional health care available, attitudes and customs concerning health and illness and what people feel they need. In addition, it is useful to have information identifying the catchment area by population, topography, water supplies, health establishment, schools, etc. This data should be presented on maps which should be displayed in the district health centers.

Priority program--formulation and implementation

The analysis of the basic epidemiological and other data for the specific primary health care environment will indicate the priority programs which should be emphasized in the delivery of primary health care services. These will have to be guided by the national health priorities as stated by the Head Office of the Ministry of Health. However, these national priorities should only be used as guidelines since priorities should be determined on the basis of the health situation in the community in the catchment area. Frequently national priorities are determined without much participation of staff at the primary health care level and usually without the participation of the community. This has serious implication for the application of the concept of primary health care which stresses community participation and the decentralization of the decision-making process to the "grass roots" level.

The identification of priority health problems will inevitably involve collaboration with other sectors. For example, school health programs will involve coordination with the education sector, nutrition programs will require joint planning with the agricultural and industrial sectors, water quality control programs necessitates collaboration with national and local government organizations, while health facilities maintenance frequently has to be programmed jointly with government ministries responsible for public works. The achievement of this intersectoral coordination is one of the major tasks of the primary health care manager and in practice is easier to achieve at the community level than at the

central levels of the governmental system. At the community level the formality of "inter-ministerial organizations" is avoided, the scale of collaboration is smaller and the people involved know each other better. In addition, such intersectoral coordination at the local level is often better placed to find workable solutions to local problems than high-level inter-ministerial coordination committees. Such local intersectoral coordination however must have general policy support from the head office of the different agencies as where this is not present, it can result in the local personnel being forced to follow central directives and lacking the time and resources to devote to local coordination activities.

The elaboration of work plans for each of the priority primary health care programs is essential for the management of primary health care services. In each priority program area the nature of the problem to be resolved must be clearly defined. Such a definition should cover all aspects of the problem (administrative, social, economic, anthropological) and should be quantified where possible. Based on the analysis of the problem, clear, precise and practical objectives should be stated for each program. These objectives should be stated in measurable terms and should state the time period during which the objectives will be achieved. The activities required for achieving the objectives and the sequence and time required for each one of these activities should then be indicated. The activities should reflect the best strategies for achieving the objectives while the sequence and timing should be realistic. The activities should also include the development of indicators needed for evaluating the progress of the program and mechanisms for its continuous evaluation. The activities should also reflect the support needed from other organizational levels within the health services (regional, headquarters) and from other sectors and institutions. Finally, it should be clearly stated who is responsible for achieving each particular activity, what constraints are likely to affect the implementation of activities and the resources (financial, supplies, equipment, human) required for the achievement of the activity.

Team building in primary health care

One important objective of the programing of primary health care services is the definition of the activities required of health personnel. Traditionally the kind of basic training which the health worker receives has considerable influence on what he considers to be his duties in the work environment. In the past this has tended to compartmentalize health workers so that rural/district hospital staff tend to regard themselves as distinct and separate from health staff involved in health center/community health activities.

Further within the community health services the nursing staff and the environmental health staff, for example, function as separate entities. This is to a large extent caused by the emphasis on vertical/functional type organizational systems in which supervision of health workers is provided by senior personnel in the same discipline and not by supervisors/managers at the primary health care level. Thus the supervision of sanitarians, nurses, doctors, dental auxiliaries and pharmacists would

be done by senior staff in the same discipline, making it difficult for coordination of the activities of these disciplines at the primary health level. This kind of technical supervision is important to ensure conformity to established norms and procedures but can also have a negative effect on team building. This over emphasis on "technical" supervision sometimes reinforces the professionalism of each discipline and creates a situation where each discipline is reluctant, and occasionally aggressively opposes, the surrendering of any of its traditional duties. This is counter to one of the basic tenets of primary health management, which is that the performance of tasks should be delegated to the lowest possible level at which they can be competently performed. Consequently roles of primary health care workers are continuously being re-defined in keeping with the health needs of the community.

The strategy of community participation involves the recognition of traditional health workers (such as traditional birth attendants). In some health systems this is strongly opposed by professional groups who believe that such recognition would mean a lowering of professional standards. Where such personnel have strong community support and can not be replaced by more highly trained health personnel, they should be incorporated into the formal health system and provided with training that could improve their skills. Finally the building of the "team concept" in primary health care is important, especially when we are shifting from a "disease" oriented to a "health" oriented type of community health service. There is a lot more inter-dependence in the health approach. This inter-dependence can be enhanced by a team approach in the programming of health services so that, for example, the coordination between environmental health services and curative health services is clearly established.

Administrative support services

The administrative support services refer to the management of supplies (including drugs), finances, equipment transport and personnel. All these elements are essential for managment of primary health care services and must be closely coordinated with the planning and programing process. The basic steps in the supply management function are estimating of requirements and budgeting for them, procurement, storage and distribution. The need for clearly defined systems and procedures in supply management and the continuous monitoring of these in the delivery of primary health care services is one of the most important aspects of the management of primary health care services. Poor estimating of supply requirements, failure to budget for them, inadequate storage procedures (resulting in spoilage, etc.), failure to distribute on time, in the quantities and quality required, all these can wreck the successful operation of health programs.

Financial management at the primary health care level involves preparing an annual budget and maintaining an account ledger of expenditures incurred. The budget proposal indicates the financial resources required for program execution. Once this is approved, the bulk of it is administered at the central or regional level of the health services.

Usually the accounts kept by the primary health care level relate to miscellaneous supplies and other expenses, and are operated as an imprest. The important aspect of financial management, however, is for the primary health care manager to strive for community participation in the financing of primary health care projects and to prepare such projects for financing by organizations and individuals in the community. Some system of cost analysis of primary health care services should be attempted to indicate where the major expenditures are going, and to do some simple cost-effective analysis of services provided.

Maintenance of transport and equipment is another essential element in the managment of primary health care services. Transportation of health personnel to the community for the delivery of health services is of the utmost importance in the extension of coverage and frequently the failure of the transportation system results in the non-provision of services. The same comments apply to the use of equipment and the effect this has on service delivery. In both the case of transport and of equipment, health personnel using the equipment or driving the vehicle should be trained in the operation and the provision of simple routine maintenance. In addition, special systems and procedures should be established for the regular maintenance of equipment and transport, for monitoring and controlling the use of these items, maintaining inventories, developing efficient work under systems and training of staff to perform these functions. The management of transport and equipment is in fact one of the weakest areas in primary health care. The systems needed for efficient maintenance are known but there is a big gap in the application of these systems. The system of personnel management at the primary health care level should include the development of a clearly defined organization structure, job descriptions for each post, staff list and post lists, personnel data on the education and experience of each health worker, an appropriate performance appraisal system and training and development programs. Most of the time the primary health care services do not have all these elements so that the management of human resources becomes difficult.

The elements related to training and performance appraisal can be the most useful in developing and implementing the primary health care approach. Training is needed to orient staff and the community to the concept of primary health care and its implications for health care delivery. Also such training is needed to provide new skills to health staff in the programming of activities and the provision of increased skills to health personnel, to keep pace with their changing roles. Such changes are inevitable since the development of primary health care services involves delegating skills and responsibility to the lowest possible level at which they can be efficiently performed. Since health personnel also have to learn to work with the community, the best approach would be to select and train trainers at the local level and allow them to function as a resource in the training of other health personnel.

The staff appraisal system should be closely related to the allocation of work and to the development of work plans. It is an important tool for the motivation of staff and for building of morale and team spirit. Very often primary health care managers lack skills in the implementation of performance appraisal systems.

Concluding Comments

The Management of Primary Health Care Services involves a new and demanding approach to enhancing the "well-being" of the individual. It places greater emphasis than before on inter-sectoral coordination, the extension of coverage of health services, community participation and the team approach to health services delivery. The management functions involve planning, organizing, staffing, implementing and evaluating. The planning techniques suggested deal with the analysis of the health environment that needs to be changed, the identification and development of priority program areas with objectives, activities and resources. The management of the administrative support services (supply, finance and budget, personnel, transport and maintenance) is a complementary but vital part of the overall programing process.

However, the concept of primary health care is based on egalitarianism and implies a more even distribution of the goods and services in the society. It implies also, through community participation, the delegation of authority from the central to the local levels and the sharing of this power with the community. Not many governments are prepared to do this. It also implies a shift in emphasis from hospital to community-oriented services. However, the maintenance of services at the hospital will have to be continued because of the investment this represents and the importance of this service to the community. Since primary health care is labour-intensive, more money will need to be provided for extension. There is no doubt that, from a leadership point-of-view, the task is a much more difficult one than hospital/health management and special leadership training programs would have to be organized to meet this need.

SUPERVISION BY RURAL HEALTH TECHNICIANS IN PRIMARY HEALTH CARE IN GUATEMALA

Kenneth L. Bakken

Seminar Speaker

Supervision of health auxiliaries has been thought to be, and indeed is, a vital component in the successful management of any primary health care program. The goal of this study was to evaluate the content and role of supervision in a rural health care project in Guatemala. SINAPS, The Spanish acronym for an integrated system of nutrition and primary health care is the programmatic response by the Ministry of Public Health and Social Assistance in conjunction with the Institute of Nutrition of Central America and Panama to bring primary health care to rural Guatemala.

In this pilot demonstration program, 15 Rural Health Technicians (TSRs) supervise approximately 384 village-based Rural Health Promoters (PRSs), who provide preventive, promotive and simple curative services at the community level.

The objectives of the study included determining the content of supervision, and the time dedicated to it, as well as those characteristics of TSR supervision which effectively influence health care delivery in the community. Two general hypotheses and nine specific hypotheses were tested using the Mann-Whitney U-Test and Spearman's Rank Correlation.

Methodologically, the content of supervision was measured by time and motion study. Direct observation of the TSRs was completed by highly trained surveyors. All TSRs were observed for one week each. Observations at five-minute intervals were recorded on a specially designed instrument, which includes time, person, place, program, activities and tasks.

Style and characteristics of supervision were evaluated by observation checklists completed by the surveyors, self-ratings by the TSRs, and interviews of 135 health promoters. These three instruments were all based on 24 items (variables) in six indices dealing with supervision. The variables had been conceptualized and subjected to principal factor analyses during the pretesting phase of the study.

Three health output measures (measles vaccination coverage, arm circumference measurement, and contraceptive distribution) and two additional supervision indicators (PRS turnover rate and attendance at scheduled training sessions) were determined and summarized from the SINAPS Internal Information System. The six indices of supervisory characteristics and the actual time spent by the TSRs in various activities, based on the time and motion study, were statistically analyzed with this output data.

Results showed that percent of TSR supervisory time was distributed as follows: Teaching 5.8-29.9 percent; Planning 3.2-15.9 percent; Writing Reports 8.3-57.9 percent; Waiting and Amenities 9.2-45.5 percent; Travel 3.6-27.9 percent; Direct Service Delivery 0.0-13.6 percent; Logistics (maintenance and supplies) 2.1-15.3 percent.

Highly rated TSR personal attributes, as a characteristic or index of supervision perceived by PSRs, surprisingly do not significantly influence the delivery of health services, nor does relatively greater amount of time spent with health promoters. Quality of time is more important than quantity of time in this setting. It appears that TSRs who spent less time in all activities are more effective and efficient supervisors.

Both low health promoter turnover rates and high PSR attendance rates at training sessions are important factors in the effective coverage and delivery of health services. Coverage of arm circumference measurement for nutritional status was influenced by TSR span of control. The number for supervisor to agent ratio, which roughly divided good coverage from relatively poor coverage, was 22 health promoters per TSR.

A proper balance of time by a supervisor devoted to clerical duties (probably less than 25 percent), as well as sufficient amount of time spent in planning and consultation (greater than 9 percent), is required for optimal functioning of a primary health care program.

There is poor distribution and acceptance of contraceptives in the family planning aspects of the SINAPS program. A lack of effective communication, as well as health promoter religious affiliation, may contribute to the observed ambiguous results as regards contraceptives.

In general, with the exception of religious affiliation and per diem allowance, it appears that the rural health promoters in the SINAPS program do not differ significantly as a group, as characterized by demographic data, and that they are basically satisfied with their work. It also appears that there is no statistically significant variation in health promoters between TSRs. If real differences are detected in health care delivery and coverage, and health promoter turnover and attendance, they are probably not substantively influenced by the majority of the possible confounding variables, such as age, sex, education and civil status. Significant differences are rather primarily due to the TSR, his supervisory characteristics and his ability to act as an effective change agent. As a supervisor, the TSR can help the rural health promoter to communicate with members of the community by introducing new ideas and motivating people to change.

Additional implications for the study findings include selection criteria for supervisors and community primary health care workers. A supervisor who can set standards and norms, and then communicates their necessity and value, thereby increases attendance at regularly scheduled training sessions. If the supervisor is a good administrator, health worker attendance also increases. Increased attendance by health care workers results in improved health care services in the community.

Although personal attributes do not seem to be important per se, they are probably reflected in all of the supervisory characteristics studied. Therefore, one must be cautious in simply disregarding them when selecting and training supervisors.

The motives of and incentives for auxiliaries to work, especially as volunteers, must be examined closely. If it is realistically possible, only those workers who will remain on the job should be identified and trained. Increased turnover has a detrimental effect on health care services delivery.

Supervisors must be taught efficient and effective use of their time in compiling data for an Internal Information System. If there is an overabundance of clerical work, delivery of services suffers. Likewise, a sufficient amount of time spent in planning and consulting is required for good coverage in the community. Organizational skills must, therefore, be emphasized in selection and/or training of supervisors and their workers.

In identifying malnutrition in a targeted population, a smaller supervisor-to-agent ratio is appropriate. The supervisor may be a more effective teacher. He may be better able to detect coverage deficiencies and relate them to actual performance. Also within this context, the frequency of supervision must be considered. What is the appropriate balance between supervisory span of control and frequency and quantity of supervision? The data poses answers about the quality of supervisor/worker contact and the quantity of time spent during that interaction. There is reason to believe that a more effective supervisor, in terms of improved community health care, is a more efficient user of time. Under optimum circumstances, span of control, as well as frequency and quantity of supervision, will be at the point at which supervision costs in personnel and other resources provide the greatest benefits in health services delivery and coverage.

Overall, the SINAPS program is a well-conceived and viable approach to health care services delivery in rural Guatemala. However, this study has identified several important areas which should be considered in establishing recommendations needed for any primary health care program support, modification, introduction or re-emphasis.

Because supervision is a complex and multi-faceted process, the challenge of the study has been to explore several of its more important aspects. It is hoped that an increased understanding of supervision by health professionals will inevitably help to provide improved health care for the world's rural poor.

BUILDING THE SUPERVISION SYSTEM - EXPERIENCES FROM NEPAL

Jan Morris Hoey*

Seminar Speaker

Supervision as a Management Support System

Supervision in primary health care programs can be viewed as a management support system which helps the health service organization move toward its goals. Viewing supervision as a management system requires that objectives as well as parts and interrelationships of the system be established. Also required is the realization that if supervision in the primary health care program is to be improved it must be dealt with as a system; change in one part may be insufficient to improve overall system operation.

Objectives for the management supervision system must be derived from the objectives of the primary health care program itself. An example of a two part objective for a management supervision system might be:

Technical/managerial objective--to ensure and improve the accomplishment of specific tasks by health workers, the adequate coverage of populations, and the meeting of specific targets. This is a technical objective because training and skills are needed by health workers to carry out specific tasks. It is a managerial objective because support (supplies, salary and motivation) is needed by health workers to perform their tasks, meeting targets implies collecting information, and adequate population coverage implies a quantity of services to be delivered.

A second objective of the management supervision system which is neither technical nor managerial, but rather developmental might be:

Community objective--to improve health workers' integration into and support from the community served.

It is important to notice from what has so far been presented that:

--the supervision system does not provide health services itself but ensures and improves the provision of services by health workers. This requires supervisors to have new and different skills.

--the supervision system has technical, managerial and community aspects.

--to ensure and improve implies that the supervision system takes action to foster change.

*Co-authors are Shankar Aryal and Dr. Rita Thapa

--the supervision system concentrates on health workers; all the above objectives involve health workers. While other areas (supplies) may also be supervised, the supervision of health workers is paramount.

A Simple Model

A simple model of the supervision system can be used as a practical tool to help structure our thinking, even when dealing with a topic as human as supervision. In order for the supervision system to carry out its objectives there must be at least five interrelated parts:

1. Defined supervisory structure and adequate supervisory personnel
2. Sufficient incentives for supervision
3. Adequate amount of supervision
4. Appropriate content of supervision
5. Positive results of supervision

There are undoubtedly other factors which could be included in our simple model. For the purposes of this discussion only these five will be examined.

Defined supervisory structure and adequate supervisory personnel

There must be a well defined structure of supervisory levels and offices in the health service organization and these levels should be sufficient to ensure that no level is required to supervise too many units under it. This structure must then be manned by sufficient manpower. It is common to find health programs that have an adequate supervisory structure but an inadequate number of supervisors due to a lack of approved posts or vacant posts.

Often in primary health care programs the home bases of the supervisor and health worker are physically separated. Supervisee to supervisor ratios will vary depending on program and geographical factors, but it is probably unreasonable to expect any supervisor to directly supervise more than ten individuals (or any level to directly supervise more than ten units under it). Certain personnel may need to be assigned full-time to supervision activities while others may supervise only periodically. Local leaders or a volunteer health committee from the community where the health facility or health worker is located can provide a valuable form of "community supervision," supplementing that which comes from above in the organizational hierarchy. However, pleasing two masters may place the health worker in a non-unity-of-command dilemma.

A "Supervision Section" at the organizational headquarters may provide a valuable focus for supervision activities, records, materials development, and training.

The Community Health and Integration Project (CHIP) of His Majesty's Government of Nepal has a well defined structure of supervisory levels, offices, and posts. Nepal's geography requires that supervisee/supervisor ratios be low. Formerly, however, up to one-half of the supervisor posts were vacant while technical and administrative duties divert multipurpose personnel from supervision activities. Considerable progress is being made in filling vacant supervisor posts.

CHIP headquarters must supervise all 75 districts since no intermediate or regional level of supervision exists. The establishment, manning, and strengthening of a "Supervision Cell" at CHIP headquarters, which carries out its own work plan, provides a group of people who concentrate on strengthening supervision in the Project.

Sufficient incentives for supervision

Motivation is a critical management factor. Incentives to motivate supervisors, usually to leave their base and go on supervision visits are critical to maintaining an adequate amount of supervision. A common incentive in health services is the per diem/or travel allowance. It is also quite common, however, for the program budget to meet only a portion of the claims, for claims to be paid months late, or for payment rates to not meet actual costs incurred, making this incentive inadequate to motivate supervisors.

Approved and distributed supervision frequency guidelines or targets which supervisors are expected to meet and fixed schedules which a supervisor must submit and follow may also provide some incentive for supervision.

The opportunity to change or improve the program may be the best incentive for supervisors though all too often the supervisor is really not able in a situation to promote change.

In Nepal a bilateral agreement provided budget support for travel and daily allowances (TA/DA) and allowed many more CHIP supervision visits than would otherwise have been possible. The TA/DA rates, however, were generally felt to be less than costs incurred and thus an inadequate incentive. Insufficient incentives for supervision continue to be a problem in CHIP.

During 1979 and 1980 the CHIP Supervision Cell achieved more than 90 percent of its targeted supervision schedule which was developed and approved at the beginning of each year.

Adequate amount of supervision

An adequate amount of supervision is difficult to determine and certainly varies depending on the particular situation and level of the

health service. A rough estimate based on experience from Afghanistan and Nepal suggest that middle level offices (districts, regions) should be visited a minimum of four times per year to maintain successful management control; health posts and health centers a minimum of four times per year; and field level workers a minimum of once per month. It is important as well that the supervisor spend a long enough time on each supervision session to develop a sufficiently deep understanding of the current status and problems. The supervisor who runs in, spends a few minutes, and runs out without giving the worker time to speak his mind soon demoralizes his personnel.

Supervision seems to be looked on by many managers as an activity which can be displaced or postponed by the never-ending string of crises or administrative activities. This attitude leads to an inadequate amount of supervision. Involving local leaders or a local health committee in supervision may greatly increase the amount of supervision.

It seems that in primary health care organization supervision is an activity which must be "pushed down" from above, i.e. lower level supervisors will not go to the field unless supervisors are coming from higher levels to supervise them. Supervision at lower levels, therefore, will not be strong unless supervision at higher levels is strong.

In CHIP's dual purpose personnel, technical and administrative duties tend to displace supervision activities decreasing the amount of supervision. The Mid-Term Review, a survey undertaken by the Planning Unit of Nepal's Ministry of Health in 1979 showed that 76 percent of CHIP's village health workers felt they could do their work better if they had more supervision. Increasing the amount of supervision performed from CHIP Headquarters has seemingly "pushed" an increase in supervision from district and health post levels.

Appropriate content of supervision

An appropriate content of supervision will depend upon the specific tasks or functions the health worker, facility or office performs. It is clear, however, that taking action (problem solving, directing, motivating or training) is the most important part of the supervisor's job. One important (nonspecific) educational objective of supervisor training should be a demonstrated ability to perform an appropriate technical content of supervision.

There is both a technical and an interpersonal aspect to supervision. The technical aspect is easily structured by developing a checklist or form to be followed, and written guidelines describing what to do while supervising. The form or checklist must concentrate on the most important health worker activities and must be action oriented rather than simply for filling out or collecting data. It must be simple and short enough to ensure it is used. The form must directly mesh with other administrative systems such as monthly reporting forms, personnel records or supply books, already in use at the health facility. It should incorporate many other sources of information such as observation,

questioning, and discussions with service receivers. The guidelines should help the supervisor determine what action to take for most situations he meets.

Without these forms and guidelines to structure supervision content, a typical supervision session will often mimic an "army inspection," criticizing administrative or physical details with little concentration on the real quality or quantity of work.

The interpersonal aspect of supervision is not so easily structured. It is clear that people are the most important part of supervision, but how to help supervisors deal better with and be supportive of other people? Training which includes role-playing or field experience can be valuable. Choosing personnel having appropriate personalities for supervisory positions may be even more important. However, the most critical factor may be the guidelines mentioned above. By giving the supervisor concrete guidelines to follow he may be released from his uncertainty and anxiety over his role and thus deal more supportively with those he is supervising.

It is important at the end of the session that the supervisor leave behind in a supervision notebook his comments, recommendations, praise, needed actions or condemnations. Without a written record at the place of supervision the health workers will soon forget the results of the supervision visit. This also allows a longitudinal look at activities which is more important for effective supervision than a single session.

In Nepal supervision forms and guidelines were developed by observing the content and methods used by experienced "good" supervisors in CHIP and then formalizing these into written guidelines and checklists. The forms were then used by supervisors in the field and revised. Supervision notebooks were developed and distributed by the supervision cell including these guidelines and forms, background information, program targets, job descriptions, new circulars, policies, maps and notepaper. The notebooks allow the supervisor to always have material on hand to aid in performing an appropriate technical content of supervision. These supervision notebooks became the basis for supervisor training both in the classroom and in the field.

Positive results of supervision

In order for supervision to be effective there must be some positive results--supervision must lead to some change or improvement in program operations. If the work problems a supervisor uncovers are not problems he can do anything about, supervision will certainly be ineffective. Neither the supervisor nor the health worker will see any value in supervision if the same unsolvable problems remain. The supervisor must have a "can do" attitude.

Following up and solving problems uncovered during supervision visits is the most critical and most neglected step in the supervision process.

If the supervisor does not solve at least a few of the problems uncovered in past visits he will no longer be welcome and health workers will become frustrated. While technical competence is valued by health workers in their supervisor, it is the ability to solve their administrative problems that brings their respect.

Supervisors in many health programs have no carrot and no stick to back their recommendations. Without administrative authority over health workers, the supervisor will be ineffective.

> In CHIP, supervisors continually face problems they can do nothing about. Authority for finance, personnel and supply lays outside CHIP's jurisdiction in other parts of the Ministry of Health. This has caused difficulty in following up and solving problems. A recent organizational change giving CHIP the status of a Project with some authority for vital support functions may help.
>
> Supervisors in this traditionally and culturally centralized bureaucracy typically lack the necessary delegated authority to take needed action and often are the same civil service level as those they supervise.
>
> The supervision cell has routinized the recording, submission, and follow up of needed actions. This, however, remains a weak link in the supervision process.

Supervision as a Management Support System-Revisited

If supervision is to be improved in a primary health care program all of the parts of the system must be considered. In Nepal's Community Health and Integration Project many problems still remain with the supervision system. Despite these problems, filling vacant supervisory posts, creating a supervision cell, increasing the amount of supervision, and developing materials and training for an appropriate content of supervision has improved CHIP operations.

IN-SERVICE TRAINING FOR THE SUPERVISOR OF PRIMARY HEALTH CARE WORKERS

Melvyn C. Thorne

Seminar Speaker

In-Service Training

What aspects of the training of a supervisor of primary health care workers are best accomplished through in-service, on-the-job learning as distinguished from pre-service, classroom, or didactic instruction?

In-service learning is particularly appropriate for:

--development of interpersonal skills of dealing with persons or groups, especially where their reactions, or the situations in which they are encountered, vary widely;

--coping with situations or elements that are poorly predictable in advance. Some are difficult to foresee, as in the reaction of a given village health committee to a community health worker. In some, prescribed patterns of behavior are not possible due to lack of drugs, transport, time, or some other resource needed to adequately perform a procedure to established norms;

--synthesis, or bringing together in action, of individual skills and knowledge, as in performing a medical examination. An example at the community level is diagnosing the main problems at a work site, which may concern the knowledge of a supervisee, his motivation, his procedures, the nature of his community, and the constraints of his working situation;

--selection of the more important elements in a work site to focus upon or deal with among the multitude that press for attention.

The latter actions, synthesis and selection, are aided considerably by a checklist, forms and guidelines as described by Hoey, Arval, and Thapa,[1/] but the skills of performing them are best acquired by doing them on the job. For these reasons, training for supervision is most realistic when it is done on the job, or in the field with a good role model.

What a Supervisor Does

Since the trainee we are considering is a supervisor, we must ask ourselves what is the essential nature of supervision. What must a supervisor be able to do. There are many definitions, because there are many components of supervision that can be variously grouped or emphasized. A World Health Organization (WHO) Working Group on Training

for Supervision, for example, specified four broad areas of function of a supervisor--planning; management and development of staff; organization, control and use of resources; and coordination, communication and human relations. These functions were disaggregated into 22 activities and at least 88 distinct tasks.

Bishop's definition is concise:

"Supervision is the art of accomplishing work through the efforts and abilities of other people."[2]

The WHO Working Group's definition is authorative:

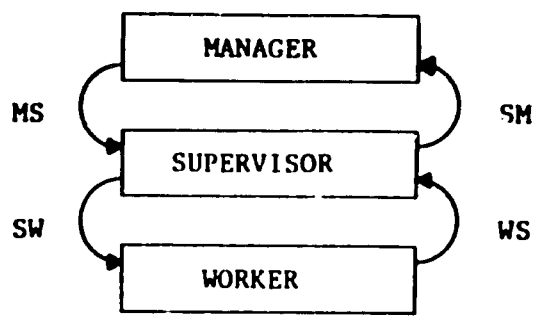
"...Supervision is that element of management, at all levels, which seeks to make the best use of human effort in achieving the objectives of the health services. Supervision is what blends individual efforts into a harmonious whole. It is a dynamic process which develops the potential of workers and leads to higher levels of achievement, not merely a means of maintaining the status quo. A supervisor is any person in an organization who is accountable for the work of others."[3]

The description this author likes best is that of management expert Peter Drucker:

"No organization can function well if its supervisory force does not function. Supervisors are, so to speak, the ligaments, the tendons and the sinews of an organization. They provide the articulation. Without them no joint can move. It is the supervisor's job to be in the middle. Hence, he must have responsibility, function and respect in both his relationships, up to management and downward to the work groups."[4]

A simple diagram of this intermediary position of a supervisor actively communicating down to the workers and up to management will be helpful when we consider the skills our supervisee must acquire in training:

FIGURE 1



Suppose that a community health worker (CHW) has only measured the arm circumference of one-fourth of the children targeted during a given time period, but has spent much time trying to get his village health committee to meet and to address problems of water pollution and excreta disposal. What information should be flowing along loops WS, SW, SM and MS?

The supervisor must remind the CHW (loop SW) of the importance to local children of malnutrition as a contributing cause of sickness and death, of the value of monitoring nutritional status by simple means, and of the importance of coverage of the population at risk. He should listen to the worker's explanation of his activities and of recent developments in the village (loop WS) to be able to decide whether the worker has used his time wisely. If the supervisor judges that the targets for nutritional surveillance coverage of children were set too high or scheduled too early, he should relay this to his superior (loop SM). The manager should make his time and attention available to consider whether this feedback indicates judgements with which he agrees. If not, he should clarify programmatic priorities through his response. If so, he must decide whether the situation is merely local and transient, requiring no further action or whether it indicates a general situation not adequately identified in the original design of the program. If he judges that more CHW time should have been programmed for community organization work in the early months of the program, with corresponding decrease perhaps in initial coverage targets for measurement of arm circumferences, then he should communicate this to his entire field staff via standard notifications and supervisors (loops MS and SW).

Supervising Community Health Workers

Colle[5]/ cites field studies in Guatemala and Thailand where it was demonstrated that regular supervision produced better performance among community health workers. He stresses the importance of looking at the several functions of supervision, not all of which necessarily need to be performed for the CHW by one unique supervisor:

1. To legitimate the CHW in the eyes of his community;

2. To protect the role integrity and delimit reasonably the demands upon and expectations of a CHW;

3. To motivate, encourage and give emotional support;

4. To give continuing education, consultation, and ad noc training in the field;

5. To give technical assistance to diagnose or solve special problems;

6. To link CHW to material and technical resources, to assure back-up services, to upgrade referral channels, to communicate with other personnel, to be a CHW advocate to management;

7. To monitor, control, do administrative surveillance and quality maintenance of the work; and

8. To evaluate CHWs.

The Particular Challenges of Primary Health Care

All but the first two of the above functions apply to the supervisors in any health system. Primary health care (PHC), however, adds new challenges.

First, PHC offers a large range of different kinds of services. The supervisor oversees the quality of the work. The more varied and extensive the content of the work, the more complex is the supervisor's job. From Alma Ata we have a minimum list of essential services PHC is to provide in all communities:[6]

--promote nutrition, including food supply and weaning foods;

--promote adequate, safe water supply;

--promote basic sanitation;

--maternal and child health care, including family planning (MCH/FP);

--major immunizations (BCG, vaccinia, DPT, measles, polio);

--prevention and control of locally endemic diseases, e.g., malaria, tuberculosis, schistosomiasis;

--education of the population on the prevention and control of locally prevailing health problems;

--appropriate treatment for common diseases and injuries, e.g., diarrhea, upper respiratory infections, fever, wounds, skin infections and conjunctivitis. This includes provision of essential drugs and supplies, such as those for oral rehydration.

The CHW is intended to do only a selected few tasks in each category of service. However, the large range and number of activities challenge CHW and his supervisor, both usually with very modest education and training, to make the best use of their time.

Second, PHC is organizationally more complex than conventional government health services. Dr. Mahler[7] describes seven principles of PHC, each of which requires special skills of a supervisor over and above those needed to supervise well in ordinary government health service systems:

1. PHC to be shaped around life pattern of population;

2. Other parts of health service system to support PHC;

3. PHC to be integrated with agriculture, education, public works and housing;

4. Maximum reliance on community resources and stringent cost limitations;

5. PHC to integrate and rebalance preventive, promotive, curative, and rehabilitative services;

6. Local population helps formulate and implement health services;

7. Services peripheralized, performed at lowest suitable level of trained workers.

What must our supervisor be able to do in order to make progress in each of these areas? How would he best be trained for such competencies?

The Importance of In-Service Training for Supervisors in PHC Programs

Let us illustrate with a concrete example of how the functions of supervision are complicated by the special requirements of PHC, and why, therefore, in-service training is particularly helpful for PHC supervisors and their managers.

Consider a supervisor visiting a community health worker. Using his supervisory checklist he asks about the village's water supply. The CHW says the village spring is unprotected, open to rain inwashing of excreta, and probably responsible for many gastrointestinal complaints, particularly of young children. Despite the CHW's efforts, the village health committee does not meet to discuss this issue or to mobilize local efforts to cover and protect the spring. The CHW suspects that this is due, at least partially, to disgruntlement of the Chief, who would like to have the CHW's health hut upgraded to a health center with nurse and visiting doctor. This has been done in several other large villages. The CHW feels that if he could be authorized to give hypodermic injections, as a local indigenous practitioner does, then he might enjoy greater prestige and be able to get the health committee to meet.

So far the supervisor has supervised well: he has taken the time to listen to the CHW talk about his problems and ideas for solution (loop WS). Now, what further questions should he ask of the CHW? What advice should he give the CHW (loop SW)? Should the supervisor meet with the Chief? with local indigenous practitioner? with the health committee? with the local representative of Public Works, the unit responsible for government construction of water supplies? Should funds for the necessary cement come from the community or from the government?

The multiple interpersonal and interorganizational relations involved make this a complex issue with which to deal. If the Ministry of Health were paying and directing the entire work, it could be done much more simply. Getting the community to meet, to discuss, to contribute, and to

take action will not be easy, nor will it follow an entirely predictable course. The project and the District Health Officer, and his superiors, probably have not yet worked out procedures or guidelines for dealing with this problem. These really must be worked out in practice, in working through problems that arise in the field. W. A. Reinke[8]/ has observed that the technical content of health service systems in developing countries is sometimes adequately described, but that their managerial and administrative content is rarely well defined. This may reflect the fact that the main decision makers are usually doctors who have not been trained in management of service systems.

Hence, in-service training of supervisors can help inform and educate, through the SM and WS-SM loops, the supervisors' superior. It can help shape the usually poorly defined managerial procedures of the PHC system at the same time that it develops skills particularly important for PHC in the supervisor. In addition, four types of supervisory skills listed at the beginning of this paper--dealing with people, coping with unexpected situations, synthesizing knowledge into know-how, and selecting priorities--are particularly needed by the supervisor to deal effectively with the kind of problem described in this hypothetical but characteristic example. Such complex skills can be initiated through emulation of role models, simulation and role play; but they are most usefully learned on the job through in-service training with a good tutor.

NOTES

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TRAINING OF HEALTH PROFESSIONALS TO BE SUPERVISORS OF PRIMARY HEALTH CARE WORKERS

Saul Helfenbein*

Seminar Speaker

Supervisor/Supporter

After some time in the field working in primary health care programs, we feel that a "supervisor" may not be the most appropriate type of worker to serve as the major link between the village health worker and the rest of the health system. The reason for the introduction of a supervisory role is the well-known fact that very often the volunteer primary health care worker, after some time in the village, becomes discouraged, does not want to volunteer any more, does not get any more drugs and quits working because there is more grief than joy in working to improve the health conditions in the community.

The Western solution is "supervision." We would like to get away from the usual conception of supervision because we feel that what is needed is a professional primary health care worker who acts as a liaison between the one in the village and the health center, who works in the community to improve health conditions, who supports and encourages the primary health care worker stationed in the village and who assists the villagers with obtaining medicines and other resources they may need. This person may be called a supervisor, but we would prefer to call him or her a supporter, a community health nurse or something similar, which does not imply what the word supervisor does to people who hear that title. A supervisor is likely to police and control. A supporter works with and assists the villagers to reach the goals they have set. However, we will continue to use the term supervisor since that is the accepted term for this person with the understanding that the role is much more than a supervisory one.

The supervisor we are talking about is a person who works with 8 to 15 primary health care workers. These workers live in villages which are some distance away from the health center and have been trained to provide first-aid, to give health education and to encourage community activities that promote better health for everyone in the village.

Supervisors and Trainers

We will assume that the supervisors are not in charge of the initial training of the primary health care workers (PHCWs) in an on-going program. Practically speaking, it would be difficult for them to be effective supervisors at the same time as they are in charge of training for three to six weeks, since they would not be able to make village visits,

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i.e., supervise during that period. However, although they would not have the main responsibility for the course, they should participate in the training as much as their time permits.

The assumption is also based on an understanding of the two jobs, the trainer and the supervisor of the PHCWs, as separate functions in the health care system. Although there are overlapping areas their job descriptions will differ. When a country is planning and implementing a primary health care program it would in our estimation be more cost-effective to train two groups: (1) one with an emphasis on supervisory, management and community-organizing skills, and (2) one with an emphasis on course design and training skills. The trainers could either be stationed in separate regions, each responsible for training PHCWs in about 50 villages, or they could be divided into small teams moving around the country, training PHCWs in one area before continuing to the next.

Level of Supervisors

We are also assuming that although the supervisors of the PHCWs may have responsibilities at the health center, they are not in charge of the health center. Since supervisors have to spend a great deal of time in the villages in order to be effective, they cannot at the same time be in charge of the health center.

What do these restrictions mean for determining who the supervisors of the PHCWs are?

In pilot programs they may be veterans of primary health care work with considerable experience and sometimes very highly trained. But they may also be auxiliaries or recent graduates from the nursing schools. In many countries, for example in Mauritania and in The Gambia, the supervisors are young people who have had very little experience with nursing in rural areas.

The persons who thus have been selected as the supervisory cadre are relatively inexperienced, have few concepts of what primary health care entails, need training in community outreach, and have little if any experience with guiding and managing people in their work. Also, they may not be able to provide health care any better than the PHCWs in the village and often need additional training in basic health care or nursing. Mostly, the supervisors are likely to be the health personnel at the base of the service pyramid interfacing with the village.

Job description

What, then, is expected from the supervisor? A job description may say that the supervisor should: (1) spend most of his time in the villages working with the PHCWs, following a schedule which permits him to visit each village on a regular basis; (2) provide treatments to supplement those given by the PHCWs when a villager refuses to go to the health center, often without the appropriate medications and equipment; (3) assist the PHCWs in their work and give on-the-job training as

necessary to the PHCWs and for the village health committee; (4) provide medicines and first-aid materials to the villages and make sure that the villagers raise enough money to pay for the supplies he brings; (5) resolve conflicts between the PHCW and the villagers, encourage villagers to carry out community projects and help them to obtain resources for these projects; and (6) write monthly reports and gather vital statistics in the villages where he supervises PHCWs. Hence the PHC supervisor is likely to be a manager, community organizer, a problem-solver and a trainer.

Personality

The work also requires certain personal qualities such as: (1) patience in the long discussions with the PHCWs and the villagers; (2) endurance when treking from village to village, and (3) the ability to be encouraging and cheerful in the village, even under adverse circumstances. If the village health worker can be called the "skinny Hercules," the supervisor is clearly the "skinny Atlas."

Training

It is evident that the supervisors themselves will need support from a team of other primary health care workers, nurses, midwives and doctors. The training then should involve the whole primary health care team and should teach the supervisors of the PHCWs to work as part of a team.

The experience we have had is that it is necessary to provide supervisors of the PHCWs with training in the following areas:

1. Practical demonstration of what is meant by primary health care. Basic training of nurses in most developing countries gives them very little experience in primary health care. The PHC program has to be explained to them, their role in the program defined, and the specific tasks they will perform discussed and analyzed.

2. Practice in community organizing and working with the villagers. The less experience the supervisors have working in rural areas, the more important this training. It is difficult, but also one of the key areas, in which the supervisor needs to be capable and successful.

3. Practice in identifying problems. When working in the villages this will be the first step in any process the supervisors take in solving the problems, providing training and finding resources. In order to identify problems they will have to know how to evaluate the PHCW's performance through observation and testing, and they have to be open to the concerns of the PHCW and the other villagers in order to find the problems that occur.

4. Practice in analyzing problems. Most people tend to jump to conclusions about what has to be done to solve problems. The trainers of the supervisors will have to teach them to identify the causes of the problems, evaluate possible solutions and

decide how the available resources should be used. This will require analytic skills and experience with different kinds of problems. It will also involve knowledge about what resources are available and most useful in specific situations.

5. Practice in solving problems. This breaks down into three categories: (1) training a PHCW on the job to perform old tasks better or do new tasks, (2) resolving interpersonal conflicts and (3) obtaining resources or removing obstacles. In all these areas there are specific skills the supervisor needs to learn in order to be able to work effectively in the village.

6. Practice in report writing, scheduling of time and similar skills, which will facilitate the supervisor's management of personal time and will provide links with the rest of the health system.

During the work in The Gambia in a primary health care project we developed a one-week workshop to teach basic supervisory skills to community health nurses who in The Gambia will serve as the supervisors of PHCWs. A program for that course is available. Time does not allow me to go into detail of how the course was designed but a look on the program will show that community outreach is not part of the program. This was omitted since the basic training for the community nurses includes such training. The workshop, although clearly insufficient for training supervisors, served mainly to sensitize the community health nurses to the issues and provided some information about basic ways of supporting the PHCW. This course will be complemented with on-the-job training of the supervisors by the division health team and with additional training during the course for PHCWs in which the supervisors will assist.

Length and Logistics of Training

Ideally, training of supervisors of PHCWs should take as long or longer than the training of the PHC workers. But there are certain problems. Usually the course is given to people who already are working in the health centers and who will be asked to supervise the PHC workers. Thus, there is often little time available for training. Moreover, planning of primary health care projects often does not make provisions for training of supervisors until the training of the PHCWs has already begun. At other times supervision, by default, falls on the health centers since no one else is doing it. As a result it is often not possible to provide more than short workshops for the training.

However, the training of supervisors is an on-going process just like all other training. The supervisor will need certain basic knowledge and skills, a structure to work within, good supervision and continuing education. In other words, the training of the supervisor should be an on-going commitment and should be part of the government's continued input into the primary health care program.

At this time it is probably not possible to fully train supervisors of PHCWs within the basic nursing curriculum. Barring a complete reorganization of most basic nursing curricula (which is necessary), supervision will not provide enough knowledge and skills to be useful in the field. Also, the current orientation in the nursing schools towards hospital and curative care makes it necessary to provide some training in primary health care with a preventive approach for the supervisor.

Let me stress again that the supervision of PHCWs is not just supervision. The supervisors will have to show initiative, work under adverse conditions, be health care workers, community organizers, trainers of PHCWs and all the villagers, and in general do this with very little support from the government or from other health care workers. If we define their role as simply one of supervisor of the PHCWs, we are eliminating many of the benefits which the primary health care approach gives us to improve health in the country.

The challenge that lies ahead is how to train those who take on this role to become involved, to work as part of a primary health care team in the health centers and the communities with other community workers in order to provide a better way of life for the villagers. As "supervisors" they are outsiders and can never contribute as much as involved "supporters" could. The supervision provided by the supervisors of the PHCWs has to be more than controlling and policing--it will have to include problem-solving, resource-finding and working together. Only with that approach can we have <u>real</u> primary health care in the villages.

MOH/USAID/WESTINGHOUSE PRIMARY HEALTH CARE PROJECT IN JORDAN

Georgiana Coray
Stephen Coray

Seminar Speakers

For almost a year in Jordan, one project has been concerned with the retraining and supervision of basic health workers in the Ministry of Health (MOH) Primary Health Care system. It is in a "prime location" with Syria on the Northern border; Israel to the West; Iraq to the East and Saudi Arabia to the South. The population is approximately 2.2 million, of which about 45 percent are Palestinian. The population is mostly Muslim, but about 8 percent are Christians. The government is a monarchy and Jordan has been governed by His Majesty, King Hussein, for the past 27 years.

Background of the Project

The MOH in Jordan is organized, starting at the first point of contact, with a series of village clinics, usually staffed by a male assistant nurse and visited 1-3 times a week by a physician. At the next level are health centers and maternal and child health (MCH) centers staffed by a physician and/or midwife and assistants. There are a few comprehensive clinics just being developed that include all services.

The major health problems in Jordan are a combination of those seen in all developing countries, such as gastro-enteritis, respiratory infections, measles, and pregnancy related problems; and those seen in "developed" countries, such as heart and vascular disease and cancers. Organizationally, the major handicaps in the system have been a lack of job descriptions, no written standards of care, few records, a poor supervisory system (at all levels) and a predominance of male workers trying to deal with MCH problems in a Muslim society. However, on the plus side are the large number of clinics and centers throughout Jordan, an adequate supply of medications and a more than adequate number of physicians.

In 1976 the government of Jordan made the decision to change its traditional tertiary and curative health system to one emphasizing the principles of primary health care (PHC) as outlined in the Alma Ata documents. Over the next five years they developed numerous strategies and activities to accomplish this, but the project that we have been most closely associated with has been the MOH-AID-Westinghouse contract. The MOH had made the decision to retrain the existing workers instead of adding another cadre of workers, since they felt the existing workers, especially the male assistant nurse, were under-utilized both technically and time-wise. With this stipulation, the purposes of the project, as stated in the contract, were to:

1. Retrain existing basic health workers by:

   a. Training trainers.
   The MOH-selected physicians to be trained as trainers because there is an excess of physicians in Jordan, but a severe shortage of all other groups such as nurses and technicians.

   b. Retraining basic health workers.
   This group includes male and female assistant nurses, midwives and physicians. There are essentially no R.N.'s in the PHC system as the few who stay in Jordan are in the hospitals.

   c. Providing a system of support and supervision.
   This system must be on-going for the retrained workers.

2. Develop a health planning unit

   A fourth member of the Westinghouse Team is doing this.

The MOH-USAID-Westinghouse Project

The project began in October 1980 with the arrival in Jordan of Dr. Stephen Coray, Physician, Pediatrician and Administrator who was the Manpower Coordinator; Georgiana Coray, a close relation, who is a Family Nurse Practitioner and teacher; and they were joined in November by Dr. Siva, head of Community Medicine Department at the U. of Jaffna in Sri Lanka. Steve and Georgiana Coray will be with the project for two years and Dr. Siva for one.

In order to develop the retraining programs, our overall strategy was to go through the following preliminary steps:

1. Develop and have approved by the Ministry, the jobs or tasks that needed to be done in this particular PHC system.

2. Develop and have approved by the Ministry, a standard of care for the PHC level.

3. Develop the method of teaching these skills to the basic health workers, using 20 physician trainers that we would have to teach how to be teachers.

Task lists

Since there were no job descriptions, we developed very detailed task-lists. Although it's not ideal, the task-list can be used as a substitute for a job description for supervisory purposes.

Standard of care

We discovered, as obviously many others have in the past few years, that it is impossible to teach clinical material, or supervise effectively, without written standards, and this meant putting together a manual. We looked at the existing ones, but none met our needs completely since

it needed to be in Arabic and for a system where there is a multitude of physicians...even if they aren't always where and when you would like them to be! By borrowing very heavily from Dr. David Werner's excellent book, Where There Is No Doctor[1]/ and from the Primary Health Worker manual from World Health Organization (WHO)[2]/, we developed in English a 400-page manual that has now been translated into Arabic and is in the process of being field-tested.

Training trainers

Since none of the team spoke fluent Arabic, 20 Physicians who spoke some English were selected by the MOH to become trainers. Incidentally, none of these physicians were trained in Jordan. Most of them were quite recent graduates and were clinically oriented toward tertiary care. Most of them had been "volunteered" by their local directors and much of the three months had to be devoted to changing attitudes as part of the curriculum.

The curriculum for the trainer course included the following in a 12-week program: Orientation to Primary Health Care; Epidemiology; Teaching Methods; Basic Administration-Supervision; and the clinical content of what would be taught to the basic health workers. Detailed course objectives and content are available for those who are interested.

The part of the trainer course devoted to the clinical content was done as "micro-teaching" sessions in which each student wrote the lesson plan (content, objectives and teaching method and time) for an assigned number of subjects, using the manual as the content. These lesson plans were developed for all the groups who would be taught and are in notebook form with each trainer having his own copies.

The section of the trainer course dealing with administration-supervision covered, in a very basic way, communication skills, leadership styles and skills, team building, motivation, job evaluations and objectives, dealing with change, ways to overcome resistence and the basic health planning process.

Retraining basic health workers

The decision was made by the MOH to retrain the male assistant nurse first, primarily because they are the largest group of health workers, the least utilized and the basis for PHC since generally, they are the first point of contact for most patients. The female assistant nurses, who usually work in MCH centers or the health centers, are the next largest group and the midwives the least numerous. The decision was made to leave the physicians until last, primarily to give our trainers some experience and credibility before facing their peers who are usually the most difficult audience. However, all PHC physicians were given a three-hour orientation as to what and why the other workers were being taught so that they know what skills to expect after the retraining is completed. More importantly, this should make their job of supervising these workers more effective. Later, all these physicians will be given

an intensive one-week program in PHC and supervisory skills. In addition, we are hoping to involve as many of them as possible in the actual retraining to gain their involvement and support.

Supervision and Support System

Supervision of trainers

Even though we are specifically discussing the supervision of basic health workers and their technical support, we have to first discuss the supervision of our trainers because the rest of it follows from that. We have developed several means of support and supervision of the trainers, some of which have already been mentioned. These include:

1. The lesson plans
   As mentioned, separate lesson-plan books are available now for the male and female assistant nurses and the midwives. Similar ones will be done for the physician-course.

2. The "Primary Health Care Manual"
   As mentioned, this is available in English and Arabic and this is what sets the standards of care.

3. Site visits
   These are being done by the entire team (all of us in different directions) to first assist in setting up the retraining classes and then to observe the actual training.

4. Pre and post-evaluation of each student
   This serves to evaluate both the student and the trainer and the evaluation instrument consists of four sections. This is in Arabic also.

   a. Inventory of the clinic
      This is to determine the basic equipment and supplies that are available and to assist the MOH in knowing what things are needed for basic PHC services.

   b. Knowledge section
      There are 14 multiple choice questions.

   c. Skills section
      There are 11 basic skills and if the student states that he can perform a skill, he is observed doing it.

d. Records section

There are very few records kept now. They will be taught a "Tickler File" system until better records are designed.

The pre-test will be done by the trainer who will be teaching the group of students before they begin the course. The post-test will be done by another trainer as the course is completed.

These then are the ways we have already developed to support and supervise our trainers.

Supervision of basic health workers

In order to adequately supervise any group of people, it is necessary, as a very minimum, to have the following:

1. Standards of performance
For the basic health workers, these standards are found in the Task Lists and in the Manual.

2. Method of evaluation
For the basic health workers, this is the pre-post and impact evaluation model.

3. Persons trained to use the method
For now, this is the trainer, but eventually the clinic physician must be trained to use this.

Implementation

Immediate supervision is being done by:

1. Manual
This sets the standard of care

2. Task list
This is being used as a substitute for a job description

3. Pre-post and impact-evaluation
This was described under the trainer supervision, but the test will be repeated approximately three months after the completion of the retraining and will be given by an outside evaluator. This will serve both to measure impact on services as well as to serve as the basis for supervision for the retrained workers.

4. Administration-supervision skills for top MOH management
This is being done by a group from AUPHA who have been coming to Jordan over the past two years and have been working with this group on supervisory skills.

Planned support and supervisory activities for the future

1. Counterpart training
Counterparts, probably three, will be chosen from the first group of physician trainers. They will be brought into Amman this Fall to work full time with us until we leave. They will develop the skills in administration and supervision to ensure that the retraining continues until completed, but more importantly, they will be able to develop any new programs that are needed. In order to adequately train them and to give them supervised experience we will conduct another train the trainer course in the Fall and the Counterparts will do most of the teaching.

2. Training of MOH clinic physicians
As mentioned previously, this has been delayed to give the Trainers some experience and credibility. The lesson plans for this group will be developed, with the Trainers participating, and will concentrate on the principles of PHC and on supervision techniques for the basic health workers. The evaluation tool previously described will probably be the basis for the method used and will focus on promoting an exchange between the physician and the other basic health workers.

3. Training new MOH clinic physicians
The MOH is interested in organizing a short course that would orient all new MOH physicians before they begin their work in village clinics and health centers. Since this is another course that would need to be given in Arabic, we will be involved in assisting the counterparts to teach this on an on-going schedule.

4. Initial training of all new MOH personnel
After completing the retraining of existing personnel, it is expected that at least some of the trainers will become involved in designing and/or teaching the classes for new employees, especially those at the level of assistant nurses.

NOTES

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MANAGEMENT TRAINING: A SYSTEMS APPROACH

Kaval Gulhati

Seminar Speaker

There are many different ways of determining training needs and designing training programs to meet those needs. The systems approach provides a way of looking at all parts of an organization; how they fit together; and what kinds of management needs are manifested in the sub-systems. Such an analysis helps to identify the gaps in managerial capability and to prepare training designs which could help in better program implementation.

This paper uses the systems approach to analyze the management training needs of family planning programs and shows how such an approach has been utilized in a project of the Center for Population Activities (CEFPA).

In systems theory, "management" is the controlling or decision-making aspect of the organization and its sub-systems. For systems to work, tasks have to be done; the primary task itself, for instance, consists of numerous sub-tasks. All these tasks require coordination--between specialists and non-specialists, between the systems, between systems boundaries and the environment and so on. Furthermore, task objectives must be in harmony at each level or else each sub-system is likely to compete with the other and undermine the overall objective. Thus, some mechanism for regulation or control is necessary to monitor the progress of the system towards the achievement of task objectives. The central function consists of monitoring, regulation and integration of the tasks towards the organizational objective. "Managers" are those individuals who are responsible for the functioning of the system and "management" is the "working with and through individuals and groups to accomplish organizational goals."

The training strategy follows from the management system and consists of an attempt to understand the management functions and roles of family planning administrators at various levels in the system. Based on this analysis, an overall training framework is developed from which several modules can be prepared to meet specific training needs. The purpose of the framework is to provide basic guidelines for the selection of trainees and the design of training programs to meet their needs. It is not intended as a prescriptive approach but rather one that seeks to give a flexible framework within which different training modules are possible for providing training at a single level (i.e., horizontal) or at a mix of levels (i.e., vertical). Furthermore, it is an effort to clarify the kinds of training techniques and materials most useful for developing specific skills. Training has been defined as "any activity which deliberately attempts to improve a person's skill in a job" and this definition serves as the basic concept for developing the training strategy.

Functions of Family Planning Managers

The word "manager" is used in many different ways. We use it here to refer to senior, middle and frontline managers. A family planning administrator is, therefore, a manager above a certain level, usually field supervisor, who has subordinates and consequently manages other people directly. What is the function of these managers? What do they do? In the broadest sense, their job is to deploy the human, financial, technical and physical resources of the organization in a manner which preserves the integrity of the whole organization. The functions of management are well-known; that is, they fall into more or less familiar categories:

1. Marketing functions

   --Communications and motivation of client
   --Distribution and supply of contraceptives

2. Delivery of service

   --As a health and welfare function
   --As a consumer service, i.e., a marketing function

3. Administrative functions

   --Personnel management
   --Coordination

4. Control functions

   --Finance and budget
   --Evaluation and information

5. Planning and development functions

   --Program planning--setting objectives, determining strategy
   --Developing and encouraging research in new technology, delivery systems

6. External relationships

   --Make organizational goals acceptable
   --Obtaining resources from funding agencies

The task for the trainer is to relate these functions to the manager's role at the different levels in the organization. For example, communications and motivation of client calls for planning and determining a mass media strategy at Level 2, implementing a mass media campaign at Level 3 and winning over acceptors via face-to-face communication and motivation at Level 4. From this, we can develop an "inventory" or the job-related needs of family planning administrators. The inventory is intended as an aid for determining the appropriate type of management

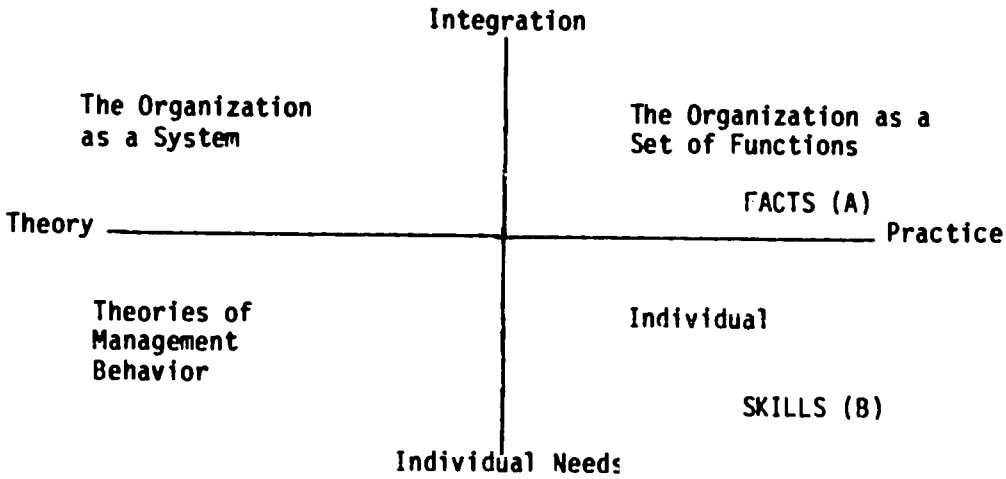
training by level, skill, content and methodology. The term "level" refers to the four levels in any delivery system, namely: (1) policy, (2) administration, (3) operations and logistics, and (4) field. During 1975-1980, ten six-week management workshops were implemented for 300 participants from 50 countries. While common-sense rules that local or in-country training is less costly, there are intangible benefits in international training. For instance, top-level managers when removed from their own milieu tend to be more open to new ideas and opportunities for broadening their outlook in a regional or international setting. While a case can be made against sending Level 4 managers overseas, again, there are intangible gains in enhanced status and motivation upon return.

Furthermore, exchange of international experience and ideas can often accelerate innovative approaches in hitherto conservative communities. For instance, sessions on the use of lay persons in the delivery of services in community-based programs such as in Thailand or Bangladesh can trigger a positive response towards such delivery systems among participants from other countries. Also, mixing levels and professions is more acceptable outside the local cultural milieu and such mixing is desirable if one of the training objectives is to provide better insights into management constraints within the total system.

CEFPA's international management training strategy for family planning administrators was also derived from an analysis of the key management characteristics of the four different types of delivery sub-systems which form an integral part of the overall family planning delivery system. These four models can be described as: (1) household, (2) commercial or social marketing, (3) community-based, and (4) traditional clinic/surgical. Case studies on each of these models were developed to introduce the importance of the cultural texture and the reality of the socio-economic milieu of the Third World.

The type of management training and the materials used depend upon the objectives of the training. Research has shown that the objectives of the managers and the management trainers or educators are not always the same. Training policy, to be mutually beneficial for the manager and the organization, must recognize these differences and formulate strategy encompassing both needs. For instance, the Manager has a short-term objective and wants Facts and Skills (i.e., A and B in diagram on following page) and the Trainer wants a wider organizational horizon for the manager (i.e., longer-term benefit to the manager and the organization).

Training in "managerial" skills for administrators of community-based programs is a fairly recent endeavor. Trainers have had to improvise and rely on intuition in designing and implementing training programs. As the demand for better program performance has increased, so has the demand for training programs which are more clearly geared to the specific needs of personnel at all levels. Herman Kahn has said that "good management can reduce the number and intensity of painful experiences" and that is what we are trying to do--to train for good management.



FOUR TYPES OF OBJECTIVES FOR MANAGEMENT TRAINING

MANAGEMENT TRAINING OF MID-LEVEL WORKERS AND THEIR SUPERVISORS: THE MEDEX EXPERIENCE

Ernest E. Petrich

Seminar Speaker

Although there are widely varying understandings of the term "management," in the context of the health sector and developing country situations, the term can be defined as:

> The process of mobilizing, protecting and utilizing limited human and non-human resources to achieve health objectives.

We have learned that the practice of "management" is very culturally sensitive. It is not possible to transfer Western management concepts and practices to other cultural settings without considerable adaptation. So-called "management training experts" who lack adequate cross-cultural experience continue to rediscover this, at great expense to intended beneficiaries.

The objective of management training is to improve the managerial performance of individuals and health teams to develop or improve their knowledge and skills in:

1. Basic management practices, such as communications, inter-personal relations, small-group process and problem-solving;

2. Performing managerial functions, such as team leadership, work planning and evaluation, activity coordination, supervision, counseling and on-the-job training, and external advocacy and liaison.

3. Utilizing management support systems. This includes: ordering, maintaining, and protecting drugs and other supplies; maintaining the physical facility and equipment; maintaining and utilizing transportation and communications resources; and applying policies and procedures related to records and reports, personnel and finance.

In the training of mid-level health workers (MLHWs) and their supervisors, we have utilized the principles of competency-based training (CBT) and have found these to be most efficient and effective in achieving management training objectives. The CBT approach first requires a thorough analysis of the precise knowledge and skills required. A task analysis table is prepared which divides every duty of the job to be performed into the specific skills and knowledge required. This serves as the basis for development of management training objectives and for curriculum development and adaptation. The curriculum and materials are

thus restricted to only that which is essential for practical performance of the job, thus avoiding the common pitfall of including too much extraneous information. Emphasis on skills development, rather than only knowledge transfer, demands an emphasis on active learning, which is encouraged by the training methods selected. Knowledge transfer objectives are not neglected, but are integrated into a curriculum emphasizing skills development exercises. Finally, the CBT approach stresses student evaluation, including pre- and post-testing, combined with remedial work, to insure that students achieve a minimum standard level of skills.

In our experiences in Asia, Africa and South America, we have learned that a variety of useful training strategies can be employed both to overcome what is often a general apathy towards management training and to make such training effective. For supervisors of mid-level health workers, including physicians, management training is usually more acceptable when it is not labeled or perceived as being "management training." Thus, through programs for the training of trainers, or orientation seminars, conducted alone or as integral parts of workshops or conferences held for other reasons, health professionals who do not view management training as a high priority can be effectively reached and their management skills improved. For mid-level health workers, we have found that management training is more effective when integrated into their clinical and community health training, both during their pre-service training, and later as an integral part of their on-the-job continuing education.

At the University of Hawaii, we have been developing and field testing prototype management training materials that can be adapted to developing country situations. Management training is fully integrated into the overall prototype curriculum. The process of adapting these prototype materials as part of curriculum preparation also serves as one vehicle for training trainers. Also, the subsequent evaluation and improvement of the adapted MLHW curriculum, training methods and practices serve as an excellent opportunity to train others in management practices. Our experiences to date are best illustrated by an example from a specific country, Guyana, South America. Guyanese officials initially believed that during a 12-month training course for mid-level health workers only two days could be dedicated to management training. However, as they began to look more thoroughly at the management activities required by the actual job to be performed by the mid-level health worker, the amount of time available for management training was greatly increased. Because prototype management training materials for mid-level health workers had not yet been developed by the MEDEX program, we drew from a variety of international sources to develop some curriculum materials which were then adapted to meet Guyana's specific needs. Much of the curriculum, however, was developed directly in Guyana, including actual case histories described by Guyanese officials and health workers at all levels of the primary health care delivery system, specifically including those located at the most isolated peripheral health posts. Specific Guyanese policies, procedures and practices were documented, as were common management problems. The initial management training module consisted of the following 14 units of instruction:

1. The Management Process

2. The Health Services Team

3. The Health Services Delivery System

4. Personnel Management

5. Financial Management

6. Facilities and Equipment Management

7. Drug and Medical Supply Management

8. Administrative Supply Management

9 Transportation Management

10. Communications Management

11. Management Information Management

12. Planning and Scheduling Work

13. Assisting Health Team Members and

14. Evaluating and Improving Work Performance

After the experience of teaching this module to two classes of mid-level health workers, and after evaluations by students and tutors, it was decided to break the module into two modules. One module was to be taught early at the beginning of the training course for mid-level health workers, focusing primarily upon basic managerial practices, including team functioning. The second module, to be taught at the very end of the training course, just prior to deployment to field assignments, focused on utilizing management support systems. Continuing feedback, both directly from graduates working in the rural areas and through evaluation of their management performance by supervisors, has resulted in giving higher priority and more time to management training within the overall curriculum for mid-level health workers. There have been consistent indications that the MLHWs themselves believe that one of the most useful components of their curriculum has been the health services management training. This undoubtedly stems from the fact that many of the problems mid-level health workers encounter in carrying out their duties in rural areas either are managerial problems or stem from such problems.

A few examples illustrate some concrete benefits of this training. Until health workers were trained in team functioning, they often functioned as solo practitioners at times unable to adequately cope with workload and emergency situations. Until they were trained to take alternative actions to solve drug shortage problems or get equipment repaired, they more often went without drugs or essential equipment.

Until they were trained to deal with their bureaucratic organization, they were powerless to overcome the multiplicity of administrative obstacles that often inhibit primary health care delivery. Improvements were observed in all of these areas after training.

We have often found that the shortage of physicians in rural areas, requires that they train non-physicians to serve as supervisors mid-level health workers. For this purpose a special training module is being developed.

The need for substantial management training of mid-level health workers and their supervisors is often unrecognized by Ministry of Health (MOH) executives and trainers alike. We have found that obtaining commitment to such training depends upon developing an understanding of why management training is needed, what it is, how it should be developed and conducted, and what benefits it can produce. Decision-making officials are not easily convinced without tangible evidence of practical benefits. Initially, none of these are easy to demonstrate locally and we have found that it is best to provide evidence of practices and results elsewhere. Once this initial obstacle is overcome, application of practical CBT training mmethods can result in significant benefits that are perceived by students, administrators, and policy-level decision-makers as well. If successful, this will hopefully lead to increasing the time and resources allocated to management training of mid-level health workers and their supervisors.

Increasing amounts of public and private resources are being allocated to primary health care development. Major efforts focus on improving the clinical and community health knowledge and skills of mid-level and community/village level health workers. Without management training of these workers, however, much of the investment may be wasted. They will not be able to help improve the health status of those they serve without first having the knowledge and skills to survive in difficult administrative environments and to plan, organize and deliver appropriate and timely services that are responsive to the needs of those they serve. For mid-level health workers, particularly, management training is an absolute must.

COMMUNICATION STRATEGIES FOR THE MANAGEMENT OF PRIMARY HEALTH CARE WORKERS

Anthony J. Meyer

Seminar Speaker

There has been a growing concensus in the international health community that the worker furthest from the administrative center of the health system is the most valued and important person in the system. Alma Ata has sealed this fate. And most current health systems planning reflects this perspective in that the village level primary health care worker is the main carrier of the multiple, integrated, preventive, and curative services that we espouse. Paid and trained least in the system, the village-level worker is perceived to be all things to all people and shoulders the lion's share of the work within the system.

But in developing countries, if not in our own, the cost of petrol, the salaries and ambitions of middle management, the scarcity for one reason or other of material supports have often left this village level health worker an isolated asymptote of our aspirations. He or she gets neither visited nor supplied. In-service training is minimal. The usual mode of obtaining diagnostic assistance is referral to a hospital many miles away. Morale? Actual time spent on the job? Motivation to undertake community-based preventive measures on one's own? Could be all rather low.

Improved communication can have an impact on this situation. Two-way radio, open radio broadcasting, and related communication technologies can be used to support the supervision of primary health care workers. Two-way radio can be seen as more than a petrol substitute for visits from management. Applications in Alaska, Guatemala, and Guyana have shown a significant impact on worker morale, on inventory control and in the timeliness of diagnostic assistance. The quality of referrals becomes higher. By introducing a "grand rounds" of the air, by having a dozen workers discussing a series of problems with centrally located expertise while listening in on each other, an innovative and effective method of in-service training can be introduced with implications for worker professionalism which is the ideal context for management.

Open broadcasting can go well beyond the Sunday morning public service announcement (PSA) ghetto familiar to U.S. audiences. Imagine the primary health worker in a fairly isolated village in a developing country where the main link to urban living is a voice on a radio. The worker hears his or her activities discussed in the news by the Minister of Health; spot announcements during the day reflect the same messages the worker has been taught as his or her staple; a visit from a vaccination team one week hence is announced; in the evening, the worker can listen to a program specially designed to answer his or her questions which is conducted through interviews with similar workers. Implied in this varied use of radio is legitimation of his or her role as primary

health worker; reinforcement of his or her daily instruction; placement of his or her professional concerns on the public agenda; and a continual opportunity for in-service training. These are all functions of open broadcasting which can be seen as supportive of improving the management of the village-level of primary health workers.

The use of two-way radio and open radio broadcasting are two major applications of communication technology which can contribute to the management of the primary health worker. Depending on location, graphic materials, television, telephone and satellite telecommunication may also have their particular support function.

We must not enshrine communications technology as a panacea or a quick-fix answer to complex management problems. Rather, communications must be viewed as an ubiquitous companion to a shared assumption about management. The systematic support of the health workers role and self-esteem in that role and regular contact with central expertise for advice and training are in part functions of management or contribute to management. Very clearly, communication methodology can significantly improve each element of that assumption.

SOME THOUGHTS ABOUT USING OPEN BROADCASTING TO SUPPORT VILLAGE HEALTH WORKERS

Thomas M. Cooke

Seminar Speaker

The village-level health worker bears the burden of delivering health services. These people are expected to embody the interministerial collaboration which the ministries in the capital city often find impossible to sustain.

Their training is minimal, and supervision is irregular and uneven in quality. They are overburdened with paperwork, poorly equipped and supplied, with a high drop-out rate, yet they are expected to do everything from first-aid to weighing babies to supervising the construction of fish ponds.

Improving the supervision and management of these far-flung workers is a dilemma for the primary health care system. The lack of money for fuel and the complexity of management where telephones are non-existent suggests other means of communication between the supervisors and the field workers.

Others today have talked about the use of two-way radio to link the health workers to regional or national centers. There is widespread experience with this technique, and its effectiveness is recognized by many managers.

There is far less experience in using open broadcasting to reach these health workers. But open broadcasting has been used successfully to reach other target audiences. This suggests that it could be very useful in supporting village health workers, bolstering their supervision, morale, prestige, reinforcing their work with families, and providing refresher training. Open broadcasting deserves special consideration because of its low cost; no special equipment is needed. Every country has a national radio broadcasting system, and radio ownership is widespread in most countries.

There is ample evidence from projects in the United States and the less developed countries that carefully prepared radio programs can bring about changes in knowledge and attitude in specific population groups. While these projects have been usually aimed at the public (consumers, mothers, small farmers), we might well assume that similar or even better results could be obtained with village health workers. After all the village health workers are more highly motivated than the ordinary housewife. Certainly they are better trained in health and nutrition, and they ought to be more receptive to new ideas.

Open radio broadcasts, i.e., broadcasts to which any one with a simple radio receiver could listen, have been used for several decades to bring

education and motivation to specific audiences. Several formats have been used: classrooms on the air with accompanying printed materials, leading to degree programs or sometimes broadcast to conventional formal education classrooms as in the Nicaraguan math project; farm forums broadcast to listening groups led by community leaders or extensionists; talk shows and interview programs, soap operas, and other programs without organized listening groups; and short 30-60 second messages inserted within programs which already have an audience of those people whom one is trying to reach.

Each of these formats has its advantages and disadvantages. Most likely, a mix of styles and methods would be most effective. The content of what one is trying to communicate, its purpose, the characteristics of the target audience, the reach of the radio, the extent of radio ownership, access to radio by the health program, and other issues will determine how open radio broadcasts can best be used to support village health workers.

There are no automatic answers and no ready made formulas. But this does not mean that programming decisions can be made only after a lengthy and costly study. On the contrary, the project design team might include a communication specialist for a portion of the design phase and budget a modest amount of technical assistance during implementation. Nearly every country has experienced radio writers and programmers. The use of radio to support village health workers would be a new application of already existing skills.

The communication element of a primary health care project should be viewed as a support component, thoroughly integrated into training, management, outreach and education goals.

Two basic communications strategies might be combined:

--communication to the general public to reinforce the efforts of the village health workers, to introduce them to the community and to give them added authority; and

--communication to the health workers themselves-to remind them of their training, to serve as models for their daily contact with their target group, to keep them abreast of administrative developments, and to inspire them to continue to work even under difficult conditions.

The use of open broadcasting radio for these strategies can only be done with careful planning and consideration of the special circumstances of each program.

Setting aside this advice for a moment, let us sketch out how open broadcasting might be used to support the village health worker. What is proposed is not pure speculation, but is based on the experience of our firm and that of many other organizations in the use of radio for education goals.

Open broadcasting will offer to the primary health care system an ability to communicate with the village health workers quickly, with consistency, at a low cost, and with a minimum management structure. It is no replacement for the important personal interaction provided through on-site supervision, nor can open broadcasting ensure that all of the village health workers are listening to each of the broadcasts, but through repetition and through thoughtful programming, the target audience can be increased.

The core of the radio strategy might be a weekly 20-30 minute program broadcast at a fixed time, aimed at the village health workers themselves. Of course, since it is broadcast over an open frequency the public can listen as well.

The purpose of this program would be to bring information to the worker essential to doing his or her job. For example, the new information presented in the initial training would be reinforced and explained in greater detail. Administrative information such as the launching of a campaign for vaccination might be announced first over this program. If the workers are to report to their regional offices for supplies, they would be reminded by radio. In those countries where radio ownership is rare, and the chief of the village is likely to be the only one owning a radio, the program might include information for him about the health program.

One of the abiding impressions I have received of village health workers is that they feel isolated from their colleagues and the support of the regional centers. The longer radio program can reduce this feeling by telling what other workers are doing throughout the country. Interviews, letters and dramatizations might be some of the formats to accomplish this goal.

All of us who have worked or lived in small towns know the importance of gossip and personal news. Such communication strengthens the network that we call "community." Village health workers are also a community, and personal news will remind them that they have colleagues who share their successes and failures.

Another radio program might be used as a teaching aid if the workers are leading classes or discussion groups in the villages. For example, the broadcast of a program on maternal and child health every week, following a pre-determined curriculum, might be the center piece for the discussion group, not trying to replace the personal involvement of the worker, but to stimulate the villagers. This program, once produced, could be recorded on cassettes and given continual distribution for repetition at future classes or those which do not meet at time of the broadcast.

Short radio messages, from 30 seconds to two minutes can carry less information, but they can reach wider audiences if they are repeated over long periods of time. Such messages might be used to promote the longer programs just mentioned in the same way that promotional spots are used on commercial television to build audiences for feature programs.

The spot announcements can also be used to reach the public with information identical to that being delivered by the village health workers. This serves two purposes: first, to reinforce the workers' messages; and secondly, to remind the workers of the messages that they are to be delivering to their target audiences.

Finally, the spot announcements, and indeed the longer programs can validate and give authority to the actions and recommendations of the village health workers. The mass media have authority in themselves. Information on radio in developing countries still enjoys the same credibility that we used to give to the printed page in this country.

Using radio in primary health care systems is no substitute for the personal contact between health workers and the village mothers, or between the supervisor and the health workers themselves. However, radio can extend, reinforce, give consistency and authority to health information and worker training.

FUTURE DIRECTIONS FOR MANAGEMENT OF PRIMARY HEALTH CARE WORKERS USING COMMUNICATION STRATEGIES AND TECHNOLOGIES

Dennis R. Foote

Seminar Speaker

Use of new communication strategies for management of primary health care will depend on two conditions: (1) the emergence of new communication technologies and their possible significance and (2) the requirement for corresponding changes in institutional structures in order to take advantage of the potential benefits they offer. Without simultaneous progress on both fronts, one cannot be optimistic about improvements over the current status.

New Technologies

In this section, concentration is primarily on technologies for two-way rather than broadcast communication. This is not intended to imply that broadcast technologies do not have an important role--on the contrary, for the near future, they are apt to be the most appropriate technologies for use in developing country environments. However, they are relatively mature technologies and are not likely to change drastically, with possible exceptions in the areas of small radius transmitters and solar power systems. For this reason they are more likely to see a gradual expansion of their current uses than to spread significant innovations. Focus will be almost exclusively on narrowband techniques, because the advent of affordable two-way broadband (video) applications is still in the distant future. Narrowband communications are those that use only a narrow portion of the electromagnetic spectrum, such as radio, telephone, or data transmissions. Finally, the emerging technologies will be divided into two general classes--transmissions systems and peripheral devices.

Transmission systems

The easy flow of information among the participants in rural primary health care systems is desirable, yet the essential problem is how to accomplish it. You have heard about the use of radiotelephones to interconnect workers and supervisors. Typically, such systems have been single purpose UHF or VHF radio networks, maintained and operated by the Ministry of Health for their sole use. The history of such systems is ambivalent. For one thing, capital cost and power supply problems can be impediments; for another, the difficulty of continuing maintenance on the system often leads to service disruption. Several technical advances or system changes hold forth promise here. In the area of holding down capital cost, attempts have been made to substitute Citizen's Band (CB) radios for the more expensive UHF ones. A USAID-sponsored experiment in Nicaragua using CB radios for some of the links showed mixed results. It appears that a CB system can be reliable over short distances and that carefully strung antennae may increase the range substantially. However,

the intrinsic limitations of terrestrial radio--that it is wasteful of spectrum and that it is unpredictable in use over long distances--are soon reached. Two related changes may help alleviate these limitations.

First, the distance/reliability problem is being solved in some cases by using hybrid systems, particularly with satellite transmission, to cover the long distances reliably. The early Alaskan two-way satellite radio projects used an experimental satellite to cover the huge distances in that state. Now an operational commercial system carries the traffic. In Peru and the Philippines, plans are in process to link radiotelephones to satellite stations in order to get the best of both technologies. There, radiotelephones will be used to cover short distances between rural villages and one of several central satellite stations, thus achieving a high density of coverage at an affordable cost. The satellite stations will be used to link the radiotelephone users into the main telephone system and to transmit the calls hundreds of miles to the capital.

The simultaneous development of relatively inexpensive satellite earth stations with signal processing electronics that are appropriate for rural areas and of relatively powerful commercial satellites have made possible the emergence of rural telecommunications system that can link rural population centers to distant cities. These systems have a number of advantages over terrestrial systems. The equipment can be located at the point of service; there is no need for a difficult-to-install-and-maintain terrestrial system to stretch across miles of uninhabited country. Satellite signals can cover the distance in a single hop. The rural areas can be served immediately and in the order of their policy priority; there is no restriction related to the slow sequential growth of a terrestrial network from the capital outward to progressively more distant areas. Combining these advantages with the multiplier effect of serving many rural villages around each satellite terminal with cheaper radiotelephones holds out real promise for a workable system in the foreseeable future.

The second related change has to do with the problems caused by wasteful use of spectrum. Two-way radio systems have almost invariably been applied for a single purpose by one institution, such as for field worker supervision by a Ministry of Health. In such an application, the equipment usually sits idle a great deal of the time and is not well maintained. As a result, the capital investment and the spectrum allocation are underutilized, and the reliability is poor because of maintenance shortcomings. An obvious solution to this problem is slowly gaining momentum --installing a general purpose system to be shared by many users, and assigning maintenance responsibility to an institution (usually the national telecommunications entity) with the expertise and resources to do it adequately. The increase in efficiency of spectrum use and the cost-sharing among different users can make communications for any purpose much more widely available in rural areas. This model is followed by radio-based telegraph services in many countries; it requires only a small leap to apply it to voice services, yet many Ministries insist on installing their own single purpose networks. The necessary hardware for this innovation has existed for many years. All that is required is a clear vision and some cooperative action.

Peripheral devices

The mere existence of a transmission system will go a long way toward making possible improved training and support of rural primary health care workers. However, once such a physical transmission system is established, it becomes possible to reap even greater benefits by using it to support some specialized equipment. In this section the peripheral devices are grouped into two categories--those for transmitting visual information and those for specialty diagnostic use.

When training and/or consultation are to be major components of a communication strategy, the availability of visual capability may enhance the effectiveness of the system. A variety of devices have been developed for transmission of visual information over narrowband channels. These include electrowriters or electronic blackboards, which reproduce any schematic diagram or sketch at a remote site while it is being drawn by the instructor; facsimile transmitters, which function as remote copying machines, generating a duplicate copy of any text or picture at a remote site when the instructor or supervisor inserts a page; and slow-scan video, which transmits the image from a television camera one line at a time until the picture has been built up on a television screen at the remote site (a process which usually takes from 30 seconds to two minutes). Each type of device can be used to send information in either direction, although the implications for equipment cost at the remote sites vary greatly. Thus, for example, field workers could use facsimile transmission to send reports to their supervisors as well as to receive information or instruction. Each type of device also has a range of applications for which it is most appropriate. Choice among the technological possibilities obviously must be based on the specific application envisioned.

When teleconsultation is carried out over a two-way narrowband system, it is sometimes valuable to be able to transmit special diagnostic information in addition to simply discussing a case. Experimenters have developed a range of devices for transmitting electroencephalograms and electrocardiograms, as well as remote auscultation equipment. These are mentioned here for the sake of completeness; in general they probably surpass the limits of rural health workers' ability to respond to the implications for treatment. When devices like them have been used with rural care facilities the results have been mixed. The auscultation devices, or remote stethoscopes, require extraordinarily noise-free transmission channels to be effective--a condition not likely to pertain in developing country environments. EKGs can be transmitted to specialists for interpretation with little loss in quality; however, two problems arise. One is that, if a tracing can be made locally and one of the above-mentioned visual transmission devices is available, the tracing can often be better sent that way. The second problem is more fundamental. The limits to care in rural areas are usually not set by the kind of information that can be transmitted over a radio or telephone, but are set by the training, skills, and resources that a primary care worker can call upon. While the diagnostic peripheral devices may ultimately provide some increase in the quality of care in rural areas, they are almost certainly premature innovations in most less developed countries at

this time. The same is also probably true of most uses of X-ray transmission using one of the visual information devices.

Institutional Reforms

This presentation has advanced the argument that some new communication technologies offer the potential for considerable improvement in the training and support of rural primary health care workers. However, the realization of any of these potential benefits depends on the context of implementation. One major point about institutional change in connection with introduction of new communication strategies has already been discussed. That was the importance of adopting general purpose transmission systems shared by a diversity of users. Two other institutional factors are also worth mentioning.

The first is structural change or a change in emphasis within an organization. If any communication technology is to be applied to such tasks as continuing professional education, consultation, and administration, it must be recognized that changes in the organization's traditional patterns are necessary. Systematically planned uses must be developed, and resources must be committed to this. It accomplishes nothing to invest in a communications system for continuing education without investing in the development of training expertise within the Ministry.

The second institutional factor is to plan for responsiveness of the institution to information that flows through the communication system. This may require a major change in the reward system within the institution. For example, knowing that your field workers' drug supplies are exhausted will have a demoralizing effect unless the system is ready to respond to that need--both through committing resources to purchasing pharmaceuticals and through an aggressive distribution system that will make sure the worker receives a timely delivery. Changing these aspects of the overall system may prove to be a far more challenging task than implementing the new communication technologies.

THE USE OF TELECOMMUNICATIONS IN THE TRAINING AND SUPPORT OF PRIMARY HEALTH CARE WORKERS

Heather E. Hudson

Seminar Speaker

The growing emphasis on the needs of the rural poor in the developing world has focused attention on creating innovative means of extending health care to rural areas.[1/] However, it is generally difficult and very expensive to extend physician-based health care into rural areas. Not only are there shortages of physicians available and willing to serve in such areas, but the use of physicians in such contexts is often a poor allocation of resources. Rural areas also generally lack the supporting medical infrastructure which physicians rely on--laboratories, diagnostic equipment, and hospitals--and the provision of these facilities would be prohibitively expensive.

As a result of these constraints and of the great need to extend health services to rural developing regions, a cadre of health care providers or "primary health care workers" has been developed to provide basic curative and preventive care for rural populations. These workers range from "barefoot doctors" in China to "medex" in Guyana, "community health workers" in the Sudan, and "health aides" in Alaska.

Despite their varied training and geographical and cultural setting, these health workers have much in common. They are expected to provide basic care in their communities under very difficult conditions. Drugs and supplies may take weeks or months to arrive, patient evacuations may only be possible if a vehicle happens to be available, and help may be hours or days away.

Given these difficulties, two-way communications can serve many functions to provide support to isolated health workers. In many parts of the world, health workers use simple two-way radios (operated something like a taxi radio) to stay in touch with physicians at regional hospitals. In some cases the radios are used only for medical communications; in others they are shared with other government agencies. If telephone service is available it may be used for health communications. In Alaska, health aides use a "satellite radio," a special audio-conferencing network linking health aides to regional hospitals by satellite.

These various technologies provide several functions:

Consultation: In Alaska, health aides are in regular contact with a regional physician through a daily scheduled "doctor call." They receive assistance or confirmation in a diagnosis and patient management, and may request evacuation of patients who cannot be treated adequately in the village. In other systems, such as Medex in Guyana, health workers are expected to operate autonomously, and use the radios only for consultation for very unusual or difficult cases.

Administration: Telecommunications can enable more efficient administration of rural health care services, as radios may be used to order supplies, arrange patient transportation, coordinate logistics and followup on orders. In an emergency, a health worker can alert headquarters of an urgent need for antibiotics or vaccines. Routinely, health workers may save weeks or even months by placing orders by radio and following up on missing shipments.

Arranging transportation: Telecommunications can be used to provide emergency evacuations and to coordinate visits by nurses and physicians to the field. Flying doctor services (e.g., in Kenya and Tanzania, Lesotho, and Australia) generally have the frequencies of the terrestrial radio network in their aircraft so that planes can be directed in emergencies.

Supervision: Once a primary health care worker is trained and sent out to the field (or back to the home community) he or she usually functions virtually autonomously, with only infrequent visits by supervisors or special refresher training sessions. Two-way radio can be used to provide a form of remote supervision by giving guidance and feedback to health workers in the field.

Continuing education: Some telecommunications systems can be used for continuing education. In Alaska, health aides learn by "listening in" to the daily doctor call with other aides on the audio conferencing system. In Guyana, weekly "grand rounds" by radio are used to present cases to the medex and to quiz them on their knowledge.

Morale: Finally, but not inconsequentially, a communication unit can boost the morale of a health worker in a remote area. In Lesotho, public health nurses were adamant that if the government wanted to extend health services into the remote mountain areas, it was mandatory that communication facilities be supplied for clinics there. A health aide in Alaska enthused: "I use the satellite radio every, every, every day."

The Medex Two-Way Radio System in Guyana

A two-way radio network funded by USAID to provide communication to isolated paraprofessional Medex workers in Guyana illustrates the applications outlined above. Ten medex each have a high frequency radio in their clinics for communication with Medex headquarters in Georgetown, where the base station is operated from 8:30 to 4:30 daily. An analysis of logs kept of communications with each site shows the radios were used for the following purposes over the past nine months:

administration	43.6%
consultation	28.2
conferences	1.9
emergency	.8
other	25.5
	100.0

The "other" category includes use by other government agencies, and routine radio checks.

A high frequency radio system is a very limited means of communication. Signal quality is variable, and generally unreliable at night when there is interference from distant stations. Atmosphere, terrain and the type and location of the antenna may all influence signal reliability. Typically, the power supply is the weakest link in any rural communication system. In Guyana, two of the sites were powered by photovoltaic cells (small solar panels) used to trickle charge an automobile battery which powers the radio. The other sites were powered by automobile batteries recharged with portable generators. There have been maintenance problems with about one-third of the generators; also gasoline and oil are both difficult to obtain and expensive in remote areas. The solar panels require no fuel or maintenance, and have had no outages during the one and a half years of the project. We concluded that all future radio sites should be solar powered, and that the other remote sites should be converted to solar power.

The key to the success of the medex system appears to be the strength and professionalism of the Medex organization. The field staff can rely on the operators at Medex headquarters to follow-up on messages and requests, to get answers to questions about referred patients, to track down shipments of drugs and supplies, to find and expedite delayed paychecks. Thus confidence in the system is high. In turn, the Medex organization ensures that the equipment is properly maintained--through a contractual agreement with Guyana Telecommunications Corporation (GTC) and a generous supply of spare parts. If a radio develops a problem, a spare is sent out, and the faulty radio sent in to Medex headquarters which calls on GTC to repair it. The maintenance contract ensures that technical problems are dealt with promptly.

Several major issues in planning a communication system to support rural health workers were encountered in planning an extension of the pilot project network. First, the extended network was to serve the Ministry of Health (MOH) rather than just the Medex program. And second, expansion of the network required an examination of alternatives, to determine if other communication facilities in the country could meet the MOH's needs.

It was necessary to take into consideration the organizational structure of the Ministry of Health--for patient referral, administration and supervision. The Ministry is committed to decentralization of services. Therefore, it is important to link regional hospitals into the system, as they will become the focal points for these functions. However, transportation routes to some parts of the interior are not regionalized but radiate like spokes of a wheel from Georgetown. Therefore, patient referrals from some regions are likely to continue to be to Georgetown for the foreseeable future, and corresponding communication links will be required.

Within this framework, a set of guidelines and criteria were developed to identify priority sites for the expanded network. MOH officials decided that the Medex headquarters base station should be linked to the Ministry of Health offices and to Georgetown Hospital to facilitate administration and patient follow-up. In the field, it was proposed to

provide communication first to health workers based full time in remote or isolated areas--e.g., without reliable transportation, or cut off for extended periods during the rainy season. Most of the sites in this category were in fact Medex locations; however, a few were designated for public health nurses and malaria workers. It was also proposed to provide radios to community health workers in regions which are totally inaccessible during the rainy season.

Meetings were held with Guyana Telecommunications Corporation and with other ministries that operate radio systems in the interior. It was found GTC had no definite plans to extend the telephone system to the interior, and that it endorsed the extension of the MOH system. Other government networks were found to be much less reliable than the MOH system--because of lack of spare parts, no formal maintenance procedures, and/or apparent pilfering of equipment.

We were forced to conclude that extension of the Medex radio network was the only viable means of meeting the MOH's rural communication needs. A system was therefore designed, building upon pilot project experience, dividing the country into four zones, each of which would include at least one regional hospital and associated rural health workers. One frequency would be dedicated to each zone on the currently unused fourth channel. The other three channels will be available for communication with Georgetown or any other location in the network. This design should meet the MOH's requirements for decentralization as well as integration of the Medex into the health care system.

Conclusion

The above are several functions of two-way communications to support rural primary health care, illustrated by the Medex Guyana system. Several other examples could be cited.

Perhaps the best summary of the value of two-way communication was given by a remote doctor interviewed by the author over a two-way radio system in the Cook Islands:

Interviewer: "What did you do before you had the radio to get medical advice? Over."

Outer Island Doctor: "Just prayed to God. Over."

NOTES

1/For additional discussion, see: Goldschmidt, Douglas, Heather Hudson and Wilma Lynn. Two-Way Radio for Rural Health Care: An Overview. Washington: Academy for Educational Development, (May 1980).

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IV. PROGRAM SUPPORT OF PRIMARY HEALTH CARE WORKERS

ADAPTING SUPPORT SYSTEMS TO LOCAL NEEDS

Allan Rosenfield*

Seminar Speaker

Clear and detailed job descriptions, effective and appropriate design training programs, and practical and on-going supervision are all essential components in the expansion and utilization of primary health care workers (PHCWs). Equally important is the adaptation and implementation of the necessary support systems appropriately adapted to local needs to allow PHCWs to carry out effectively the tasks to which they are assigned. By definition, primary health care programs in most rural settings are conducted outside hospital and health center facilities with PHCWs working at the village level, often without direct supervision or consultative services being readily available. We shall attempt in this paper to discuss a number of the support systems which are so essential and are not infrequently insufficiently considered in the development of such programs.

Transportation

Effective and appropriate transportation for both the PHCWs and for their supervisors can be a major problem. Supervisors often are assigned to cover wide areas without the means of transportation to get there. In some circumstances a project may provide the necessary vehicles but the budget includes insufficient funds for gas, oil and general maintenance. Not infrequently, the vehicles that are available may be utilized by senior officials for other than program-related purposes, thus making them unavailable to the supervisory staff.

Spending time out of the office is more difficult and demanding than time in the office and many "supervisors" will find reasons to spend their days at their desks with excessive amounts of paper work, rather than carrying out the assigned supervisory functions. Ministries can, however, make available a sufficient level of per diem payments to make supervisory time out of the office more attractive. Effective means of transportation, sufficient funds for gas, oil and maintenance, and realistic levels of per diem payment are all essential support components if the supervisory system is to function.

The PHCWs often are called upon in some program settings to cover a number of villages. Again, the transportation needs are often not given sufficient consideration, and many workers are expected either to walk from village to village when they are reasonably close together, or to make use of whatever public transportation might be available. Where a project does give consideration to the transportation needs of both the PHCWs and the supervisors, a variety of means of transportation should be

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considered. In some cases, four-wheel vehicles may be available for higher level supervisors, while motorcycles or bicycles may be appropriate for some levels of supervisors as well as for the PHCWs. In some areas other means of transportation may be absolutely essential. For some of the islands of the Philippines and Indonesia, for example, boats are the only effective means of transportation, and the size and type of boat varies widely from one area to another. In other areas horses or mules may be the most appropriate means of transportation. The recommended type of transportation for PHCWs will probably differ from one part of a country to another. In a pilot project in one province in the Philippines, where flexibility was possible, PHCWs in different settings utilized bicycles, motorcycles, boats, horses, and local transportation systems. Some of the donor agencies involved in providing project support often have difficulty adapting their regulations and policies to allow the purchase and use of such means of transport. For example, international specifications and bidding procedures rule out locally constructed boats adapted to special needs in many parts of the world. Sometimes it may make more sense to provide travel allowances so that workers can make use of locally available transportation systems, including buses, pedicabs and boats. In some instances where transportation problems cannot be overcome, PHCWs may need to be relocated so as to be within walking distance of the area to which they are assigned.

Communication

All too often village-based programs are designed in the capital city, making very little or no use of the local infrastructure for support. Educational campaigns may be planned without adequate community consultation and without utilization of effective locally available resources. One example of the use of local resources is the family planning program on the Island of Bali in Indonesia which has made very wise use of the Banjar (or community council) system in Bali as the center for the local program efforts for communications and motivation. Similarly, in some East African villages a network of market workers has been effective as a source of communication. Vendors and buyers who gather at central marketplaces often represent most of the surrounding villages, and can serve as messengers and couriers for residents of their villages. One health program utilized bicycle repairmen, potters, and vendors in the markets to communicate with rural villages, and to carry supplies. Similarly, in many areas puppet shows, story tellers, and other local entertainers can be particularly appropriate conveyers of important health education messages. In addition, where available, local radio stations and poster boards can play important roles.

Logistics and Supplies

One of the major problems in village-based programs relates to the logistic systems. If supplies are necessary for the program activities, it is essential that they be available at the service site. In family planning programs, for example, it is absolutely essential to have available at least a small stockpile of the various contraceptives used, particularly oral contraceptives and condoms so that they are always

available for those clients currently practicing those methods. In a number of countries there have been intermittent problems with such supply lines.

Similarly, if a project is embarking on an oral rehydration campaign, in which prepackaged salt and glucose mixtures are to be used, it is important that these packages are available when needed. (If the workers are appropriately trained, at least in the case of the oral rehydration program, it is possible to substitute locally mixed solutions of salt, sugar and water, if the prepackaged material is not available).

While most ministries of health have not made use of the commercial sector, consideration should be given to such channels since the commercial sector has had success in providing supplies of a number of products to village outlets and keeping those outlets well stocked. Some population programs have subsidized the commercial sector in developing their marketing efforts; social marketing programs for contraceptives have been developed in Sri Lanka, Bangladesh and more than 50 other countries. Because a significant portion of disposable income is spent on medicines and health care even in the poor areas of most countries, this subsidized use of commercial supply channels is often an appropriate supplement to other health delivery systems.

Another means of drawing on the resource represented by local expenditures for medicines--often inappropriate and overpriced drugs--is the development of community controlled cooperative drug stores. Several countries, including the Philippines and Nigeria have developed cooperative drug stores permitting community residents to purchase appropriate drugs at low costs. A number of the community-based family planning programs have made use of the homes of village volunteers to serve as depots for some of the contraceptive supplies. Some of these depots have been expanded to be the location for oral rehydration packets and other medicaments allowed to be distributed in such village programs. Whatever channel is selected, providing the necessary funds and management effort to keep the supply channels open is of critical importance to the success of the PHCW programs. It is worth noting here that few community or village programs have been effective when PHCWs are only allowed to provide preventive interventions. The ability to distribute at least a few curative agents, in our opinion significantly increases receptivity within villages and allows the PHCWs to carry out the various preventive efforts that are part of their job description.

Special problems relate to the cold chain for vaccines and other drugs requiring refrigeration. A number of research efforts are underway to attempt to solve this problem, but for most villages without electricity, it continues to be a difficult issue. In many instances mobile units remain the major answer to this.

Facilities

In some programs, emphasis has been placed on the building of health facilities, at relatively great expense, for use by PHCWs. In some instances, even small village level health centers have been built to

international specifications as is the case of the World Bank program in Indonesia, rather than using much less costly local building materials and methods. In some programs the community will donate or build a building for the purposes of the project. This is, of course, particularly useful as a demonstration of the community's support. Perhaps most appropriate is the utilization of existing structures, including schools, community halls, temples or churches or even private homes. Such locations can serve as depots for supplies and as a site in which the PHCW can see the clients requesting services. Major allocations toward the building of new structures, at the expense of limited funds for personnel seems inappropriate in most programs.

Record and Reporting Systems

Emphasis should be placed on the development of the simplest record and reporting system possible. Where supplies are sold, inventory reporting may be the only record keeping that is essential. Where illiterate workers are used, nonverbal materials can be prepared for daily use. It should be stressed that in some rural communities such illiterate workers may be by far the most effective and should not be denied recruitment to the program because of their illiteracy. Oftentimes the young man or woman educated at high school and brought in from an outside town to a village is far less effective. Record systems should not be the reason for not employing such individuals. An experiment tried first in Nigeria is the provision to the client of a home-based record. These are particularly appropriate for child care, pregnancy care and other types of services where visits are repetitive in nature. When tried, the home-based record appears to have been quite successful with women considering them important and keeping them.

Conclusions

The support elements for primary health care programs must be kept simple and flexible. A variety of supply, transportation and community channels exists and these should be utilized where possible. Programs may be integrated with others of local priority including projects for raising of animals and marketing products. In some cases a variety of indigenous practitioners are available and their skills, which often are accepted by the population, should be built upon. For those practitioners utilizing drugs, the supply lines they use should be explored. Even where training and supervision is effectively planned and implemented, programs are doomed to failure unless a variety of support activities are given high priority with carefully planned systems established.

Because the most appropriate types of program support--such as transportation and supply lines--vary widely from one country to another, and often within one country, program designs should maintain flexibility in these areas. This is particularly true for new primary care programs intended to reach areas where current health programs have little impact. The use of pilot projects to assess local resources and their use is well worth the time and expense required and the careful observation of variations of performance in a new program will often uncover a local worker who has successfully adapted the program design to local conditions.

EXAMPLES OF THE CHALLENGE OF ADAPTING PROGRAM SUPPORT TO LOCAL REALITIES FROM THE MALARIA ERADICATION PROGRAM

Edgar A. Smith

Plenary Speaker

The lessons to be learned from the past 30 years of experience in the worldwide malaria eradication campaign can be of great value in planning any other health progam which is attempting to reach and influence large numbers of people.

The world-wide malaria eradication program starting in 1956 was promulgated by the World health Organization (WHO) and supported by the countries themselves with major assistance from UNICEF and USAID and with lesser assistance from a number of other donors. The WHO provided technical advisory services, and support of training and research. UNICEF provided commodities including insecticides, drugs and vehicles as well as assistance for fleet management and vehicle maintenance. USAID provided commodities, technical advisory services, support of training and in some cases, local currency support.

At the peak of the malaria eradication effort in the 1960s, approximately 1 1/2 billion population in the 95 countries with malaria programs at that time were being protected from malaria by the combination of residual house spraying and drug treatment. The methods used for eradication of malaria were relatively simple and straightforward. Malaria eradication strategy called for the spraying of indoor walls of all the houses in all the malarious areas with a persistent insecticide such as DDT which would kill mosquitoes landing on the sprayed surfaces for six months to a year afterwards, thus breaking the cycle of transmission of malaria. This so-called "attack phase" was supposed to continue for at least four years or until malaria was reduced to a relatively low level. Spraying once or twice a year depended on whether transmission in the particular area was seasonal or perennial.

The "consolidation phase" involved organization of a malaria case detection and treatment system by means of a network of house visitors or surveillance agents to visit every house in every village in all the malarious areas on a bi-weekly or monthly cycle. The house visitor asked if anyone in the household had had fever since his last visit and if so he took a blood smear and provided a presumptive dose of anti-malaria pills. If the malaria slide later proved positive on examination in the laboratory, a return visit to the house provided radical treatment of malaria. This case detection and treatment program was to continue until no new indigenous cases were detected for three years.

Under the "maintenance phase," continued vigilance against malaria became the responsibility of the regular health services and the malaria eradication apparatus could presumably be dismantled or integrated with the health services.

Conduct of a program according to these guidelines should theoretically result in eradication of malaria from a given area in eight years. In actual fact, of course, this only happened in a relatively small number of countries (36 out of 146 countries with endemic malaria) and most of these were in temperate climates or island situations. This included such countries as Taiwan, Cuba, Jamaica, Mauritus, Italy, Spain, Bulgaria and Yugoslavia. Although the objective of world-wide eradication of malaria was not even approached, this in no way mitigates against the tremendous benefits resulting from the program.

Probably the peak year of accomplishment towards the objective of eradication of malaria was reached in 1968 when WHO reported that 651 million people were living in areas where malaria had been eradicated and another 702 million were being protected by malaria eradication programs. Results in individual countries were even more spectacular. In India, between 1953 and 1965, malaria was reduced from 75 million cases a year to 150,000--a 99.8 percent reduction. In Sri Lanka malaria was reduced from 2-3 million cases per year to only 17 cases in 1963. In most countries of Asia, Central and South America, the Caribbean area, North Africa and the Near East malaria was quickly knocked out of place as the number one disease problem by the malaria eradication campaigns of the 1950s and early 1960s.

Unfortunately, it was these early spectacular successes which set the stage for a major resurgence of malaria in many of these same countries. The remarkable success of DDT house spraying, combined with drug treatment, led to complacency, loss of priority, loss of budget and premature cessation of the pressure against malaria. The development of technical problems such as vector resistance to insecticides and parasite resistance to anti-malaria drugs in recent years makes it much more difficult and expensive to bring malaria back under control.

With this brief recapitulation of the rise and fall of the global malaria eradication program let us now consider some of the lessons to be learned from 30 years of what has been called by many writers the largest public health program the world has ever known. And justifiably so, if you consider the magnitude of a single country program such as India which at its peak was using 15 to 30 thousand tons of insecticides annually, had 2700 vehicles, 150 to 160 thousand employees and was covering about 96 percent of the total population of over 400 million at that time.

Let us now consider some of the problems encountered in implementing a program of this magnitude.

Cultural Problems

Cultural problems exist to some extent in every country and in some cases constitute a hindrance to program implementation.

Attitude towards time. Foreign advisors are often frustrated by inordinate delays, postponed meetings and inaction. In Indonesia, a favorite saying is "waktu karet" which may be interpreted as meaning "time is

rubber" or "time stretches." Malaria eradication or control programs relying on insecticide house spraying as a principal method can only succeed by meeting rigid time schedules in relation to the epidemiology of malaria. It was therefore necessary to promote cultural change. This was accomplished in some countries by the diligence and perserverance of strong program directors through training, supervision and disciplinary action. The process was slow and required much patience and understanding.

A caste system exists in some countries based on civil service grade, academic degree or in some cases, race. This is one of the realities which may not be at all obvious to the uninitiated, but which can seriously interfere with program implementation. In one Asian country there is a de facto caste system by civil service grade resulting in numerous delays in program implementation. In actual practice, a senior grade officer in the program would not go to a junior officer to ask for anything as that would be beneath his dignity. On the other hand, he would not go to his director, a higher grade officer, for if he was turned down, it would be a loss of face. The same thing holds true in the field between the malaria officer and the local health officer making for an impossible situation and guaranteeing non-cooperation.

The director of the program was well aware of the problem and on numerous occasions told his senior staff that his door was always open to them and urged them to come to him with their problems at any time, but they just didn't do it. I would not say that the problem was ever satisfactorily resolved, but ways were found to go around it. On numerous occasions regional directors or senior headquarters staff would say to me, "The next time you are talking to the director, would you tell him that I need such and such." I did so and even if he didn't get what he wanted there was no loss of face involved. Regional advisors served the same middleman function between the regional directors and the local health officers as well as between the regional directors and their senior staff of zone chiefs. Furthermore, Peace Corps volunteers served a similar function between zone chiefs and sector chiefs. Not a very satisfactory long-range solution, but adequate to get the job done at the time.

Graft and corruption is a way of life for many people in many countries not excluding our own. The malaria eradication program fell an easy victim to many ingenious schemes.

I recall that on one of my first field trips in Indonesia some 25 years ago, we were visiting an area in South Sumatra where the spraymen were only averaging four houses per day instead of the 10-12 per day that they should be doing in that remote area of scattered houses. It turned out that the enterprising spraymen were approaching the householder and asking, "Do you want your house sprayed today?" If the householder said yes then the sprayman would say, "That will cost you 50 Rupiah." On the other hand, if the householder said no, then the sprayman would say, "I am supposed to spray your house, but if you pay me 50 Rupiah then I won't spray it, but I'll have to mark it sprayed."

When I was assigned to Thailand in 1960, I was told that there was some scepticism in Washington, D.C. as to the reliability of the data coming from the malaria program. On my first field trip I confirmed that the scepticism was well-founded. I took with me on this trip to an up-country field headquarters, a local hire USAID employee who had formerly worked in the malaria program. As we went into the field headquarters, I said to my assistant, "The malaria officer will tell me what he wants me to know and show me what he wants me to see. While we are talking, suppose you go out in the back and talk to the men who are doing the work and find out what their problems are." As we drove back I learned that all of the house visitors for the area were in the house next door drinking tea and talking. They hadn't visited a single house all week, but they were submitting their surveillance reports regularly. Apparently their supervisor was away for the week. They resented the fact that he always collected his maximum of 25 days per diem every month, but rarely left the office so they decided to do the same while he was gone.

Subsequent investigation revealed that in many areas surveillance figures and house spraying data were not reliable. Many field supervisors were hiring the appropriate number of house visitors and spraymen and firing half of them a few days later, pocketing their money and pushing the men to try to cover twice as many houses as they should be doing. Since they couldn't possibly keep up, they naturally faked their figures.

This information was presented at a meeting of the senior regional and headquarters staff of the malaria program. One malaria officer objected to discussing these matters saying that such subjects should be discussed in a closed internal staff meeting. The director said that since AID had paid the lion's share of the cost of the malaria program, he did not think there was anything about malaria that could not be discussed at this meeting. For the next 2 1/2 hours we all discussed ways and means of graft and corruption in the field program and what could be done about it.

Shortly thereafter the director visited each regional office and gave the malaria staff an ultimatum. In effect he said that he was well aware of the practices that had been going on in the field, but that in the future anyone indulging in these practices would not only be fired, but would be criminally prosecuted. During the next several years he made use of every disciplinary provision of the civil service code even including the firing of government employees. In this case the determination of a strong director successfully reduced graft and corruption to a minimum and converted a very poorly conducted program to a successful well-managed program.

Supervision. A part of the solution to the above mentioned problems was the system of supervision developed in most malaria eradication programs. During the mapping of every house in every village of all the malarious areas, each house was assigned a number and a house card was attached to a protected wall of the house. In a single year this could include 12 visits to all houses by the surveillance workers (24 in India); 1 to 3 visits to all houses by the spray squad, two or three

visits to inspect the spray job on a random sample basis, two to six visits by a supervisor to check the adequacy of the surveillance, and a series of return visits to give radical treatment. This meant that in a single year an individual house might be visited by malaria personnel from 10 to 30 times in a single year.

There is a constant up-hill fight on the part of the supervisor to insure that the work is carried out on schedule. Every malaria program has its stories of the ingenious methods devised by field workers to avoid work. House cards where signatures for six months in a row have all faded the same amount from the sunlight quickly reveal that the house visitor signed for six months in advance and never went back for six months. Dozens of positive malaria slides all taken from a single patient may go undetected until somebody tumbles to the fictitious names. One surveillance worker was fired on the spot when his supervisor saw him coming out of a slaughter house with his bag full of blood slides.

Insecticides. At the peak of the malaria eradication program during the 1960s an average of 45 million pounds per year of DDT was being provided to the malaria programs of the world by AID. Most of the countries did a remarkable job of handling the logistics of getting their tremendous quantities of insecticides out to the remote villages for use on time. Delays when they did occur were usually administrative red-tape types of delays in the actual placement of the order or in clearance through customs. Insecticides should normally be ordered at least six months before needed in the country. In India one year the order was placed by the National Malaria Eradication Program (NMEP) in July for January delivery which was necessary for transshipment by train and truck to remote areas by March for April - June use. The order was not actually placed by the Government until January. Under the file system in use in India (similar to the U.S. Army correspondence system) all pertinent papers are added to the file which is forwarded from office to office with each one adding its comments.

Apparently this particular file bounced around from July to October from the Ministry of Health to the Department of Economic Affairs to the Ministry of Petroleum and Chemicals (MPC) and back again and again and again. The NMEP was unable to find out what the problem was until October by which time the file was a good 6 inches thick. At a meeting in October between the NMEP and the MPC it was learned that MPC had made a unilateral decision to permit import of technical grade DDT only. This was so that local small businesses could be developed to formulate the water dispersible powder used in the malaria program. However, they had not informed NMEP of this decision. The MPC was asked if they had done a survey to determine how many small businesses were interested and had the capability of formulating DDT. They had not. They were also asked for their estimate of how long it would take to formulate the 3,000 tons of technical grade they insisted on ordering. They had no idea. The file bounced back and forth for another three months with arguments over how much technical grade DDT to order. The order was finally reduced to 1,000 tons of technical grade with the balance 75 percent water dispersible powder. The order was finally placed in January. Fortunately the manufacturer had stock on hand and shipping was expedited for delivery in

March which was half the normal lead time, but still was three months late since it should have been in place in the remote villages by then.

Incidently, it took 4 1/2 years to formulate the 1000 tons of technical grade DDT. After this experience I felt that if it was possible for a country to strangle itself on its own red tape then India would be the first to do so. But of course that was before I had ten years experience in Washington D.C. with USAID programming procedures.

Vehicles. Fleet management and maintenance of vehicles is a problem for all programs. Most malaria programs realized very early that they had to organize their own vehicle maintenance program and put on their own driver training course for professional workers as well as for drivers. It must be recognized that having a vehicle is a source of prestige and this leads to problems. I recall a provincial malariologist who appreciated having a shiny new jeep so much that he took very good care of it. So good in fact that when he went off to the U.S. for an MPH, he locked it in his garage so it would still be shiny new when he got back.

An illustration of the quality of the vehicle maintenance programs developed for the malaria vehicle fleet is the fact that so many malaria jeeps were kept running for 10 to 15 years and some even for 20 years. This was in spite of the fact that six years was considered the normal life expectancy for a jeep when used under the rugged field conditions required of a malaria jeep.

In Haiti the Ministry of Health is establishing a ministry-wide motor pool (fleet management and vehicle maintenance operations) by expanding the successful malaria program motor pool.

The Use of Volunteers. Malaria programs in Latin America started using voluntary collaborators in the 1950s. Most countries established an extensive network of village volunteers to take blood smears from villagers complaining of fever. They dispersed anti-malaria drugs as a presumptive treatment. The slides were sent to or were picked up by malaria program personnel. In spite of a fairly high turnover, the voluntary collaborator program worked quite well in the Americas.

When the use of volunteers was suggested in Indonesia, India and Thailand, the immediate response was to the effect that though it might work in Central America, it would never work here. However, when it was tried it did work in all three places. There are some pitfalls in the use of volunteers to be avoided as illustrated by these incidents. An enterprising state malariologist in the Indian state of Gujerat organized a series of village malaria committees which he was bragging about to me as we drove through the countryside. I asked if we could stop and visit one so we did. The chairman of the committee was the head of the town council so he called a meeting of the committee to greet his visitors. He opened the meeting by saying that he had been seeing the clasped hand emblem on boxes of DDT which were used to spray his village for many years so he knew that this assistance was coming from the United States, but that this was the first time he had ever met an American and was very

happy to have the opportunity to thank somebody from the United States for all the assistance given to his country. When asked what the village malaria committee did, he replied that the committee had been set up a year ago, but that nobody from the malaria program had ever been back to ask them to do anything.

In Thailand, a retired senior health official in discussing the use of volunteers for health programs in Thailand expressed doubts as to the possibility of success because he said there were not enough government employees to provide adequate supervision.

These stories indicate that a village volunteer system is only as good as the supervision, encouragement and support provided by the government program.

Training

Although training has a whole series of problems of its own, for the purposes of this discussion is should be considered as a means for solving or at least alleviating the problems we have been discussing.

The need for multi-disciplinary training of senior officials in the malaria eradication programs was recognized early and led to the establishment jointly by USAID and WHO of a Malaria Eradication Training Center in Jamaica in 1958.

When malaria was eradicated in Jamaica, a similar center was established in Manila in 1963 and continued functioning there until 1973. During the 15 years of the two training centers, thousands of malaria professional and sub-professional personnel from all continents were trained in malariology, entomology, parasitology, epidemiology, engineering, field operations, logistics, management, health education, teaching methods and many other subjects. In my opinion, the excellent training given at these centers assisted many malaria officials in moving into senior positions of responsibility in their own Ministry of Health.

In hindsight, there were three mistakes made in connection with this training program. Firstly, the training program was operated through the Ministry of Health and had no relationship to the Ministry of Education and the Universities. Although a working relationship was proposed in Manila, the two ministries could never get together. Secondly, no outreach program was ever developed to assist national training programs. This was proposed, but funds were never available. Thirdly, the program was terminated prematurely leaving a continuing need, but no way to meet it.

National Training Centers were established in many of the larger countries. Some were excellent and some were barely adequate. Unfortunately in some countries people were assigned to training who had no background in teaching or training, but just happened to be available. On the other hand some countries deliberately assigned some of their very best people to the training program. At the request of some of the countries, METC in Manila was requested to organize courses to train the

trainers and these courses were quite successful. The National Training Centers trained field supervisors, entomologists, parisitologists, microscopists and health educators, and put on special courses for general health service personnel. Spraymen, house visitors and squad chiefs were trained locally in the field.

There are many other lessons to be learned from the experience of the malaria eradication campaigns such as the development of an external independent evaluation system and the development of vehicle maintenance and fleet management systems. The use of American Peace Corps Volunteers in several country malaria programs constitutes a success story for the most part, but also provides examples of some failures. Also the integration of the malaria service into the general health services when the maintenance phase was reached provides some very good and some very poor examples. Suffice it to say that it could be quite profitable for those working on the development of primary health care programs to study the experience, the successes and the failures to be found in the history of the world-wide malaria eradication effort.

Just a final word on the future of malaria programs. After many years of almost total dependence on the two-pronged approach of residual spraying of houses and use of anti-malaria drugs, most countries have recognized that in view of the technical problems of insecticide and drug resistance, it is now necessary to go to a comprehensive malaria control approach using all available methods including source reduction, water management, larviciding, space spraying and biological control as well as the classical eradication methods of house spraying and drug treatment.

Furthermore, the trend now endorsed by WHO and USAID is in support of the planning of malaria control programs as a part of or in relation to the primary health care program.

REACTIONS TO THE CHALLENGE OF ADAPTING PROGRAM SUPPORT FOR PRIMARY HEALTH CARE TO LOCAL REALITIES

Ronald W. O'Connor

Plenary Speaker

Vertical vs. Horizontal Programs -- A Political Question

While the debate goes on regarding the technical aspects of vertical and horizontal (or comprehensive) programs of primary health care (PHC), more and more of it sounds like debate rather than substance. None of the presentations at this meeting took a position on the issue, with good reason. All countries have some combination of existing structures on which further health services must be erected. They do not start with a clean slate on which the ideal solution may be written; hence a pure question of vertical vs. horizontal is usually irrelevant to the realities we face. Further, the issue is usually one of political power -- who (what faction or group within the Ministry) is going to be strengthened by concentrating resources in their hands? Will they get the job done better than anyone else? If our mandate is to adapt program support to local realities, then we should recognize the vertical/horizontal issue today primarily as a political rather than technical one, which can only be productively addressed in context of a particular country situation.

Initial Training in PHC Is Not the Problem

Experiences shared at repeated sessions of this meeting confirm that we have learned a lot about practical approaches to initial training as evidenced by the widespread adoption of task-oriented, competency-based, participatory learning strategies. At the same time, once workers are in the field, continuing support remains a universal problem. Yet while agreement on this point may be broadening, many will admit when pressed that they feel that continuing support -- supply, supervision, and finance to pick three examples -- is a morass of mundane, repetitive, and unrewarding work: a series of endless and thankless tasks which someone else should worry about. Indeed, probably few of this meeting's participants would identify their primary jobs as program support. Planners, policy makers, managers, trainers, communicators: yes. But program supporters? Not many.

Implications for Program Support

If program support is the problem, what are the implications for our roles and for the organizations we work through? Let's continue to use supply, supervision and finance as examples. How many people in our organizations are really interested in these aspects of program support? How many are experienced in working on supply systems? How many are rewarded for working on local financing mechanisms? "Not many," will

again be the answer for most, I'm afraid. If we are to meet today's PHC needs the message is clear: we, and our organizations must adapt.

Stated plainly, the day of the well-intentioned generalist in PHC is past. Today, little can be accomplished on a national scale unless a developing country organizes it's own political and management will to act; countries that are so motivated have generalist skills, and will increasingly use outsiders only to supply specialized technical services and advice which is otherwise unavailable. Organizations which can adapt to this reality will have useful and desired services to offer. Those who do not will face increasing resistance in the developing world, and eventually from their financial supporters and constituencies at home as well.

PHC Support Organizations

We must face large-scale PHC problems through organizations with significant strengths and deficits. We have only three organizational vehicles to deliver the practical solutions necessary for PHC; government, local and private/voluntary organization (PVO) initiatives, and the private business sector: each with inherent capacities and constraints that must be considered.

1. Governments have a mandate to serve the people, but have large credibility problems in practice. Their propensity to promise a lot and make policy pronouncements which are not followed through with workable programs is widespread. Hence, they are viewed skeptically by the people, and their performance confirms that government alone will not meet the PHC challenge through direct services.

2. Local and PVO initiatives are often undertaken with great energy, dedication and inspired leadership, but tend not to be replicable on a large enough scale to meet national PHC needs. For wide replication, systems must work most of the time with average people, who would just as soon do a good job as not, but who have families, obligations or other aspirations that are important forces in their lives. Much can be learned from these experiences, but the selfless and dedicated workers they often attract are too scarce a commodity to design a health system around.

3. The private sector reaches into every community with great market skills and delivery networks which are rarely used by the public health establishment. Exceptions do exist, such as the contraceptive distribution programs, but the profit motive of the private sector inhibits many potential relationships to public efforts. Yet, here lies the only substantial reservoir of expertise in building viable program support systems. The private sector supervises, supplies, communicates and finances better than government or local/PVO efforts because survival depends on it -- a motivating force which insures that program support adapts to local reality and is never viewed as mundane or unworthy of attention.

If we are seriously interested in feasible solutions (talk of optimal solutions at these meetings is surprising when we work in such imprecise, multifactorial environments), we must exploit the strengths and recognize the deficits of all three legs of the PHC stool. Governments can provide a large share of services directly, but their greater strength and potential lies in setting policy guidelines which will facilitate local and private sector initiatives to reach the majority of the population which are otherwise underserved.

The private sector remains the biggest untapped opportunity for PHC delivery and support. It is short-sighted to limit ourselves to sporadic attacks on the private sector for their mistakes, such as in the infant formula controversy. They must of course be called to account, but they should also be called to develop limited partnerships that recognize the strengths and self-interests that the parties bring to the table.

Let's take one example -- the distribution and use of basic drugs. If we are truly interested in practical solutions to primary care problems and not merely in protection of professional prerogatives and empires, the existing need and market demand for simple drugs is one good place to start. In many countries the pieces are all there. Surveys confirm that even remote rural villagers beyond the reach of our formal health services already spend their own money buying medicine, from shopkeepers and local practitioners who are supplied through the commercial network. Why not recognize this reality and exploit the process to serve national PHC needs, using all three mechanisms in concert?

Government could set the policy guidelines: say, limiting the program to a few simple, safe and effective drugs for important health problems, (i.e., penicillin tablets, anti-malarials, oral rehydration salts, contraceptives); specifying packing in course-of-treatment units with pictoral and written instructions; adopting pricing policies which allow a profit and support of inservice training for shopkeepers, as well as public education in problem identification and appropriate treatment. Local and PVO initiatives could help implement training and education programs, evaluative feedback for program improvement and referral mechanismsm for serious problems. The private sector provides access to the underserved majority through market mechanisms. It's an inexpensive experiment to try compared with the usual primary care pilot projects which must create and sustain support systems rather than simply exploiting existing opportunities.

The Fallacy of Free Primary Health Care

Finally, to a central fact and face of reality we need to remind ourselves of: there is no "free lunch" in primary health care. A great and even fatal flaw in many PHC efforts is the political platitude of free services for all. Many countries espouse the policy, perhaps because their predecessors embraced a political promise that its hard to change publicly, and perhaps partly because of the impression that "other" countries do it. The tragedy is that, in fact, no one does it successfully, and everyone is victimized: the people receive obviously inadequate

service and know it; Ministry of Health staff are dispirited in trying to work without resources and are discredited by the people; and the local/PVO programs which already charging for services that are worth something are flooded with demands they can't meet and are frustrated with public program inadequacies and hostility. Its a vicious cycle.

There appears to be no single example of a PHC program which is extending its reach to national proportions on the basis of free services. The fact is that somebody pays if something is offered, and governments, PVOs and the private sector cannot change that fact. Ironically, we know that people even in the poorest rural areas can and do pay for some health services, often much more on a per capita basis than governments could ever allocate. To ignore this fact is to miss our greatest practical opportunity to help create viable PHC systems. In a sense it makes us all guilty of malpractice on a massive scale.

Many of us, and our organizations, may well be wasting our time in pursuit of a self-defeating strategy when we work with PHC programs that do not at least experiment with alternative approaches to financial self-sufficiency -- particularly when the evidence exists that people can and will pay for something they value.

ALTERNATIVES TO CLINIC-BASED FAMILY PLANNING PROGRAMS

Samuel D. Benjamin

Seminar Speaker

Most new programs of the International Planned Parenthood Federation (IPPF) have been devised as cost-effective service delivery methods that could increase the population penetration of family planning and other health technologies in the developing world. These models have been designed especially to meet the needs of poor rural and urban communities where accessibility to family planning and other health care facilities has been particularly impaired by poor transportation or limited, if any, economic and social resources within the community and family.

Therefore, the programs are designed to:

1. Improve accessibility;

2. Reduce institutional cost;

3. Reduce user barriers such as time, travel, communications;

4. Improve patient acceptability; and

5. Be easily replicable.

Basically there are four types of activities used in the IPPF:

1. Commercial projects which motivate and assist people to buy family planning commodities in normal retail outlets or community sites at subsidized prices;

2. Community-based projects (CBD) which use some specially created or existing network of part-time helpers in local communities to motivate other members of the community and provide them with contraceptive supplies and services;

3. Clinic extension projects which, although basically in the above category consist of a network of helpers who are centered at government or private clinics from which they draw supplies and technical/organizational support, and

4. Integrated community-based projects which deliver not only family planning supplies and services, but work in the community organization and development.

Commercial Projects

Commercial projects show potential for not only making contraceptive and health commodities reach many more people than traditional delivery systems, but they show potential for making a significant health impact while generating income for further commodity purchase. In Haiti, IPPF is developing, along with some other institutions, a program that will retail condoms, oral contraceptives, foaming vaginal spermicidals, oral rehydration tablets or packets and anti-parasitics. Some of these products are already being sold at almost 1/5th the cost of comparative supplies on the market. In addition, the marketing campaign will promote not only the purchase of the goods but why one should use it, when it should be used and when it is not appropriate. Professionals throughout Haiti, as well as traditional healers and local vendors, will be training in the basic indications and contra-indications of the commodities. IPPF hopes to measure changes in the growth of pre-school children by weight when compared to control population as anti-ascarides are sold and promoted on a quarterly basis. Likewise, IPPF will later explore the effect of selling oral rehydration tablets fixed to locally used containers on an infant population in terms of morbidity and mortality.

To give an idea of the scope that this kind of project can assume, in this hemisphere PROFAMILIA the IPPF Family Planning Association of Columbia now generates over one million dollars a year in sales of various types of condoms, oral contraceptives and now other health commodities. The program has been a major source of income for other projects that the association carries out. There are many such programs globally varying in size, methods of marketing and style of organization. Briefly, most receive commodities free or at subsidized prices from donor agencies or institutions. Others may purchase commodities directly from the manufacturer at substantially reduced rates. Many market their product under an independent label or packaging and still others may sell the product both with its known market name, for those who wish to purchase only standard brand names, and under an individual brand or no brand name at all. Key to the program in Columbia is the use of common commercial trucking and distribution systems with both central and well-located peripheral warehousing. Another important point is that most programs are independent operations (i.e., managed exclusive of government programs and large institutional bureaucracies). In short, these programs are managed as any business program might be administered.

Community Based Distribution (CBD)

CBD Programs use community individuals as both the distributors of family planning commodities and educators of the community with regard to family planning services and methodology. CBD programs in this hemisphere provide improved geographic availability when compared to traditional programs by maintaining a vast number of distribution/education posts and thereby decreasing travel time to the sites. By utilizing local inhabitants and placing sites in homes or well-acknowledged government or commercial locations within the community, the programs attempt to address cultural barriers to contraceptive distribution. In Brazil, for example, the BEMFAM program in Rio Grande do Norte supports some 600

CBD distributors. Overall, there are approximately 1400 CBD posts supported by BEMFAM throughout Brazil. In Columbia, the PROFAMILIA program has more than 3,000 posts throughout the country. Within the IPPF system in fact, there were 1452 traditional clinics in 1979, compared with some 8,000 CBD posts throughout the Western Hemisphere in 1979.

Costs to consumers have either been eliminated or substantially decreased to acceptable levels by institutional subsidies. Administratively, the "red tape" of traditional programs has been practically eliminated in CBD programs. Potential acceptors and continuing acceptors either visit a local CBD post (a local health station within a village or the home of a distributor) or are visited in their homes periodically by village distributors. The hours of service are usually not fixed and the local distributor may use his or her discretion as to the times most appropriate for the acceptors. In addition, the distributor often will work within the community workplace. BEMFAM of Brazil has CBD distributors in factories and refineries. This has proven particularly rewarding because it is acceptable both to employers and employees alike. Distribution and education hours are perceived by the employees as a form of relaxation during the work day and they seem more receptive to education and service delivery at these times. Further, there are few problems with communications because village workers come from the communities they serve. The distributors are strongly motivated and this is reinforced through continued supervision and education. In Rio Grande Do Norte and Pernambuco Brazil, for example, village workers are visited periodically by medical and educational supervisors who respond to distributor questions and review problems as well as teach new skills and knowledge. Almost all distributors are encouraged to promote family planning instead of assuming a passive role. They attend community events, participate in fairs, and work with local periodicals and radio stations to promote family planning.

Integrated Community Based Projects

In essence, the so-called integrated projects are really primary health care/community development programs. The term "integrated" stems from population programs where "family planning only" programs have predominated for many years. Many in the "population sector" as it is often referred to have limited their efforts almost exclusively to those issues directly related to family planning -- particularly contraception. This is quite understandable when one considers the problems that family planning institutions have had to sustain over the years in order to secure recognition. These very real difficulties have sensitized many to the reality that there are still so many barriers for family planning to surmount globally. This continuing problem has made some proponents of family planning quite defensive about projects that integrate with other health or community development efforts. Some are concerned that monies earmarked for integrated programs are inappropriately spent because they divert efforts away from the original intent of the family planning movement. Many have pointed out that there is an enormous demand from men, and particularly from women, for contraceptive technology exclusively and so there is no need to expand already overburdened

family planning activities with efforts unrelated to contraception. There is still, they say, an unsaturated market waiting for family planning services.

In addition, many are cautious because the can recall integrated programs in which the number of new and continuing acceptors suffered because of competition with curative services which demanded more attention of the health care providers. As a result, there are many family planning funding and service agencies operating on a regional, national or international basis that are engaged only in family planning and encourage "vertical programs" exclusively (i.e., service programs which provide only or almost only family planning counseling and education as well as contraceptive techniques).

Yet critics of "vertical" family planning programs claim that these are not always the answer to family planning interests -- especially over the long run. They acknowledge the excellent results of many of these programs, but question their longevity with regard to continuing acceptors. They see vertical programs as political liabilities in some countries which are open for attack by the anti-family planning movement. Opponents argue that vertical programs are not really health-related, but geared toward population control for covert objectives. Others suggest that "verticalization" promotes duplication of health services which is a luxury no country can afford. Many health professionals, including physicians already skeptical of family planning, are often turned off by "vertical" programs because of the far from holistic approach of programs geared primarily toward contraception. Some government health planners express difficulty with "vertical" programs because the establishment of a family planning program, as distinct from one for health, would create logistic difficulties and intra-agency competition for allocation of already limited health funds. Some argue that in the final analysis, government programs end up integrating family planning with other health programs and the family planning effort can be lost. On the other hand, they suggest that family planning institutions could create models in which general health services and family planning function side by side and these models could strongly influence government planning.

It is, in fact, curious that the "population sector" has developed independently, albeit parallel, to the "health sector." Colleagues in public health areas have been waging an uphill battle of their own over these years in the advocacy of primary health care. Conceptually, both sectors share more similarities than differences. Both are committed to the rights of individuals to make decisions with regard to their health and well-being. Both perceive of health as a right -- not a privilege. Both are concerned with the family nucleus as vehicle for personal and community development. Both stress prevention rather than only disease intervention and promote improved access to service delivery by working within the community.

Another similarity is that both have questioned the traditional role of the physician in health service delivery and stressed the importance of community personnel as providers in the system.

Yet where family planning quite often meets with national and regional resistance, the primary health care concept generally has much less opposition. There are very few people who would argue against improving access to general health services -- particularly for the rural and urban poor. Indeed, primary health care has finally received world-wide support. It seems only natural that a "marriage" of the two disciplines would be complementary instead of competitive. IPPF has successfully joined the two disciplines in several recent efforts. In Brazil, Columbia and Mexico FPAs have developed pilot projects with the assistance of JOICFP (Japanese Organization for International Cooperation in Family Planning). In Uraguay, IPPF is beginning a pilot program in Human Sexuality, with primary health care team as the delivery vehicle.

Lastly, there are many integrated projects globally that are now being developed from within the population sector. IPPF is committed in more than words to the development of such programs globally. In the hemisphere it has such programs operating in Columbia, Mexico and Brazil in liaison with JOICFP, and is planning to implement three or four more programs this year and still others in 1982. The hallmarks of the programs include:

1. Parasite control -- Primarily geared toward intestinal worms such as Ascaris lumbricoides;

2. Nutrition -- including community cooperative and home gardens, breast-feeding and food supplementation;

3. Family planning services -- including oral contraceptives, condoms, natural family planning and vaginal tablets;

4. Latrine purchase and use;

5. Water supply development;

6. Community organization -- this means joint management of the project by community representatives and local government; and

7. Income generation -- the community is encouraged to share economic responsibility of the program and pay for services in order to generate funds for program extension into other health priorities.

ALTERNATIVES TO CLINIC-BASED NUTRITION PROGRAMS

Helen Bratcher

Seminar Speaker

Introduction

Try to imagine this scenario of a family, typical in the Third World. Their shelter is rough, made of grass, mud, leaves -- maybe scraps of cardboard if it is in an urban setting; there is little water and what is available is unclean; cultivatable land is scarce, located some distance from the home, and subject to precarious weather conditions.

There are many children; each looks younger than its years with visible ribs, flag colored hair, dull eyes, and swollen bellies. They all sit, listless, uninterested in even brushing flies from their eyes. The family huddles in its smokey confine to eat the one meal of the day. It is scant and no one's hunger is relieved. The family has more food, but it must be portioned carefully to assure that it will last until the next harvest.

One child cries at his mother's near empty breast. He is coughing and hot with fever. The parents are concerned, but to lose a day's work, and perhaps give up a chicken as payment to the health clinic seems unwise, since it is most likely they will not understand or be able to comply with the doctor's instructions. Early the next morning the child dies.

Pneumonia caused the death, with malnutrition being the underlying cause. But ultimately the real killer was the inadequacy or absence of elements essential to the well-being of the community where the child lived. Had there been a clean water supply, irrigation methods to increase productivity of food and cash crops, or some health knowledge in understandable terms, the child may have lived. Many of the elements composing the community contributed to this child's malnutrition and, in turn, many types of development projects could have improved the nutrition and health of this child.

Alternatives to Clinic-based Nutrition Programs

Nutrition can be integrated into any type of development program because there is no one cause of malnutrition. The educational level, economic condition, political situation and environment each play a part in determining the nutrition and health status of the community. Thus, the problem of malnutrition is not solved by a nutrition intervention program alone, but rather by an integrative approach involving the many elements composing the community. And the approach taken, the goals and methods decided must reflect the felt needs of the community and be appropriate to the material and human resources available.

Food-aid does not assure better nutrition, nor does nutrition education. There is a better chance of success when such interventions as food, education, and health care are integrated into programs that are planned and supported by the community, and are appropriate to the existing infrastructure and culture. Giving a mother a bag of grain for her malnourished child does not assure it will reach the child's mouth. Just as having a mother listen to a health care worker explain the caloric needs of a six-month old baby does not mean the needs will be met. If a mother does not understand that her child needs more food or if the food is unfamiliar to her, the child may not receive it. And if she is asked to learn a nutrition concept, such as the four food groups, unrelated to her life-style, or to perform a task such as boiling all drinking water, which is beyond her resources, she may not participate. The community must identify their needs and resources, and programs must reflect these needs, and resources, both human and material.

Two examples stand out in my mind where members of a community voiced their needs, and nutrition was integrated into the programs addressing those needs. In the first instance a public health doctor in Central America had as a major objective to teach nutrition at the community level. Community leaders had a different objective -- they wanted first-aid training. The doctor agreed to teach such a course and achieved an unexpected result. Early in the training a film on malnutrition was shown. The class was surprised to learn the conditions they considered normal or acceptable in their children, were really signs of illness -- degrees of malnutrition. They learned that the first-aid treatment was to give the right food in adequate amounts. The community's and the doctor's objectives were integrated resulting in the improvement of the community's health and nutrition status.

A second example occurred in a rural village in Kananga Province, Zaire. With an extremely low literacy level, the people expressed a desire to learn to read and write. A woman, obviously a leader in the village and church, with about a third-grade education, asked for help to begin an adult reading class. The church, used as a gathering place, was offered as a classroom. The class was held very early in the morning to allow the women to return to their duties by seven o'clock. In the beginning there were four to six women meeting three times a week.

Nutrition was integrated into the class when the teacher learned what the women's interests were and developed appropriate lessons. Not surprisingly, family feeding and health care of children were major concerns. The teacher increased her knowledge on these subjects and, in turn, used the information in her morning class.

Soon, the class, now meeting daily at the request of the women, increased in attendance, and another teacher was needed. For many women, the class offered an opportunity to learn, share ideas and socialize. Curious husbands were invited to attend as they became aware of the reading, writing and counting skills the women were developing. Always the class focused on practical subjects: the cost of family feeding, meal planning and preparation, food habits and simple nutrition concepts.

As the literacy class grew in popularity and attendance, the subject matter was expanded to encompass other expressed interests of the class.

While community members developed skills, there were other benefits equally as meaningful. The health of the community improved remarkably as home gardens were planted and the produce used to give variety to family meals; the use of pounded ground nuts and bananas was introduced as a weaning food; the "lowly" papaya ("paw paw") began to take on new prestige when mothers discovered its health benefits; and certain foods were utilized more effectively when mothers learned over-cooking destroyed the nutrient content.

The point illustrated through this narrative is that nutrition improved neither through a clinic-based program nor even through a planned nutrition program, but rather through a literacy program the community initiated and supported with minimum help from outsiders.

In the programs described above, nutrition is integrated into a program intended for other purposes. However, another ongoing program, intended for nutrition purposes, is successful because another need of the community is met: economic assistance. In Upper Volta, within the Sub-Sahara region of Africa, the food and nutrition program is based on the theory that a child's diet will improve if the income of the family increases. The program, targeted for 0-5 year olds and pregnant and lactating women, provides enough food to act as economic aid for the family, assuring the targeted group will receive a better diet.

In the past, only enough food was given to families to supplement the diet of the targeted individuals. The effectiveness of this method was limited as there was no guarantee the targeted individual received the food. Often, families did not participate because the long journey to the distribution centers and loss of a day's labor was not worth the amount of food received. As a result there was little or no change in the weight gain of the individuals registered in the program.

The present Upper Volta program takes these realities into account and addresses the real need of the community: economic assistance. The food-aid package now distributed is substantial enough economically, as perceived by the mother, to make the monthly travel worthwhile. There is a guarantee the targeted individual will improve because the mother, in order to participate in the program, must establish a contractual agreement with the donor. She agrees to give the targeted individual a pre-determined amount of food (either from the donated food-aid package or its equivalent), seek health care when necessary and allow the individual to participate in the Growth Surveillance System (GSS) to measure weight gain. The GSS is essential to the program because it is the ongoing indicator of whether or not the mother is keeping her contract.

The program is realistic. The community required a food-aid/nutrition program that was adequate to increase food consumption and to provide economic assistance. Through the GSS, the program continues to show success.

Conclusion

The nutrition status of a community depends on the many elements contributing to the makeup of that community. Therefore nutrition can not be dealt with in isolation. Sometimes a nutrition program must be designed to address other needs which are prerequisites to better nutrition, or nutrition activities must be integrated into a program directed toward other objectives. However, what must be always present in every program is a reflection of the felt needs of the community and involvement by the people the program is designed to assist.

FACILITATION OF COMMUNITY ORGANIZATION: AN APPROACH TO WATER AND SANITATION PROGRAMS IN DEVELOPING COUNTRIES

Raymond B. Isely*

Seminar Speaker

Definitions

Community organization[1/] is a process intrinsic to a population, in which existing social structures mobilize for action in the face of defined problems. To facilitate the process does not suppose the creation of new structures, nor the replacement of existing ones, but rather their enhancement. In fact, the skills and concepts relevant to assisting the process in a given situation are usually oriented toward working within the framework of community resources and constraints.

That these resources and constraints vary greatly from region to region, even from community to community, is well established and epitomized in this description of a situation in Thailand:

> Thai villages indeed differ, as any villager will confirm. Some are tranquil; some have a history of feuds. Some are pious and sober; others have a jug of moonshine under every porch and card games every night. Some villages are proud of themselves, and proclaim that they grow the sweetest tamarind or the biggest durian or the most beautiful women in the country. Other villages are a collection of houses with only a name for a common bond, and no pride at all.
>
> Some villages are interminably curious. If a stranger strolls through them, he will be asked at every second house to stop and chat. In another village just down the road, he can walk for an hour with hardly a greeting. If he stays for a few days, some villages will prove to be ceremonious in their treatment of him, others relaxed and unbuttoned, still others suspicious and aloof.
>
> Some villages are clean, others are dirty. Some are spread out over several kilometers, each house hidden from its neighbors. In others, the houses will be crammed together until their porches touch.
>
> Villages are unpredictable. In one village located a few minutes away from a large town, the visitor still has to explain that the world is round; in another, hours from anywhere, the headman will let him listen to a recording of a Mozart quintet, played on a wind-up Victrola.

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* Co-presenters are Mary Elmendorf, Craig Hafner and Dennis Warner.

But most importantly, some villages seem able to solve their problems while others cannot. Some villages are victimized by conmen, their daughters seduced by recruiters for the city's brothels, plagued by police looking for a rake-off, unable to stop the river from flooding the fields every year--while other villages ignore the conmen, keep out the recruiters, get the district office to rein in the police, and build an earthen dam to hold back the river.

All of these are everyday aspects of life, and together they shape the quality of life in the village. There are limits, of course. An impoverished village living on the edge of starvation is an unpleasant place to live regardless of any other conditions. But given a typical (for Thailand) level of natural resources, the nature of the village--its gestalt, if you will--is a crucial factor in determining whether its inhabitants' daily existence is generally pleasant or generally unpleasant.

It is perhaps the most commonly overlooked fact of life in developing countries.[2]

This variation ultimately means that the way in which community-level workers facilitate community organization and the skills they possess must correspondingly vary. The implications for training and support are profound. Of course, similarities among communities help form a basis for regional approaches to training and management.

A generic description of the process of facilitating community organization in a population group is depicted in Figure 1.[3] Each step in the critical pathway is needed for achieving stated objectives.

1. Meeting population leaders: The critical entry point for the worker at which the process of confidence-building begins. Buckles[4] describes the essential ingredient confianza in the constitution of village structures in Guatemala. The latter depends on going beyond mere leader consultation.[5]

2. Gathering information (community diagnosis): Demographic, sociocultural, topographic, and health data may all form a part of the information gathered. Information also serves to broaden dialogue and include women.

3. Identifying existing structures: Organizations capable of serving as vehicles of community development are identified and the worker seeks to strengthen, mobilize and coordinate them for the subsequent steps. Most communites present several candidate organizations, such as councils of elders, development committees, or savings and loan associations.

4. Selecting priority problems: The worker assists the now organized group to agree on a set of problems of greatest importance to the population. Community diagnosis also helps to define these problems.

EACH STEP IN NECESSARY TO ACHIEVE OBJECTIVES

Meeting Population Leaders

↓

Gathering Information

↓

Strengthening Existing Structures

↓

Selecting Priority Problems

↓

Choosing One Problem To Work On

↓

Informing The People About The Problem

↓

Assessing Local Resources

↓

Setting Staged Objectives

↓

Setting Responsibilities And Time Schedules

↓

Implementation

↓

Evaluation Of Results

Figure 1. The Generic Community Organization Process: A Critical Pathway

5. Choosing one problem to work on: From the problem set the group selects the one to attack first of all. Usually the problem chosen will be the most pressing to the dominant faction or the most amenable to local solution.

6. Informing the people about the problem: By means of explanation, demonstration, and auxiliary materials the worker and others seek to raise the level of knowledge of, and sensitivity to, the problem and its ramifications.

7. Assessing local resources: Money, labor, materials, and technical expertise may all be needed to adequately address the problem selected. The extent to which they can be obtained locally is ascertained.

8. Setting staged objectives: The solution to the problem, whatever it may be, can usually be divided into several stages and to each attached a concrete objective, a time for achieving it, and a sense of what it takes in labor, materials, and expertise to reach it.

9. Setting responsibilities and time schedules: The staged objectives, attached time frames, and resource requirements are identified with individuals and groups within the population, to whom are given the responsibilities for execution.

10. Implementation.

11. Evaluation: Achievements are matched against objectives. Problems are identified as well as successes and used as platforms for launching a new critical pathway.

As Ross[6/] remarks, with each successful organized community effort the cooperative and collaborative attitudes and practices of the community are broadened and deepened. Likewise, unsuccessful efforts have profound demoralizing effects.

Rationale

The appropriateness of the community organization process to water and sanitation programs resides in two conditions for the success of these programs:

1. If water supply and sanitation facilities are to function properly they must be maintained and repaired in a timely and correct manner. Maintenance and repair can be assured in most rural communities of developing countries only by an organized and trained constituency.

2. If the health and social benefits of improved water supply and sanitation facilities are to be obtained, then the population must participate in an organized way to properly use and protect

water, and to incorporate essential personal and domestic hygiene associated with excreta disposal, food handling, and infant and child care.

Maintenance and repair of facilities

The appalling rate of breakdown of water supply and sanitation facilities in rural areas of the developing world is well known.[7] Few developing countries are able to provide sufficient numbers of maintenance personnel or the institutional and material support needed to maintain a widespread network of water supply and sanitary installations. Most water supply ministries are seriously hampered by shortages of trained personnel, lack of transport facilities, deficient material supplies and overly centralized organizations. Ministries of Health, the usual repositories of responsibility for sanitation, suffer even more in the usual case from these organizational maladies.

Responsibility must, therefore, devolve upon communities themselves at least for the long-term maintenance and repair of facilities. Women must necessarily play important roles in this regard.[8] As we shall see, the success of community maintenance programs is dependent on how well communities are organized. Community organization is in turn conditioned by a number of other factors.

Achievement of health and social benefits

Even if the water supply is safe and in working order, and the excreta disposal facility properly installed, a host of behavioral factors may intervene to mitigate potential health and social benefits.

In the case of water supply, factors associated with water-drawing, transport, and storage may bring about contamination of the source of the household supply. Even more importantly, use of excreta disposal facilities needs to be reinfored by personal hygiene: handwashing, bathing, and washing and protecting food after preparation. A sustained approach to these matters depends on organization of supportive community structures, and networks of peer support for behavioral change.

Conditions for Successful Facilitation of Community Organization

Ideally, community organization goes on without the influence of the worker or any other external assistance. In fact, population groups may quite properly be said to have their own intrinsic organization, i.e., the innate ability to deal with defined problems. Yet in practice, normal social structures of many communities may have deteriorated and function very poorly at best when challenged with such matters as technologic change. Possible explanations for variations in community adaptability have been suggested by Ukandi and Seibel,[9] Isely and Martin,[10] and Retel-Laurentin.[11] Colonial policy, leadership factors, urbanization, disease patterns, and traditional systems of assigning status have been cited among those correlated with variations in adaptive community behavior.

For water and sanitation the conditions for successful facilitation of community organization need to be more explicit. Four conditions appear relevant.

1. Trained personnel

2. Information about the community (community diagnosis)

3. Integrated approaches among sectors

4. Available technology and information

Trained personnel

Personnel need to be armed with skills of three types: diagnostic, supportive, and evaluative. Diagnostic skills relate to the ability to delineate the communities within populations that represent the main social units. Leadership, decision-making and communication patterns, as well as the physical, demographic, economic and health characteristics of the population should be assessed. The worker should be enabled to gather data that will be immediately useful in guiding his/her action without spending undue time or effort in doing so. In essence what a worker needs to know is how he/she can operate within the resources and constraints of a given community to generate optimum participation in the planning, installation, maintenance, and repair of water supply and sanitation facilities. The categories of what information is needed are explained below.12/

Supportive skills extend from establishing trust to guiding and facilitating group discussion, and providing continuous support and empathy to individuals and social structures until they become independently viable. Steuart and Rull13/ list a number of subsidiary supportive functions:

--Creation of favorable group settings for community leadership to emerge and develop.

--Reconciliation and mediation of conflict or potential conflict, where there is a threat to continuity of community organization.

--Maintaining contact between community structures and their progress on the one hand and external government or agency action on the other.

--Acting as a resource link for village and external resources.

--Knowledge and appropriate use of technical back-up resources.

--Assurance of a continuity of surveillance and monitoring of water and sanitation facilities.

Evaluative skills pertain particularly to understanding the relevance of program evaluation to continuous program improvement and effectiveness; and to stimulating the participation of the community in the design

and application of evaluative procedures as a means of developing greater commitment on its part to the program. Community workers should also be able to do simple process evaluation of events, activities, and the characteristics of local participation as well as simple outcome evaluation of change in knowledge and behavior.

Information about the community

By means of simple observations and selected interviews, the community worker should be able to gather a modicum of data sufficient to make the diagnosis of community capacity to participate mentioned earlier. Data items selected from the following categories should be incorporated into a simple instrument feasible for use by community workers.

1. Physical features of the community
   a. Topography
   b. Types of soil
   c. Water table
   d. Types and location of water sources
   e. Meteorologic and climatic features
   f. Availability of natural resources

2. Biologic features
   a. Water quality
   b. Common disease vectors
   c. Prevalent water and excreta-related diseases

3. Economic features
   a. Assets
   b. Access to resources
   c. Liabilities
   d. Economic infrastructure

4. Demographic features
   a. Distributions
   b. Ethnic composition

5. Socio-cultural features
   a. Beliefs about water and excreta
   b. Water use
   c. Excretion patterns
   d. Local skills
   e. Existing local organizations
   f. Relationships to outside organization
   g. Leadership patterns
   h. Communication patterns
   i. Decision-making patterns
   j. Previous self-help experience

Integration of approaches among sectors

Specific reference to health workers has been deliberately avoided in the discussion above in order to emphasize the intersectoral nature of

both water and sanitation programs and the concern with facilitating community organization. Several sectors depend upon the success of community organization for the achievement of their objectives at the periphery of the population. Among them are agriculture, education, public works and health. In a sense, facilitating community organization is the primary objective for each, more important in the long run than achieving any specific technical objective. If pumps are installed but break down, whom do they benefit? If latrines are constructed but are not maintained, who will use them? If a primary school is built but teachers refuse to live in the village, how will the children be taught? A feeder road constructed but not maintained may not result in increased access to markets. If one worker undermines or fails to contribute to the success of the community organization, others may not be able to achieve their objectives. Workers need to be able to refer "felt-needs" from one organization to another and to feel a sense of accomplishment in success achieved outside their particular sector. Figure 2 illustrates these interrelationships. As depicted, the community organization process is at the center. Each community-level worker contributes to the process while making specific technical inputs.

These inputs need to be made at appropriate points in the process. The figure indicates that the community organization is a dynamic cyclical process. Each successfully completed project in fact enhances the ability of individuals and social structures to work together and strengthens local ability to analyse and solve problems. With each turn of the cycle, as it were, the capacity of the community to absorb new technical inputs and face new adaptive challenges increases.

Thus a community at one point may be able to successfully complete and maintain an open well with a bucket and pulley and, through what was learned in both a technical and organizational sense, be able to move on later to the installation and maintenance of a handpump, or even later to the maintenance of a feeder road.

These interrelationships need to be operationalized in joint intersectoral policy-making, joint middle-level management, and joint training programs, such as exemplified in the Panay Health Project in the Philippines.[14]

Available technology and information

If community organization is to issue in successfully installed and maintained water supply and sanitation facilities, then community members must have access to adequate and appropriate technology, and information on how to use it. Personnel in public education, public works, health, agricultural, and other services may be the purveyors of both technology and information. The results of community diagnosis should indicate which of available technologies are economically affordable, socially acceptable and technically maintainable for both water supply and sanitation. Careful analysis of previous local experiences of organized problem-solving, particularly the most recent experiences will help to determine whether the information and technology introduced at a particular point in the community organization cycle can be absorbed and adapted by the local organization.

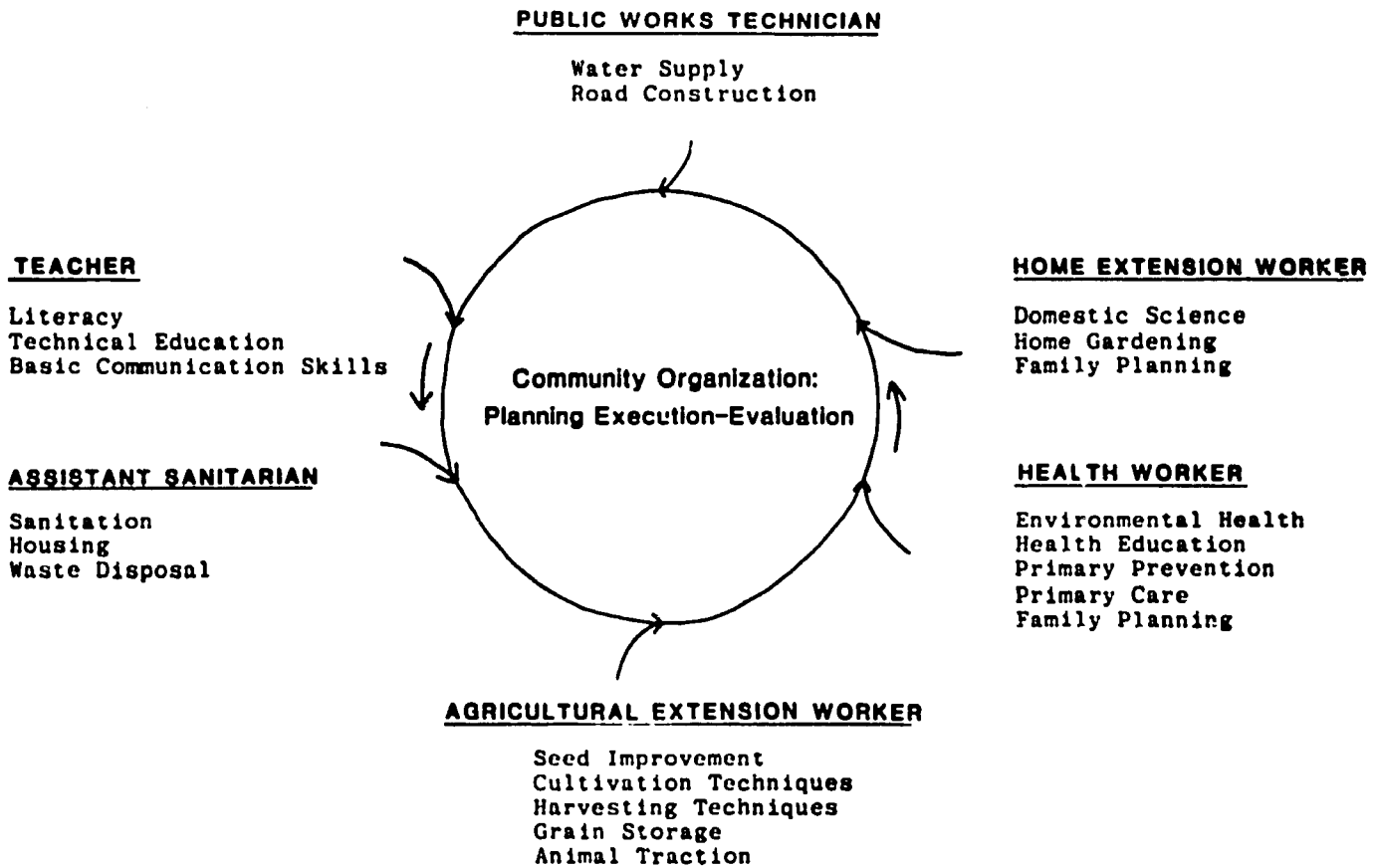

Figure 2. The Community Organization Process: Contributions of Various Community Level Workers

A good case in point is that of villages in the South Cameroon, which at the onset of efforts to stimulate community organization installed temporary protection of springs using strictly local materials, but later were able to commit funds and labor to a more permanent protection.[15] The introduction of more sophisticated technology close on the heels of the initial success was a key strategy. An important element in this transfer of technology was the introduction of a technique of splitting rock. The project chauffeur, who had learned the technique on trips to another region of the country, taught the villagers how to pour cold water over a heated rock. This technique greatly facilitated spring box construction.

Information on the use of the many varieties of water supply and sanitation technology is unfortunately in short supply. Most available manuals are written in English, Spanish, or French and use language and images too technical for practical use by community members. Needed are manuals generously illustrated with non-technical drawings and a minimum of written explanation, such as those developed by Abela[16] for village water supply.

Greater emphasis needs to be placed on the development of demonstration models such as those described by Pacey[17] in Northern Nigeria for latrine slabs, and developed in India.[18]

Outcomes of Successful Facilitation of Community Organization

Case histories drawn from Africa illustrate three major benefits of effectively stimulating or facilitating the local community organization process:

1. Reinforcement of local management capacities

2. Enhancement of participation

3. Increased probability of program success

The first, taken from a village in the South Central Cameroon, illustrates the catalyzing effect of efforts to facilitate community organization on local ability to manage water and sanitation facilities. This village with about 1500 inhabitants in five hamlets, was one of four selected as pilot villages in the AID/OCEAC Public Health Training Project (1972-76).[19] Four years prior to the onset of the Project this village had experienced a remarkable reversal of what had been a deteriorating relationship between the older and younger generations. Through the establishment of dialogue between the generations on a number of important issues, a reconciliation took place which the Project inherited.

A village health committee took shape readily in the central hamlet. Despite having no technical experience with the protection of springs or the construction of latrines, the committee was able to organize the temporary protection of one spring and the construction of over 40

properly covered pit latrines. Later the spring was protected in a permanent manner, and plans were laid for pumping water from the spring to an elevated reservoir and thence by gravity to a community standpipe. In all, 43 pit latrines were constructed (out of 50 households) and in use. At a later date, the committee had calculated the costs of putting in similar systems in the other hamlets. The health committee had become a community water and sanitation planning board.

A second South Cameroonian village[20] presented in 1972 a distressing picture of a predominantly dependent population (elderly or very young), widespread endemic disease, and virtual absence of water source protection or excreta disposal installations. Leadership was confined to the hands of a few clan leaders surrounding a rather weak elderly traditional chief. Community leaders agreed to form a health committee, but spring protection and latrine construction progressed little beyond the talking stage, except for a single pit latrine at a clan leader's home.[21]

The committee, however, provided a forum in which many others besides village elders participated. Discussions of issues surrounding environmental protection, direct health education presentations, and the baseline medico-social survey, exposed many, including women and youth, to new technology and new information. In the second year of the Project, with continued efforts to strengthen the committee, other latrines began to appear and protection of four springs moved ahead apace. Facilitation of community organization had a salutary effect on both the characteristics and the extent of participation.

Cohen and Uphoff[22] have in fact suggested a framework for analyzing participation as an impact of the community organization process described above. In simplest terms, this framework consists of two parts: (1) the dimensions of participation in terms of what it consists of, who participates and the characteristics (the how) of participation; and (2) the context of participation, comprising characteristics of both the project and of the environment in which the project is implemented.

Fountain[23] reports a steady reduction in the prevalence of intestinal parasites as community leaders took hold of the long-term management of latrine construction and use, albeit the incentive of periodic vermifuges played an important role. In the same Cameroonian village reported earlier, community leaders, on the basis of their success with the management of the water supply, took advantage of a change in Cameroonian land tenure laws that allows for optional individual or communal ownership of land, to develop a community-wide landholding.[24] In Malawi as reported by Robertson,[25] Jackson,[26] and Glennie,[27] enhancement of organization at the community level was the prelude to a successful long-term maintenance program.

Thus whether one is speaking of health or social benefits or simply the proper functioning and use of water and sanitation facilities, improved organization at the community level appears to be an essential ingredient in the mix.[28]

Conclusions

Experience to date points therefore to community organization and to whatever can be done to stimulate and enhance this process intrinsic to local population groups, as an imperative to the success of water supply and sanitation programs among most rural populations of developing countries. Organized individuals and social structures appear to be essential for both the proper function of facilities and the achievement of health and social benefits. Certain conditions however are needed for facilitation of the process: personnel trained in the community, diagnostic, supportive, and evaluative skills, information about the community to guide facilitation, integration of approach among services standing to benefit from successful community organization, and technology and information available to the community in appropriate forms and at appropriate times in the continuous cycle of local development. Finally, successful facilitation of community organization produces in practice certain benefits: improved local management of water and sanitation facilities, enhanced participation by community members, and increased probability of project success in both an operational and an outcome sense.

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PHARMACEUTICAL PROCUREMENT, DISTRIBUTION, AND USE IN PRIMARY HEALTH CARE

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Seminar Speaker

Description of the Process

Overview

Three inter-related factors underlie the importance of the Procurement and Use Process:

1. The economic impact of drug costs on programs and consumers;

2. The availability of drugs as a key factor in consumer interest and program effectiveness; and

3. The large number of practical opportunities for improvement in all segments of the Procurement and Use Process.

In Europe and North America, drugs constitute 10-20 percent of expenditures for health care, making them an important economic factor in this area.[1/] In developing countries the economic impact of drug costs for government programs is immense, often representing as much as 50 percent of health care budgets. In some of the least advantaged countries, as was true in Afghanistan, for example, import costs of wholesale drugs are equal to entire national health operating budgets for salaries, services and other supplies.[2/] At the household level, expenditures for medicine make up a sizeable chunk of household budgets. In remote rural Afghanistan, 7 percent of total household income, both cash and non-cash, is spent on health needs, and 37 percent of this figure goes for drug purchases in the commercial sector--in villages that do not even have full-time shops. For the average 50,000 target population of a government rural health center in Afghanistan, the estimated annual value of drugs purchased on the open market is about $43,470.[3/] This is 47 times the annual value of drugs dispensed through the government service.[4/] Therefore, any steps taken to increase availability and reduce drug costs in less developed countries (LDCs) will have significant impact on the economic and health status of individual families.

Availability of drugs is a key factor in maintaining consumer interest and achieving significant impact in public health programs. The credibility of health workers depends largely on their ability to supply these commodities. A rural health survey in Afghanistan showed that villagers value drugs more than they do health workers or a clinic. In a Latin

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American country just embarking on a rural health program, community health workers turn to private pharmacies to replenish their stocks when program supplies fail them. This is necessary, they say, for without drugs they cannot maintain interest in preventive services and health education. Adequate and timely supply of contraceptive drugs and devices is especially critical in family planning programs in order to have substantial impact on fertility.

Typically, pharmaceutical supply systems are hampered by problems arising out of systems design, people, policy and techincal issues. It is seldom possible to completely rebuild a supply system so that it meets every expectation, but it is frequently possible to make improvements in specific problem areas which visibly improve overall service. Viable approaches can be found to solve problems in the procurement and use of drugs, and important examples exist in a number of developing countries. Improved service need not await technological breakthroughs. Despite ever-present constraining influences of political and private interests, improvements can be made if practical approaches are taken.

Components of the Procurement and Use Process

Within each area of the Procurement and Use Process, a number of critical activities must be performed. The various organizations and activities involved combine to form a system, with lapses of judgement or performance in one area causing disruptions in another. For example, a mistake in drug selection may be the source of problems in the areas of distributions or use. Likewise, if information is not available on consumption rates or what drugs are currently in stock, inappropriate selections and procurement may follow.

Interactions and relationships among suppliers, planners, outlets and users of drugs are complex; thus, a description of the Procurement and Use Process is useful for identifying problem areas and placing them in an organizational context. The process may be divided into four major activity areas: selection, procurement, distribution and use.

Drug selection addresses issues such as what products should be available for what problems and in what quantities. Procurement includes consideration of finance, purchasing methods, terms of payment, sources of supply, quality assurance, and decisions to make or buy. Distribution includes import management, inventory control and forecasting, storage, waste management, and transport. Use includes consideration of prescribing and dispensing practices, training auxiliary personnel, packaging and labeling, matching supplies to appropriately trained personnel, and educating consumers.

Major Problems in the Procurement and Use Process

Each system has a unique combination of constraints and deficiencies which contribute to its own particular set of difficulties. Our experience in a number of countries in the developing world suggests, however, that some of these difficulties recur frequently enough to be regarded as typical problems of the drug Procurement and Use Process.

One problem which cuts across all four areas of the process concerns the information used to make decisions. Information systems which regularly provide decision-makers with reliable data on public health conditions, consumption rates, effectiveness of various drugs, and quantities of supplies on hand are seldom organized coherently. Critical decisions on what drugs to procure, what quantities to stock and how to distribute them should be based on users' needs as well as consumption patterns but frequently are not. Lack of this information often results in shortages of drugs most heavily used and relative abundance of less essential drugs. This scarcity of information results from a lack of emphasis on information system development and in inadequate training of government officials in the complex tasks involved in collecting, collating, transmitting and analyzing data on supply systems.

The selection process is often inefficient where public officials lack the pharmaceutical background and knowledge of current therapeutics needed to make sound selections. In some programs drug selection is done by individuals with no formal health care training. Furthermore, poorly designed or poorly supervised information systems lead to purchase quantities which are frequently based on sheer guesses. The results of these shortcomings may be (1) the procurement of an unnecessarily large number of drugs which use up limited inventory capital and overload the distribution process, (2) purchase of expensive drug products when cheaper equivalents are available, (3) expenditure of limited funds on unproven drug combinations and symptom-relief drugs when more essential drugs (antibiotics and vaccines) are lacking and (4) procurement of drugs whose clinical efficacy has not been established.

These selection problems are also associated with broader issues, such as international regulation, the ability to determine "effectiveness," and local variations in determining what are "essential" drugs. A critical question is who in the system should determine whether or not a particular drug is "essential" or "effective."

Problems relating to procurement that consistently demand attention include supplier performance, quality assurance and the question of whether to make various products in-country or to buy from outside. Suppliers sometimes withdraw offers or change bids during the tender process, deliver substandard products or goods about to expire, or fail to replace bad batches. Improper supplier performance is often not controlled because officials may lack the background of professional purchasing agents and have not been trained in standard business practices.

Quality should be checked when drugs are first received and should be reverified when they reach the outlets that distribute them. Reverification is important because drugs may be acceptable upon arrival in that country, but their condition may deteriorate after long periods of time in the supply system. Environment, poor handling, storage, and packaging all contribute to this problem. Unfortunately, quality assurance laboratory facilities and personnel are frequently not available. While there are basic quality-monitoring practices not requiring sophisticated laboratories that could be performed, pharmacists in LDCs are frequently not trained in them and, thus, are usually not performed.

Some countries could save money and expand services if they could manufacture certain of their products at local facilities. In order to be truly economical, the make-or-buy decision must be based on sound demand and cost projections rather than on political slogans. Unfortunately, many countries lack the depth and diversity of professional expertise required to make sound make-buy decisions and, when local production is selected, to implement the decisions. Where production plants have been established, production inefficiencies are common. A major contributing factor to existing inefficiencies is inadequate preparation in key areas, including industrial pharmacy, plant management, and standard manufacturing practices.

Common problems associated with distribution include inadequate storage facilities and transportation resources, inefficient stock management, and loss due to spoilage or theft. Storage facilities are often overcrowded with incoming supplies stacking up, spilling into aisles, or simply being left on loading docks. Moisture and pests destroy supplies as they sit in warehouses and poor security causes additional losses from theft. As one moves outward from the center of the supply system, storage standards usually become worse; regional warehouses are often little more than shacks and clinical facility storerooms only dirty closets. The limited space available is often used suboptimally. Scarcity of information or inefficient management of rolling stock keeps supplies bottled up at central warehouses when there is space available at regional warehouses. Managers are frequently unaware of what supplies they have on hand or where they are. Supplies needed in one region may gather dust in another, simply because their presence is unknown, or because mechanisms for transferring stocks do not exist.

Packaging and labeling are not only important for safe use of drugs, they are critical in determining whether drugs are used at all. Users may reject products which do not meet their expectations of what good medicine should look like. This is often the case with drugs used in government programs which are unpacked from bulk sources and distributed in shoddy-looking packages.

Up to this point we have discussed problems related to specific activities in the Procurement and Use Process. There is another set of behavioral problems which create obstacles to good management from within the system. Obviously, such lapses as theft, misappropriation of supplies, or professional indifference are detrimental. Often these problems can be traced to particular individuals, but widely-held attitudes are built into many systems and frustrate goal achievement. Material scarcity in developing countries makes available supplies valuable commodities. Control systems become restrictive tending to result in a supply-conserving rather than effective-use-promoting ethic. The best example of this attitude is the multiple signature process often needed to allocate small amounts of drugs and equipment. Supplies become a source of tactical leverage in bureaucratic infighting. Officials resort to rewarding allies and punishing enemies by giving out or withholding supplies. Manipulating supplies for "political" purposes often becomes the de facto goal of materials management in some systems and public health considerations assume a secondary role.

Practical Opportunities for Improving Pharmaceutical Supply and Use

A systematic analysis of current supply activities

The first step in any improvement is describing the current activities, identifying strengths and weakspots, and clearing defining needs.

Figure 1 presents a problem matrix that is useful in completing this analysis. Each function with its associated activities is listed on the vertical axis, and the resources needed to fulfill each activity is noted on the horizontal axis. Each box is then filled in as to the presence or absence of the resources, and what improvements can be made in the process.

Establish priorities for improvements

Based on the above analysis, help the host government or interested agency identify the areas in which improvements can most productively be made, in light of resource and political constraints.

Provide information

Most LDC public health programs do not have all the information they need for improvements. The lack of information may be with regard to: individual drugs (information for selection); the international drug supply market (information for procurement); warehousing techniques and equipment (distribution information); or to re-packaging and dispensing techniques (use information).

Decide on a plan for improvement that is within the resources available

This plan may include some or all of the following components:

1. Construction of warehouses or storage depots;

2. Purchasing equipment or vehicles;

3. Developing more effective policies and operational procedures in supply and maintenance;

4. Training of personnel in various aspects of the supply process or general management training, and

5. Provision of initial stock of supplies to "prime the pump". At the risk of being too simple it should be stressed that providing more drugs without changing the basic supply system does little to insure long-term improvements.

Have realistic expectations for program development

It is common to underestimate the time involved, the expertise required, and the funds necessary to design and implement pharmaceutical

supply improvements. Assistance agencies, either public or private, will not benefit host countries by providing them with partially completed projects. As a major component of any public health program, logistics system improvements require a continued commitment over long periods of time.

Management Sciences for Health is currently developing a comprehensive operational manual for the Pharmaceutical Supply and Use Process. This manual will describe each activity in detail, the anticipated problems, and suggest practical strategies for improvement. Based on an analysis of pharmaceutical supply systems in more than twenty countries, the manual should be available for general distribution in early 1982.

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DRUGS AND PRIMARY HEALTH CARE

Cecile deSweemer

Seminar Speaker

Any aspect of primary health care derives its meaning from the objectives of primary health care, which are to decrease morbidity and mortality. Decreasing morbidity can be done by preventing, shortening and decreasing the severity of specific illnesses or by strengthening the ability to deal with new assaults and stresses. The same strategies will help decrease mortality. It is clear drugs can be useful in all of these, but that other means such as physical exercise, nutrition, psychological and social therapy, nursing and spiritual care are often more powerful and meaningful.

Drugs should rarely be the only mode of preventing or treating an illness; therefore providing for their effective provision and use should only be one part of the broader effort to improve services. Moreover, one should limit the use of drugs to those occasions where they can truly contribute to progress towards the service objectives. At all cost, one should avoid the unnecessary and harmful "medicalisation" of problems that are spiritual, social or psychological and should be dealt with as such.

The steps in planning of drug use are:

1. Selection of the high priority diseases;

2. Selection of actions to be taken to prevent or cure these diseases;

3. Selection of place and person to carry out those actions; and

4. Selection of drugs that are most appropriate for these actions and the persons carrying them out.

The selection of the high priority diseases does not only rely on criteria connected with epidemiological characteristics of the diseases (incidence/prevalence, social impact) and demographic characteristics (population density and therefore size of population to be served), but also on the availability of intermediate technology and relatively cheap supplies (drug and equipment) to deal with the disease at the peripheral level.

In the selection of the drugs to be used, it is very important to keep a number of points in mind. Drugs need to be selected by the following principles:

1. They need to be effective and to be used only for their pharmacological effectiveness (placebos are too expensive to be used).

2. They need to be affordable, in terms of unit cost and their total claim on the health budget (calculation based on 100 percent coverage of relevant cases).

3. The standing orders for prevention and treatment should be formulated carefully to optimize the sensitivity/specificity of the use of drugs. Wherever resources for drugs are scarce it is important to increase the specificity of the use of each drug (use it only where its indications seem almost certain). This avoids wastage but is obviously counter-balanced by the fact that some people needing the treatment, but who present with somewhat less clear indications, are not covered. Because highly specific use of drugs is not only more economical but also makes their effect more visible, it is also important to insist on highly specific use of drugs when a program is still establishing credibility. In richer programs with good public rapport one can increase the sensitivity of their use while maintaining a reasonably high level of specificity, in order to improve the level of effective coverage.

4. Drugs should be selected, distributed and stored in such a way that they do not only support services by doctors and nurses, but make the appropriate contributions to the work of auxiliaries, community-based services and self-care. The use of drugs should be structured in such a way that the choice of particular drugs does not become an excuse for professionalization of primary health care. Drugs to be included in primary health care should be easy to administer, not reduce body resistance, or have frequent severe side effects. The drugs should have a reasonable long shelf-life under adverse conditions, should be pre-packaged for individual use and have clear labelling with indications and instructions. Their storage should be organized so that stocks are readily accessible at all levels. To assure access and avoid wastage, one has to simplify ordering and storage.

This last rests on a number of principles:

-- the list of drugs to be provided in primary health care should be short at the most 40,

-- the lesser trained the person, the shorter the list of essential drugs at his/her disposal should be,

-- ordering of drugs should be formalized at all levels, assuring that all essential drugs are at hand and no drugs are accumulating at any point,

-- in conditions of uncertain turn-around time and/or availability of drugs at higher levels, use a rule of what amounts to be ordered in order to keep a bufferstock at the periphery at any time. One can use mathematical inventory models for this, but in most developing countries it may be necessary to reiterate calculations based on successive attempts at improving the system, as one

mostly does not know what drug consumption will look like if constant shortages in supply no longer intervene. Moreover, one does not usually start with an accurate knowledge of the time elapsing between placing an order and receiving it.

It would seem that a clear planning of a limited list of drugs, a maximum expected use (100 percent coverage of all expected cases) per population unit, would permit quick and non-whimsical checking of peripheral orders. This by itself should shorten the turn around time, which is in many cases 8-12 weeks at present. Moreover, drug use can suddenly increase due to epidemiological conditions or increased population coverage. Apart from a well formalized system of routine ordering, one needs therefore a provision for emergency orders. Not only should these be acceptable and processed with due speed, but if they present themselves too often, they should trigger a review of the routine ordering which must be too tight for comfort.

The provision of sufficient drugs is not just dependent on formalizing the system of selection and storage/distribution. In many programs the drugs are not budgeted for appropriately, or free drugs are politically desirable but financially not feasible in sufficient volume. At least in some places it may be possible to lessen the problems created by these budgetary constraints by instituting cooperative drug-distribution (Pharmacie Populaire) or have health facilities use revolving funds. Community financing of drugs can become an incentive for overprescription of drugs particularly if the individual worker or the health system receives a profit from the transaction. One should carefully avoid building in such incentives and should also guard against indiscriminate use of drugs by clear standing orders and appropriate training and supervision.

To summarize, drugs should be an integral part of the scientific planning for primary health care. The planners should select a limited list of drugs that will directly contribute to the primary health care objectives. Develop a system of pre-packaging, storage and distribution, but aim at their consistent availability in sufficient volume. Standing orders, reinforced by training and supervision, must aim at effective use of drugs, recognizing the dangers of medicalisation of health problems.

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RURAL AND URBAN CLINICS FOR DEVELOPING REGIONS

George J. Mann

Seminar Speaker

Introduction

The health needs of the developing countries are staggering. As a result, more and more frequently, foreign architects are called to developing nations for consultation. One problem has been that these experts often have recommended expensive facilities without first properly analyzing the local health problems and needs. In many cases these problems stem from poor nutrition, leading to mental retardation as well as other disorders. More often the water supply needs to be purified, or sewage and sanitary facilities deployed. In other cases, a simple vaccine is necessary and can be administered outdoors without any facility whatsoever. A simple economical, yet comprehensive, rural or urban health center or clinic is what is often needed on a community level.

Background

In many countries, the concentration of physicians in urban areas has caused an inbalance in the quality and quantity of health services delivered in the rural areas. In addition, the pressures of population shifts from rural to urban areas have also caused an inbalance in emphasis in the development of National Health Plans.

In recent years it has become widely recognized that large, expensive curatively-oriented hospitals are not responding to the health problems of rural areas. Many of these problems could be alleviated by having community-oriented health programs on a local level.

The World Health Organization, USAID, World Bank and numerous Ministries of Health have recognized that a more effective approach to the delivery of health care would be through the less costly, more effective community-oriented health center.

Philosophy of a Community Health Center

A community health center should fit into the overall regionalized development of a National Health Plan. It should have prearranged referral patterns to district hospitals.

It should define and respond aggressively to the local health problems of the community. Its staff should reach out to improve housing, sanitary conditions, sewage and water supply, by teaching the people. It should have programs for health education, environmental and public health nutrition, family planning, and vaccinations. It should have minimal physical area, and have minimal staffing requirements. It should be relatively inexpensive to build and maintain.

What Is the Function of a Health Center?

A health center should provide a "first-line of defense" against disease on the community level. It should emphasize prevention of disease, through aggressive programs related to community health.

Types of Community Health Facilities:

1. Home

2. Dispensary (or local health clinic)

3. Rural health center:

   --Free standing structures
   --Health workers (on foot)
   --Mobile units
   --Landrovers
   --Helicopters
   --River boats
   --Railroad cars
   --Airplanes

4. District hospitals

Services for Community Health Centers:

The following services could be included in a Rural Health Center:

1. Health education

2. Environmental and public health

3. Nutrition

4. Family planning

5. Home care

6. X-ray

7. Laboratory

8. Immunizations

9. Maternal and child health

10. Outpatient services

In some countries, some beds, a minor surgery, and labor and delivery rooms are provided. The latter, however, are in my opinion services to be provided in the district hospital.

Criteria for Design of Community Health Facilities

Attitudes

The building design should recognize the local attitudes of people. If the design is not responsive to the local culture, the building will not be accepted.

Image

The image of the Community Health Center should be inviting to the people of the community.

Accessibility

The Health Center should be accessible and central to the community. (It could be located near the market, near a bus stop, near a school or church.) It should be located in a situation where people will be most likely to use it.

Site

The site should be ample and allow for future expansion.

Climate and natural ventilation

The building design should recognize the local climate (temperatures, rainfall, snow, prevailing winds, orientation) and be designed accordingly.

Its design should take advantage of principles of natural ventilation, since in most cases air conditioning would be out of the question. Overhangs, breezeways, louvered windows, porches and landscaping are some of the methods utilized by architects to respond to local climatic conditions.

Local methods and materials

Often if a building is built, utilizing local methods and materials for construction, it is more likely to be accepted by the community. It is also more likely to be economical.

Self help

One of the ways a Community Health Center can become totally accepted by the community is for the members of the community to participate in its planning, design, construction, operation and maintenance.

Modest scale

A Community Health Center should be of modest scale and fit into the scale of the community itself. This can often mean residential scale.

Designed for minimum staffing

A Community Health Center should be designed for minimum staffing. Often these Health Centers won't be staffed by a doctor, rather by a paraprofessional or an R.N. or a physician's assistant.

Services and utilities

Electricity can be generated. A supply of good water is essential. Sewage can be treated in septic tanks.

PLANNING ACCESS AND CAPACITY FOR USE OF PRIMARY HEALTH CARE WORKERS

George C. Moore

Seminar Speaker

Introduction

The desire to provide some basic level of health care coverage to all has largely motivated the recent interest in primary care. As a result, the World Health Organization (WHO) has adopted the optimistic slogan "Health for All by the Year 2000." Concern over the lack of modern health care for the majority of the world's people has lead to lively debates in the literature.1/ If such issues are to be dealt with, then adequate capacity and access to primary care programs must be provided.

Unfortunately, this issue is often swept away with generalities. Can the world provide health care for all by the year 2000? On a more practical level, how can a local program planner approach maximum benefit in terms of coverage and utilization of specific regional primary care programs?

This paper begins by clarifying the concepts necessary to answer these questions. Facility, coverage and access are care programs. The paper concludes that (1) even with primary health care programs, much of the world's population may be too spatially dispersed to be covered by health care, and (2) that concrete tools for planning access and coverage in primary health care should be used more often.

Facilities, Capacity and Coverage

Often health care facilities will differ from the usual image of facility as a building. Instead, primary care "facilities" in developing countries often include a village health worker in his/her living room, a mobile health unit and staff, or a midwife. In this sense, the term "facility" is used to refer to all the resources collected at a place for the purpose of providing health care. Using this concept of facility, when planning primary care programs, is useful since it allows the planner to focus on designing functional units, rather than buildings. Moreover, it emphasizes that all "facilities" fall on a continuum of size and complexity ranging from the small and simple to the large and complex.

In planning primary care programs, it is often assumed that providing adequate capacity will lead to coverage. As a result, the goal of the program is often expressed as one facility per X thousand people. It is important to recognize, however, that such capacity will not assure coverage.

Let us first define these concepts. If the overall goal of the health care system is to meet the basic needs of the population, then this goal might be divided into two sub-goals as follows:

Sub-goals

1. Coverage: equity of access of the population to facilities in order to generate adequate demand for care.

$$\text{COVERAGE} = \frac{\text{DEMAND}}{\text{NEED}} = \frac{\text{the number of people who seek care}}{\text{the number of people who need care}}$$

2. Capacity: a sufficient volume of effective services to meet normal variations in demand without either excess overflow or excess facilities.

$$\text{CAPACITY} = \frac{\text{EFFECTIVENESS}}{\text{DEMAND}} = \frac{\text{the number of effectively treated cases}}{\text{the number of people who demand care}}$$

(It is understood that these definitions would be extended in practice to compensate for the severity of different needs. Moreover, the idea of capacity as defined here could be divided into physical capacity and quality.) Given these subgoals, then the overall goal of the primary health care system can be defined as maximizing:

$$\frac{\text{EFFECTIVENESS}}{\text{NEED}} = \frac{\text{DEMAND}}{\text{NEED}} \times \frac{\text{EFFECTIVENESS}}{\text{DEMAND}}$$

and thus by substitution:

$$\frac{\text{EFFECTIVENESS}}{\text{NEED}} = \text{COVERAGE} \times \text{CAPACITY}$$

In these terms, coverage implies that those who need health care will actually seek it. In this sense, coverage represents the potential for the utilization of health care.2/ In practice, many primary health care workers (PHCWs) are underutilized because people do not bother to seek care. This may be because the people live too far away, because the PHCW lacks their trust, because the PHCW lacks the necessary time, skills, supplies, or equipment to provide care, or for other reasons. Taking coverage into account when planning the program can help avoid this underutilization.

Capacity refers to the ability of the PHCW to provide quality care to all those who seek it. If people are turned away for lack of time or another reason, capacity is inadequate. Thus, capacity is relative to demand. If demand is low, a very small number of facilities can provide adequate capacity. Moreover, even an infinitely large number of facilities cannot meet the goals of primary health care program without adequate coverage.

Health Care for All?

Let us now return to our initial questions: Is health care for all by the year 2000 a realistic goal? One limiting factor to which attention should be drawn is spatial coverage. As shown above, coverage is an

essential condition to an effective primary health care system. And in order for people to be covered, they must be relatively close to a facility.

In a recent study of spatial access to village health workers in Health Region V of Honduras, this author showed that 100 percent coverage of the population is not feasible in many under-developed countries.[3] The study assumed that a person would be covered by a village health worker, if one was located within 30-minutes walking time from the patient's residence. Data from the Honduran national census was used. This provided data on 96 percent of the 450,000 people who live in the study area, distributed among over 3,000 communities. The study found that after 80 percent of the population was covered, the remaining uncovered population was so widely dispersed that additional health workers would cover at most 225 people. Given the costs of training and supporting the village health workers, it is doubtful that the remaining 20 percent of the population could be covered economically. Similar conclusions were reached regarding auxiliary nurse and physician-based clinics. Thus, without significantly greater external grant funding, countries like Honduras cannot reasonably expect to provide spatial access to even a village health worker for all by the year 2000.

This conclusion should not be interpreted as a criticism of programs to extend primary health care into rural areas. Clearly, much extension of such primary care programs is justified. However, even primary health care programs are limited in the amount of coverage and equity they can produce with the funds currently allocated by the governments of the world.

It is often observed that the ratio of health workers to people in urban areas is much higher than in rural areas. This is true for both developed and developing countries. This fact is often used as evidence that resources are poorly allocated, and that more primary health care workers are needed in rural areas. Roger England[4] has correctly criticized international health workers for overemphasizing the rural areas. In fact, the urban areas are growing faster than the rural areas. In addition, the urban areas contain densely concentrated population so that spatial barriers to access are minimized. The study of Honduras cited above showed clearly that a rational planner seeking to optimize coverage will cover urban areas before sparsely populated rural areas. Thus, where not everyone can be covered, some concentration of resources in urban areas is rational.

The real problem with health programs in urban areas is that often only more expensive secondary and tertiary care are available. For this reason as well, it is imperative that primary health care programs be extended to urban areas, and that urban areas not be ignored in the name of rural programs.

Planning for Coverage

How can the local planner of a regional primary care program adapt the principles discussed here to local realities? Unfortunately, the

literature on health planning contains very little to enlighten us on this subject.[5,6] However, the field of location-allocation analysis within geography provides excellent tools to guide this effort.[7]

First, the planner must identify the questions to be addressed. A large part of present confusion in planning for coverage results from poorly posed questions. Thus, the following issues should be addressed more or less in the order listed:

1. What is the maximum amount that can be spent?

2. How much is the program willing to spend to provide unit increases in the amount of demand, utilization, and effectiveness produced?

3. How many levels of facilities will be provided?

4. What are the functions to be performed at each level, the resources to be available, and the rules of referral of clients among levels?

5. How many facilities should be allocated at each level?

6. What location and capacity should be allocated to each level?

While it is impossible to discuss these methods in depth in the limited space provided, this paper argues that location-allocation methods provide an excellent tool with which to approach this question.

While considerable attention has been given to the above issues 1, 4, and 6 in the public health literature, the other issues mentioned have often been slighted in practice. The location-allocation methods mentioned earlier provide an excellent means to include the other factors in the analysis.

Given data on the location of people (or more sophisticated measures of demand) and possible facility sites, location-allocation methods provide computational techniques to select sites which maximize various related measures of coverage. Marginal return criteria can be explicitly considered to determine how many facilities and levels of facility should be allocated. These techniques are being increasingly employed in the U.S. to plan emergency medical services and fire facilities as well as primary care in rural areas.[8,9] Within the last few years, the techniques have been successfully extended to studies of ambulance and rural health workers in Columbia[10] and Honduras.[3] With National Science Foundation (NSF) funding, Dr. Gerard Rushton is also carrying out a similar large-scale study in India, in collaboration with an Indian university.[11] The author is currently working with Lic. Ulises Gomez of the Honduran National Planning Council and the Honduran Ministry of Health to apply these techniques to a nation-wide study in Honduras. USAID is funding this study. All of this experience shows that location-allocation techniques are a very useful extension to regional health

planning methods. While space prohibits a further discussion of location-allocation here, the bibliography will serve as a guide to the planner who chooses to apply these methods.

Conclusions

The goals of primary health care programs require that high levels of coverage to health workers be attained. Coverage is an important factor in determining the utilization of health facilities, and a good measure of the equity of the system. More attention should be given to planning coverage as well as the capacity of regional health programs. Location-allocation methods provide a very useful tool to facilitate such planning.

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SPECIAL PROBLEMS IN THE SUPPLY OF VACCINES FOR CONTROL OF COMMUNICABLE DISEASES

Samuel L. DeShay

Seminar Speaker

The Tanzania Program

The Tanzania project is carried out through a grant from USAID to Tanzania, administered by the Loma Linda University for the Ministry of Health, involving maternal and child health (MCH) services, the training and setting up of 18 regional centers for auxiliary training, and the development of the public health program for the nursing school.

In the Arusha Declaration in 1967, Tanzania pledged itself to rapid development of its large rural areas and its entire population of 15,000,000. It has been estimated that upwards to 93 percent of the population is rural based.

One major step in the rural development was to attempt to bring scattered families together into cooperative villages where social services might be extended.

In 1973 the Ministry of Health was reorganized into three divisions--Manpower Development, Hospital Services, and Preventive Services. This was done partly to overcome the overwhelming trend toward primary curative services.

Primary Care Workers

The auxiliaries now being trained fall into three basic categories:

1. The rural medical aide (RMA)

2. The maternal and child health aide (MCHA)

3. The health auxiliary (HA)

The RMA is trained for three years in simple curative and preventive services and functions as the team leader. The MCHA is trained for 18 months and provides comprehensive MCH services, including antenatal care, immunizations, family planning, nutrition services, health education, and simple deliveries. HAs also receive 18 months training and provide environmental sanitation services as well as various specific activities, such as TB, leprosy and malaria control. This basic dispensary team provides primary health care for an average of 7,000 to 10,000 people.

Comprehensive Services

Dr. Richard Hart, Director of International Health, Loma Linda University, states that they rapidly discovered that "the motivation that

brings a sick child to a clinic for treatment was often not sufficient to bring a well child on another day for immunization." Newer and less understood services, such as family planning, suffered even more, even when distance was not a problem. Yet attendance for curative services continued to climb exhausting both staff and space; however, it was to be observed that the disparity between attendance at curative versus preventive services increased, even when provided on the same day and in the same building.

Another problem which deserves comment is the economic impact of the oil crisis. District mobile teams often exhaust their travel budgets within the first few months of the financial year and remain idle thereafter. The cost of maintaining vehicles in adequate repair has become more difficult with escalating prices and cost of parts and supplies.

Hence, an important decision was made that the best method of maternal child health coverage was to move to daily integrated MCH clinics. This meant that all services, including clinical care, immunizations, antenatal care, family planning, health education and nutrition evaluation would be available on a daily basis at all dispensaries, health centers and hospitals in Tanzania.

Consequently, the plan that emerged was to completely integrate both the general clinic and MCH services, so the only way to receive medicine and be treated was to pass through an MCH component and receive the preventive services available.

Small Dose Vials

With this decision, the vaccines normally supplied in larger multidose vials were inappropriate because now the numbers on any one day were small. This started an ongoing battle with World Health Organization (WHO) and other vaccine suppliers. The request was made for vaccines in 5, 10, and no more than 20-dose vials. These suppliers pointed out that this is not cost effective for vaccine distribution, with which we must heartily agree. The primary cost of the vaccine is in the packaging, not the vaccine itself.

Some decided to take the larger vials, use only what was necessary, and discard the rest. Most health workers were so conscious of supply limitations that they were not willing to waste the remainder of the large vials; thus they began refusing to open vials unless they had a number of children available to vaccinate. As you can see, this meant that children were being turned away without vaccination, possibly not always returning on another day for this service, now missed.

The standard seven immunization package was used in most places in Tanzania: BCG at birth, smallpox at one month, DPT and polio at 2-12 months for three doses, and measles at six to nine months. In recent years smallpox has been dropped.

Cold Chain

The greatest problem experienced with vaccines next to their initial cost is that of maintaining a cold chain for their proper preservation from the time of their manufacture to the time of their use at a remote dispensary. A rather elaborate cold chain distribution system with central storage in Dar es Salaam where vaccines were received from abroad was set up.

Complicating this picture is the hot climate of Tanzania, the remote location of the rural dispensaries, poor roads and difficult transport, inadequate vehicles, variable air service to the regions, the shortage of kerosene for the refrigerators, largely due to unavailability or to cost factors.

The cold chain problem is currently receiving attention with cold rooms being located at Zonal MCH Headquarters. Six refrigerated VW Kombies were secured for vaccine delivery from Zonal Headquarters to regional centers and district MCH headquarters. Vaccines were usually shipped by air to the regional centers, then by landrover down to the district centers, and on out to the health centers and dispensaries.

Kerosene Refrigeration

A special training program on the operation and maintaining of kerosene refrigerators was developed. Initial evaluation suggests it has worked fairly well. There is a problem of kerosene distribution parallel to the vaccine distribution which must be borne in mind in the development of a project such as the Tanzania program. Without this alternative, the vaccination program would have ended geographically with the last source of electricity.

The Lesotho Experience

This project was much less ambitious and not fraught with the problems and hardships of cold chain frustrations at the same level of magnitude. Lesotho is a small country, though troubled with difficult roads and transport problems, there are other methods to accomplish the desired ends.

We maintain a 200-bed hospital at Mapoteng, the Maluti Hospital, from which many out-station clinics are maintained. The problems with vaccines are largely minimized because of:

1. Easily available source and supply
2. Predictable numbers at the out-clinics from long-term experience
3. Short distances from hospital base to out-clinics
4. Use of S.R.N. students to administer vaccines
5. Reasonable vehicle maintenance and availability.

Evaluation done on acceptance of the MCH program in Tanzania indicates 22 percent more children's visits in 1979 over 1978. A UNICEF baseline survey of 3,471 Tanzanian households indicates that 20 percent of mothers do not attend antenatal clinics, 41 percent do not take their children to clinics, and 61 percent do not know measles can be prevented.

SUPPLY OF VACCINES TO CENTRAL-LEVEL OF NATIONAL HEALTH SYSTEMS

Ciro de Quadros*

Seminar Speaker

Introduction

The member states of the Pan American Health Organization/World Health Organization (PAHO/WHO) have pledged to work together to attain a level of health for all the people of the Region by the year 2000 that will permit them to lead a life socially and economically productive. They have also endorsed the declaration of Alma Ata which recognizes that primary health care is the key to attaining the goal of "Health for All by the Year 2000," as part of social and economic development.

The essential objective of the concept "Health for All by the Year 2000" is to provide all the peoples of the world with adequate health services through primary health care. The essential health services to be provided through primary health care are: adequate food and housing; protection of houses against insects and rodents; adequate water to permit cleanliness and safe drinking; suitable waste disposal; services for the provision of pre-natal, natal and post-natal care, including family planning, infant and childhood care, and nutritional support; immunization against major infectious diseases of childhood; and prevention and control of locally endemic diseases.

Furthermore, PAHO/WHO have emphasized the importance of immunization by adopting a resolution aimed at ensuring that by 1990 all children of the Region as well as the world will be provided with such immunization services as a milestone toward "Health for All by the Year 2000."

In implementing the resolution regarding immunization, PAHO and WHO voted to establish on a permanent basis, an Expanded Program on Immunization (EPI) with the goal to reduce morbidity and mortality from diptheria, whooping cough, tetanus, measles, poliomyelitis and tuberculosis. Other goals are to promote countries' self-reliance in the delivery of immunization services and regional self-reliance in vaccine quality-control and production.

In 1977 the governing bodies of PAHO passed a resolution calling on member countries of the Region to expand their immunization programs and to formulate specific plans for the development or maintenance of immunization activities through their primary health care systems, particularly maternal and child health services.

However, all efforts will be for naught if a constant supply of potent vaccine is not assured at the levels of the health system. The previous

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presentation in this seminar session dealt with all the problems related to the flow of vaccines from the central to the peripheral levels, what is universally known as the "cold chain." This paper will deal with the problems of availability of good quality vaccines at affordable cost for developing countries at the central level of their health system and an innovative solution to these problems through the operation of a Revolving Fund under operation by PAHO since 1979.

Purpose of the EPI Revolving Fund

Few children or pregnant women in the developing world are now being immunized. The consequence is up to 5 million deaths per year with a similar number of crippled or mentally retarded children. Vaccines are among our very best health bargains: they should be made available for all children and women of child bearing age.

In order to assure that vaccines are available to all countries of the Region, the EPI Revolving Fund was established with the following objectives:

- To enable member countries of the Region to procure the requirement for vaccines and related supplies in an orderly and continuous manner in order to avoid disruptions in their programming due to lack of vaccines or lack of immediate funds for their procurement.

- To permit countries to use local currencies instead of U.S. dollars to reimburse their vaccine purchases, thus avoiding delays and loss in trying to exchange their currencies for U.S. dollars.

- Vaccine requirements from all participating Revolving Fund members will be consolidated resulting in economies of scale, thus providing vaccines at low prices.

- Improved delivery and receiving of vaccines thus minimizing delays and losses, especially for small countries and territories in the Region.

- Member countries can program their activities more effectively due to the constant flow of supplies that can be achieved with the continuous availability of funds in the Revolving Fund.

- Members participating in the Fund will be assured of good quality vaccines that meet PAHO/WHO standards.

- Contracts established with the world suppliers of vaccines allow for urgent orders to be placed and delivered on short notice.

Revolving Fund Operations

Procurement cycle

The annual requirements are submitted to PAHO during the third quarter. The annual requirements of all the countries are consolidated and constitute a base for the annual contracts. Bids for annual contracts are solicited during the third quarter from all the qualified suppliers who have around six weeks to prepare and submit their offers.

The contracts are awarded at the end of November or beginning of December to the bidder who offers the most advantageous price, taking into consideration the cost of transportation, capacity of the bidder to meet WHO's specifications regarding production and transportation of vaccine, and delivery of the required vaccine at the required time. PAHO will reject bids of suppliers whose services were not satisfactory in the past or whose products do not meet the WHO specifications.

PAHO assumes the responsibility for delivery of vaccines before the end of each quarter -- usually in the third month of the said quarter. If the country wishes the delivery be made earlier or by a specific date in the first two months of the quarter, it is necessary that this be indicated well in advance.

Any cancellation or reduction of quantities must be requested from PAHO at least a month prior to the quarter in which vaccine is to be delivered. When cancellation is not received on time, the country requesting the vaccine is responsible for any charge caused by the cancellation, up to the total cost of the order.

Vaccines prices

In general since 1979 prices for vaccines have been steady, although there has been some fluctuation. (In the beginning, due to special circumstances, the contracts were extended for 18 months, from January 1979 to June 1980, and from July 80 to December 81. In the future they will coincide with the calendar year.) From January 1979 to December 1981, the prices of vaccines for EPI has increased 3.7 percent. If the reduction in the prices of measles vaccine is not taken into account, the estimated increase was 11 percent compared with 1979.

Volume of orders, 1979-1980

From 1979 to present, PAHO has placed more than 500 purchase orders of vaccines for EPI in a total amount of 6 million dollars. Approximately half of the total amount relates to measles vaccine, which is the most expensive of the vaccines. The majority of the orders were placed with EPI suppliers, but some of them were placed with other suppliers due to inability of the EPI supplier to fulfill the demand because of production problems.

Quality control

The procedures of quality control of the vaccines are the ones applied by WHO and UNICEF in their purchases. Vaccines are purchased only from those suppliers who can meet WHO specifications. The suppliers send PAHO the protocols of each lot of vaccine to be shipped. In order to ship vaccines without delay, the shipments are released by the suppliers before PAHO's specific approval is received, but the suppliers are responsible to assure that the vaccine will meet the specified conditions.

When PAHO receives the production and quality protocols, it examines them and if necessary gets in contact with the suppliers. To preserve vaccines's full potency during the transportation, suppliers are requested to use transportation containers suitable to keep the vaccine at an appropriate temperature. All shipments have to be made according to specific guidelines for packing and transportation of vaccines issued by WHO. In case it is necessary to test the validity of a vaccine that has arrived in doubtful condition, samples are sent to the PAHO Reference Laboratory for Quality Control of Vaccines according to PAHO's instructions.

Delivery system

The supplier and PAHO headquarters telex the flight details on each shipment of vaccine to the consignee through the PAHO Country Representative. Each notice indicates steps to follow in case of delay of the vaccine or its arrival in a doubtful condition due to undetermined cause. When the vaccine is shipped, PAHO maintains contact with the airline to assure that the vaccines are refrigerated during transportation and to obtain and confirm flight details to the Country Representative. The suppliers have responded satisfactorily in the fulfillment of quarterly orders, as well as urgent ones. Aproximately 85 percent of the deliveries have been made within the required time. In several cases there were delays in the deliveries due to difficult flight connections of certain airlines flying to the Caribbean and Central American countries. There were cases of arrivals during holidays or weekends and cases where the supplier shipped vaccines in containers which did not meet the contract specifications.

Invoicing

PAHO sends the appropriate invoice to the countries as soon as it is notified that the vaccines were delivered in good condition. The invoice includes a 3 percent service charge which is applied only to the cost of vaccine. The invoice must be paid within 60 days and can be paid in local currency.

Evaluation of Revolving Fund procedures: benefits and problems

Besides the advantages of this procurement system as outlined above, it has to be mentioned that prior to the establishment of the Revolving Fund, PAHO was unable to coordinate vaccine procurements, nor could

purchase action be taken until funds were deposited for each request. Each order was of necessity treated as a separate transaction requiring the solicitation of bids and negotiation of delivery and other terms and conditions. As a result there was considerable repetitive effort and deliveries were unnecessarily delayed. In cases of urgent requirements, orders were placed solely on the basis of the supplier's ability to meet delivery and without regard to price.

Conclusions

The EPI Revolving Fund has facilitated the consolidation of requirements and the orderly scheduling and placement of purchase orders. This in turn has made possible the establishment of long-term contracts which have produced favorable prices and a ready supply of quality vaccines.

Some of the major problems identified in the first three years of operation of this Revolving Fund include:

1. The authorized level of the capitalization of the Revolving Fund is 4 million dollars. The available capital is only 2.3 millions. Due to the delay in settling invoices, sometimes up to nine months, the Fund's actual rotation rate is 1.6 which results in a purchasing power of approximately 3.6 millions of dollars annually. This is insufficient to take care of all of the countries and does not permit the procurement of cold chain equipment and other related EPI supplies. It also makes it impossible to place quarterly orders in a timely manner.

PAHO is attempting to increase the level of capitalization of the Fund. In the meantime, efforts are being made to use the Fund more effectively by speeding up payments and increasing the rotation index to 2. This rate of turnover would increase the purchasing power to 4.6 millions per year. It is already identified that this problem is caused in part by differences in the financial and accounting systems as between PAHO and the member countries, which is now in the process of being corrected.

2. Another problem to be mentioned has to do with the increasing concern of the countries due to lack of familiarity with some of the suppliers and the lack of knowledge of PAHO procedures for establishing the annual contracts. In the future the countries will have an opportunity to participate in this process. Circulation of the bid documents will be made in advance for comment and recommendations by the countries regarding the laboratories to be included or not in the bid.

3. There are still problems with some vaccine shipments, particularly to some Caribbean Islands where flight connections are an obstacle for smooth deliveries. This problem is being dealt with through constant contact with suppliers and airline carriers.

To conclude, this purchasing mechanism has enabled the participating countries to assure constant flow of vaccines to their central store, which is the first link of the national cold chain system.

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This publication, designed to call attention to the health needs of less developed countries, contains papers presented at the NCIH conference on "The Dynamics of Change in Health Care and Disease Prevention" in 1975. Some of the topics covered are primary health care as an agent for change; constraints encountered in implementing primary health care programs; redirecting the education of health personnel; integration of health services with community development; and the role of private and voluntary organizations, government, and multinational corporations in international health development. 1975. 212 pp.

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