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AN OVERVIEW OF PRIMARY HEALTH CARE ACTIVITIES

IN THE CILSS MEMBER STATES

DR. MICHAEL K. WHITE

HEALTH ADVISOR

CILSS

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I. INTRODUCTION AND ACKNOWLEDGEMENT

The purpose of this brief presentation is to provide a background for the case studies from Mali and Senegal which will be presented at this meeting. All of the data are very approximative, out of date by varying amounts of time, and intended only to provide a very general impression of the Sahelian countries health care systems and the state of development of their Primary Health Care (PHC) programs.

The vast majority of the data presented in this report was originally assembled by either Dr. Peter Knebel¹ of the United States Agency for International Development (USAID) Sahel Development Program planning office in Bamako, Mali or by Ms. Patricia Daley² of the USAID Mission in Dakar, Senegal. Any inferences derived from these data or opinions expressed are, however, the sole responsibility of the author.

II. DEFINITION OF TERMS

A. CILSS (Comite Interetat pour la Lutte Contre le Secheresse Dans le Sahel)

The CILSS is an organization created in 1973 during the worst years of the great Sahelian drought by the heads of state of the eight Sahelian countries whose health services are described here. The goals of CILSS are: (1) the attainment of food self-sufficiency by the Sahelian states, and (2) the restoration of the Sahelian eco-system. In recognition of the primordial importance of a healthy rural population to the attainment of the above goals, the Human Resources Team of the CILSS has worked hand in hand with its member states and the international community to promote financial support for the creation of a village based health care system.

B. Primary Health Care (PHC)

To avoid confusion, all references to PHC in this presentation concern activities that take place at the level of a health center (HC), the dispensary or the village. A health center in the Sahel is usually based in the capital of an administrative unit known as a Cercle or Department which has a population of between 100,000 and 200,000 people. Each health center theoretically is, but often is not, headed by a physician who oversees the care given at the health center and at the dispensaries which relate to it.

Although in theory directed by a senior level nurse, the dispensary staff is often limited to one minimally trained nurse or auxiliary health worker. In areas where village level health workers (VHW) are being trained, it is the staff of the health center and the dispensaries which will be responsible for their ongoing training and supervision.

III. INFRASTRUCTURE AND PERSONNEL SITUATION IN THE CILSS MEMBER STATES

Table I provides an overview of the existing health infrastructure. It is not the purpose of this meeting to discuss the capital development cost involved in the establishment of a PHC system. However, a brief analysis of these data demonstrates that the Sahelian states will need massive financial assistance to construct the infrastructure and train the necessary staff to assure a well functioning PHC system.

If one assumes that a country should have approximately one health center for each 200,000 population, the Sahelian countries are relatively well off. However, if one accepts that each health center should have at least 10 dependant dispensaries one finds that the Sahelian states average only one half the number necessary. To construct and equip the more than 1,000 new dispensaries that will be necessary to support a PHC system will cost between 50 and 100 million dollars.

To minimally staff the more than 2,500 Sahelian dispensaries which will be the basis for a PHC system, the number of nurses currently being trained will have to be significantly increased and their geographic distribution changed. The November to December, 1980 issue of "Famille et Development"³ states that in one Sahelian country, the region in which the capital city is located has 10 times the number of doctors, two times the number of nurses, six times the number of midwives, forty-five times the number of pharmacists and twenty times the number of dentists, as does a more rural region. Both regions have a population of just over 1,000,000. In 1978, in this same country 69.3% of physicians practiced in the capital city itself.

IV. MINISTRY OF HEALTH (MOH) BUDGETS IN SAHELIAN COUNTRIES.

Table III provides a summary of the financial resources available to Sahelian MOH's. Hospitals absorb 44% of these financial resources in one Sahelian country.³

Significantly more than 50% of the MOH budget is dedicated to paying salaries in most countries, leaving little money for the purchase of drugs and equipment, or the construction and renovation of health facilities. What money is available for the purchase of drugs is consumed largely by the hospitals. In two regions of one Sahelian country only 18.7% and 26.5% of the drug budget was available for non-hospitalized patients.³⁽⁺⁾ This mal distribution of personnel referred to earlier. Neither bodes well for the development of a self sufficient PHC system.

V. PRIMARY HEALTH CARE

A. Policy Development

To date, only two CILSS member states have participated in the WHO sponsored "Country Health Programming" process. These countries have clearly articulated policies relative to PHC. At least one Sahelian country is scheduled to participate in this process early next year. Other countries have developed PHC policies based on their independent analysis of VHW training programs which have been ongoing for a few years. More than half of the Sahelian states are early in the process of defining a PHC policy at least in the degree of detail suggested by the WHO document entitled Formulating Strategies for Health for All by the Year 2000 (WHO No.A32/8).

All Sahelian PHC strategies emphasize the need to provide services to the 80-90% of the population that lives in villages of less than 1,000 people. How the current mal distribution of human and financial resources can be reversed to provide these services in the rural areas without causing tremendous social and political upheaval in the urban areas is unclear.

B. Coverage

Niger, which began training village health workers currently has at least theoretical coverage of more than 20% of its villages. One or two other Sahelian countries may have trained VHW for up to 5% of its villages but most countries count only very few villages with functioning VHW teams.

(+) This maldistribution of financial resources of course reflects that of the personnel referred to earlier. Neither bodes well for the development of a self sufficient PHC system

C. Various Issues in Sahelian PHC Programs as They Relate to the Cost of These Programs

In order to typify the diversity of PHC programs operational in the Sahel a comparison of various aspects of five programs in Senegal will be presented. See Table IV. Four of these five programs are located in the same region. Programs A, B and C are implemented in conjunction with different bilateral AID agencies, program D is supported by one of the multi-lateral agencies and program E is implemented with the assistance of a private voluntary agency.

1. Selection Criteria

In general in Sahelian PHC programs villages have been informally encouraged to select younger minimally literate people to be trained as first aid workers. They are almost exclusively male. This relatively young, better educated segment of the population is also the most likely to become frustrated in the rural village situation and to seek its fortune in the cities. This has resulted in a rather high attrition rate.

Many people believe that it is considerably less expensive to train semi-literate people than it is to train older, illiterate people to the same level of competence. However, if these more literate people are more likely to leave their villages after a few months, it may be cost effective to invest more money in the initial training of older, more permanently rooted villagers. This is an area in which operational research would be very helpful.

2. Training and Supervision

The length of a training program for VHW obviously has implications in terms of the cost of that training. The initial training cost can, however be viewed as investment cost in the creation of a PHC system. The more important costs then become those of periodically retraining the VHW. The frequency, length and content of retraining programs which are necessary to maintain a certain degree of competence is far from clear at this time. Hence, the recurrent cost of training are unclear.

What is perfectly clear, however, is the fact that a semi-literate village who receives only a few weeks of initial training will require frequent supervision if he is to execute his limited tasks in an effective way. Whether that supervision must be monthly or quarterly will be determined only after much effort has gone into the evaluation of the performance of VHW's with varying training and supervision histories.

Currently, in most all Sahelian PHC programs, periodic supervision of the VHW is conducted by personnel from the dispensary or health center level. From a financial perspective, it is disquieting that the cost of this supervision is almost entirely supported by donor agencies.

Those cost are basically twofold. First are the transport cost involving the purchase of a \$750 mobylette which has an effective life expectancy of two years. A dispensary nurse who travels 300 kilometers per month supervising his VHW's will spend between \$5 - \$10 on fuel and maintenance. This means the recurrent transport cost for dispensary level personnel could easily reach \$500 per year.

The second supervision expense involves paying a salary supplement or per diem to the regular dispensary or the health center medical staff when they make supervisory trips. Although these payments are almost always frowned upon by senior MOH personnel, they are usually paid by donors for the simple reason that all involved believe that the most periferal level personnel will refuse to assume new and arduous responsibilities without some material encouragement. If a dispensary nurse makes eight supervision visits a month and is paid a per diem of \$3 per trip, this per diem will often amount to more than 15% of the nurse's salary. Whether or not Sahelian ministries of health will be able to redirect expenses from urban areas to support these additional personnel expenses at the most rural level, remains to be seen.

3. Services Provided

Table V reviews the drugs used by the first-aid man. Most of his services are aimed at curing common and easily treated medical problems.

Antimalarials are always provided but almost exclusively used to treat fevers - not distributed prophylactically to prevent malaria. Given the high prevalence of visual impairment due to trachoma and bacterial eye infections most programs include a drug to treat these conditions. Iron and vitamins are frequently included, but are too expensive to be effectively prescribed routinely for pregnant women.

Because diarrhea is recognized as a frequent cause of death in young children, many programs include a constipating agent like paragoric or a sulfa derivative like Ganidan. Unfortunately, in spite of much evidence to the contrary, a high percentage of Sahelian nurses believe these agents to be more effective at preventing death from diarrhea than is the provision of simple solution of salt and sugar to dehydrated children. Because rehydration solutions are often viewed as second class treatment for diarrhea, even those VHW who have been trained to prepare and use them rarely do so or encourage Sahelian mothers to do so.

At the present time, no program designed primarily to train and support village health teams is also providing vaccinations on a routine basis. Almost all immunization efforts in the Sahel are urban based or primarily conducted by mobile teams. If one envisages the functional unit of a PHC system as the health center with its dependant dispensaries and villages, true integration of Expanded Programs for Immunization (EPI) into PHC programs will require the presence of a refrigerator with a freezer at the health center. Once one has developed a dependable cold chain to the level of the health center, one can consider ways to involve dispensary level health workers and VHW in an EPI. The Government of Mali is in the final phases of planning a trial EPI for the Sikasso region which will attempt this type of integration.

Most VHW are given some instruction in the identification of a malnourished infant and the type of nutrition education that should be directed at his mother. Unfortunately, however, only very rarely does a VHW actually measure arm circumference or weigh babies to pinpoint these most at risk and in need of special

intervention. Effective nutrition counseling of mothers may well be beyond the scope of VHW as they are presently selected, trained and supervised in the Sahel.

D. The Traditional Birth Attendant

Most PHC projects include the training of a traditional birth attendant. This training is usually limited to improving the woman's ability to diagnose and refer dystocic labors and perform eutocic deliveries in as hygienic a fashion as possible. Because of the prohibitive cost involved women are not encouraged to take iron pills during their pregnancies although they are encouraged to take chloroquine tablets to prevent malaria and a worsening of their underlying anemia.

Work done by the Medical Research Council in the Gambia has shown that women who are in their last two tri-mesters of pregnancy during the rainy season are a particularly vulnerable group at risk of maternal morbidity and of delivering a small baby who has a relatively high probability of dying during infancy. These mothers expend more energy at this time of year than at any other because it is the peak planting and cultivating season. Yet, they have the least food intake at this time because the previous year's grain reserve is practically finished.

These studies have also demonstrated that the incidence of maternal diarrhea is highest during the rainy season and thus some, of what few calories they consume, are wasted. Obviously, this is the peak season for malaria transmission with its attendant increase in anemia. An appropriately timed, epidemiologically sound intervention by a well-trained TBA might help alleviate some of the impact of these combined seasonal forces on the health of Sahelian mothers and their infants. Unfortunately, this is not currently being done and constitutes a fruitful area for applied research. TBAS in the Sahel do not normally stress the importance of breast feeding because almost all village women in the Sahel who can, breast feed as a matter of routine. There is no effort to train TBA's in the virtues of child spacing because family planning efforts in the Sahel are at a very early stage of development even in capital cities.

E. Environmental Hygiene

Many Sahelian PHC programs teach a separate individual to build latrines, protect water sources and generally encourage a cleaner village environment. These efforts have not been spectacularly successful. The villagers often do not appreciate the advantages of the hygienist's counsel and hence are not supportive of him or his projects. He ultimately becomes discouraged and quits.

F. Compensation of the VHW and Purchase of Medicine at the Village Level

The responsibility for compensation of the VHW always rest with the village in Sahelian PHC programs. The state never assumes the responsibility. Sometimes the nature and amount of the compensation is clearly defined by the project. For example in one program, a fixed fee is charged for each consultation and the VHW is allowed 20% of this fee. In another program, medicines are sold at a small profit some of which can be kept by the VHW. The more usual condition, however, is that villagers are expected to give in kind compensation to the VHW. This may mean a certain number of bags of millet at harvest time or that the VHW fields will be tilled by the villagers. The general impression is that, if the VHW is effective and if he provides a valuable service, the village will find an acceptable way to encourage him to continue his work. This impression must be verified by repeated observations.

Initial stocks of medicines are usually donated to villages by project sponsors or by the state. It is then expected that a revolving fund will be set up which will allow the replenishment of this drug supply. Some projects have required villagers to tax themselves to buy their initial stock of medicines. Doing so presumably demonstrates a commitment to the concept of PHC.

It is encouraging that in the PHC program in the Gorum Gorum area of Upper Volta, implemented with the assistance of CENTRE International pour le Development Rurale, villages surrounding those which have had village pharmacies for a few years, now are so desirous of having their own village pharmacy that they tax themselves to buy the initial stock of medicines.

The management of these village pharmacies, and the money they generate is probably the most frequently mentioned problem with Sahelian PHC programs. Here again, with monthly supervision, accounting and resupply problems can probably be resolved. Without this frequent supervision it is doubtful that these pharmacies will survive.

G. Evaluation

Evaluation is essential for Sahelian PHC programs because governments - both Sahelian and donor - have a moral responsibility to assure that this new and unproven approach to delivering health care actually results in an improvement of villager's health status. This is particularly true because these extremely poor villagers are being asked to finance this unproven approach themselves. If the presence of a VHW only allays anxiety but does not save lives, the villagers are being deceived.

Evaluation of PHC programs should take place at three levels. The simplest level concerns the obvious output of the program, i.e., the number of dispensaries renovated, the number of VHW trained or the number of children who receive prophylactic chloroquine. The second level involves assuring that the VHW does correctly what he has been trained to do. It is insufficient to know how many children received chloroquine tablets. If the strategy dictates that the VHW give twice monthly doses of chloroquine to all children under age three from July through September, it is essential to demonstrate that the VHW in fact does this. Evaluation might reveal that in spite of the amount of chloroquine being distributed, it was being given to children of the wrong age during the wrong season.

Thirdly, and most importantly, evaluation must be directed at specific health indices in the population. For instance, is the mortality from malaria falling or are there fewer children in the village with advanced splenomegaly

Very little evaluation of the competence of VHW or of their impact on morbidity and mortality is currently being done. This is because Sahelian MOH officials and expatriate technical assistance personnel both often feel that such evaluation is too costly in terms of available human and financial resources. This is false economy in the long term.

If VHW are not effectively performing their tasks this fact will be unknown to PHC program managers if these programs are not evaluated. The villagers who must support these VHW will recognize quickly that they are ineffective and will reject the entire VHW concept.

VI. SUMMARY AND RECOMMENDATIONS

Sahelian PHC programs are often criticized because they do not provide more preventive services. This is not entirely fair in that the provision of chloroquine tablets to children with fever and tetracycline eye drops to children with conjunctivitis can be viewed as secondary prevention - preventing death from malaria or blindness from repeated episodes of conjunctivitis.

It is, however, true that the work of the village health teams should be much more narrowly focused, and targeted on those health problems which epidemiologic analysis have shown to be common, are perceived as serious by the community and are amenable to rather simple technical intervention which can be effected by the VHW or his supervisor the dispensary nurse. If saving lives is one of the most important goals of a PHC program, then certain activities on the part of the VHW, become much more important than others. Among these activities are: (1) vaccinating against measles and whooping cough, (2) providing prophylactic chloroquine to children under three, (3) identifying and intervening with seriously malnourished children, and (4) teaching mothers how to prepare and utilize rehydration fluids.

The secret of assuring that components such as those sited above are effectively integrated into Sahelian PHC programs is the monthly supervision visit of the dispensary nurse. If the nurse is motivated and has the where-with-all to travel, once he is in the village, can actually vaccinate the children, or provide the follow-up for the malnourished child. With proper supervision, the work of the VHW will be effective and recognized by the population. Therefore, the VHW will be supported by the village in whatever way necessary to encourage the VHW to continue on the job. However, if unsupervised, the VHW will be ineffective and the villagers will refuse to support him.

One must assume that such supervision will require an additional nurse at the dispensary who earns approximately \$150 per month. If per diems are necessary, one must

count \$40 per month for the two nurses. One mobyette amortized over two years with the necessary petrol will cost \$500 per year. This brings the total cost for this level of supervision to \$2,780 or \$.28 per capita if the dispensary serves at least 10,000 people.

Can the state afford this recurrent cost? Can the villagers contribute in some way toward the assurance that this supervision continues? These are questions which could be usefully broached during the workshop.

BIBLIOGRAPHY

- I. The Village Health Worker Team in the Sahel - A Manual for Planning and Evaluation, Knebel, M.D., DCMT, MPH Peter, Bamako, Mali, July, 1980, Unpublished.
- II. A Review and Comparison of the Primary Health Care Projects in Senegal, Daly, Patricia, Dakar, Senegal, August, 1980, Unpublished.
- III. Le Droit a la Santé Pour Qui?, Senghor, Diana, Famille et Development, October, November, Decembre, 1980, pp. 23-49.
- IV. Formulating Strategies for Health for All by the Year 2000, WHO - A32/8.
- V. Rapport D'activites 1978-1979 Economie Famillal Dans la Sous Prefecture de Gorom Gorom, Centre International pour le Development Rural, Haute Volta, Mars 1980.

TABLE I

EXISTING HEALTH INFRASTRUCTUREIN THE SAHEL*

27

Country	Year	Population	Number of Villages	Number of Health Centers	Dispensaries
1. Cape Verde ,	1976	300,000	?	?	?
2. Chad	1978	6,300,000	15,000	40	120
3. Gambia	1978	600,000	1,000	10	62
4. Mali	1978	6,300,000	10,300	42	387
5. Mauritania	1976	1,300,000	570	14	28
6. Niger	1978	5,000,000	9,000	38	159
7. Senegal	1976	5,300,000	13,000	34	428
8. Upper Volta	1978	6,300,000	7,000	76	159

*Ref 1

TABLE II

EXISTING HEALTH PERSONNEL IN THE SAHEL*

Country	Doctors	Midwives	NURSES	
			Senior Grade	Junior Grade
1. Cape Verde	?	?	?	? !
2. Chad	36	36	679	248
3. Gambia	28	174		
4. Mali	180	268	575	1,415
5. Mauritania	23	20	222	317
6. Niger	29	88	337	745
7. Senegal	307	329	2,563	
8. Upper Volta	41	165	338	882

*Ref 1

The data on this table date from the same years as those in table I.

TABLE III

ANALYSIS OF CURRENT FINANCIAL RESOURCES ALLOCATION
TO THE HEALTH SECTION IN \$ U.S.

Country	MOH Budget	Per Capita Health Budget	% of Total Government Budget	% of MOH Budget Spent on Salaries
1. Cape Verde	925,000	3.08	4	?
2. Chad	5,387,000	1.25	7.1	70
3. Gambia	3,009,000	5.30	7.2	70
4. Mali	9,520,000	1.52	6.2	55
5. Mauritania	5,270,000	3.42	2.7	53
6. Niger	11,000,000	2.20	7.8	49
7. Senegal	21,890,000	4.13	6.5	75
8. Upper Volta	9,028,000	1.41	7.3	88

The data on this table date from the same years as those in table I

TABLE IV

VARIOUS ASPECTS OF FIVE PHC PROGRAMS IN SENEGAL*

PROGRAM	SELECTION CRITERIA		WEEKS OF TRAINING FOR FIRST AID WORKER	REIMBURSEMENT OF FIRST AID VHW WORKER	CONSTRUCTION OF A HEALTH HUT REQUIRED
	LITERATE	LESS THAN AGE 30			
A	No	Yes	4	Cash	No
B	Yes	No	2	None	No
C	No	No	3	Cash	Yes
C	Yes	No	12	Cash	No
D	Yes	No	3	Through AG Cooperative	Yes

*Programs A-D all take place in the Sine Salloum Region

Ref 2

TABLE V
MEDICINES PROVIDED THE VHW

MEDICINE	PROGRAM			
	A	C	D	E
Aspirin	Yes	Yes	Yes	Yes
Sulfa compound	Yes	No	?	Yes
Eye Antibiotics	Yes	Yes	Yes	Yes
Skin Antibiotic	Yes	Yes	Yes	Yes
Antimalarial	Yes	Yes	Yes	Yes
Anthelmintic	Yes	Yes	Yes	No
Iron Tablets	Yes	Yes	No	No
Cough Suppressant	No	No	No	Yes
Paragoric	No	No	No	Yes
Dehydration Powder	No	Yes	No	No
Ear Drops	No	No	No	No
Vaccine*	No	No	No	No

*Project B for which no other information was available did provide vaccines.

Ref 2