ESTABLISHMENT OF DRUG CHESTS AT COMMUNE HEALTH STATIONS IN VIETNAM, BAMAKO INITIATIVE

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Abstract. In remote areas in Vietnam essential drugs are often not available. Some of the reasons are inadequate resources and failure of distribution. All activities at the health stations are very weak, partly because of inappropriate usage of drugs and lack of fund for buying drugs. The object of the project was to establish sustainable provision of essential drugs for commune health stations in rural areas, to teach the health personnel the importance of essential drugs and to create incentives for the staff and a certain surplus for other health activities.

Four District Health Centers (DHC) and 10 Health Stations (HS), 2-4 in each DHC were selected. A pharmacist was made monitor of the project. The health personnel were trained in proper use of drugs, drug prescription, price setting, book keeping and management of pharmacy. Written guidelines were produced. One person was responsible for the drug chest at each HS. After recognizing the aim of the project and signing the contract by which the responsible person was bound, the initial capital was given free. The DHC was responsible for the supervision and advice to the HS. Reporting on presribed drugs, buying and selling price, profit and fund left took place monthly. Monitoring of recovery of capital, turnover rate, rate of essential drugs and incentives for staff were monitored on forms and quarterly collected by the monitor on his visits. The HS were visited half-yearly by a steering group.

All ten HS had been able to establish and maintain the pharmacy and to fully recover or even increase the capital and to create a surplus. Seven out of ten HSs had a turnover rate of more than one. The rate of essential drugs sold was more than 60% in seven pharmacies. The interest rate of 18% on average was used for incentives for staff, to provide drugs for those who cannot pay and for equipment for the HS. The cooperation between the DHC and the HS became closer.

Establishment of drug chests seems to be a reasonable strategy of reinforcing primary health. Much attention should be paid on training of staff, monitoring, supervision and integration of health services.

INTRODUCTION

The drug situation in South Vietnam

Availability of essential drugs at the health stations plays an important role in primary health care, especially in the remote areas. The quality of care at the health stations in Vietnam at most places is low. Some of the reasons are inadequate access to essential drugs and inappropriate use. Inadequate access is a function of inadequate resources and failure of distribution. Inappropriate use is a function of drug promotion practices and inadequate eduation of health personnel and consumers.

Public and private pharmacies have stored large amounts of antibiotics, tonics and nootropics in Ho Chi Minh City, in order to gain a big profit. In the countryside, where people are poor and can hardly afford to buy drugs, there is a shortage of drugs. They are often of low quality, unsafe, ineffective, out of date, wrongly labelled or of uncertain origin (Tran Tan Tram, personal commnnication).

The drug policy of Vietnam

Vietnam first developed and issued a list of essential drugs in 1985 according to the WHO (1985) recommendations. The essential drug list has been revised in 1989 and 1995 (Anonymous, 1995), and contains drugs for four levels: central, province, district and commune. At commune level the list cromprises 60 drugs. The drugs in the list have been defined according to the diseases in the

population. It is the policy of the country that the essential drugs should be available and distributed in appropriate quality, quantity and price. Some essential drugs are free of charge. They are the drugs against tuberculosis, leprosy, malaria and AIDS.

The Bamako initiative

African health ministers attending a WHO meeting in Bamako, Mali in 1987 addressed the health care crisis by working out a new strategy designed to revive primary health care especially for children and women. Part of the strategy, now known as "The Bamako Initiative" was provision of basic essential drugs for distribution and sale through health centers at district and peripheral level. The concept of charging for drugs through government health channels holds the promise that even on modest budgets, nations have a chance to build sustainable health networks in the remote areas (UNICEF, 1990).

Pilot project in Cu Chi district

As the official drug policy is far from being fulfilled a pilot drug project was carried out during 1989-1993 in a few communes in the Cu Chi District of Ho Chi Minh City. The initial capital was US$50 for each drug chest. Useful experience was gained from the pilot project.

The object of the project was (1) to establish sustainable provision of essential drugs for commune health stations in rural areas and thereby to improve the quality of services and to strengthen the health station system; (2) to teach the health personnel the importance of essential drugs; (3) to create incentive for the staff by letting the sales price of the drug be set at a level to allow a certain surplus, which partly could be used for other health activities in the area. At the same time and in the same communes we carried out another project with the object to teach mothers in the rural areas in acute respiratory infection in children.

MATERIALS AND METHODS

In Vietnam the District Health Centers are responsible for primary care and preventive medicine at commune level given by the staff (nurses, assistant doctors, midwives and occasionally a doctor) of the health stations.

Selection of health stations

Four District Health Centers in 4 different provinces in the Mekong Delta were chosen. The pilot project was carried out from one of them. The pharmacist from the pilot area was made monitor of the project. Ten health stations, 2-4 in each district, were selected by a steering group of Vietnamese doctors from PHN1 and Danish doctors after on site visits and interviews at a larger number of health stations. Durring the visits the purpose of the project was explained to the staff. The criteria for selection were: the health station was short of drugs, the staff had succeeded in carrying out other health program and the staff should accept the conditions given.

Training of health station staff

Seminars on proper use of drugs, indications, dosage, period of use, side effects, toxicity and contraindications, essential versus non essential drugs, storage of drugs, drug prescription, price setting and book keeping and management of pharmacy were organized at PHN1, Ho Chi Minh City. The teaching was given by the monitor, by the finance officer at PHN1, and a senior lecturer in pharmacy at University of Ho Chi Minh City. Written guidelines of essential drugs were produced for the health station staff. Three seminars were held, one in each year of the project period. Personnel from both the health stations and the district health centers took part.

Organization and initial capital

One person was going to be responsible for the drug chest at each health station, which served a population of 16,000 (5,203-23,052). The initial capital was given free. The amount was fixed after agreement with the local health personnel. The amount was 500-700 US$ for each of the health stations and 2,000-3,000 US$ for each of the district health centers. The district health center is responsible for supervision and advice and often for sale of drugs to the commune health station.

Therefore it was important also to provide initial capital to the district health centers.

Reporting and monitoring

A report form 1, (Annex 1) made for the project, containing information of the prescribed drugs, buying and selling price, profit and fund left, had to be filled in monthly. A quarterly report form 2 (Annex 2) had to be sent to the monitor, who also quarterly had to report and evaluate the pharmacy by the criteria given in form 3 (Annex 3). The criteria were recovery of capital, turnover rate, rate of essential drugs and incentives for health station staff.

Visits by supervisors

Quarterly or more often the monitor visited the health stations and checked the books and the drug chest. The supervising Vietnamese-Danish group visited all the health stations and the affiliated district health centers once or twice a year and saw the books and the drug chests and talked with the health personnel.

RESULTS

All ten health stations had been able to establish and maintain the pharmacy and to fully recover or even increase the capital and to earn a surplus (Table 1). In this Table our chosen criteria for good, medium and limited quality of result are defined.

Seven pharmacies had a turnover rate of more than 1, *ie* total income by selling drugs in relation to stock of drugs plus remaining cash and one only had a turnover rate below 0.5. The rate of essential drugs sold in relation to all drugs sold was greater than 60% in seven pharmacies. The profit rate is the income by sale of drugs minus the cost of drugs in relation to the capital. The interest rate (the profit rate minus 2% for inflation and losses) was on average 17.8% (range 9.5-44.6%).

Part of the surplus, on average 67% (range 27-84%) was used for incentives for health station staff. Another part was spent in supporting the monthly meetings with the village health workers in order to sustain this important voluntary health network. At some health posts the staff had been able to buy equipment: a television set with video machine for teaching mothers, telephone, electric fans, thermometers, equipment for the health post kitchen.

DISCUSSION

The commune health station staff achieved the objective of the project regarding establishing and sustaining the provision of essential drugs for a number of reasons: The health personnel were fully informed of the purpose of the project and they were highly motivated. They had been given the choice to refuse to take part, considering a great deal of book keeping was obligatory. The ten health stations were selected by the experience that the staff had previously been able to follow a program succesfully. Therefore there would be a good chance, that they would repeat their success.

Repeated training courses were held. One of the courses was carried out on demand from the local staff. In all the seminars representatives from the ten pharmacies took part. It was obvious that they had benefit from the training. This was seen by the increase in their knowledge from our first visit to the last visit during the project period. Before the project started they did not all know the difference between essential and non-essential drugs. At the end of the project we noticed the charts with the essential drugs on the wall of the clinic, listing the dosage and possible side effects. These charts seemed very useful. By examining the drug chests also we noticed that a smaller number of drugs were there, and that essential drugs took up more space in the drug chest. One of the objects of the project was to try to minimize the number of drugs in each prescription firstly because it is usually unnecessary with many drugs, secondly because side effects might rise partly due to interaction of drugs, and thirdly because the expense for the patient is increased unnecessarily. During the project period it was not possible to change this.

Another objective of the project was to make the number of essential drugs prescribed comprise more than 60%. This object was only reached in seven health stations. It is obvious that a drug based cost-recovery program might contribute towards inappropriate drug use. In one health station the interest rate was as high as 44%. On the other hand a certain overusage of nonessential drugs might be accepted in order to maintain a health station service.

The seed money, given for establishing a stock of drugs was an important motivating factor, so was

Table 1
Criteria for evaluation of Bamako.

Provinces / city	Ho Chi Minh City				Long An		Dong Thap		Tra Vinh	
Districts	Cu Chi				Can Giuoc		Cao Lanh		Cang Long	
Communes	TT Hoi	TL Thuong	PM Hung	T My	L Phung	L Hau	M Long	BH Trung	P Thanh	Tan An
Cost recovery										
Good: full-recovered capital	G	G	G	G	G	G	G	G	G	G
Medium: half-lost capital										
Limited: full-lost capital										
Turn over rate										
Good: > 1	G	G	L	M	G	G	G	G	G	M
Medium: 0.5 - 1										
Limited: < 0.5										
Rate of essential drugs										
Good: > 60%	G	G	G	G	M	G	L	L	G	G
Medium: 55-6%										
Limited: < 55%										
In sum	G	G	L	M	M	G	M	M	G	M

Good = G : Tan Thong Hoi, Trung Lap Thuong, Long Hau, Phuong Thanh.

Medium = M: Thai My, Long Phung, My Long, Binh Hang Trung, Tan An.

Limited = L : Phu My Hung.

the obligatory keeping of books. Most of the health workers quite appreciated to learn how to maintain a budget, to price set in a way which made it possible to earn a small amount on top of their very poor salary. They appreciated very much, not to be short of essential drugs. They reported that the health stations had become more popular during the project period. This meant, that they had got more busy, but they also found, that the work had become more interesting. In the first Bamako initiative the drugs were imported to the health stations. In these projects the capital was not recovered. In a research report, evaluating the Bamako initative, it is reported that only in three or four programs it has been possible to retain the funds generated at the local level and use these funds to improve the quality of services offered. In the present project the seed money was handed over to the health station personel, who established the stock and learnt about buying and selling by doing.

During the project period we realized that in two of the provinces the Japanese had given funds for the establishment of drugs chests. Most of the money had been spent on special drugs and no condition concerning reporting system or maintenance of capital had been given.

It is likely that the regular reporting and monitoring system combined with the regular visits by the supervisors from the district health center and from PHN1, Ho Chi Minh City has contributed to the good result. During those visits they had encouragement and evaluation. Furthermore their success in price setting and selling the drugs in a way which allowed them to cover their replenishment and local operating costs, including incentives for the health workers would not be possible without proper book keeping. The surplus made it possible for them to subsidize or provide free drugs for those, who cannot pay.

The research report stresses the importance of available guidelines on what the community committees are expected to do and the training and supervisory support they require to perform this role. During the project period we noticed, that the cooperation between the district health center and the commune health stations became closer.

The establishment of drug chests seems to be reasonable strategy of reinforcing primary health. Much attention should be focused on financing, training of health personnel, health system management, supervision, monitoring and integration of health services. Funding is needed for similar projects to start in other districts and communes in south Vietnam. We believe, that the health posts and district health centers in this project are qualified to continue to sustain the Bamako drug chests, when there is no longer supervision from PHN1.

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ANNEX 1

FORM 1

Date: .....

REPORT OF DRUG SELLING AND PURCHASING IN THE MONTH OF ...../199.....

Fund left (beginning of month)					Purchasing			Selling			Profit			Fund left (end of month)		
Drug's name	Unit	Cost per unit	Quan -tity	Total cost (A)	Cost per unit	Quan -tity	Total cost (F)	Cost per unit	Quan -tity	Total cost (G)	Cost per unit	Quan -tity	Total cost (L)	Cost per unit	Quan -tity	Total cost (H)

Signature of chief of commune health center

Person in charge of commune pharmacy

ANNEX 2

FORM 2

District people's committee _____
District health center _____
Commune health post _____

QUARTERLY REPORT OF PHARMACY ACTIVITIES
Quarter: ...../199.....

I. BEGINNING OF QUARTER:

Cost of remaining drugs (stock) :	A
Remaining cash:	B
Fund left at beginning of quarter (capital):	C = A + B
+ inflation rate 1%:	D = C × 1%
Fund left at the end of the quarter:	E = C + D

II. END OF QUARTER:

Cost of drug purchasing :	F
Income by sale of drugs:	G
Cost of remaining drugs (stock):	H
Remaining cash:	I
Fund left at the end of quarter:	J = H + I

III. USE OF PROFIT:

Profit (K) = Surplus from drug selling (L) - inflation (D)

Incentives for health staff	K1
Incentives for community health workers	K2
Other spending:	K3
Adding to the capital:	K4

$$\text{Profit rate} = \frac{\text{Income by sale of drugs - cost of drug purchasing}}{\text{Capital}} \qquad \frac{G - F}{C}$$

Head of commune health post
(or Head of District health center)

Date...../...../199...
Reported by

ANNEX 3

FORM 3

District people's committee _____
District health center _____
Commune health post _____

EVALUATION FORM FOR THE PHARMACY ACTIVITIES
Quarter : ...../199.....

EVALUATION INDICATORS	
CAPITAL Initial Beginning of quarter End of quarter	
Turnover rate: $\frac{(G)}{(C)}$ (no less than 2%)	
Remaining cash rate: $\frac{(I)}{(J)}$ amount:	
- Incentives for health post staff : rate = $\frac{(K1)}{(K)}$ - amount (one staff/month):	
Essential drug ratio: % $\frac{\text{Number of essential drugs}}{\text{Total of drugs}}$	
Essential injected drug ratio: % $\frac{\text{Number of injected essential drugs}}{\text{Total of injected drugs}}$	

G= income by sale of drugs, C= fund left at beginning of quarter, I=remaining cash, J=fund left at the end of quarter, K1=incentives for health staff, K=profit.

Head of commune health post
(or Head of district health center)

Date...../...../199...
Reported by