

NUTRITION EDUCATION THROUGH
MOBILE CLINICS AND DISPENSARIES

by

R. Korte and P.M. Patel

Max Planck Nutrition Research Unit, Bumbuli and
District Hospital, Lushoto, Tanzania.

In recent years young child clinics have become a widely accepted tool to improve nutrition and health. Stationary young child clinics at hospitals and larger health centres were established. Comparatively little progress has been made in the remote rural areas. Yet it is here where the majority of the population comes in contact with modern medicine. The need to take preventive services to the rural areas is no longer disputed. But whenever new types of services are introduced there is a tendency to add these e.g. as mobile clinics rather than integrate them into existing facilities. Special under fives' clinics are often so overcrowded that meaningful health and nutrition education is impossible. On the other hand out-patient stations have almost invariably retained a purely curative character. The experience with mobile and stationary clinics in Lushoto, Tanzania, is presented to discuss some relevant problems of such services.

Past experience with mobile services and dispensaries

Three mobile young child clinics operated by a voluntary agency (Lushoto Integrated Development Project) covering approximately 3/5 of the densely populated part of the district were closely supervised and economic and operational factors were evaluated. To deliver effective health and nutrition education was the chief objective of these teams. Besides weighing, lectures, demonstrations and group discussions emphasis was layed on advice to the individual mother or guardian accompanying the child.

*Supported by: Community Development Trust Fund of Tanzania
and Kübel-Stiftung of W. Germany.

The staff of each mobile team consisted as a rule of 6 members. A detailed list of staff and their functions is given in table I.

Table I

Staff of a mobile young child clinic and functions

Staff	Functions
1 Medical Assistant	General supervision of mobile team and dispensary staff, clinical examinations
1 Grade B Nurse	Dispensing, vaccinations, health education, nutrition demonstrations
3 Nursing Assistants	Registration, weighing, dispensing
1 Driver	Distribution of food supplements

As it was intended to give additional training to the personnel of the medical subcentres a medical assistant was required to make his advice acceptable to the staff in the dispensaries. This training was aiming at making the dispensary staff more aware of the principles of public health and enable them eventually to run their own preventive services.

The total number of children seen in a 12 month period, the number of clinics held and the average attendance are given in table II.

Table II

Attendance statistics of mobile young child clinics
June 1971 - May 1972

Number of clinics held	672
First attendances	5,462
Total attendance	66,480
Average attendance per clinic day	99
Range of average attendance between clinics	47 - 165

In the 672 clinics attended by 66,480 children the average attendance was approximately 100 but the range of average attendance between clinics was wide.

The cost of each of the 3 mobile teams is tabulated in table III.

Table III

Cost in Tshs* of one mobile young child clinic team visiting 5 clinic points in weekly intervals

	Cost per year
STAFF	
1 Medical Assistant	14,400
1 Grade B Nurse	8,400
3 Nursing Assistants	9,720
1 Driver	3,240
	35,760
VEHICLE	
15,000 km (1.20 Tshs/km)	18,000
Depreciation (25% per year)	7,500
	25,500
OTHER ITEMS	
Drugs without vaccines	8,000
Other operating expenses including education material	8,000
	16,000
	77,260

Salaries consume almost 50% of the whole budget. Vehicles cost approximately 1/3 of the total expenditure. From the total cost of 77,260 Tshs with an average attendance of 22,160 children per team per year, the cost of each attendance is calculated as 3.50 Tshs.

* 7 Tshs = 1 US \$

Apparently one of the chief incentives to attend an under fives' clinic remains medical attention and treatment, even when after effective health education priorities have shifted considerably (see table IV).

Table IV

What does clinic attender consider to be the most important activity at the clinic

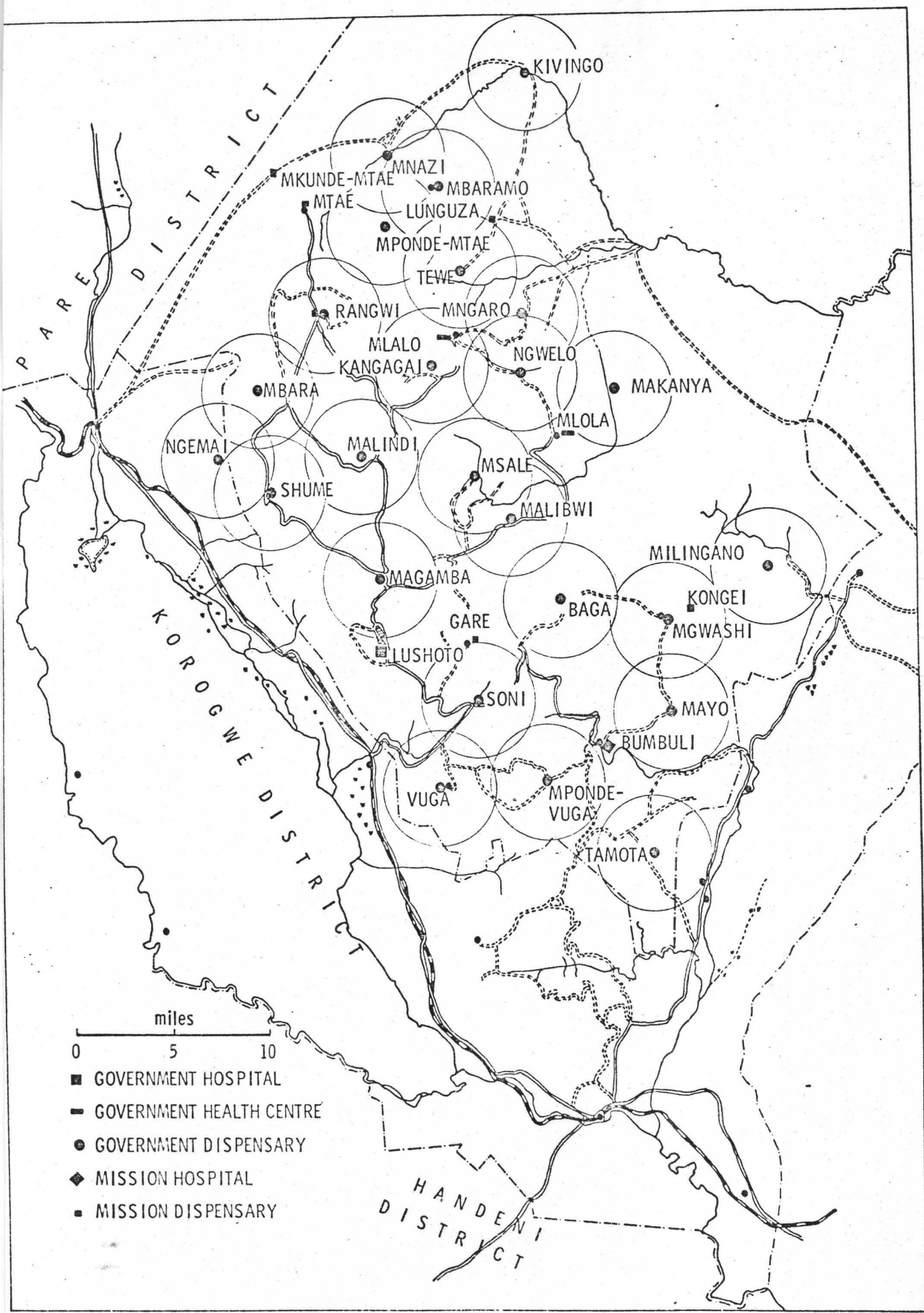
Answers	1970		1972	
	Number	Percent	Number	Percent
Weighing children	6	21	36	63
Medical care	25	89	33	58
Health education	-	-	31	54
Vaccinations	-	-	28	49
Food supplementation	24	85	-	-

A look at the map of Lushoto District shows a well spaced network of government dispensaries (Figure I). The analysis of attendance rates in the district dispensaries revealed an imbalance with their staffing. While some stations were over burdened others had a good potential for additional duties (see table V).

Table V

Attendance statistics of dispensaries in 1971

First attendances	266,239
Total attendance	768,867
Average attendance per day	103
Range of average attendance between clinics	37 - 194



- miles
- 0 5 10
- GOVERNMENT HOSPITAL
 - ▭ GOVERNMENT HEALTH CENTRE
 - GOVERNMENT DISPENSARY
 - ◆ MISSION HOSPITAL
 - MISSION DISPENSARY

The other important observation was that approximately 40% of the dispensary attenders were children below 6 years of age. Staff in remote stations had little professional guidance and the awareness of nutritional problems and other preventive aspects of medicine was low.

Discussion of mobile clinic and dispensary activities

Considering the fact that most developing countries have a health budget of not more than 10 shs. per inhabitant per annum 3.50 Tshs per attendance at a mobile clinic is an excessive amount. This also explains why mobile teams have mainly been realized by non governmental organizations. For financial reasons alone mobile services are bound to be temporary.

In spite of constant efforts to involve the staff of dispensaries at mobile clinic points in the preventive activities of the under fives' clinics the mobile clinics remained a separate institution super imposed on existing services. Little change was observed in the attitude of the dispensary staff with regard to preventive measures and active nutrition education. Young child clinic days were marked by a low attendance of other patients at dispensaries. This made mothers the only audience to nutrition and health demonstrations. Special meetings arranged for men as the main decision makers in the families often showed a poor response. While it was desirable to employ permanent staff for a mobile team to maintain uniform standards of quality, the number of staff had to be adapted to the greatest demand at any one clinic. The result was periodic overstaffing and wastage of manpower. Also considerable time was spent by the staff in transit to and from their station of work. Each team spent 500 hours on the roads every year which is equivalent to 63 working days or 21% of the working time. This meant poor utilization of medical personnel.

These operational problems, the high cost and the need to fit our child health services into the overall financial frame of the country prompted us to reconsider the concept of mobile clinics and look for effective alternatives.

An estimated 320,000 times children attended at district dispensaries for mostly minor ailments. The mobile clinics held once per week recorded only 66,000 visits in just over one half of the district, i.e. proportionally less than one third of the child attendance at dispensaries. It was felt that here an opportunity was missed to provide preventive services including nutrition education to a large portion of the population. The curative part of an under fives' clinic is the most attractive to mothers. Although it is of least public health value by itself, it requires considerable manpower on the expense of better facilities for nutrition education. These observations led us to suggest the integration of the preventive services provided by the mobile under fives' clinics into the curative services of the dispensaries thus avoiding duplication of curative activities. (see figure 2).

Nutrition education through dispensaries

A plan was developed to redistribute staff among the existing dispensaries and where necessary increase the personnel to allow for extra duties. A total of 24 additional staff are required for the new system. As the staff of dispensaries is less qualified than that of the mobile teams supervisory services had to be established to provide advice, additional teaching, quality control, supply of drugs and action in all matters of personnel including salary payments to reduce absenteeism. A small mobile team consisting of a senior medical assistant and a nurse can fulfill these duties. The backbone of the new system became the village midwife. She received 4 weeks additional training in a nutrition rehabilitation centre in applied nutrition and teaching methods. This training enabled the village midwife

to conduct the preventive part of an under fives' clinic at an adequate level. The estimated cost of such services for the whole of Lushoto District are given in table VI.

Table VI

Cost of an integrated system of stationary young child clinics and mobile supervisory services

	Cost per year	
STAFF		
Supervisory services (1 team + 2 sub-teams)		
1 Senior Medical Assistant	16,800	
2 x 1/4 Medical Assistants	7,200	
1 + 2x1/4 Grade B Nurses	12,600	
1 + 2x1/4 Drivers	4,860	
		41,460
Additional staff for dispensaries		
2 Rural Medical Aids	14,400	
22 Other auxiliary staff	71,280	
		85,680
		127,140
VEHICLES OF SUPERVISORY TEAMS		
21,000 km + 2 x 9,500 km (1.20 Tshs/km)	36,600	
Depreciation 1 + 2 x 1/4 vehicles (25 % per year)	11,250	47,850
OTHER ITEMS		
Drugs excluding vaccines	12,500	
Other operating expenses including education materials	20,000	32,500
TOTAL COST		207,490
TOTAL COST OF 5 MOBILE TEAMS		386,300

In the experimental stationary under fives' clinics all mothers attending with children pass through a special room

Where children are weighed. The weight is recorded on the weight chart and the weight development is discussed. In clinics with a high child attendance the village midwife is assisted by the nursing assistant. The patient is then referred for clinical examination and treatment. If a child has to attend more than once per week for medical reasons no weight is recorded. Several times during the morning lecture-type sessions are held with all patients waiting for their turn at the clinic. This usually includes a good number of men who take a very active part in the discussions after the lecture. Cooking and food demonstrations are held three times per week. A small agricultural demonstration plot helps to make teaching efforts more realistic. An extended weight chart provides sufficient space for curative and preventive records. Children are invited to return to the clinic depending on their nutritional status in weekly or 4-weekly intervals. Acute diseases require more frequent visits. A check list is kept with basic information on nutritional status and attendance frequency. If children in poor general condition are not attending sufficiently regularly, letters of invitation are written to the village leaders. Home-visiting is done by the village midwife or together with the tuberculosis-leprosy homevisiting scheme.

The average attendance recorded in one of the experimental daily stationary under fives' clinics is compiled in table VII.

Table VII

Attendance at stationary under fives' clinic and mobile clinic previously conducted at the same station.

	Attendance per month	
	Stationary clinic	Mobile clinic
New attenders	115	44
Returns	1,668	391
Total attendance	1,783	435

The percentage of children weighed under the stationary system was 50.9%. To make the total attendance of the stationary clinic comparable to that of the mobile team attendance only those should be counted which were weighed (892). This means that the coverage under the stationary system had approximately doubled. That mothers did not only attend with sick children but also for the preventive activities is documented in table VIII.

Table VIII

Why do you attend the dispensary today?

Answers	Number	Percent
Weighing children	60	53
Child is sick	45	40
Injection for the child	12	11
Mother is sick	4	4
Visit to the market	3	3

The majority of mothers attended to have the weight of their children checked.

In conclusion it can be stated that young child clinics with their nutrition programs should not be superimposed on but rather integrated into existing medical services to obtain an optimal effect with limited financial resources.