What health system for nomadic populations?

In Niger, independent mobile health units intended to meet the needs of nomadic populations have proved ineffectual and excessively costly. Primary health care services should be based on fixed structures with a reasonably wide radius of coverage and sufficient flexibility and mobile capacity to fulfil their obligations to all sectors of the population.

During the colonial period there was virtually no health infrastructure in the rural areas of the West African Sahel. Mobile teams provided the first health services, particularly in the nomadic areas. After independence was achieved this strategy was maintained and, in some countries, strengthened. But efforts to control a few major endemic diseases, namely leprosy, trypanosomiasis and tuberculosis, have given way to a more comprehensive approach.

The government took over the teams, which were reduced in number and decentralized to the regions. They now undertake the following activities:

- immunization;
- curative care;
- control of sexually transmitted diseases and leprosy;
- food hygiene control;
- promotion of hygiene and environmental sanitation.

Fixed health teams in the urban and rural areas perform the same activities, giving special attention to maternal and child health.

Since 1971 many dispensaries have been established in the rural areas. This raises the question as to whether the mobile teams should be maintained in their present form. Their main function is to perform immunization, but a study of work done in Niger’s Agadez region during 1990 revealed a very poor return for the resources assigned to this service.

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The Agadez region covers some 615,000 square kilometres in the north-east of the country. The population density is only 0.34 per square kilometre and the people are essentially pastoral. Immunization has been carried out by the mobile medical service since 1968. There are two teams, each comprising two nurses, two vaccinators, and a driver/guide, and three four-wheel-drive vehicles of the Land Rover type are in use. The Expanded Programme on Immunization, initiated in 1988, employs both the mobile teams and the fixed health services.

The operating costs of the mobile teams are met essentially by the government. They account for 24% of the funds allocated to the public health services in the region, excepting the referral hospital.

In 1990 the Expanded Programme on Immunization provided a 200% supplementary fuel allowance and a 130% supplementary subsistence allowance. By the end of the year the region had achieved coverages of 40% for BCG in children aged under one year, 54% for third dose of diphtheria-pertussis-tetanus (DPT3), immunization, 35% for children protected against tetanus, and 47% for second dose of tetanus toxoid.

The extent to which the health structures effectively contributed to the achievement of these rates of coverage was deeply disappointing. The mobile medical service was responsible for less than 10% of first dose DPT (DPT1) and measles immunizations and for under 5% of DPT3 coverage. This poor performance was caused by:

- failure to adhere to the planned schedule of immunization rounds;
- insufficient number of immunization rounds;
- lack of advance publicity and preparation of the population;
- inadequate motivation of personnel;
- the vast size of the area.

The same constraints have evidently been encountered in the first six months of 1991. The exceptional support offered by the Expanded Programme on Immunization does not seem to be making the strategy efficient. Resources are spread very thinly and practically no impact is being felt. Will there be any points in continuing with this approach in the future? Earlier studies have shown the prohibitive cost of vertical mobile interventions. For example, a survey in Mali during 1974 showed that the per capita cost of immunization by mobile units was eleven times higher than that performed by fixed units (1).

Since the formation of the Agadez mobile medical team, several health facilities have been established in the rural areas. The health district is organized on three levels:

- rural dispensaries, providing the first point of contact with the health system;
- medical posts, which are intermediate referral facilities with more personnel and usually with a four-wheel-drive vehicle used as an ambulance and as a means of making supervisory visits to village health workers;
- the district hospital.

A broader, more permanent interface should be established between the health service and the different communities.
The fixed system has little impact on the health of the community at the first two levels. At some dispensaries there are scarcely more than ten consultations a day. Fixed-strategy immunization at dispensaries and health posts only covers the villages where these facilities have been established. Nomads consult mainly on market days or on other special occasions. Patients may have to travel up to 30 kilometres to reach a dispensary. The resources that have been invested are relatively underutilized, and consequently health coverage is fragile and ineffective.

The region seems to have two ineffectual health subsystems for intervention in the rural areas, operating in parallel. The mobile subsystem makes single interventions that establish no real relationship with the community; contacts are sporadic and desultory, and the efforts made are tiny in comparison with the immensity of the needs. The fixed subsystem sometimes has logistical support and specialized facilities such as laboratories and maternity huts, but they are accessible to only the minute fraction of the community living close to them.

**New approach needed**

These two types of service cannot provide effective health coverage in the rural areas and do not make for community involvement. An alternative is needed which would take account of the specific characteristics of the area.

Fixed health facilities should not be limited to serving populations within a radius of five kilometres, as they have been in the past. And there is no justification for continuing to invest in independent mobile structures when their performance has no significant impact.

It is possible to organize primary health care on a basis of fixed structures. The services should be capable of mobility matching that of the communities they serve. They should establish seasonal circuits in accordance with local patterns of population movement, and this requires that a corresponding operational health area be defined. One or more areas should be served by an intermediate fixed health post. Integrated fixed- and mobile-strategy activities should be carried out in each operational area on the basis of a flexible schedule that can be seasonally adjusted.

The activities connected with immunization, family planning, education and the supervision of first-level workers should be carried out by the health teams on their rounds of duty. This approach can be expected to produce greater coverage and community involvement. A broader, more permanent interface should be established between the health service and the different communities. The resources currently devoted to the mobile service should be gradually transferred to the fixed service. The promotion of other activities, including those concerned with leprosy, sexually transmitted diseases, and sanitation, can only be accomplished when there is full integration with the permanent services. In the nomadic areas, every health district should have at least one health post.

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It is proposed to test this approach at the In’gall health post in the region’s Tchirozérine health district. In the preparatory phase no expenditure outside
the region has been needed. Cold boxes and a freezer have been supplied by the Expanded Programme on Immunization. Two circuits have been mapped out and it is intended to make rounds every two months. Unfortunately, because of the theft of the four-wheel-drive ambulance at In’gall and security problems in the area, it has not yet been possible to decide on a starting date for this trial.

Reference


Cereal-based staple diets

The diets of children between 1 and 3 years have been shown to be deficient to the extent of 300 to 500 calories (and often more). If the habitual cereal-legume-based diets could be fed to children in quantities which will meet their caloric needs, their protein needs will also be automatically met; there will be no need for protein concentrates. This must be considered as probably the most important finding in the field of nutrition which has a direct relevance to the countries of the South-East Asia Region. According to this finding, it should be possible for the countries to overcome their problems of protein–calorie malnutrition with the resources which are available to them and without having to bring about extensive and drastic changes in the dietary patterns of the poor. Cereal-based diets, because of their bulk, cannot be fed in adequate quantities to children in just two sittings. The feeds must be more frequent in order to ensure adequate caloric intake. Simple technologies for reducing the bulk of cereal-based diets based on traditional practices have to find wide application.