absence of effective counselling, symptoms will persist or new ones will arise. Some Black students, particularly if no help has been obtained from the health service, consult traditional healers, and this may suggest the presence of deep-seated cultural components of their condition. But Asian students in similar circumstances are likely to turn to their traditional remedies, and Whites have been known to visit homeopaths, hypnotists, chiropractors, and even faith healers.

CONCLUSION

German and Arya concluded that East African students were similar to students elsewhere, and Allbrook, who has worked at universities in the UK and the USA, was surprised to find that Makerere did not reflect the expected cultural tensions and stress with a higher rate of psychological morbidity. Findings in the University of Rhodesia health services are, in all respects, very similar to these earlier studies.
so that a dynamic rather than static assessment of the child is obtained. This method facilitates data collection to evaluate the service, as well as close supervision of the auxiliaries.  

**Introduction of New Ideas**

New ideas are introduced slowly, and one at a time, so that the complexity of the service evolves at the pace at which auxiliaries can cope and at which popular acceptance will increase. Thus it may be years after vaccinations are begun at a rural assembly point before the auxiliary begins to plot the weights of infants on the road-to-health charts.

**Decentralization**

In 1975 a study revealed the inadequacy of curative and preventive services. Immunization campaigns here, as elsewhere in the world, provided inadequate coverage and house-to-house visits are impractical. The solution has been to establish assembly points. So far there are 317, in places chosen by the local populace because of their accessibility — a room in a shop, school, public building or private home. Each auxiliary visits the 10 or so assembly points in his locality at least once a month, and his arrival is made known in advance by the village sheikh. When he arrives (on foot, motorcycle or by bus), he brings with him the immunization kit and summons the mothers, particularly if their children have failed to attend previously. So far over 80% of children aged 1-4 years have been immunized with BCG, DPT and poliomyelitis vaccine. Measles vaccine is also given, as is oral vitamin D, because rickets is endemic. Most Cap Bon women give birth at home, therefore tetanus toxoid is given twice to pregnant women to prevent tetanus neonatorum.

The auxiliary and mother each keep copies of the child’s health card, which bears the immunization time-table, and Gómez et al.’s weight curves with nutritional groupings (Fig. 1). The chart bears the names of foodstuffs in French and Arabic, and the age at which they should be introduced to bridge the dangerous weaning period. This is designed as home nutritional education, and is an incentive to the mother to heed nutritional advice and to attend regularly. Malnourished children are identified when their weight curve drops, or falls into groups 2 or 3. They are referred to the dispensary, but it is hoped to expand the role of the auxiliary at the assembly point to include nutritional advice, basic curative care, education in health and family planning, and the chlorination of wells and reservoirs.

The chain of referral is shown in Table I.

**Nutritional Clinics**

Malnutrition is found in 13.7% of Cap Bon children; thus it is a high priority, requiring counselling which is standardized, yet specific to the particular child. For this, an information-collecting stamp is used, e.g.:

![Fig. 1. The road-to-health chart. The large numbers, 0, 1, 2, 3, are the nutritional groups.](image-url)

```
BF = 0  AF = X4  weaned = 0.4
fam. al. = 0  preg. = 0.2  tet. = XI
```

This means the child is not breast-fed, is artificially fed 4 times daily, was weaned at 4 months of age, does not yet eat the family’s daily diet, the mother is 2 months’ pregnant, and she has received the first of her tetanus toxoid injections. Breast feeding is encouraged, but if weaned, the child is prescribed a single foodstuff rich in iron and essential amino acids comprising chickpea porridge made with locally available flour, olive oil,

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**TABLE I. CHAIN OF REFERRAL**

<table>
<thead>
<tr>
<th>Auxiliary hospital or urban dispensary</th>
<th>Hygiene + epidemiology centre</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal + child health centre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural dispensary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assembly point</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Staff:**

- Doctors + nurses
- Sanitation officers
- Lab. technicians
- Supervisors
- Doctor
- Family planners
- Auxiliaries
- Nurses
- Doctor once a week
- Auxiliary once a week
- Auxiliary once a month
chick-peas, eggs and sugar. It was concocted after noting the world-wide lack of protein supplements — the ‘great protein fiasco’. This recipe is available in every health centre, and the auxiliaries demonstrate its simple preparation to mothers. The malnourished child is seen fortnightly until he is no longer at risk.

**Integration**

Curative and preventive services are being integrated. Thus in a rural dispensary, antenatal, maternal, maternity and family planning services are mixed with ‘well-baby’ clinics, immunization and nutritional consultations and curative paediatrics, as well as antituberculosis schemes. The mother and child can easily go to another room, or return another day for comprehensive care. She no longer has to travel long distances, only to be disappointed by a brief consultation with an overworked doctor.

**Standard Treatments**

The auxiliaries are trained to use standard treatments for common conditions. **Diarrhoea.** In the developing world, diarrhoea has a high morbidity and mortality. Moreover, the vicious circle of diarrhoea and malnutrition is well recognized. It is essential to tailor therapy according to the severity of the diarrhoea and concomitant malnutrition. To do this, a dehydration score developed in Cap Bon is used, combined with Gómez et al.’s nutritional groupings and a diarrhoea stamp, e.g.:

\[
D = 3 \quad N = 5 \quad V = 0 \quad C = \text{liq.} \\
\text{col.} = \text{grn} \quad B \& M = + \quad BF = 0
\]

This means the diarrhoea is of 3 days’ duration, 5 stools a day, no vomiting, liquid consistency, green colour, blood and mucus are both present, and the child is not breastfed. Each child is then specifically managed according to his nutritional and dehydration scores. This approach has reduced the deaths in hospital from diarrhoea from 26% to 13%, and decreased the numbers of hospital admissions and consultations for diarrhoea. The standard oral rehydration regimen is now a home remedy.

**Skin infections.** These account for 7% of paediatric consultations in Cap Bon. The auxiliaries at present care for 90% of these cases using 3 cheap antiseptic solutions: copper sulphate (Dalibour’s solution), 1% aqueous fluorescein, and 1% aqueous methylene blue. The treatment, once demonstrated, is continued at home, and only those patients who fail to respond to treatment are referred to a doctor. Standard treatments are also being devised for conditions which do require a doctor, and which have previously been treated symptomatically and haphazardly. These include otitis media in children, and, in adults, hypertension, arthritides, and diabetes. This will hopefully provide better care for those patients who haunt outpatient queues because they have never been adequately managed.

**CONCLUSION**

As a pilot study for a system of public health, the project has provided some solutions to problems, and encouragingly, the Tunisian government has recently accepted the system of assembly points as a network for the whole country, together with other features initiated by the project. Although many of the health problems of Cap Bon are specific to that region, the methods of tackling them can easily be adopted by teams of doctors and auxiliaries in any country, including our own. In rural community medicine, by training and motivating auxiliaries, and by using locally available facilities, one hopes that new habits will develop and that the system will become self-perpetuating. Local supervisors will contribute considerably to this. Auxiliaries operating in rural areas, within a structure of referral and using standardized techniques, are highly effective personnel. They should be utilized to the maximum to deliver better health care and to support the doctor (and remove his isolation).

I wish to thank Dr M. A. Parent and the other personnel in Cap Bon, and the Department of Community Medicine of the University of Cape Town.

**REFERENCES**