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Editorial

LEPROSY AND PRIMARY HEALTH CARE

Well over a year ago, the Editorial Board of this journal decided to devote a special number to the subject of *Leprosy and Primary Health Care*. This decision was taken partly because of increasing international interest in Primary Health Care (PHC) as an important element in health services, particularly in developing countries, but also because it was thought necessary to look very carefully indeed at the limitations of such an approach in a disease with the inherent difficulties and complications of leprosy. We therefore informed our colleagues of this venture and wrote letters to many parts of the world, requesting original articles and observations on the subject, particularly from those who were known to have experience of PHC in countries with a leprosy problem. At the same time a search of the literature was made for publications dealing specifically with leprosy and PHC, covering as best possible material from the Far East, India, Africa and South America. In this special number of the journal we present the results of these endeavours, together with a selected bibliography of books, booklets and other publications which deal with some aspects of PHC which may contribute to leprosy control.

It must be immediately obvious that our assembly of material is neither large nor generally representative of those parts of the world where PHC and leprosy might be considered most important. Indeed a significant discovery from the editorial point of view has been that there are very few projects indeed, anywhere in the world, who can submit a written account to show how PHC in the World Health Organization sense of the term is working in association with leprosy or vice versa. The definition of PHC, from the International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978, reads as follows:

Primary Health Care is essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part both of the country's health system of which it is the nucleus and of the overall social and economic development of the community.

The full text¹ which accompanies this definition should be studied in the original by those interested in any aspect of health care delivery, but early on (page 3) there is a supporting paragraph of particular importance to the potential of PHC in leprosy – ‘Primary Health Care is likely to be most effective if it employs means that are understood and accepted by the community and applied by community health workers at a cost the community and country can afford. These community health workers, including traditional practitioners where applicable, will function best if they reside in the community they serve and are properly trained socially and technically to respond to its expressed needs’.

Some of the original articles in this number of the journal draw attention to the way in which such workers have been identified and trained, with varying degrees of success, for work in leprosy. It must however be emphasized that for various reasons, these excellent contributions represent only a fraction of the total experience to date. In conversation, correspondence, meetings and workshops, a considerable number of doctors, supervisors and leprosy control officers have described projects in various parts of the world, notably India, in which the village or community health worker has already contributed significantly to improvement in compliance, regularity of attendance, and in the detection and referral (not diagnosis) of possible new cases of leprosy. Timidity, or lack of time in an exceedingly busy day-to-day commitment to field work, have probably accounted for the fact that much valuable information has not yet been reported. In view of the well known constraints in the diagnosis, treatment and management of this disease, it is however perhaps just as well that we should proceed with extreme care in reporting or publishing preliminary results either at meetings or in print. It must be acknowledged that a number of experts in the field of leprosy have expressed reservations about any change towards PHC which is not preceded by a carefully planned programme of training and re-training for all health personnel concerned, and which is not backed by an effective system for referral of cases for confirmation of diagnosis and the treatment of complications. In this context it is important to note that some confusion has arisen between PHC and ‘integration’ – the latter term being used in a variety of different ways, but usually to indicate that a specialized or ‘vertical’ control programme should be abandoned or phased out, in favour of the ‘horizontal’ insertion of leprosy, together with other similar health problems, into the general health services. It is our view that such a step should not generally be taken in the case of leprosy, until the most careful plans have been made and implemented to educate all members of the health service who will encounter and treat leprosy patients. With extremely few exceptions, this process will cover a period of years, not months, and there is in fact already evidence to show that where the change to ‘horizontal integration’ has been made almost overnight, leprosy services have been amongst the first to suffer.

The positive side of PHC, and its great potential benefit to the patient with leprosy, is brought out well in this number of the journal by the contributions of Antia from Bombay and Hogerzeil from Dichpalli, who describe the role of the PHC worker with emphasis on the benefit to leprosy control at community or domestic level. This element of PHC activity – at least for the immediate future – may prove to be the most important from the leprosy point of view, for chemotherapeutic regimens have now been defined better than ever before by WHO² and yet we continue to face problems, in common with our colleagues in tuberculosis, in compliance and regularity of attendance for sufficient periods of time. The message of PHC for those working in maternal and child care, nutrition, immunization or contraception may also contain something important in the way of personal cooperation and regularity of attendance by the individual, but for the successful application of adequate chemotherapy to a larger number of patients with leprosy, it is probably no exaggeration to say that this element is absolutely crucial. It is a delusion to think that the mere purchase and supply of drugs, some of them at high cost, or their issue from a hospital, clinic or mobile team, will cover this vital area in the chain of events leading to success. Provided we approach the concept of PHC keeping in mind a number of safeguards for the patient and maintain what Rouillon – in the case of tuberculosis – has termed an ‘aggressive identity’,³ it is indeed possible that the PHC concept may go far to providing a solution, better than any which has so far been proposed, to the problems of drug compliance and attendance, which are inseparable from the use of both self-administered and supervised medication in leprosy.

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References

- 1 WHO Primary Health Care. A joint report by the Director General of the World Health Organization and the Executive Director of the United Nations Children’s Fund. WHO, Geneva, 1978.
- 2 WHO Chemotherapy of Leprosy for Control Programmes Report of a WHO Study Group. Technical Report Series 675. WHO, Geneva, *in press*, 1982.
- 3 Rouillon A. Introduction to centenary of the discovery of the tubercle bacillus by Robert Koch 1882–1982 *Bulletin of the International Union Against Tuberculosis*, 1981; 56: 83–85.

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Leprosy and Primary Health Care: Tanzania

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Introduction

Primary Health Care (PHC) as defined at the Alma-Ata Conference of 1978,¹ will deal with at least the following 8 functions: education of the community on major health problems; promotion of proper nutrition; adequate supply of safe water and basic sanitation; maternal and child health and family planning; immunizations against major infectious diseases; prevention and control of endemic diseases; treatment of common diseases and injuries; and provision of essential drugs.

Leprosy is one of the endemic diseases in many developing countries. It therefore, falls under the scope of PHC. The Fifth Report of the WHO Expert Committee on Leprosy (1974)² observed that the PHC approach may well be appropriate for the introduction of leprosy control. Sansarricq³ considered PHC to be best adapted to obtain patient compliance for prolonged chemotherapy. Participants from African countries attending a WHO consultation on integration of leprosy and tuberculosis services⁴ proposed PHC as one of the solutions for improving efficiency, coverage and benefits to the people. Buchmann⁵ listed several benefits of integrating leprosy control into PHC.

The intention of this paper is to examine the pre-requisites to be met before PHC can make its maximum contribution to leprosy control, to consider how the objectives of leprosy control can be achieved through PHC and, finally, to show by examples from Tanzania that leprosy can be tackled by the PHC approach.

Pre-requisites for implementing PHC

Political commitment to PHC is a top priority requirement and it is the single most important factor for overcoming obstacles to PHC.⁶ This determination

must be seen in practical terms. The Ministry of Health has to take the initiative to mobilize the machinery that will enact the necessary legislation and make the required budgetary allocations.

Community participation is the next high priority requirement if PHC is to succeed in bringing about improvements in health. Better health cannot be achieved if health care remains only as services brought to the community by visiting health workers. The people must accept greater responsibility for their health. The community must develop self-reliance. Active participation in planning and implementation of health measures by the community is essential.

Another priority requirement is the selection and proper training of the Village Health Worker (VHW). The community should select candidate(s) for training. The training should be of short duration and conducted under conditions which are similar to those of the village. Thus, it is better to train them at a rural health centre rather than in a big regional or consultant hospital. The training should focus on enabling the workers to perform carefully selected tasks. Modern educational methods emphasize the importance of analysis of tasks and functions which will indicate the attitudes, knowledge and skills to be imparted to the trainees.⁷

Other preconditions to be considered include ensuring that drugs and equipment are available without interruptions, a functioning referral system is present to cater for complications of the disease and last but not least effective supervision is provided.

PHC – an unavoidable choice in Tanzania

In the words of Professor Chuke⁸ 'the greatest priority in health services in Africa is the extension of organized health services to such an extent that every citizen is within walking distance of a health facility'. Since 1971–72 the Government of Tanzania has been doing this for the majority (90%) of the people in rural areas. A change in emphasis from hospital-urban-based health care to rural health services was made in financial allocations, manpower training and building of rural infrastructures.

The health facilities which provide PHC are, in general, organized on a 4-level system⁹ and specific examples from Tanzania¹⁰ include the following health units, shown in Table 1.

- 1 Village health post manned by VHW serving 1,500 to 2,000 inhabitants.
- 2 Rural dispensary with about 3 health workers who serve about 5 villages (that is, a ward) or a population of up to 10,000 people.
- 3 Rural health centre staffed by 8–10 workers. It is part of the referral system for about five dispensaries and several village health posts and is intended to serve about 50,000 people (that is, a division).

Table 1. Hierachy and administrative structure of PHC in relation to political set up, Tanzania

Administrative level	Political head	Health facility	Personnel in Charge	Population Served
Village	Village	Village	VHW	1,000 to
	Chairman	Health Post		2,000
Ward	Ward	Rural	Rural	5,000 to
	Secretary	Dispensary	Medical Aid	10,000
Division	Divisional	Rural	Medical	50,000
	Secretary	Health Centre	Assistant	and Over
District	Area	District	District	± 250,000
	Commissioner	Hospital	Medical Officer	

4 A district hospital (also called primary level hospital) manned by professional medical, nursing and other health personnel and may cater for about 250,000 people.

The target for rural dispensaries was almost achieved by 1980 with a ratio of 1 dispensary per 6,700 inhabitants and for rural health centres the figures stood at 1 per 70,000 inhabitants – still far away from the target of 1 per 50,000 people.¹¹

Conventional health manpower, including auxiliaries, have increased. In 1980 Tanzania had 1 doctor per 20,000 inhabitants compared with 1 per 28,000 in 1972. For the auxiliary cadres which are the pillars of rural health services, rural medical aids have increased from 1 per 30,000 inhabitants in 1972 to 1 per 8,700 people in 1980.¹¹

The health workers for PHC in Tanzania include medical assistants, rural medical aids, community nurses including MCH aids, health officers (sanitarians) and health auxiliaries. The training for these cadres ranges from 18 months to 3 years. In order to cater for communities without any health facility, the country will have to resort to VHW who can be trained for shorter periods and at much less cost than the mentioned cadres.

As a result of this deliberate effort to expand health infrastructures for the majority of the people and the villagization programme whereby scattered rural people were brought together into village communities, the people now live nearer to health facilities than in the past. Ninety-two per cent of the people are within 10 km of a health facility, and 70% live within the acceptable walking limit of 5 km or 1 hour from a health unit. However, the distribution of the health units is such that only 45% of the people have a health unit near their place of residence.¹¹ Because leprosy still needs long-term treatment, the nearer the treatment points are the better. Regularity or frequency of clinic attendance is very much influenced by the distance the patient has to travel. King¹² showed that on average outpatient attendance per person drops by half for about every increase of 3 km between the patient's home and the health units. Even the relatively regular lepromatous leprosy patient, having to

walk 20 km or more on the return journey between home and health unit on clinic days for 10 years is a taxing undertaking. This is still the lot of some communities in Tanzania. PHC holds better prospects for patients from these villages.

Several of the prerequisites for implementing PHC exist in Tanzania. Self-help is an accepted basic political concept which requires involvement of the people in the preparation and execution of plans. There is an organizational framework which favours active community participation. Each registered village has a village council made up of several committees, one being responsible for health, education, culture and social welfare. Through such organs the people can identify their requirements, agree on their priorities and decide which activities they can be self-reliant in implementing and those which they should seek government help for. More than 66% of villagers expressed willingness to contribute labour, materials and money to construct health facilities.¹³

The country has had some experience with VHW. In order to provide health care to villages without health facilities, village health posts were started at the initiative of district authorities and villagers. More than 2,000 VHW have provided health care in this way. Their functions included treatment of minor ailments, environmental sanitation, health education, food and water hygiene. Some were paid monthly wages of about US \$20 by the village councils, others worked on a voluntary basis, but the majority claimed a regular government salary. So far there is no experience regarding the use of VHW in leprosy or tuberculosis control measures. However, wherever VHW are working it is possible to train them to perform specific leprosy control tasks. The ministry of health has now prepared a uniform syllabus for VHW and will co-ordinate their activities. This decision is partly based on the intention to provide health for all by the year 2000 and partly on the realization that it will take 60 years at the present rate of expansion to provide conventional dispensaries and rural health centres to villages without any health facility.¹³

Potential of PHC for achieving the goals of leprosy control

Leprosy control measures recommended by WHO are early case-finding, surveillance of contacts, effective and prolonged chemotherapy and disability prevention.^{2,3} PHC has the potential for improving the approaches for case-finding. The main method of case-finding depends on the passive approach of examining motivated patients who visit health facilities. Active case-finding mainly through surveillance of contacts of multibacillary index cases is also important in increasing detection rates.

The passive approach depends on community awareness about leprosy. This awareness can be promoted when PHC educates the community on the major endemic diseases (leprosy being one of them) and on methods of

prevention and control. Success here depends on having a person who speaks the people's 'language' and is capable of 'bridging intellectual and social distances, removing cultural barriers and, if necessary, changing attitudes and habits'.¹⁴ The VHW can also conduct contact surveillance more easily than other visiting health workers because of the knowledge he has about the villages, the trust they have in him and the fact that he is geographically more accessible to the villagers than health workers from distant health units. Under such circumstances early case-finding becomes a feasible prospect.

PHC can also promote early and effective chemotherapy. The first requirement for early drug treatment is early detection of the patients. It is also important that the patient should have the right attitude towards modern medicine *vis-à-vis* traditional medicine.

Even when patients are detected early and they are started on chemotherapy, there are other problems that must be overcome. It is generally accepted that presently available control methods require improvements because few, if any, of the developing countries where leprosy is still a major problem have achieved control of the disease.¹⁵ According to Browne¹⁶ the main reason for this is that many patients in any country do not receive chemotherapy long enough or regularly enough to interrupt the chain of transmission. Regular clinic attendance of 70–80% in the first year is achieved by control programmes but attendance quickly drops to even less than 20% after 3–4 years.¹⁵ Although health education of the patient is very important, experience has shown that it is generally not sufficient to motivate patients to take drugs¹⁴ and it is not expected to have an important and rapid impact because it does not get full participation of the community.³

PHC as presently defined addresses itself to these problems. It favours early treatment which not only benefits the individual patient but also protects healthy people by reducing the period during which they are exposed to infectious sources of viable bacilli. There is no other way of protecting healthy people except through early and effective treatment. Primary prevention with a vaccine is still in experimental stages. Isolation of patients is out of date and irrelevant because contacts are at greatest risk before the start of treatment. PHC brings treatment to the village of the patient, thus reducing the distance and time the patient has to travel to collect drugs. The major weapon for control, namely, case-finding/treatment, is therefore geographically and functionally made accessible to the community. PHC allows close supervision of patients and facilitates defaulter tracing, and thereby assures maximum regularity. It also arouses community interest in the control measures.⁵

Another objective of leprosy control is to prevent disability in new patients and to reduce it to the minimum among patients on treatment. This objective depends partly on the achievements of early detection through which patients are diagnosed before the disease has advanced and produced irreversible tissue damage. It also depends on the adequacy of the treatment. Health education

which is given to patients has greater potential for reducing disability among patients with reversible disabilities than reconstructive surgery.¹⁷ VHW can be trained on methods of disability prevention. The achievement of this objective has far-reaching consequences, such as preserving the productive ability of patients, prevention of the disfigurement produced by leprosy and the effect of this in reducing the stigma of the disease.

Present and future use of PHC in leprosy control in Tanzania

A great deal of work must be done in Tanzania to make a significant impact on the leprosy problem. Although accurate prevalence data are still not available, a rational estimate puts the prevalence for the whole country at 6 per 1,000 population.¹⁸ Table 2 presents data of the patients on register at the end of 1979. The overall case detection rate was 35 per 100,000 population. Although most regions reported regular clinic attendance of between 60 and 70%, the reliability of some of the data is highly questionable, making the true regularity even lower than the reported one. In contrast to our performance so far of detecting about 50% of the estimated multibacillary cases, WHO recommends that in order to achieve significant reduction in incidence, at least 75% of the infectious cases should be detected and receive regular treatment.¹⁵ That achievement will require more than the conventional health infrastructures and manpower.

Table 2. Annual statistics of leprosy patients at the end of 1979, Tanzania

New registrations		Case detection rate*	Total registered 31.12.79		Regular attendance rate	
BL-L	All cases		BL-L	All cases	BL-L	All cases
1,119	5,661	35.2	11,601	48,662	71.8%	70.6%

BL = Borderline lepromatous cases.

L = Lepromatous case.

*Rate per 100,000 population (1978 Census) based on reports from 19 out of 20 regions.

It must be remembered that leprosy is only 1 of the many health problems facing the country. One approach to maximizing the limited resources is to combine leprosy and tuberculosis services in Tanzania. This makes it possible to utilize transport, microscopes, laboratory reagents and supervisory staff at the central, intermediate and peripheral levels to co-ordinate the control measures against the 2 diseases. However, the most important approach is to implement PHC on a nation-wide scale.

The implementation of the National Tuberculosis and Leprosy Programme specifies that the control measures must be applied throughout the country.

The data presented in preceding paragraphs showed that leprosy control in Tanzania cannot be carried out by professional staff in specialized units. The staff working in rural health centres, rural dispensaries and auxiliaries in hospitals must be involved in order to obtain country-wide coverage. However, the involvement of all these conventional health facilities extends the care to the place of residence of only 45% of the rural inhabitants. It is, therefore, necessary in the near future to utilize VHW in specific control measures for the remaining 55% of the rural population who do not have any health facility within the community.

In leprosy control the VHW should be able to recognize leprosy lesions and to refer the suspect for diagnosis, classification and prescription of the medicine. 'If there is 1 diagnosis that should not be established unless there is absolute certainty, it is that of leprosy.'¹⁵ Once the drugs are prescribed, the VHW should be able to dispense the correct number of tablets for any given period and keep simple, accurate records which should enable him to detect irregular patients and trace them. He should be able to provide routine treatment for ulcers. With on-the-job training he should be able to give advice on the care of insensitive feet and hands and refer other complications. Contact surveillance, with emphasis on contacts of the multibacillary index cases, is another task which village health workers can perform. To facilitate supervision and on-the-job training VHW should have fixed clinic days. In Tanzania experience with workers in the village health posts showed that it is difficult to retain them on a purely voluntary basis. Hence some remuneration for them must be considered.

Adequate supply of drugs and equipment must be provided. Shortages of medicines should be avoided by providing adequate funds and by careful attention to the logistics of supplies. Lack of medicines in village health posts in Tanzania was given as the main reason why villagers under-utilized these facilities.¹³ In 1979 periodic shortages of dapsone were cited by health workers as a cause of irregular attendance of leprosy patients in a number of districts in Tanzania. It is therefore of crucial importance that supplies are available without interruptions.

A functioning referral system is indispensable to PHC in leprosy control. Tasks requiring better-trained workers include diagnosis and classification, decision about dosage of drugs for new patients, taking skin smears, review of clinical activity of the disease and discharging patients. More complicated problems such as lepra reactions and eye problems should be referred to hospitals. Tanzania's experience with VHW shows that for the task of treating minor ailments the VHW managed 87% and referred 13% of the daily average workload of 43 patients.¹³ The referral system should be organized in such a way that the district leprosy co-ordinator visits PHC clinics regularly to perform tasks for which patients would have to travel to the larger centres.

Effective supervision is of vital importance in leprosy control in peripheral

areas. Regional tuberculosis/leprosy co-ordinators in Tanzania repeatedly underscored the importance of supervision in their annual reports for 1980. Mulder (1980)¹⁹ visited each of the five districts in Shinyanga region nine times in 1980 to try to discover the magic key to better performance. He concluded that supervision by district co-ordinators must receive the highest priority. Van Deun (1980)²⁰ in Kigoma region, while noting that adequate clinic supervision requires motivation, a lot of effort and courage, concluded that it was the most important part of control work because in its absence health units did not perform well. Experienced field workers have also pointed out that there are risks in delegating specialized activities to undertrained auxiliaries. There are risks of carelessness, indifference and occasional frank dishonesty²¹ in carrying out tasks such as collection and examination of specimens, recording and reporting. If supervision is of such vital importance with relatively well-trained auxiliaries, it will be indispensable with VHW who get only limited training. When community participation in PHC is adequate, the community can exercise managerial control of activities while supervisory health personnel can provide technical guidance and support to VHW.¹

This mutual co-operation between the community and health workers in insuring proper implementation of health measures is not only an indicator of active community participation, but it may also hold the key to the realization of the full potential of PHC in health improvement in general and in leprosy control in particular.

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References

- Alma-Ata, Primary Health Care, WHO/UNICEF, 1978, 53–73.
- ² WHO Technical Report Series No. 607, 1977 (5th Report of the Expert Committee on Leprosy).
- ³ Sansaricq H. Review of Present Trends in Leprosy Control, presented at WHO Consultation Monrovia, Liberia, 1979.
- ⁴ Integration of Leprosy Services and Tuberculosis Services: Report of a Consultation, Monrovia, Liberia, 1979, WHO Regional Officer for Africa, Brazzaville.
- ⁵ Buchmann H. *Leprosy Control Services as an Integral part of Primary Health Care in Developing Countries*, Germany Leprosy Relief Association, Wurzburg, 1978.

- ⁶ Mahler HT. Health for All by the year 2000, address made in Tokyo, Sasakawa Memorial Health Foundation, 1980; 7.
- ⁷ Guilbert J-J. *Educational Handbook for Health Personnel*, WHO, Geneva, 1977; 114.
- ⁸ Chuke PO. *The Relevance of Present Medical Training in Relation to Health for All by the year 2000, World Health Day 1981*, AFRO/WHO/6.
- ⁹ WHO LAB/79.1. Laboratory Services at Primary Health Care Level, *WHO Chronicle*, 1979; 33: 334.
- ¹⁰ Mkumbwa ZM. The Training of Primary Health Workers in Delivery of Primary Health Care 1979 (unpublished document).
- ¹¹ Planning Unit, Ministry of Health, Health Care Planning in Tanzania, 1981 (unpublished document).
- ¹² King M. *Medical Care in Developing Countries*, Oxford University Press, Nairobi, 1967; 2.6.
- ¹³ Planning Unit, *Evaluation of the Health Sector*, Ministry of Health, Tanzania 1979; 14 & 143–51.
- ¹⁴ Toman K. *Tuberculosis Casefinding and Chemotherapy*, What is the significance of default in the chemotherapy of tuberculosis? 1979; WHO, Geneva, 215.
- ¹⁵ WHO, *A Guide to Leprosy Control*, WHO, Geneva, 1980.
- ¹⁶ Browne SG, 1973 cited in Buchmann H. *Leprosy Control Services as an Integral Part of Primary Health Care in Developing Countries*, 1978; 11.
- ¹⁷ Smith WCS, Antin MS, Patole AR. Disability in Leprosy: a relevant measurement of progress in Leprosy Control. *Lepr. Rev.* 1980; 51: 155.
- ¹⁸ *A Guide for the National Tuberculosis/Leprosy Programme in Tanzania*, Ministry of Health (in press).
- ¹⁹ Mulder DW. National Tuberculosis/Leprosy Annual Report, 1980 for Shinyanga Region, Tanzania (unpublished).
- ²⁰ Van Deun A. National Tuberculosis/Leprosy Annual Report, 1980 for Kigoma Region, Tanzania (unpublished).
- ²¹ Fox W. Organizational and administrative considerations in the diagnosis and treatment of tuberculosis in developing countries. *Tubercle*, 1968; 49: 332.

Leprosy control in a Primary Health Care programme in the Sudan

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Introduction

Over the last 3 decades there have been marked changes in leprosy control policies. Until the early 1940's the practice had been the compulsory segregation of leprosy patients in colonies.¹ This was later replaced by their treatment in leprosy villages.^{2, 3}

Before the introduction of the sulphone drugs, isolation was the main method of leprosy control. After the introduction of sulphone⁴ and the proved effectiveness of dapsone by mouth⁵, there was a marked inclination towards outpatient treatment. Some leprologists^{6, 7} called for caution in respect to the policy of giving up isolation for outpatient treatment. However, the results of^{8, 9, 10} proved beyond doubt the efficiency of chemotherapy in reducing infectivity of lepromatous patients and that there was no need for isolation of the leprosy patients. This breakthrough in the leprosy treatment was also a potent therapy for the social pathology of the disease.¹¹

Over the years control programmes undertaken in different countries varied widely.¹² Vertical leprosy control programmes, integrated programmes, or partially integrated programmes were developed in different countries.¹³ However, many leprosy workers were in favour of an integrated programme as a better method for the control of leprosy.¹⁴

The concept of integration of leprosy control into the general health services

Integration is defined as 'a series of operations concerned in essence with the bringing together of otherwise independent administrative structures, functions

and mental attitudes in such a way as to combine these into a whole'.¹⁵ The WHO expert committee¹⁶ stated that leprosy should not be considered as a disease apart but as a general public health problem in countries where it is endemic. This was further stressed in the WHO expert committee report¹⁷ which mentioned that the outpatient treatment of leprosy should be carried out in the health centre which also deals with general health of the community.

Browne¹⁸ gave medical, economic, operational, social and administrative reasons for integration, whilst Schaller¹⁹ stressed the economical shortcomings as the most important reasons for integration. There is no doubt that the economic factor is among the most important and decisive factors in most developing countries. Hasselblad²⁰ described a vertical health delivery system as a luxury which can be afforded only by few countries. He also stressed the side effects of the stigma associated with leprosy as another important reason for integration. He stated that leprosy will never become a disease 'like any other' so long as it is treated in isolation. Health education can never overcome the stigmatizing attitudes with which the community regards leprosy so long as the medical profession itself gives support to 'separate' methods of control.

For many leprologists^{14, 21, 22} integration could be the only way to tackle the problem of leprosy. However, with the wide diversity of health delivery systems in different countries, a generalization would not be practical. When to integrate and how to integrate will depend on the degree and development of the health services in the country and its future plans for development.²³

Leprosy control and the primary health care programme in the Sudan

Leprosy is a public health problem in the Sudan. The prevalence rate varies widely in the different provinces. Leprosy control activities are mainly through leprosy settlements established in the 1940's and a few mobile units run by the missionaries. A few leprosy patients are seen in the dermatological clinics and some outpatient clinics.

In 1974 the Government of the Sudan decided to develop a national health programme within the context of the National Socioeconomic Plan for the period 1977–84. With the assistance of WHO a National Health Programme document was made where 15 health problems were selected according to certain criteria as priority problems. In the final analysis, 8 of the 15 problems were grouped under the heading of Primary Health Care (PHC), which was singled out as the most important field for government action during the development plan for 1977–84.²⁴

During the years 1975–76 a detailed PHC programme document was prepared for each of the 5 regions of the Sudan.^{25, 26} The main objective of the programme is maximum coverage whereby PHC should become accessible to the entire population by 1984. The programme stressed the concept of

community-based services and gives particular attention to the preventive and promotive aspects of health.

The delivery of service is planned through a network of Primary Health Care Units (PHCU). Each PHCU serves a population of 4,000 people within a radius of 10 miles (these parameters are now under revision). The PHCU is staffed by a Community Health Worker (CHW), who is an indigenous member of the community, selected by the community, and paid by the local council. He is given 9 months training to enable him to diagnose and treat a limited number of diseases and to be able to suspect a further group of diseases (including leprosy) and to refer to a dispensary or hospital for confirmation of diagnosis and initiation of treatment. It is his duty to carry out the treatment prescribed for the patients by a medical assistant or a medical officer and he should keep the patients' records. Being from the same community he can examine contacts of patients and give health education to the people on appropriate subjects.

For each five PHCU there is a dispensary staffed by a medical assistant (a nurse with a further 2 years training in a medical assistant school). The medical assistant confirms the diagnosis of leprosy, initiates treatment, and refers the patient back to continue his treatment at home under supervision of the CHW. He could also examine contacts and carry out school surveys in his area. Where he fails to confirm the diagnosis he refers the patient to the medical officer in the rural hospital, who may confirm the diagnosis or refer the patients to the dermatologist at the provincial hospital.

The importance of training for leprosy control activities has always been stressed.^{13, 27-29} Training is becoming more important with the increasing magnitude of the drug resistance problem³⁰ and the need to use multiple drug regimens.

To ensure that leprosy control activities in the Sudan are carried out effectively through an integrated programme, specific training in leprosy control is necessary for all professional and auxiliary staff. Indeed, training is considered as the key to the success of the control programme and is given high priority in planning. Leprosy is included in the curriculum of the medical schools. Lectures are given on leprosy as a tropical disease and the disease is also tackled as a public health problem. A national leprosy training centre has already been established at Wau and gives training for different categories of auxiliary staff. Priority in training is given to the tutors of the different training institutes and the medical assistants from highly endemic areas.

Monthly and annual reports are written by the different health units and operational and epidemiological evaluation is carried out at the provincial, regional and central levels.

Supervision is essential and is carried out by the senior staff responsible for the other health activities (Assistant Commissioner for Health, Provincial Medical Assistant etc). It has been noticed that the specialized leprosy worker

(a leprosy supervisor) is unable to supervise the medical assistants in the dispensaries because he is administratively junior to them.

Discussion

An integrated leprosy control programme has been carried out successfully in USSR³¹ where leprosy patients were seen in all specialized health units, sanitary epidemiologic stations and rural medical units. Integration was also tried in Indonesia^{32, 33} where there is low leprosy endemicity, economic difficulties and scarcity of qualified personnel. In Indonesia, use was made of the existing facilities, personnel, institutes and equipment. It was shown³³ that efficient case finding is possible through the use of non-specialized para-medical personnel. In Venezuela, the leprosy field units were integrated into the Ministry's regional medical centre.³⁴ In Brazil, integration was carried out on a pilot project basis³⁵ and encouraging results were reported.

The Sudan is one of the poor developing countries with many health problems and scarce resources. Leprosy, though a big public health problem, is not the first or second priority; there are several other more pressing health problems.³⁶ Until recently, leprosy control activities have remained confined mainly to the leprosy settlements where the patients have little medical care.

Through an integrated programme it becomes feasible to cover the whole country and to provide adequate regular chemotherapy for all detected cases. Case-finding and contact surveillance could be carried out by the CHW. The leprosy patients will have access to all the existing health facilities and will share with their fellow-citizens the available resources. The programme will also provide the necessary treatment for the patient near to his home and within his community.

In the Sudan, as in many countries there is a strong stigma associated with leprosy.³⁷ As the leprosy patient is not accepted in his community and was usually sent to one of the settlements, patients tend to hide till they are deformed. Through an integrated programme the stigma associated with the disease could be lessened as experienced in Thailand.³⁸

Conclusion

An integrated leprosy control programme is of much benefit to the individual leprosy patient, to his family and to the whole community. It is a suitable system for developing countries with scarce financial and other resources like the Sudan. It is both economical and feasible. However, the results of an integrated approach to leprosy control within the framework of PHC in the Sudan

remain to be evaluated. Constant evaluation and appraisal are vital elements in the concept of PHC.

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References

- ¹ Winter PD. South Africa Leprosy Law and control policy. *Int. J. Lepr* 1949; **17**: 253–63.
- ² Bloss JFE. The control of leprosy among the Azards Anglo Egyptian Sudan. *Trans Roy Soc Trop Med Hyg*, 1964; **39**: 5, 423–36.
- ³ Davey TF. Decline of leprosy in a group of Nigerian villages between 1941 and 1956. *Int J Lepr*, 1957; **25**: 4, 329–44.
- ⁴ Faget GH, Pogge RC, Johansen FA, Dinan JF, Prejean BM, Eccles CG. The promin treatment of leprosy. A progress report, 1944. Reprinted *Int J Lepr*, 1966; **34**: 3, 298–310.
- ⁵ Lowe J. Sundry experience in the chemotherapy of leprosy. *Int J Lepr*, 1951; **19**: 1, 15–21.
- ⁶ Dharmendra. Need for a balanced approach to leprosy control. *Int J Lepr*, 1965; **33**: 2, 232–40.
- ⁷ Schujman S. Value of segregation of bacteriologically positive cases in the prophylaxis of leprosy. *Int J Lepr*, 1963; **31**: 1, 46–52.
- ⁸ Figueredo N, Balkrishnan V. Risk of infection in leprosy. *Lepr Rev*, 1967; **28**: 2, 87–92.
- ⁹ Worth RM. Is it safe to treat leprosy patients at home? A study of house exposure to leprosy in Hong Kong. *Int J Lepr*, 1968; **36**: 296–302.
- ¹⁰ Worth RM, Wong KO. Further notes on the incidence of leprosy in Hong Kong. Children living with a lepromatous parent. *Int J Lepr*, 1971; **39**: 3, 745–9.
- ¹¹ Long ER. The social stigma of disease. *Int J Lepr*, 1965; **33**: 1, 98–102.
- ¹² Ross Innes J. Co-ordination of methods of leprosy control. *Int J Lepr*, 1958; **26**: 2, 145–7.
- ¹³ Browne SG. The training and development of medical auxiliary in the leprosy campaign. *Ann Trop Med Parasit*, 1975; **69**: 4, 413–16.
- ¹⁴ Cochrane RG. *Leprosy in Theory and Practice*. John Wright Bristol, 1959.
- ¹⁵ WHO. Integration of mass campaign against specific diseases into general health service. Technical Report Series, 1962; **294**: 5.
- ¹⁶ WHO. Expert Committee on Leprosy: First report. Technical Report Series, 1953; **71**: 28.
- ¹⁷ WHO. Expert Committee on Leprosy: Technical Report Series, 1966; 319.
- ¹⁸ Browne SG. The integration of leprosy control into the general health services. *Lepr Rev*, 1972; **43**: 16–20.
- ¹⁹ Schaller KF. Integration of leprosy control into the health centre scheme. *Lepr Rev*, 1969; **40**: 243–8.
- ²⁰ Hasselblad OW. The management of leprosy in comprehensive community health planning. *Int J Lepr*, 1971; **39**: 2, 183–4.

- ²¹ Ekambaram, Vand Sharma CSG. Leprosy relief and control work in Tirukoilur, South India. *Lepr Rev*, 1958; Vol 29.
- ²² Saha AL. Integration of leprosy work with general health service. A must for effective leprosy control. *Lepr in India*, 1973; **XLV**: 2, 78–80.
- ²³ Hurerta R. View of a health administrator on leprosy control problem. *Int J Lepr*, 1968; **36**: 3, 381–90.
- ²⁴ Idris AA, Lolik P, Khan R, Benyousif A. *WHO Chronicle*, 1976; **30**: 370–4.
- ²⁵ Sudan: Democratic Republic of the Sudan (1976a) Primary Health Care Programme Southern Region 1977/78 – 1983/84 Juba.
- ²⁶ Sudan: Democratic Republic of the Sudan (1976b) Primary Health Care, Eastern Northern, Central and Western Regions 1977/78 – 1983/84 Khartoum.
- ²⁷ Warderkar RV. Integration of leprosy work into general medical services. *Int J Lepr*, 1969; **37**: 2, 308–9.
- ²⁸ Vai Danathan EP. Training of para-medical workers and their use in the leprosy programme. *Int J Lepr*, 1970; **38**: 4, 433.
- ²⁹ Ramu G. Integration of leprosy with general health service. *Lepr in India*, 1973; **XIV**, 4, 262–6.
- ³⁰ Walter J. The present trends of anti leprosy chemotherapy and its practical implications. The 1st. International workshop of chemotherapy of leprosy in Asia Manila, Philippines 1977.
- ³¹ Torsned NA, Grevnikov PS. The forms of participation of local medical and prophylactic institutions in the control of leprosy in USSR. *Int J Lepr*, 1962; **30**: 1.
- ³² Blanc MVJ. Integration of leprosy control at the onset of mass campaign in Indonesia. *Lepr Rev*, 1964a; **35**: 205–9.
- ³³ Blanc MVJ. An experiment of integration of leprosy control at the onset = the area of Menganti. *Lepr Rev*, 1964b; **35**: 211–216.
- ³⁴ Convit J. The campaign against leprosy in Venezuela. *Int J Lepr*, 1960; **28**: 2, 167–70.
- ³⁵ De Souza Lima L. Leprosy in the Americas. *Int J Lepr*, 1960; **28**: 1, 20–65.
- ³⁶ Sudan: Democratic Republic of the Sudan (1975) National Health Programme 1977/78 – 1983/84 Khartoum.
- ³⁷ Haidar AA. Leprosy in the Sudan – Geographical distribution and prevalence. *Lepr Rev*, 1975; **46**: 219–22.
- ³⁸ Miquel R. Leprosy control in Thailand by the public health route. *Int J Lepr*, 1958; **26**: 2, 97.

In reality: a medical anthropologist's reservations about the viability of leprosy control within Primary Health Care

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Introduction

Since the International Conference on Primary Health Care (PHC) held in Alma-Ata in September 1978, PHC has enjoyed great vogue. The idea, however, clearly did not just then drop from the clear sky. For a number of years in many places around the world a small-scale approach within the health sector had already been applied, often experimentally. Discussion of PHC grew in intensity, however, only after the WHO adopted it as official policy, initially in 1975 and yet more emphatically in 1978. The enthusiasm that invariably accompanies a new trend was contagious. Flushed with excitement, the supporters of PHC now seem vulnerable to over-confidence: 'How could we have been blind for so long'!

The cautionary remarks which follow are in no way an assault on the concept, the ideology, of PHC. My intention is to deflate runaway optimism. If we contemplate fitting leprosy control into PHC programmes, we need to ascertain whether the special character of the illness (chronicity, disabling complications, fear and stigma) lends itself to such an undertaking. A period of attempts to integrate leprosy control within general health services lies just behind us – indeed in many countries such attempts have only recently begun in earnest. Perhaps we need to consider more carefully the lessons these past years may have to teach us.

Before addressing the specific question of whether PHC can accommodate leprosy control, however, we need to face the general issue of whether PHC promises a viable solution to the pressing health needs of developing countries. To a large extent my experience of PHC has been indirect; that is, whilst I was engaged in research on leprosy control. During my most recent fieldwork

in North Sulawesi, Indonesia, however, PHC became of increasing concern to me because of the Indonesian government's outspoken commitment to it. Examples below are drawn therefore for the most part from my Indonesian experiences (1979–80).

Definition and roots of PHC

Some confusion surrounds the definition of PHC. For many it means health work at the base, i.e. in such institutions as health centres, health posts, dispensaries. This view contrasts PHC to secondary and tertiary health care: medical assistance from specialists, in hospitals and at other care centres, *cf.* p. 350.¹ If we were to adopt this definition, then leprosy control in many areas of the world would already form a part of PHC; leprosaria (tertiary health care) have largely yielded to outpatient, ambulant services at health centres. The WHO's notion of PHC, however, involves far more (see 'Declaration of Alma-Ata' 1978). Of crucial importance to the WHO is the *active participation* of the community in attending to their own health needs. This in turn implies *identification* of health priorities *by the community itself*. In short, community-based health care. Seeing that the WHO definition has been winning wide acceptance, it seems advisable for us to agree to refer to a network of health centres and dispensaries where career health personnel are employed as an area's basic health services, reserving the term PHC for a community-oriented, community-based health care system. A salient characteristic of PHC in this specific sense is that its efforts are directed primarily at the prevention of illness. In addition to treatment of common illnesses and light injuries, PHC prominently includes nutrition, safe water, basic sanitation, mother and child care, immunization, health education, and prevention and control of endemic diseases.

In essence PHC is no novelty. Not only did some such programmes precede Alma-Ata in practice, but the guiding principles of self-help and self-determination derive from a movement of considerable long standing, the community development movement which reached its peak during the 50s and 60s. It is therefore rather odd that PHC has suddenly begun to receive such attention. Within their development package, community development programmes frequently tackled health problems. A rich literature exists recounting the successes and setbacks of such programmes, a valuable source for present-day advocates of PHC.^{2, 3}

Community development programmes aspired to development across a broad front; innovations and improvements in technology, agriculture, education, health care and other fields were to proceed integrally. In contrast the term PHC suggests a predominantly health-oriented enterprise. That, however, is certainly not true. Theorists behind PHC understand full well how intimately health is related to general well-being: ultimately an integrated approach to

development holds the most promise. Since the early 1970s Indonesia, for example, has propagated multi-sectoral village development through the training of 'cadres'. These 'cadres', local people, have not only PHC responsibilities but are supposed to be active as well in adult education and agricultural extension activities. In reality, however, one field of training comes before another and different sectors tend to receive different degrees of emphasis. Where the earliest initiative for establishing cadres has come from the ministry of health, PHC is likely to overshadow other sectors.

The attractions of PHC

Keeping in mind the community development programmes which were in effect the antecedents of PHC and also their controversial results, we might well ask why PHC today has become so popular. Three explanations occur to me. First, it seems that PHC is winning converts because it is economical, an inexpensive means towards achieving the goal of health care for everyone. The WHO is explicit that promotion of health at the base must be attuned to costs that the community and country can afford. For most developing countries this means applied medical technology and the use of less highly-qualified, largely unsalaried health workers. No government can run up great losses in this fashion and therefore, where resources are limited, PHC is an alluring proposition.

Secondly, it seems logical that participation of the community in identifying their own health priorities guarantees that PHC will succeed. Motivation is most keen when innovations accord with the felt needs of the community. Such thinking is staunchly supported by western intellectuals either interested in or actively involved with development tasks in the Third World. The process of democratization as it has unfolded in our own societies, particularly during the previous decades, serves them as a model which they regard as congenial for development elsewhere.

Thirdly, where previous attempts to improve health care have turned out to be disappointing, policy makers and high level administrators have usually had to bear the blame. Whatever their motives for promoting secondary and tertiary health facilities, prestige and profit included, it appears that no significant improvement of public health can be credited to these initiatives. Should PHC fail in the end, however, decision makers at the top will be able to displace responsibility from their shoulders on to local communities, for self-determination is the name of the game.

PHC can not work miracles

To translate the attractive ideology of PHC into a functional system involves, as numerous examples suggest, severe headaches. Programmes launched years ago

still struggle for survival. What are the main obstacles? Sitting behind our desks drafting a master blueprint, what did we overlook? To start with, it must be said that global planning invariably runs the risk of seeming deceptively easy. The variety of cultures in the world should alert us to the implausibility that a single remedy for health problems is likely to apply in all settings. We have to deal with densely- and sparsely-populated regions, with concentrated and scattered settlement patterns, with hunters-and-gatherers and peasant societies, with subsistence farming and cash cropping, societies with a high degree of cohesion and others characterized by continual conflict. Can we pretend to be so naive that we think a single approach to public health will be best suited everywhere? To make this point as cogently as possible, let us examine more closely that last-cited dichotomy: cohesion versus conflict. All too often, despite warnings to the wise, we are inclined to view non-Western societies through the distorting lenses of Rousseauian admiration: the scene appears idyllic, centripetal forces work to generate uniformity and harmony. This is, however, an illusion. Many non-Western societies are even more fragmented than our own. Cultural anthropologists have occupied themselves with this phenomenon. A much-discussed theory asserts that peasant societies are charged with internal antagonisms: wherever the size of the pie (the public good) is limited and each individual strives to lay claim to as large a piece of that pie as he can, structural opposition is the consequence.⁴ Given that most of the Third World consists of peasant societies, PHC in many places will have to face conditions which rhyme poorly with the prospect of basic community co-operation – and community co-operation is by definition intended to provide PHC with its underlying support. Where social splintering occurs and individuals jealously guard their own special interests, community participation may be easy to talk about, but next to impossible to achieve. The theory of peasant societies and their inherent discord may be disputable and far from universally valid, yet anyone who has lived or worked in a peasant society will know at first hand that envy, anger and competition simmer just under the surface: centrifugal forces so often prevent community action from getting off the ground to achieve change.

Of course societies are rare where the law of each-man-for-himself reigns absolutely. It is nevertheless common to observe antagonisms gravitate into alliances so that factions emerge or, in more hierarchical societies, classes form. ‘Community’ in either situation is largely a facade. The community is made up of different groups with different interests, values and expectations. Every new action, every proposal, is likely to contain seeds of conflict. If one talks of community participation, this may in fact turn out to be no more than the concerted effort of one group which hopes to strengthen its own position by monopolizing the innovation at hand. In the most favourable of situations this group will have a powerful grip on other groups and can oblige their compliance. Isn’t this, however, practically to wring the neck of the principle

of self-determination? All too often in reality the dominant group sees to it that its people occupy key positions in the innovational programme; in this way the group manipulates whatever advantages might derive to serve its own ends. Should other groups attempt to resist such monopoly formation, whatever services the innovation may have been designed to render are brought more or less to a standstill.

Another reservation worthy of consideration: how seriously are we to take the principle of self-determination when it comes to identifying and proposing solutions to community health problems? Are *felt needs* at all likely to conform to the perceptions of outside experts? The WHO badly wants to emphasize preventive measures. Many researchers, myself included, have found that what villagers desire instead is above all the elaboration of curative services. Despite health education and extensive discussion in cadre programmes in North Sulawesi, PHC appears to wake little response because prevention fails to interest people – people in good health. Most village health insurance schemes quickly run into financial difficulty; even a token contribution as a regular monthly premium comes to feel exorbitant when the time to pay comes around and no one in the family is sick. That people can get sick from using contaminated drinking water is common knowledge, but somehow inert and academic, not directly alarming. Government subsidies for village development are sooner spent for constructing imposing churches than for pipes, filters and water tanks. Similarly, despite propaganda to advance sanitation through the construction of safe WCs and despite the offer of the government to make expertise and materials available, many people prefer instead to erect expensive stone walls in front of their homes: this visible status symbol appeals to them more than safe WCs and intangible promises of improved health. Additional examples abound. The fact of the matter is that only curative health care elicits direct public response, and then only curative health care of a recognizably good quality.

To make PHC more attractive and to increase the respect with which villagers regard their village health workers these workers are generally equipped with a battery of first aid medicines: pain killers, tablets against fever, diarrhoea pills, etc. Even so, villagers seem to lose interest soon enough. Likely as not such preparations can also be bought cheaply at any one of the local shops. Furthermore in all corners of the globe it is already sad but true that when people feel unwell they equate health care with injections which they (all too soon) can receive at the nearest health centre. Nothing less than the needle any longer satisfies them. Conclusion: the felt needs of villagers probably differ far from what PHC planners would wish them to feel.

Such a gap can have damaging consequences for health care. In opposition to original intentions it has been possible to observe a rather rapid *commercialization* develop within PHC programmes. Certain village health workers, encouraged by community members who want to see improved curative care

available close to home, expand their activities. They dispense drugs beyond their competence and give forbidden injections for payment. A black market, one dysfunctional for public health, flourishes. Thus self-determination in the community, however admirable in principle, requires guidance at times.

At this point, moreover, we should not forget that PHC programmes are unlikely to begin in a total health care vacuum. Even in outlying districts people will already have identified local figures to consult in the event of discomfort or illness, either a traditional curer or illegal dispenser. The extent to which such figures will compete with and sabotage PHC programmes is, I feel, well worth investigation, but unfortunately beyond the scope of what I am now writing, see e.g. pp. 311–313.⁵

Leprosy and PHC

Having made a number of general comments about PHC, I would like to turn to the advisability of attempting to include leprosy services in such a community-based programme. The health authorities of developing countries do not by and large accord leprosy control a high priority in their national activities. After all, other illnesses and problems are statistically far more important, and urgent, e.g. malaria, nutrition, birth control. What about priorities at the community level? From culture to culture the situation will of course vary. Here by way of illustration I wish to present certain relevant findings in Western Province, Kenya. Interviews, during which a questionnaire was used, established that for villagers in the Wanga Districts leprosy was one of the foremost perceived health problems. A somewhat surprising result, for within my research area there was a relatively low leprosy prevalence, far lower in fact than in neighbouring areas. For various reasons, however, people were so fascinated, so preoccupied by this disease that the attention they paid to it could be described objectively as out of proportion to the public health danger which leprosy presented. Isolated instances of visible crippling, the leprosy beggar problem in a nearby large town, fear of infection – especially from open wounds, the lack of any effective traditional remedy, smouldering doubts about the curability of leprosy, dread of isolation (the traditional lot of a leprosy patient was to be abandoned in a hut along a major river, later modified to lifelong containment in a camp, and more recently to submission to a variety of unspoken rules restricting an ambulant leprosy patient's behaviour in society) – all these considerations help to clarify why the community finds leprosy a pressing public health menace. Thus, there is no consensus between community felt needs and the priorities of health planners and experts. Is there perhaps agreement about how the leprosy problem should be tackled? Not at all. Although in Western Province integration of leprosy services within general health care began years ago, community members continue to reject such an arrangement and express

a preference for seeing leprosy patients consigned to a special, distant leprosy hospital where they would not endanger others, nor affront them with their disfigurement.* This attitude 'let's get rid of them', is even at times openly propagated by community leaders, pp. 27–41.⁶ Were we to take the principle of self-determination which is supposed to be at the heart of PHC literally, then the community has a decided wish to see leprosy treated not at the primary level, but the tertiary level. Out-patient treatment at health centres is available solely by the intervention of outside authorities. Indeed, before we attempt any democratization of leprosy control there is serious work to be done changing the mentality of communities involved.

Yet more than information is needed to change attitude and behaviour here. To give substance to health education, the demonstration effect of sound treatment is required. For the foreseeable future, there is in my opinion far more chance of achieving such sound treatment at health centres with career personnel who are more readily available for training and supervision than are dispersed village health workers. Even if we limit village health workers to routine leprosy chores and specify that all suspected new cases and all known patients with complications are to be referred to the health centre, I am left with doubts about the value of the contribution which they will be able to make. Can we realistically afford to entrust village health workers with administering multi-drug therapy – an 'unavoidable' step, it would appear, in the near future – when we have not yet demonstrated our ability to manage even simple DDS distribution satisfactorily through established health facilities? PHC depends upon the goodwill and devotion of the village health worker. In addition to these personal attributes which will in reality vary with the individual, health centre staff can be expected to possess some measure of career discipline and professional responsibility.

People will argue, I know, that leprosy control through village health workers has the advantage of the worker's closeness, literal and figurative, to the patients whom he treats and that within the village there is thus more possibility for exercising social control on the patient to continue with treatment as prescribed. *Should inadequate patient compliance be the cause of disappointing leprosy control results such arguments might strike me as compelling. To date, however, successive studies have demonstrated that first and foremost poor staff compliance accounts for falling short of essential goals.*^{7, 8} At the risk of repeating myself: who can assure us that the job performance of an unpaid PHC village worker will be any improvement upon that of a salaried health centre nurse? Conscientious supportive supervision is crucial for effective leprosy control. Dependable supervision of widely dispersed village health

*Concrete behaviour displays much more tolerance and support for individual leprosy patients; what concerns us here for the sake of argument, however, is the stereotype of 'the leprosy patient' which affects the opinions people express.

workers will invariably present more difficulties than supervision of health centre staff. Rather than plunge into experimentation with leprosy control as a component of PHC, I would urge intensifying efforts at improving integrated leprosy control within general health care delivery systems.

Often I have been told by health administrators that leprosy patients themselves would prefer receiving treatment as close to home as possible, from their village head, for example, or once PHC could be established, from a village health worker. A health centre is a facility which treats people from an extensive geographical region. Here, the story goes, leprosy patients feel less welcome. Experience, however, has taught me differently. Should a leprosy patient desire treatment close by, invariably he is mutilated or in some way conspicuous to the public eye. Patients with less obvious leprosy, the majority thus, do not necessarily put a high premium on services near at hand, especially not in societies where there is considerable stigma. The relative anonymity of the health centre, where a range of diseases is treated, even if this anonymity may be over-rated, is likely to be more acceptable to a new leprosy patient than the exposure which receiving medication in his own village must necessarily bring along with it.

The Village K-: one of many examples

The first PHC pilot projects in Indonesia took place in the early 1970s in Java. In time PHC became a leading objective within the Ministry of Health. Nurses' training, for example, was converted from a clinical to a public health approach to prepare student nurses for assuming posts in rural villages. (This revision in contrast to the education of doctors which remains largely clinical and poorly co-ordinated with community health development goals.) The example of cadre formation in Java was subsequently tried out in selected areas on other islands, North Sulawesi among them.

In North Sulawesi the initiative for a PHC project often comes from the sub-district health centre instead of from within the village itself as in Java. In the village K- it was the visiting health centre doctor, a man of extraordinary vitality, who proposed such a project, speaking about it for the first time from the pulpit of the largest church in the area, the Reformed Church. K- is part of the Minahasa Regency, a Christian enclave in Moslem Indonesia. In recent years many small splinter churches have been springing up. Belonging to a particular congregation has far-reaching consequences for all aspects of a person's life. Just as in pre- and post-World War II Holland, the bulk of a person's activities, however secular in nature these activities may be, take place together with fellow church members. It is easy to understand why the doctor chose to introduce his project within the church; it testifies to his appreciation of the processes at work in village life. Yet such a beginning left him the task of trying

to mobilize the entire village despite church factionalism. He managed at any rate to insist on inclusion of 'cadres' from weaker church groups but it is relevant here to report that selection of 'cadres' finally took place not through election by fellow villagers but by appointment by the village head. An element of political factionalism was therefore also latent in the PHC programme in K- from its inception. Because the village was not unanimously in support of the village head, 'cadres' came predictably from the ranks of those he trusted.

For some months periodic day-long training sessions were held in K- at which 'cadres' were familiarized with the goals of public health and taught elementary techniques of health education and symptom-oriented first aid. Because K- is rather isolated, 'cadres' were provided with certain basic medicines.

The first case of leprosy in K- and the source of the disease which then rapidly spread was, according to popular legend, an immigrant Chinese shoemaker who arrived during the 1930s. At present leprosy appears to be claiming new victims at a reduced rate, but in the intervening years K- has become widely known for its many leprosy patients. With a population of little less than 2,000, there are 18 known leprosy patients now living in K- and tens of others who have taken up residence during the past in the provincial leprosy hospital.

Since 1972 there has been a specially trained leprosy worker attached to the nearest health centre. His responsibilities include treatment of patients from K- but his job performance has always left much to be desired. Some patients from K- prefer to travel a considerable distance to collect their supply of DDS at the leprosarium, either through official or unofficial channels: in this way they know their treatment will be unbroken. Others have found incidental sources of medicine for their leprosy, not all equally dependable. When the PHC programme in K- began, in 1977, leprosy was seen as one of the major village health problems. A decision was made to appoint a special village health worker for leprosy. We would do well, I feel, to question the motive behind this decision. Solution of other leading health problems was to be entrusted to 'cadres' who shared similar responsibilities and training. Only leprosy was singled out for a special health worker, and, what is more, this worker turned out to be himself a local leprosy patient! Many rationalizations for such an approach are plausible, such as a man who himself has the disease will sooner be trusted by other patients, will have more sympathy and thus more motivation to help others. Nevertheless there is something undeniably suggestive of social discomfort if not actually stigma about the arrangements in K-: a separate service for leprosy within what is essentially designed as an integrated programme, and, in addition, the choice of a leprosy patient to perform the job.

How did PHC in K- fare? After what all agree was an encouraging and enthusiastic beginning, the project soon enough stalled. The village insurance

scheme to raise funds for medicines (and incentives for 'cadres') undercut the popularity of the programme. Villagers, moreover, wanted more powerful medicines than 'cadres' were initially allowed to hand out. Under popular pressure, 'cadres' more and more began to play doctor, making independent judgments about what treatment to offer, departing from what they had learned during training and relying on their own 'experience' instead. When the health centre doctor tried to correct the situation, limiting medicines which the 'cadres' came to him to request, the 'cadres' could and did journey to the provincial capital where even medicines which legally require a prescription are readily for sale over the counter of some pharmacies. Competition among 'cadres' for supremacy, the surfacing of rivalries within the structure of the village, introduced further tension into the PHC programme.

Should we perhaps also attribute programme difficulties to social and economic circumstances in K-? Indeed, because of its altitude and poor soil, K- is officially a 'minus area'. Cultivation of cloves has made the Minahasa a boom region, but K- has been left out. There are clove trees but they return a meagre harvest. Some social scientists theorize that where a community has already undergone a certain social-economic 'take off', a community development programme such as a PHC project will have more chance of succeeding, pp. 257–268.⁹ People will be more accommodating, give more credence, and be prepared to make more sacrifices for advances in the health sector. Yet wealth, especially if it is private, by no means guarantees that people will be more receptive to communal programmes. If, say, people in K- were to prosper, it is just as likely that those with new spending power would turn to private doctors for their family health needs and remain cool towards government projects. After all, in general private doctors provide better services. And, what is more, to visit the public sector, one may risk loss of prestige. Prestige in the Minahasa is a powerful force in determining general behaviour, and health-related behaviour is no exception.

The death blow to PHC in K- descended when the founding doctor was transferred to a new location. A project not born from within the community (and how many, in truth, are?) will stand or fall according to the sustained input of its initiator. In Indonesia doctors usually wind up being reassigned from one health centre to another after relatively short tours of duty – a pattern of transience which necessarily erodes PHC projects by disrupting continuity of supervision and support. There is now a new doctor at the health centre, but her interest in community-based programmes has to date been exclusively verbal.

As far as leprosy care in the PHC project in K- is concerned, this component was short lived. The appointed patient-health worker found a job on a road repair project outside the village and none of the other 'cadres' troubled to assume his tasks. 'Cadres' all knew who leprosy patients were, knew some were not on treatment, knew others went long distances for their medicine, and yet. . . . The leprosy control situation is, as it was before PHC burst on the scene, unsatisfactory.

Conclusions

The village K- illustrates various reasons why PHC may fail to take root. Other attempts to found programmes in North Sulawesi have brought additional factors to light. Yet something even more basic, I am afraid, is preventing PHC from catching on in the Indonesian setting. If we take a hard look at the dynamics of PHC, shouldn't we admit that it can succeed only where society as a whole has become involved in a process of fundamental change? In theory a multi-sectoral approach, health being but one part of integral development, may often be preached, but in practice this seldom is realized. Why has community-based health apparently achieved so much in China?¹⁰ Because the entire society was being turned upside down. PHC was part of a general revolutionary current which radically altered income distribution and power relations within the village. In this process of arriving at a new consciousness, PHC is an essential component. For those who wish to introduce PHC into a stable social situation, however, I predict little hope for achieving their goal. It will seem alien, an intrusion. Whatever attempts are made to mobilize such a static community, real headway on a meaningful scale is extremely unlikely. At most small projects of peripheral importance may make some progress.

With the reservations which I feel concerning the prospects for PHC in general, it is hardly to be expected that I would be sanguine about proposals to add leprosy care to such projects. It would be fine for treatment, reliable treatment, to be brought closer to leprosy patients. It would be ideal to involve family members of leprosy patients in the patient's treatment if this took place at village level. A great deal could be gained from thus providing families with support during crises arising from the illness of one of their members. Leprosy control as currently organized too seldom offers an opportunity for needed family counseling. Yet, above all, we must remain *realistic*. If PHC is eventually to prove advantageous for leprosy control, essential preconditions must first be met: good training, systematic supervision and effective referral possibilities for diagnosis and complications. Until the staff of health centres are able to demonstrate their ability to perform basic leprosy control adequately, it would, I feel, be a wild stab in the dark to decentralize control work still further. Only once the health centre has become a dependable institution and social and economic conditions appear favourable in general for attempting PHC should we contemplate involvement of village health workers on a programmatic basis. The advantages which the system could then offer are considerable. Even perspectives for social and vocational rehabilitation, important activities which within the health centre system of integrated leprosy control are, understandably enough, usually neglected altogether, would be vastly more promising. Indeed, it is the multi-sectoral aspect of PHC which may some day make it possible to assist the social-economic development of the disabled within their home villages, leprosy patients among others.

There is a great deal that is appealing about PHC as an idea, and even about prospects in the future for the incorporation of leprosy control within

community-based health programmes. The reality of the field situation as I have known it suggests, however, that for the present it would be premature and counterproductive to divert efforts or resources to this new approach. When and where a PHC project has managed to take root in a community and has, for some years, demonstrated that it is functioning effectively, the time will be ripe for an attempt to introduce leprosy control into the project.

References

- ¹ Muller F. The Myth of Primary Health Care: case studies from Peru', (Paper prepared for IUAES Congress Symposium 'Anthropology and Primary Health Care', Amsterdam April 1981, publication by Royal Tropical Institute pending). 1981. Mechanic David. *Medical Sociology*, second edition, New York, 1978.
- ² Paul Benjamin D. (ed.) *Health, Culture and Community: Case Studies of Public Reactions to Health Programs*, Russell Sage Foundation, New York, 1955.
- ³ Foster GM. 'Primary Health Care: Its Conceptual Ties to Community Development', (Paper prepared for IUAES Congress Symposium 'Anthropology and Primary Health Care', Amsterdam April 1981 – publication by Royal Tropical Institute pending).
- ⁴ Foster GM. 'Interpersonal Relations in Peasant Society', *Human Organization*, 1960–61; 19(4): 174.
- ⁵ Foster GM. 'Medical Anthropology and International Health Planning', In: Logan MH, Hunt EE. Jr. eds., *Health and the Human Condition*. North Scituate, Mass. 1978.
- ⁶ Bijleveld Iman. *Leprosy and Other Diseases in the Three Wangas: Community Thought Patterns About Health Care and Their Consequences for Emergent Patients*; Royal Tropical Institute, Amsterdam, 1976.
- ⁷ Bijleveld Iman. *Leprosy Care: Patients' Expectations and Experiences*, a case study in Western Province, Kenya; Royal Tropical Institute, Amsterdam, 1977.
- ⁸ Bijleveld Iman. 'Who Says Leprosy Patients are Ashamed or Lazy?', 3rd International Workshop on Leprosy Control in Asia, Taipei, Taiwan; Sasakawa Memorial Health Foundation, Tokyo, Japan, 1981.
- ⁹ Wertheim WF. *Evoluție en Revoluție, De golfslag der emancipatie*, Amsterdam, 1971.
- ¹⁰ Sidel, Victor W. and Ruth Sidel. *Serve the People: Observations on Medicine in the People's Republic of China*. Boston: Josiah Macy Jr. Foundation, 1973.

Further reading

- Bijleveld I. 'Community Participation in Leprosy Control and Other Health Programmes: An Anthropologist's Viewpoint', 2nd Int Workshop on Leprosy Control in Asia, Kathmandu, Nepal; Sasakawa Memorial Health Foundation, Tokyo, Japan, 1979.
- van der Geest S. 'The Secondary Importance of Primary Health Care: impressions from Cameroon', (Paper prepared for IUAES Congress Symposium 'Anthropology and Primary Health Care', Amsterdam April 1981, publication by Royal Tropical Institute pending). 1981.
- Iskandar, Poerwanta and Adriaan S Rienks. 'Primary and Indigenous Health Care in Rural Java: a comparison of process and contents', (Paper prepared for IUAES Congress Symposium 'Anthropology and Primary Health Care', Amsterdam April 1981, publication by Royal Tropical Institute pending). 1981.
- WHO. *Official Records*, No. 223. Executive Board Fifty-Fifth Session. Part 1, Resolutions, Annexes. Geneva, 20–31 Jan 1975, No. 226, Twenty-Eighth World Health Assembly. Part 1, Resolutions and Decisions, Annexes. Geneva 13–30 May 1975.
- WHO. *Primary Health Care*. Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978. Geneva, 1978.

Primary Health Care in relation to leprosy in Sri Lanka

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Sri Lanka is an island 23,332 square miles in extent with a population of about 15 million. It has several different races, the majority being Sinhalese (73%); others are Tamils (19%), Moors (7%), Burghers and Eurasians (0.3%), Malays (0.3%) and unspecified (0.1%).

The total number of registered cases of leprosy at the end of 1981 was 11,389, 29.6% being lepromatous; prevalence rate is 0.77%; child rate is 6.2%. 617 new cases were registered during 1981.

Primary Health Care (PHC) in Sri Lanka is dependent on Public Health Midwives (PHM – 1 per 3,000 population), Public Health Inspectors (PHI – 1 per 30,000 population), and Public Health Nurses (PHN – 1 per 100,000 population), supervised by Medical Officers of Health (MOH – 1 per 200,000 population). Each MOH has several PHIs under him – each PHI serves in an area called his Range which is part of the large area under the MOH.

The PHIs are specially involved in leprosy control in that they are expected to (a) maintain chartings and data regarding all leprosy patients in their areas, (b) visit defaulters and persuade them to resume treatment, (c) screen contacts of known patients, (d) assist in school and other leprosy surveys, (e) assist at leprosy clinics in their areas, and (f) notify any new cases to the Superintendent, Antileprosy Campaign (S/ALC).

Each PHI/ALC has patients in several MOH areas under his surveillance – that is patients living in an area of between 1,000 and 2,000 square miles. He conducts the clinics in his area, and carries out leprosy surveys, defaulter retrieval and health education as best as he can manage. He is, however, unable to carry out leprosy control activities satisfactorily due to (a) the large area he has to cover, and (b) a reluctance on the part of general health staff to enter positively into leprosy control activities. This has resulted in nearly 50% of the known cases defaulting from regular treatment, which is available at 81 leprosy clinics held monthly, twice a month or weekly (depending on the numbers of

cases scheduled to each clinic) in health institutions throughout the country. The only daily clinic is the Central Leprosy Clinic at Colombo General Hospital which is also the headquarters of the leprosy control programme, and conducted by a leprologist. Each patient is scheduled to the clinic of his choice, which often is not the closest to his residence, for reasons of stigma associated with the illness.

Most patients attend a leprosy clinic for the first time, after a period of treatment by Ayurvedic physicians ('herbalists'); more than 7,000 Ayurvedic Physicians are allowed by the government to practice in the villages and are expected thus to take part in PHC; regrettably, most of them know nothing about leprosy and their treatment often causes irreversible nerve damage and complications. Hence there is a conflict with regard to PHC between the western and indigenous systems of medicine in this country.

At present the government has taken steps to improve the PHC, especially of the rural population by increasing the number of PHMs so that each PHM serves a population group of 3,000. PHMs are not only trained in midwifery and family planning, but also in detection of common noncommunicable diseases, including leprosy, and in directing the sufferers to the correct treatment centres. They will work under the guidance and supervision of Medical Officers of Health who will also be part-time physicians in rural hospitals.

This scheme is designed to detect early illness and ensure speedy treatment by a referral system at the appropriate treatment centres, and thus prevent overcrowding at urban hospitals, with those who can be adequately treated at the peripheral institutions.

The health needs of Sri Lanka may be visualized from the following 17 areas of activity that have been identified for development of PHC: (1) Proper and adequate nutrition; (2) Safe water; (3) Basic Sanitation and Hygiene; (4) Maternal care; (5) Child care; (6) Family Planning; (7) Immunization; (8) *Prevention and control of communicable diseases*; (9) Prevention and control of non-communicable diseases; (10) *Appropriate and early detection of common diseases and injuries*; (11) *Simple rehabilitation*; (12) *Health education*; (13) Oral health; (14) Occupational health; (15) Mental health; (16) School health; (17) Prevention of blindness and visual impairment.

It will be seen that leprosy is concerned with activities in 8, 10, 11 and 12. Since 1970 we have been trying to emphasize these subjects in the teaching programmes of various members of the health staff and some of the prejudice against leprosy is being gradually overcome by lecture demonstration to paramedical workers during their pre-service and in-service courses. It must however be admitted that there are many difficulties and even conflicts within the health service itself, some of them relating to fear of this disease, which are still to be overcome. As far as leprosy is concerned, we do not as yet, in Sri Lanka, have a significant development of primary health in the sense of the WHO definition and a very great deal remains to be done in the field of health education and the regular systematic training of all members of our health service, including medical students and doctors.

General health education as the main approach to leprosy control, Dichpalli, India

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Summary Leprosy control in an integrated Community Health Project (CHP) and in a conventional Survey, Education, Treatment (SET) programme are compared over a period of 5 years.

In the CHP priority was given to intensive, continuous health education on various subjects, including leprosy, by mainly illiterate Village Health Workers (VHW), 1 per 1,000 population.

In the SET programme the emphasis was on house-to-house survey for leprosy patients only by well educated paramedical workers, 1 per 20,000 population.

Case finding in the SET was better than in the CHP. However, while the number of new patients in the SET remained fairly constant over the years, it more than doubled in the CHP. Case holding in the SET gradually increased to 64% of the registered patients receiving regular treatment, while in the CHP the corresponding figure rose to 90%.

The integrated approach with the emphasis on health education seems to lead to a better quality contact between the VHW and the leprosy patient. Supervised combined therapy of all patients, tuberculoid and lepromatous, in accordance with the latest principles is now a distinct possibility.

Introduction

The National Leprosy Control Programme SET is a good programme. It has been shown that in competent hands it can control, if not eradicate leprosy. There are, however, some weaknesses in the scheme and as a result in many places leprosy has not been controlled.

The causes of failure of a leprosy control programme are, of course, well known. There is in the first place the general public's ignorance and superstition, causing the patient to evade investigation of his disease at an early

stage. As a result case finding is delayed which may lead to disability of the patient and continued spread of the infection among the population. Then there is our inability to keep the patient on regular treatment for many years or even a life time. This inadequate case holding may also lead to disability, spread of the infection and, worst of all, to sulphone resistance. In both cases, detecting patients in an early stage of their disease and keeping them on prolonged regular treatment, the crucial factor for success in controlling leprosy is the availability of devoted staff.

In this paper we shall outline some ways in which we have been trying to tackle the problems mentioned above in our leprosy control programme at Dichpalli.

Integration

In 1963 we were requested by the State Government to take up leprosy control in an area of 1 lakh population. During the next 10 years the work was done in strict accordance with the guide lines of the National Leprosy Control Programme. Unfortunately, the results were not very encouraging and for this we mainly blamed the general public's prejudiced attitude.

So the first thing we did was to try to reduce the stigma of leprosy by setting up an integrated CHP. This provides general health services to a population of 40,000. For the sake of comparison the National Leprosy Control programme was continued among the remaining 60,000 population.

Health Education

Very soon we discovered that in the integrated CHP health education was the first priority. It motivates people to accept immunizations, family welfare, tuberculosis- and leprosy-control programmes and so on. We also quickly found out that health education is a continuous process: once begun, it should never be stopped. To have its full impact it should be done in a leisurely fashion, on a person-to-person basis, and therefore, it takes far more time than the curative part of the project. But we believe that this is time well spent as in the end chronic diseases like leprosy and tuberculosis can only be treated satisfactorily if the patients fully understand the nature of their disease.

The Village Health Worker

Who are the most suitable people to impart health education to the community? In our opinion paramedical workers are overqualified for this kind of work.

They do not use the same vocabulary as the village people, most of whom are illiterate, and therefore no real communication is possible. Moreover, they are considered outsiders and usually do not enjoy the full confidence of the community. We therefore prefer as health educators local women, selected by the Village Health Committee which consists of non-formal leaders identified through a 'hidden leaders survey'. Nearly all our VHWs are illiterate. They are married, have children and are usually employed. Their work as health educator has to be part time, 2 hours in the evening, and if possible their salaries are met by the Village Health Committee.

The advantages of these local VHWs are obvious: by selecting and occasionally by paying them participation of the community is ensured. There are no problems of accommodation, transport, transfer or promotion. And most important of all, the VHWs turn out to be just the devoted type of workers which are so crucial for the success of any health programme, because they are well motivated being part of the community and sharing their problems. We aim at 1 VHW per thousand population and have at present 30 VHWs in our project. They have been trained by us and continue their training by spending 1 day a week in the hospital. Apart from consolidating their knowledge and learning new health subjects there is an opportunity of exchanging experiences, sharing a meal and thus building up an '*esprit de corps*'.

The VHWs main occupation is house visiting, 4–6 families a day. During these visits she gives health education on the subjects which she has been taught during the previous week. There are 16 different subjects, e.g. care of children under 5, family welfare, water-borne diseases, hygiene, eye diseases, skin diseases and leprosy. The VHW spots new patients during her house visits and refers them to the weekly village clinic conducted by a hospital nurse who gives immunizations and simple treatment. Problem patients are referred to the hospital. The VHW has no curative task, but she does remind patients suffering from chronic disease like leprosy, tuberculosis, diabetes, hypertension and epilepsy when they are due for their next check-up and treatment.

Results

CASE FINDING OVER A PERIOD OF 5 YEARS

New leprosy patients annually registered
in the CHP area, population 40,000: 12–20–24–31–29
in the SET* area, population 60,000: 69–30–66–33–62

In the CHP area all new patients presented themselves spontaneously for examination and treatment. In the SET area most new patients were found during house-to-house survey.

*Survey, Education, Treatment i.e. the National Leprosy Control Programme.

Note: The fluctuation in the SET figures may be explained by transport problems which were more serious in the SET area than in the CHP area.

CASE HOLDING OVER A PERIOD OF 5 YEARS

Leprosy patients receiving regular treatment (75% or more)
in the CHP area 33–22–53–86–90% of all registered patients
in the SET area 28–50–78–51–64% of all registered patients

Note: The total number of leprosy patients registered on 1-1-1980 was 186 in the CHP area 799 in the SET area. On 1-1-1982 (2 years after completing this study) these numbers were 166 for the CHP area and 384 for the SET area.

Discussion

Five years is a short period for comparison between 2 leprosy control programmes, especially as the number of patients is rather small. Thus we should be cautious in drawing our conclusions. However, certain trends seem to be emerging.

CASE FINDING

The SET programme has been better than in the CHP, as could be expected from a programme concentrating exclusively on the detection of leprosy patients. At the same time it should be noticed that in the SET programme case finding remained fairly constant, while in the CHP there was an increase of nearly 150%. If this trend in the CHP should continue, case detection by health education only might in the near future overtake case detection by mass survey in the SET programme. However, it should be pointed out that better case finding is only of value in so far as it is matched by better case holding.

CASE HOLDING

This seems to have fared much better in the CHP than in the SET programme with a steady increase of regularity from 33 to 90% in the CHP as compared with an increase from 28 to 64% in the SET programme.

The time seems to have come to ask ourselves: Which of these three: Survey, Education or Treatment should be given priority?

In our opinion there is no doubt that intensive, continuous health education should have the highest priority in any leprosy control programme. Not only does it motivate the patient to present himself voluntarily to the VHW for examination but it also prompts him to continue his treatment regularly.

Surveys seem to be of limited value as so many leprosy patients found in this way tend to default within a few months after registration.

As regards integration, there is little doubt that leprosy has to be included in general health education as it is impossible for our VHWs to teach continuously 1 subject, i.e. leprosy only. Moreover, within a short time this would single them out as the leprosy workers in the village.

Integration of leprosy surveys into general health surveys makes also good sense. Not only does it obviate the stigma of leprosy but it also leads to much more efficient use of staff, transport and funds. We firmly believe in annual surveys by VHWs together with hospital staff to assess the general health situation in the villages and to evaluate our work. In addition, every family is visited once in 2 months by the VHW who is always on the look out for new cases of leprosy.

As regards treatment the advantages of integration are not nearly so obvious. Experience in various countries has shown that integration of treatment often leads to deterioration in the care of leprosy patients. Because of the heavy workload and lack of knowledge of leprosy, these patients tend to be the first to be neglected in integrated programmes. At Dichpalli very few leprosy patients regularly attend a general village clinic. Most of them prefer confidential treatment at home from hospital staff. As the prevalence of leprosy in our area is less than 10 per 1,000 each VHW has not more than 10 leprosy patients to supervise. It is quite easy for her to check regularly on the patients' compliance with treatment and to keep in touch with those patients who have been released from control. Therefore, combined treatment for all patients, and short-term treatment of BT and TT patients has become a distinct possibility.

Finally a few words about the economics of the integrated programme. The cost of the CHP works out at approx. 5 times the cost of SET per head of population. However, the extra expenditure involved is more than offset by bringing leprosy back into the mainstream of general medicine and by the additional services provided to the community, notably under-5 clinics, ante-natal care, family welfare, control of tuberculosis and simple low cost general health care.

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Leprosy and Primary Health Care

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How much patient care can we expect?

If all goes well with the development of 'Health Care for All by the year 2000', and current estimates of the prevalence of leprosy are approximately correct, and no dramatic changes take place in leprosy control technology, then we can expect that the number of leprosy patients under treatment will triple to about 12 million in the next 19 years. Clearly, most of the work for treating these cases will have to be done by Primary Health Care (PHC) workers. This need not be the disaster some fear – it could indeed be the greatest thing ever to happen for the cause of leprosy control – provided the leprosy health professionals grasp the opportunity being presented. The challenge to us is to determine exactly what role PHC workers can play in leprosy patient care, and to set out to train them – or more likely train others to train them – to fulfill that role. This paper defines a role for PHC workers in leprosy patient care, and outlines the essential components of a training programme to equip them to fulfill that role. It is based on the assumptions that PHC workers will be supported by an effective system of supervision, and will have the possibility of referring cases beyond their competence to a formal health service unit. It also assumes that while PHC worker trainees may not be fully literate, even in a vernacular, they will at least be able to recognize colour photographs as an acceptable abstraction of reality. This paper is not definitive. It is introductory. It is a hypothesis intended to stimulate experimentation and the development of a valid theory and practice in PHC worker training in leprosy.

What can we expect?

If PHC workers are to continue to contribute anything to leprosy patient care and leprosy patient control it is reasonable to expect them to have the following competencies:

- 1 Willingness to accept leprosy patients as people.
- 2 Ability to recognize leprosy cases.
- 3 Ability to recognize complications of leprosy in known cases.
- 4 Ability to refer cases with leprosy or its complications promptly for diagnosis and management of leprosy and its complications.
- 5 Ability to dispense prescribed medicines regularly to patients.
- 6 Ability to train patients in self care.

What training will be required to enable PHC workers to acquire these competencies?

COMPETENCY

Willingness to accept patients as people is a general social skill through which the PHC worker will accept all people, irrespective of the disease from which they suffer, as human beings with equal rights on the basis of their common humanity. However, because of the peculiar position of leprosy patients in many cultures, special training may be required in this area. The underlying attitude to patients upon which this competency depends can only be taught effectively by those who are themselves convinced of its importance and demonstrate their own adherence to its truth. The measures needed to produce such teachers will vary from culture to culture, and even from individual to individual. A detailed knowledge of specific, and even local situations, will be necessary, and perhaps the most significant responsibility of leprosy health professionals, with respect to the PHC concept, is to change the attitude of a whole profession to leprosy, and insure that patients with the disease are accepted as people throughout the medical service system. There will be no better place to begin this task than the medical schools and schools for training teachers for paramedical workers. For it seems a reasonable assumption that it is upon doctors and paramedical teachers that the main burden of training PHC workers will fall.

COMPETENCIES 2 AND 3

The recognition of leprosy cases and of the complications of leprosy are specific to this disease. These competencies can be acquired even by illiterate people by means of the study of appropriate pictures in colour, reasonably explained in the local vernacular, for as has been shown in the case of small-pox, the use of posters can enable even illiterate villagers to recognize cases. There will necessarily be some degree of over recognition and under recognition. The former should not be a serious problem if reasonable attitudes are taken towards leprosy patients, and the latter will certainly be very much less than it would be if no training were given to villagers in the recognition of the disease.

COMPETENCIES 4 AND 5

Prompt referral of cases for diagnosis and for the management of complications, and the regular dispensing of prescribed medicines are general competencies needed by the PHC worker for the care of patients with other diseases. In respect to leprosy, he will simply be required to be able to read instructions concerning the quantity and frequency of distribution of medicine and must be informed of the place, date, and time of clinics where leprosy cases may be seen.

COMPETENCY 6

Patient education and self care will be the most difficult competency for PHC workers to acquire, but it may also be the most important. It may be argued that patient education in self care should be the responsibility of the professional health system staff, but since the patients will only be seen for diagnosis, and if complications arise, and for periodic review by the professional staff, it would seem more appropriate for the PHC worker to be responsible for patient education if at all possible. Patient self health care has 7 components.

1. Understanding the importance of regular treatment.
2. Early recognition of reactive phenomena in skin and nerves and eye problems.
3. Early recognition of open and closed wounds.
4. Recognition of the presence of anaesthesia, anhidrosis, and weakness in face, hands, and feet.
5. Self-reporting, promptly, of reactive phenomena, eye problems, and severe open wounds.
6. Home management of closed and of minor open wounds.
7. Home management of anaesthetic, anhidrotic, weak and/or paralysed limbs.

Appropriate teaching processes for PHC workers to use in their work with patients are as follows:

1. The importance of regular treatment may be taught by means of a series of colour pictures of patients illustrating the results of regular and irregular treatment. The patients should also be informed that their compliance with instructions will be checked by the PHC worker at intervals.
- 2 & 3. Early recognition of reactive phenomena, eye problems, and of open and closed wounds can be taught by means of suitable colour pictures for showing to patients.
4. Recognition of the presence of anhidrosis, anaesthesia and weakness may best be taught to the PHC workers by demonstration of patients

with these problems. Similarly, it can be taught to the patients themselves. If there are no patients available for teaching, then photographs may be used as a substitute.

5. The step between recognition of problems and early self-reporting will only be taken by patients if the PHC worker has the confidence of the patients. The PHC workers must be taught to earn this confidence through treating their patients with courtesy, through competence in their work, and through their reliability and accessibility to their patients.
- 6 & 7. Home management of closed and minor open wounds, and of anaesthetic, anhidrotic, and weak or paralysed limbs can best be taught to paramedicals by actual demonstration of cases and practice of home management skills under supervision. In the absence of cases, photographs can be used to illustrate the process and simulated practice undertaken by the health care workers, using their own limbs as models.

The role of leprosy professionals

We should be preparing now to provide the type of teaching material outlined above, suitably adapted to meet specific local needs. In particular, it is most important for any pictures produced to be in keeping with local culture and not to be obscured or complicated with extraneous information. The urgency and importance of this task, in relation to the training of PHC workers who are both safe and effective in leprosy control, cannot be over-rated.

Leprosy and Primary Health Care: the Mandwa Project, India

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No disease can be controlled, however effective the remedy, if there is failure in detection and regularity of treatment is not assured.

Leprosy control programmes were commenced in most endemic countries of the world about a quarter of a century ago based on the availability, for the first time, of a drug against the disease which was not only highly effective but also safe, cheap and orally dispensable. A separate service was started for leprosy as for many other major health problems like malaria, tuberculosis and smallpox. These were the days of euphoria when we believed science had the answers to most human problems. Twenty-five years later we remain sadder but wiser.

Even in diseases like those which are sexually transmitted and where a single injection can ensure cure, we have failed in achieving success in countries where knowledge is widespread and facilities for treatment are freely available to all. This sad tale has repeated itself for all the diseases where hopes of control were high because of availability of cheap and effective drugs, vaccines or insecticides. Smallpox was the only exception. The blame for such failure has been attributed to many causes such as inadequate funds, nonavailability of drugs, suitable personnel, transport; ignorance and apathy of the people and their rulers, and finally the development of resistance to drugs and insecticides and the nonavailability or the exorbitant cost of alternative treatment.

Yet we know that most of these diseases were eliminated from the developed countries long before drugs or vaccines were available for their control. Education combined with improvement of the social and economic conditions therefore remains the only certain way of controlling communicable diseases. They are therefore more amenable to social and political action rather than purely medical measures.

Failure to achieve results despite vast inputs of men and money could have been condoned in the early phases as a genuine lack of appreciation of these factors, but the continuation and expansion of services which have proved to be inadequate or ineffective can only be attributed to the vested interest of professionals, bureaucracy, pharmaceutical industry and politicians in propagating the empires built by them on various diseases. Any new approach, however well based on scientific and/or social reality, is firmly resisted on administrative or technical grounds. Unfortunately, those who have a vested interest in maintaining the status quo are also generally the persons in whom society has vested responsibility for bringing about the necessary changes. In such a system it is also unfortunately true that those whose interests are primarily at stake are seldom involved in making decisions for their own welfare and are treated as passive recipients of health or illness care. In the poor and chiefly rural societies of developing countries this implies that decisions are made by a small coterie of the urban elite, who even if well intentioned, have little concept of the actual problems of the majority of the people with whom they have little physical or cultural affinity.

In the case of leprosy, where the problem of stigma far overrides the problem of technology, our whole approach has been of an almost entirely technical nature. While we have a vast number of medical and paramedical personnel there are hardly any social scientists in the field; by which I do not mean social workers. While we spend increasingly more on research of the scientific aspects of leprosy, including the vaccine, we almost totally ignore research into the equally important social aspects of the disease. Even if an effective vaccine was available, which is problematic, why do we think it will not go the way of all the other vaccines and immunizations? For millions still suffer and die of infectious diseases like tuberculosis, tetanus, poliomyelitis and diphtheria. The failure has been in the delivery of the drugs and vaccines and not in their potency.

Why is it then that despite the availability of drugs and vast investment in manpower and other resources leprosy continues to remain a major health hazard? This is not to say that no benefits have accrued; the problem may have been worse without such programmes. But it is also clearly evident that mere detection and distribution of pills cannot succeed. The answer lies in the fact that the techno-bureaucratic approach has failed to understand or has ignored the significance of stigma which plays a predominant role in this disease and without whose appreciation no programme for leprosy control can ever succeed.

Should we then not try to study the real causes of the stigma as it affects the various segments of our population and how they perceive the disease and its sufferers? Should we not find out why the medical profession itself has such an unscientific fear of the disease as it has of no other? Can we expect health education of the public to succeed when the medical profession which is

looked to for guidance on medical problems refuses to handle leprosy patients and admit them to hospitals? In actual fact the stigma is most marked in the educated and not so great among the less educated masses. Yet being the decision makers, whether in medicine or employment they play a major negative role.

The approach of the patient to this disease also affects early detection, regularity of treatment and his rehabilitation for without his co-operation little can be achieved. A better understanding and appreciation of the human aspects of this disease is essential in devising any programme for its control, the lack of which has been the major cause of our failure. While a special leprosy programme has some advantages it has several disadvantages, such as too large an area of coverage per worker, the attachment of stigma to him with resultant lowered acceptability by the people and inability to get motivated doctors to provide leadership. A vertical programme also suffers from all the other disadvantages of a government service such as lack of supervision and accountability, repeated transfers which prevent build up of rapport with patients and the community, and lack of administrative and technical support. Though few in-depth evaluations of such services are available it is generally accepted that except in a few states the performance is poor, especially when compared with the voluntary agencies. A considerable percentage of the cases are not detected and the regularity of treatment is generally less than 50% as judged by the WHO criteria.

Recently attempts have been made at integrating the leprosy service with the other health programmes at the paramedical level in the hope that this will eliminate the stigma attached to the workers, reduce the area of coverage and help establish greater rapport with the people. Unfortunately, such integration has been firmly resisted on the basis that there is a danger of losing whatever has been gained over the years.

It should be realized that many of these problems afflict the whole health delivery system of which leprosy is only a small segment. A recent joint report of the Indian Council of Social Science Research and Indian Council of Medical Research has highlighted these problems and has recommended an integrated 'bottom up' rather than a 'top down' approach which should be firmly based within the local community which should assume responsibility for its own health and for which it should be assigned both administrative and financial powers. Wherever possible the staff should be recruited from the local community and answerable to them, and the pernicious system of transfers be eliminated. Only thus can there be peoples' involvement in their own problems and ensured rapport and accountability in the persons who are employed to help them.

The report further analyses the actual problems of health and its care on the basis of the experience of several microstudies. It states that about 90% of all health care including its most important components, whether preventive, promotive or even curative is of a relatively simple nature requiring a low level

of technical knowhow, but close cultural affinity with the people with whom it should be in close proximity. Hence it can be best carried out by the people themselves with some training and support. If any outside agency like the government tries to undertake or appropriate these tasks there results not only an increase in cost but also a failure to deliver the goods. Worse still, it generates a feeling of dependency among the community, with resultant loss of interest and absence of participation in activities for the improvement of their own health and welfare.

Leprosy fits this proposed model admirably like most other communicable diseases such as gastroenteritis, tuberculosis and malaria. In an experimental field project covering a rural population of 30,000 in north Alibag Taluka popularly known as the Mandwa project, we have trained local women as part-time health workers – one for each village of approximately 1,000 population. They are taught to undertake all forms of health care practices with special emphasis on the problems of women and children. They have also been taught the basic signs and symptoms of leprosy, namely, anaesthetic patches, thickening of the skin and ear lobules, loss of eyebrows, and palpation of the ulnar and greater auricular nerves; as also of other diseases like malaria and tuberculosis.

Prior to the commencement of the project the full-time 2-year trained government leprosy technicians working for over 10 years in the area had detected 63 cases of leprosy in this population. In a period of 3 years from 1977 to 1979, 90 other cases have been detected by this system, most of them (59) by our village workers and confirmed by the supervisory staff. It is interesting to note that most of these were early cases including those of the lepromatous variety, prior to the development of major deformities. Much more important, the regularity of dapsone treatment, as measured by the WHO criteria has increased from less than 50 to more than 90%. Since the workers are local women dealing with all types of health problems and visit each house in the village at least once a month (and the at-risk cases more frequently) there arise no problems of regularity, accessibility, rapport or communication. The women mix freely with the patients and invite them to their homes thus eliminating fear and stigma in the minds not only of the patients but also of the community. It is not surprising that such constant contact ensures early detection and regularity of treatment. The stigma of leprosy does not get attached to such a local worker who looks after all health activities of the village and her word often carries more weight within her community than that of an outsider.

While a detailed study of the project is in the process of being undertaken there is ample evidence to demonstrate the higher effective nature of such an approach to leprosy, at what turns out to be a much reduced cost.

This approach has proved equally effective for other diseases such as tuberculosis, malaria, and gastroenteritis and the immunization rate has increased from 15 to over 70%.

Unfortunately, the Government Community Health Worker Scheme based on such a model has failed to achieve similar results. This is because the concept of educating the community to look after its own health problems and providing only supportive service has not been acceptable either to the medical profession or paramedical workers. They see these community health workers as a threat to their practice and also as a means of ensuring accountability. The community is hardly aware of the true nature of this scheme and are not involved in the programme. Under these circumstances such a promising avenue for health care can hardly be expected to thrive. The potential, nevertheless, exists as revealed by our studies and other similar ones, and provides us with one of the most potent weapons in our armamentarium for the control of this disease at little, if any, increase in cost.

The potential benefit of Primary Health Care to leprosy control

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The problem: no decline of leprosy on a world-wide basis

A century after the identification of the causative agent of leprosy, which ushered in a new era in the battle against this ancient and in many aspects unique disease, it is far from being controlled on a world-wide basis.

In recent years it has become more and more evident that the hopes associated with the introduction of sulphone therapy in the late 40's were unduly optimistic. Though leprosy mortality has declined drastically no tangible impact has been made on the incidence of leprosy. Modest advances in the reduction of leprosy cases in certain regions have been largely offset by population increases in countries where the disease is endemic.¹

Causes, underlying and contributing factors

The anti-leprosy campaign has suffered from numerous deficiencies and constraints which may be summarized as follows:

INADEQUATE HEALTH CARE INFRASTRUCTURE

In developing countries more than 80% of the rural, nomadic and slum dwelling population has no access to adequate health services. This applies to leprosy patients as well: to them physical and psychological accessibility to general health services has been equally low; 1 leprosy patient out of 4 or even out of 5 may have some contact with health services² (and if so it may be asked how effective this contact has been). A discussion of the large discrepancy between registered leprosy patients (ILEP statistics) and the estimated number of actual leprosy cases in the world has already been published.³

SHORTCOMINGS OF EXISTING HEALTH SERVICES

Staffed by inadequately trained and supported health personnel that are frequently divorced from the concerns, health problems and health needs of the majority of their actual and potential clients, existing curative and institution-oriented health services have been largely ineffective in their impact on the health status of their service population.

LEPROSY: NO PRIORITY PUBLIC HEALTH PROBLEM

With rare exceptions leprosy is not considered as a priority public health problem by health policy makers and, as a consequence, its control fails to attract necessary budgetary resources for special, vertically organized programmes. Confronted with a host of more pressing health problems public health authorities have been reluctant to deal with an apparently complex and unrewarding disease whose chronic nature and the slow effect of its chemotherapy require long-term action and hence a substantial resource commitment over an extended period.

In addition, leprosy aid has been traditionally considered the domain of charitable and voluntary agencies.

DEFICIENCIES OF ANTI-LEPROSY CAMPAIGNS

Specifically the anti-leprosy campaign has suffered from:

- (1) Inefficient and ineffective use of scarce resources that have been largely allocated to cost-intensive leprosy facilities aimed at alleviating individual illness and suffering with no or little impact on the actual control of the disease.
- (2) Predominance of a clinical approach to leprosy control with heavy reliance on rehabilitation (tertiary prevention) and treatment (secondary prevention), i.e. chemotherapy of known cases to the detriment of a community-oriented strategy with public health measures and activities geared to primary prevention.
- (3) Failure to systematically apply available knowledge and epidemiological principles relevant to the control of leprosy in large-scale action, aimed at the protection of the population at risk by effectively interrupting the cycle of transmission (identification of bacilliferous patients, index cases, household as well as extrafamilial contacts, specific high-risk groups with appropriate chemotherapy, public health and surveillance measures).
- (4) Too heavy reliance on mobile health/leprosy units which have largely restricted their activities to the mere distribution of drugs due to pressure of time.
- (5) Inadequate case finding and case holding (follow-up) measures.

- (6) Shortcomings of presently available chemotherapy (based upon oral administration of dapsone) for large-scale campaigns in view of its inadequate action upon the epidemiological most relevant forms of the disease; the problem is further compounded by microbial persistence and drug resistance.
- (7) Administrative shortcomings; in the fight against leprosy there has been an abundance of dedication and good will which has not been matched by the same degree of professionalism, particularly in view of the adequate planning, programme formulation, implementation, co-ordination and evaluation of leprosy control or health services with leprosy specific activities.

UNDER-UTILIZATION OF EXISTING LEPROSY SERVICES

There has been considerable under-utilization of available leprosy services largely as a result of:

- (1) Ignorance about and indifference to early manifestations of the disease and its complications.
- (2) An unfavourable socio-psychological environment in which affliction by the disease has often been associated with social stigma, which in return has reduced the chances of early diagnosis, the effects of adequate intervention and the prospects of case holding.
- (3) Distrust of outsiders and outside health services (mobile units).
- (4) Neglect of the felt needs of the service population due to a service scope limited to leprosy care.
- (5) Mobility due to migration (the rural exodus) has impaired efforts at keeping registered patients under close control and surveillance. For a more detailed discussion of the inadequacies and constraints of past and present anti-leprosy campaigns as well as for additional references on this aspect see Buchmann.⁴

The single most promising solution: an alliance with Primary Health Care (PHC)

It has been the interplay of these deficiencies and constraints that has prevented or at least ill-affected an effective control of leprosy. What is to be done in view of these sobering facts? To be sure, the control of leprosy is too complex and affected by so many interacting factors that defy ready made solutions. However, rigorous application of presently available knowledge and integration of leprosy-specific activities in PHC services may well be the most promising approach to overcome the present deadlock.

PREMISES

It is quite certain that we cannot adequately address the numerous constraints and deficiencies that leprosy control is confronted with but the single most

promising strategy seems to be by far an alliance with PHC if the following principles are agreed upon:

- (1) Community-oriented leprosy control measures receive priority over curative services geared to individual sufferers from the disease.
- (2) Emphasis should be placed on world-wide, inter-national, national or at least regional anti-leprosy strategies in contrast to sporadic, ill-co-ordinated leprosy campaigns.
- (3) The leprosy problem cannot be perceived as an isolated health problem that can be solved by a basically medical approach even if more potent drugs or an effective vaccine were available.

THE POTENTIAL BENEFIT OF PHC TO LEPROSY CONTROL

PHC briefly defined as:

essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process⁵

seems to be the key to a more effective control of leprosy on a world-wide basis. Its concept and potential are ideally suited to remedy some of the major constraints and inadequacies that antileprosy programmes and activities are presently faced with. This postulate certainly needs some further elaboration.

In 1977 the World Health Assembly declared 'health for all by the year 2000' as its main social target and identified PHC as the appropriate means to the attainment of this ambitious goal. In 1978 140 member states unanimously adopted the Alma-Ata resolution declaring PHC as their health priority for the coming decades.

The social appeal to health policy makers has been evident: coverage of hitherto unserved or underserved populations who make up the vast majority of their constituency by low-cost but effective health services that transcend the conventional boundaries of medical care. PHC based on a multisectorial approach is likely not only to favourably affect health status of a given population but also to become a major factor in the overall development process with good health being a necessary prerequisite to socio-economic development as well as a result of it.

From this recent development of the international health sector leprosy policy makers may draw several conclusions:

- (1) Health for all by the year 2000, a human right and a social goal aimed at social justice should be deliberately applied to actual leprosy sufferers as well as to populations at risk in developing countries where leprosy with rare exceptions is endemic and particularly prevalent among poorer segments of the developing societies.
- (2) To be effective the anti-leprosy campaign is dependent on the availability of a general health care or leprosy-specific infrastructure which have not yet been established. However, to the control of leprosy, a chronic disease, the establishment of a permanent, community-based health service infrastructure is of utmost importance, particularly in view of case finding and case holding, surveillance and other essential public health measures as well as complementary activities. Thus, to be effective leprosy-specific health services must be as close as possible to its potential service population in order to be able to intervene as early as possible and as regularly and long as necessary.
- (3) In addition to its quantitative benefits PHC offers considerable qualitative potential. Largely confined in their impact by their narrow service scope and their limited resources leprosy services are hardly able to effectively address the leprosy problem, its causative and contributory factors with the needed comprehensive approach. However, an alliance with PHC whose intersectoral strategy seems to be ideally suited to yield a more tangible effect on the incidence of the disease, particularly when combined with leprosy specific activities (e.g. chemotherapeutical segregation of the epidemiologically most important forms of leprosy) and other relevant public health measures. The relationship between a poverty-stricken environment with its implications on human life and the occurrence of leprosy has been sufficiently evinced. Poor housing, commonly linked to overcrowding, deficient sanitary conditions, inadequate hygienic practices, a precarious nutritional state, lack of education etc. are closely correlated with ill health in general and leprosy in particular. As a consequence, any effective approach to leprosy control has to address these highly inter-related factors which are but expressions of a larger complex reflecting a low level of socio-economic development. It is most probably the impact on the whole cluster of these interacting variables that will lead to a decline of leprosy as the historical trend of many (formerly) leprosy afflicted countries in Europe, America and Asia, particularly in the 19th and 20th century, seems to reveal.*

*The decline of leprosy in Great Britain, Norway, North America (where leprosy was introduced by Norwegian settlers), Hawaii, Japan, the Philippines, Taiwan, Hong Kong and Israel for example seems to reveal that chemotherapeutic action has not been the single

Thus with PHC becoming the explicit health policy priority in most developing countries its potential to leprosy control will be of ever increasing importance particularly as it succeeds in:

- (1) Establishing frontline health services even at a most peripheral level thereby covering large majorities of populations hitherto unserved by general health or leprosy specific services.
- (2) Taking into consideration the environment in which the health problem arises and lingers on.
- (3) Perceiving the patient's community, its involvement and active participation in health matters and processes relevant to socio-economic development as a major and perhaps the key variable that determines his own as well as his community's health status.

Incorporation of leprosy services into PHC by effective resource sharing

An alliance of leprosy services with PHC schemes wherever they exist or the active promotion of PHC by anti-leprosy associations is likely to yield mutual benefit. The potential of the PHC strategy to the control of leprosy as outlined earlier is vast. On the other hand, leprosy services/agencies in order to become an acceptable and indeed accepted ally in the implementation of PHC will have to make some substantial inputs, too.

With assistance of WHO the elaboration of a conceptional framework for national PHC strategies and the formulation of specific programmes have received due attention. It is the implementation component where apparent deficiencies exist, particularly at grassroot level. In this most crucial phase substantial boosting is badly needed. This may well become a concern and indeed a future commitment of leprosy services and their funding agencies as the integration of leprosy control services into PHC implies a mutual resource sharing not only of financial but also of health manpower, management, training, logistic, supportive and supervisory capabilities.

NEED FOR AND EXTENT OF CAPITAL INVESTMENT

The need for the establishment of a basic health care infrastructure or its adequate restructuring and reorientation largely exceeds the financial capabilities of developing countries and would by itself already exhaust annual provisions in national health development budgets. Even if one relies heavily on community participation and appropriate village technology for the set-up of a

most important factor in the regression of the disease. In these countries, the decreasing incidence and prevalence of leprosy has long preceded the sulfone era beginning in the late 40's of this century. For detailed references on this aspect see⁴ pp 31–36.

physical PHC-infrastructure (PHC posts/units or centres) and in spite of its deliberate low-cost approach and its favourable input/output ratio (potential services provided in relation to potential service population) there is a tremendous need for financial assistance.*

Considerable inputs are needed to achieve maximum coverage. It is the enormous quantitative demand for health services in rural areas that makes capital investments relatively cost-intensive. Inputs would cover building material, basic equipment, essential drugs as well as necessary investments to assure adequate training and reorientation of PHC specific and general health personnel, respectively. Funds for logistic and supervisory support are equally needed.

In the past NGOs have contributed their fair share to health services development and it has been particularly the anti-leprosy associations that have taken up a considerable part of the financial burden for investments relevant to leprosy-specific health services. In view of past experiences it is most likely that anti-leprosy agencies will continue to raise substantial funds enabling them to share in financing PHC programmes with regard to their potential benefit to leprosy control. On the other hand, at least in the long run, they will be more or less obliged to do so. In spite of their financial resource potential the establishment of a permanent service network required for the effective control of leprosy on a world-wide basis will be largely beyond their capabilities, even in 'priority countries' where leprosy presents a major health problem.

Nor, and this is at least of equal importance, will public health authorities tolerate the establishment of vertically organized, leprosy-specific delivery systems in the future. In many developing countries health policy makers have made it quite clear that for leprosy services to become functional they have to be incorporated into and work through existing health delivery channels and thus contribute to the running of the national health care system.

POTENTIAL OF PHC-SPECIFIC MANPOWER

If there is real political commitment to the PHC strategy (and not mere lip service to a socially appealing idea) and if, as a result, necessary funding will be made available, there will be a tremendous output of frontline health workers over this decade. Deployed in chronically underserved areas they will probably soon assure overall coverage by basic health services.

*Based on personal experiences in the Southern Sudan external inputs to the construction and equipment of PHC facilities at grassroot level may vary from US \$200 to 400 depending on the extent of community participation and the local availability of building material. At supervisory level (PHC centres) these inputs will be more substantial as it is extremely difficult to commit local resources at this level and as a more permanent type of building may be required.

As these health workers are community-oriented, selected and thus likely to be trusted by their constituencies they will most probably remain community-based with a social role and community influence to build on.

To any effective future anti-leprosy strategy frontline health workers (variously named community health workers, CHWs, primary health workers, PHWs) are of greatest value and should be perceived as the backbone of any systematic anti-leprosy campaign. It will become a tremendous challenge to fully exploit the potential of these PHWs to the ultimate benefit of leprosy control.

In the past, various, mostly promising efforts have been made in this direction. In Ethiopia,* Sierra Leone, Togo† and several other countries leprosy workers representing rudimentary frontline health services have been effectively used in basic health care after reorientation and upgrading of their formerly limited skills. To leprosy control these specialists-generalists are of greatest benefit.

Though these examples are limited to countries and regions where leprosy has been highly prevalent and where anti-leprosy associations have been committed to the control of the disease over an extended period the contribution of leprosy services to general health care in terms of establishing a basic health service infrastructure and deploying a rather devoted and effective health manpower in rural areas has been considerable.

INVOLVEMENT IN REFINED PHC-PROGRAMME FORMULATION, TRAINING AND SUPPORT OF PHC-WORKERS

In most countries, however, it may be the concern of leprosy agencies and services how to participate in PHC-programmes safeguarding their leprosy-specific mission while supporting a comprehensive health programme. Acceptance by health authorities may be largely dependent on the leprosy agency's degree of commitment to become involved in the implementation of PHC, particularly at grassroot level. The PHC Programme of the Southern Region of the Sudan, supported partly by German Leprosy Relief Association (GLRA),

*In Ethiopia the director of the National Leprosy Control Programme has been in charge of the national PHC-programme, too, a fact that well reflects the pioneering achievements of leprosy services in the establishment of a general health care infrastructure in various countries.

†In the northern part of Togo the outpatient clinic system set up by the National Leprosy Control Programme has virtually covered every rural community and has taken leprosy specific health services to its actual clients and potential service population on a regular basis long before this has become an established and commonly accepted principle of modern health policy. As in some other countries, the rudimentary health care system set up by leprosy services in rural areas has become the nucleus of a PHC system that is about to be established.

is a case in point. By its extensive involvement in the PHC programme in two large provinces of the Southern Sudan, GLRA has been able to appoint a PHC Liaison Officer to the Regional Ministry of Health for the two provinces and, as a result, considerably shape the implementation of the PHC concept, particularly its refined programme formulation stage. Thus due emphasis has been given to leprosy-specific activities of Community Health Workers who, during their 9 months' initial training (alternated with field work) have been considerably exposed to leprosy-specific or leprosy relevant health knowledge. In addition, particular skills have been imparted to CHWs during leprosy specific training sessions arranged by the PHC Liaison Officer and organized by the National Leprosy Training Centre (NLTC) of the Sudan.*

As the Regional Ministry of Health has neither been able nor willing to train and supply an adequate number of leprosy specific health personnel the potential of a training centre of this kind lies in conveying leprosy relevant knowledge and skills to general health workers who with rare exceptions have only rudimentary or even outdated notions of leprosy and its control.

Supervision of (frontline) health personnel in the sense of guidance and support is of vital importance to the effectiveness of any health service and particularly to PHC workers serving remote areas. In leprosy control programmes supervision has been perceived as a crucial element and has consequently received adequate attention. As a result, considerable experience has been acquired in the support of auxiliary leprosy personnel at peripheral level including the provision of continuous in-service on/off site training opportunities. This expertise may well be exploited to the benefit of leprosy integrated PHC services.

Conclusion

In spite of considerable efforts and financial inputs over the last three decades no breakthrough has been made on the actual control of leprosy which, due to population increases, may even be on the rise. The discrepancy between 3 million leprosy patients registered (which does not necessary imply their effective treatment) and 11–12 million cases estimated by WHO constitutes a tremendous challenge to those committed to the control of this ancient disease, in particular to the 24 member states of the International Federation of Anti-Leprosy Associations (ILEP) whose worldwide assistance benefits about 80 countries where leprosy constitutes a health problem.

As vertically organized leprosy programmes should be considered outdated since they are neither economically nor technically feasible on a large-scale

*In addition, the NLTC offers specific training courses to more qualified health personnel involved in the PHC programme such as qualified nurses and medical assistants.

basis nor health-politically and psychologically acceptable future anti-leprosy strategies must be geared to an alliance with other relevant health services and forces that may be instrumental to the control and ultimate eradication of leprosy.

The PHC concept has emerged as a most promising strategy to assure health for all by the year 2000 and to establish health services as an essential tool in the overall development process. To be more effective a comprehensive, a 'total health' care-approach to leprosy control is needed. This represents, however, no new idea. Holmboe, one of the distinguished Norwegian leprologists of the 19th century, with an amazingly modern vision proposed socio-economic assistance to those districts in Norway where leprosy was most prevalent in order to ameliorate the general level of hygiene and the mode of living.⁶ It is this potential of PHC that is to be exploited and shared with as a crucial threshold seems to be reached today. The PHC train is about to get on its way and leprosy services, too often and for too long apart, should not be left behind by missing this splendid opportunity; they should get on that train now.

The flexibility and initiative, the ingenuity and commitment of antileprosy agencies and their field workers dedicated to combat against the disease throughout the world are ample guarantee that bold, innovative approaches to conquer leprosy will not go untried.

The commitment of leprosy associations to the promotion of the PHC concept and its implementation by effectively sharing their considerable financial and health manpower resource potential may finally decide on the extent to which they will be able to influence and shape national and regional PHC-programmes, their quality and direction to the ultimate benefit of leprosy control. In the long run, there seems to be no viable alternative.

References

- ¹ WHO Expert Committee on Leprosy: Fifth Report. Technical Report Series, 1976; 607, pp. 7–8.
- ² *Ibid.*, p.3. Browne SG. The training and development of medical auxiliaries in the leprosy campaign. *Ann of Trop Med and Parasit* 1975, **69**: 413.
- ³ Leprosy control in 1978 and beyond: who is to do the work? (Editorial). *Lepr Rev* **4**: 184–5.
- ⁴ Buchmann H. *Leprosy control services as an integral part of primary health care programs in developing countries*, German Leprosy Relief Association, 1978; 5–15.
- ⁵ WHO. Declaration of Alma-Ata. Geneva, Switzerland, 1978.
- ⁶ Lie HP. Norwegian settlers in the United States. *Int J Lepr* 1938; **6**: 353–4.

Primary Health Care and leprosy

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Principles

It is becoming increasingly clear that simple and universal solutions to the control of leprosy are inadequate, and great efforts are being made to understand not only its medical characteristics but also the social, economic and cultural factors that make its control so difficult. Approximately 15 million people suffer from leprosy today and there is little evidence that the number is decreasing; the annual incidence is around $\frac{3}{4}$ million.¹ Despite the technological means to do so, the disease still eludes control, even in those countries which can afford it, due to a number of problems concerning case detection, case holding, drug treatment and follow-up. It is a discussion of these problems in relation to Primary Health Care (PHC) that provides the main theme of this essay.

In what must appear to many countries a verbose report based on dreams, the Alma-Ata Conference declared that 'PHC is the key to achieving an acceptable level of health throughout the world'.² Essentially, PHC is simply the care available at the first point of contact between the patient, or the patient-to-be, and the health services. This bald statement says little of the true complexity of the situation. Firstly, a primary health system that is appropriate in one country, or even one area, may be entirely inappropriate in another. To be useful, it must be accepted, and so must be sensitive to the cultural, economic, intellectual, technological and even medical idioms of the society it serves. If, of necessity, planning must sometimes be aided by distant experts, operation should always be in local hands. 'A guiding principle is that PHC is first and foremost a community effort.'³ This is probably nowhere more true than in a

* This article is an edited and abridged version of a prize-winning essay submitted by the author for the 1981 LEPRO PRIZE ESSAY COMPETITION, which is offered annually to all medical schools in the United Kingdom. *Editor.*

disease such as leprosy which is so deeply embedded in local consciousness, and in which standard methods of treatment are so lengthy. A community health initiative of this kind may involve a radical reconsideration of some firmly held precepts, including that by which new medical knowledge is allowed to originate only in the rich countries and to flow, often unsuitably, to the Third World periphery.

It is important that a primary health system must somehow be integrated into, and remain in step with other economic and social developments. It has a social significance that never emerged from the more traditional, vertical health systems.⁴ As a recent conference of the 31 poorest nations demonstrated, a large number of them (mostly with significant leprosy problems) are going to remain extremely poor in the foreseeable future and it is thus vital that the medical services are realistically planned to be both effective and economic.

The first practical task of a government organizing a primary health programme is the definition of its objectives. If these are considered with realism and with some exactitude, they will serve well as indices for later evaluation of the scheme. For leprosy, complete eradication is probably not possible⁵ and a more practical objective for a primary health programme for leprosy is its control. At present, the control of this infection requires the careful and individual chemotherapy of all patients with active disease to a level sufficient to eliminate the reservoir of mycobacteria, but there are some basic flaws in its principle which are largely responsible for the failure, to date, of many programmes. When dapsona was first discovered to be an effective antileprosy drug in 1943⁶ and increasingly used over the next 10–15 years, it was thought to be an easy and effective way to control the disease. Mass medication of patients would lead to the eventual eradication of leprosy. A brief look at the prevalence of the disease today shows that such hopes have not been realized. The mere *possession* of an effective cure does not guarantee its effective *distribution* – leprosy (like tuberculosis) provides a fine example of the ‘application gap’.⁷

Implicit in the objective of leprosy control is a means of monitoring this control, and it is worth considering what contribution can be made by workers at the periphery. In some circumstances, prevalence rates may be measurable by field workers whose basic education is often rudimentary. In the report of the first conference on epidemiological techniques for primary care schemes,⁸ it was stated (perhaps somewhat surprisingly) that ‘front-line’ health workers, in general, adopted simple survey methods with comparative ease. However, difficulties remain. The lack of notification systems and national records together with population mobility and confusion over names and addresses make repeated sample framing and follow-up very difficult. However, Copplestone⁹ has emphasized the importance in these situations, of accepting inevitable inaccuracies and allowing for them, usually by overestimation. There are, furthermore, some methods whereby a village health worker, under careful

supervision, may carry out meaningful prevalence sampling, in selected areas. For example he may examine all people along certain randomly chosen compass directions, from a central point in the village. This method requires no more equipment than a compass and the writing of some simple records. Repeated observations of samples such as these may provide a series of local prevalence rates which will help to measure the effectiveness of the control programme. However the problems should not be underestimated; according to WHO¹⁰ attempts by single workers to survey populations in S.E. Asia have been disappointing and even misleading. The application of these methods to urban areas has been doubted by Mutalker¹¹ who pointed out that house to house detecting in Poona was impossible because of the community's attitudes to 'private life and other living conditions'.

At the hub of primary care is the village — or urban — community worker. In the leprosy field, his (or her) responsibilities will lie in case-finding and referral for diagnosis, the supervision of treatment and attendance for supervised drugs, rudimentary rehabilitation, and health education. The latter may be of particular importance. Local feelings about leprosy must never be underestimated if only because deeply held beliefs may rub contrary to received medical opinion and thus hamper control. Although the importance of health education is undeniable, effective methods are harder to define. Obviously they must be appropriate to the 'target' and easily applied. In Bombay, intensive radio coverage, following popular programmes, has been combined with a school essay competition (in which 100,000 children take part each year!) with apparently good results.¹² In communities with fewer resources, and particularly in rural areas, less sophisticated methods will be appropriate and many of these may revolve around the local school. Whilst peripheral health care workers must be encouraged to detect and refer *all* leprosy cases, their role in the early (or earlier) detection of multibacillary cases may be crucial to the effectiveness of the control programme, and their potential in the early recognition of minimal changes on the skin surface may be considerable.

However, the community health worker should not become merely a 'leprosy worker'. The primary control of leprosy must not run parallel to the main body of PHC but should be integrated, as far as possible, into existing health services. According to Chwatt,¹³ a significant factor in the failure of malaria control over the last 20 years, has been the 'vertical, target-orientated, mass campaign' approach to the problem. Such campaigns directed from outside on to a particular disease, have the attraction of impetus and immediacy, and may offer some degree of early success; they also enjoy an air of excitement that may be lacking in the more prosaic and dogged 'horizontal approach'. Leprosy is a chronic and potentially crippling disease which affects large numbers of people spread over wide areas and in many countries it is likely that the best approach to leprosy control will be through local and comprehensive health service; this also has the advantage of reducing the stigma of

leprosy which its isolated management can only enhance. Browne¹⁴ emphasizes that wherever possible, only existing diagnostic and treatment facilities should be used.

The training of the community worker, normally at the primary hospital, should be reinforced by frequent 'refresher' courses and should also involve regular visits of those at hospital level to the communities. Not only does this help to maintain standards and morale (a very important feature) but it also helps to remind hospital staff of the problems at village level. The importance of repeated personal contact and supervision, particularly in a rather slow-moving disease such as leprosy, cannot be overestimated. Without it, the system may founder.

Practice

Although WHO, in its Technical Report of 1977,¹ has stated that 'after a reasonable period of training', community health workers are generally capable of a sound diagnosis on clinical grounds alone, the present understanding of the term 'PHC worker' suggests very strongly indeed that he should not be concerned with the diagnosis of leprosy – but only with the detection and recognition of suspected cases. These should then be referred to a trained observer for confirmation of diagnosis before treatment is started.

Once the patient has been confirmed as having leprosy and classified as to type, the peripheral worker may be able to contribute greatly to regularity of drug intake and attendance. Although chemotherapy will not alone control leprosy, it is the main tool available for this purpose. Leprosy control by this tool is however plagued by the twin problems of poor patient drug compliance and irregular attendance at out-patient clinics. It may be that it is simply the chronic nature of leprosy, and its necessarily prolonged treatment, that highlights these problems, but it is likely that the aura built up around the disease over the centuries is also an important factor, since the patient has to 'recognize' the disease in himself and often to 'reveal' it to his family, neighbours and perhaps employers. Regular, kindly interest and encouragement by a locally based worker in village, community or slum may be of enormous value.

So complex are the problems of mass chemotherapy, that the search for other tools of control, which may be implemented by a primary type scheme, seems essential. A preventative approach is an obvious choice. WHO does not recommend either prophylactic dapsone or BCG vaccinations, which are both of dubious value, the first merely compounding the problems outlined above. However, a vaccine, offering active immunization, is far more promising and even at this early stage it may not be entirely out of place to consider the possibility that PHC workers may be called upon to participate in the administration of such a vaccine to the enormous numbers of people who may be at

risk in endemic areas. Indeed some authorities have doubted if a vaccine could be administered to a satisfactory number of people with existing health systems.

The subjects of chemotherapy and prevention must not divert primary health service attention entirely from the crippling effects of this disease. To the sufferer these are all-important and the primary health worker may be as busy with the disabled as with the care of newly diagnosed patients. Although some disabled patients will need referral to hospital for skilled physiotherapy, prostheses or reconstructive surgery, certain techniques are open to the primary level worker; for example, simple eye exercises for lagophthalmos, provision and repair of simple protective footwear for denerated feet, hand exercises and constant education on the care of anaesthetic hands and feet.

Much of the above work requires the primary health worker to keep simple records. The form and sophistication of these will obviously vary with the community worker's ability and the objectives of the local leprosy programme. It is regrettable that this subject has been hardly studied; in the only paper devoted exclusively to leprosy records,¹⁵ no mention at all is made of primary level workers. Most primary workers have a degree of literacy which would allow simple written records and these could be augmented by abacus-type systems, as are traditionally used in some Central African countries or by forms which make use of pictures and line drawings of relevant subjects.

The finance allocated to a primary leprosy control programme reflects the priority allocated to it by central government.¹⁶ Most countries where leprosy is endemic are poor and likely to remain so for the near future. In a detailed paper, Lechat and others have analysed the costs of various methods of controlling leprosy.¹⁷ As expected, a programme of vaccination (for all children and those in hyperendemic areas) is far the most effective method of control, though requiring a large capital outlay. This sum could probably be reduced by carefully integrating the leprosy vaccination scheme into other mass-vaccination programmes. The present method of control – the early detection of cases and their prolonged treatment – is considerably more expensive, and so far rather less effective. Ten years ago, the LEPRO project in Malawi was estimated to cost £3.10 per patient per year.¹⁷ A breakdown of such expenses would show that the major part of the budget of many programmes is spent on (a) the necessarily prolonged treatment and supervision of patients, and (b) transport and drug delivery costs. (These have increased enormously over the past years.) Major reductions in these areas could be made by the earlier detection of cases, so reducing the likelihood of disabilities and their subsequent care, and by the determined application of combined chemotherapy for pauci- and multibacillary cases, as recently recommended by WHO.

Conclusion

As a principle, the primary health approach to the control of leprosy has obvious advantages. It is 'appropriate', cheap, durable and available to those who need it most. It is firmly rooted in the community, and incorporates the best principles of preventive and educative medicine. Above all, it places the control of leprosy in a broad schema of illness and health, related to socio-economic conditions. Yet there has so far been a failure, admittedly not unique to leprosy, to apply this model to the reality of the disease. Leprosy is as common today as it was 20 years ago.

This is not through lack of effort or ignorance. Though much of it is little more than pontification, there is an extensive literature on the principles and philosophy of PHC community involvement and comprehensive health care. Much knowledge has also accumulated on the practical aspects of leprosy control in the field. It is in the gap between such principles and the practice of leprosy control that the problem lies. What is needed is an approach that is sufficiently imaginative, broad and 'visionary' to bridge it.

References

- ¹ WHO Expert Committee on Leprosy: Fifth Report. Technical Report Series, 1977, 607.
- ² Report of the International Conference of Primary Health Care Alma-Ata 1978. WHO Geneva.
- ³ Kawaluddin M. President of 31st World Health Assembly. *WHO Chronicle*, 1978; 32(11): WHO Geneva.
- ⁴ Quenum C. Health for all by the year 2000 as a revolutionary concept. *World Health Forum*, 1981; 2(7): 105.
- Warren K. *Tropical Medicine from Romance to Reality*. Academic Press London, 1978.
- ⁶ Faget, Pogge et al. The promin treatment of leprosy 1943. *Public Health Reports* (Washington), 58: 1729.
- ⁷ Editorial *Lancet* 1976; ii: 615.
- ⁸ WHO Document SHS/79.2 in *WHO Chronicle*, 1980; 34(1): WHO Geneva.
- ⁹ Coppelstone. Planning an epidemiological field survey. *WHO Chronicle* 1965; 29(6): WHO Geneva.
- ¹⁰ *Guide to Leprosy Control*. 1980: WHO Geneva.
- ¹¹ Mutalker. Health education in leprosy. *Leprosy in India*, 1977; 49(2).
- ¹² Antia. The people we fail to reach. *Editorial Lep Rev*, 1977; 48: 155.
- ¹³ Chwatt B. The challenge of malaria – tropical medicine: In: Wood C. ed. *From Romance to Reality*. Academic Press, London, 1978.
- ¹⁴ Bryant J. Community health workers. *WHO Chronicle*, 1978; 32(4): Geneva.
- ¹⁵ Mogli G. Medical records in leprosy programme. *Leprosy in India*, 1979; 51(2).
- ¹⁶ Samba EM. Primary Health Care – unknowns, pitfalls and hazards. *World Health Forum*, 1981; 2(3): Geneva.
- ¹⁷ Molesworth B. LEPROA control project in Malawi. *Lep Rev*, 1969; 40: 237.

Reports, News and Notes

LEPROSY AND PRIMARY HEALTH CARE: A MEETING HELD AT THE ROSS INSTITUTE OF TROPICAL MEDICINE, LONDON WC1 ON 2ND FEBRUARY 1981

Professor D J Bradley invited members of the Evaluation and Planning Centre in his Institute to meet Ad de Rijk (Royal Tropical Institute Amsterdam), Tim Lusty (OXFAM, Oxford) and Colin McDougall (Slade Hospital, Oxford) to discuss some of the problems in the handling of leprosy within the context of Primary Health Care (PHC), as defined by WHO. The discussion began with a position paper outlining some of the main clinical features of leprosy and its adverse immunological reactions, with particular reference to diagnosis, treatment and case-holding. It was suggested that whilst some relatively simple activities, such as ensuring patient attendance and encouraging compliance in the ingestion of prescribed drugs, could be considered as suitable for the peripheral worker, others were far too complex to be considered at this level. There was a need to define, probably at country, or at least regional level, what such peripheral workers might reasonably be expected to do for PHC in leprosy. During the ensuing discussion, it was soon pointed out that it would also be necessary to limit and control the number of duties these workers were called upon to perform; there were already signs that their workload was becoming impossible. Drawing on reports and experience from those areas of the world where PHC is being practised methodically (and they were very few), participants at this meeting found data on their success or failure to be conspicuously lacking. This was true for their activities in general, and more so for leprosy. It was also reported incidentally, that 2 such schemes (both in Africa) had not taken leprosy into the programme at all, and that leprosy control was still being carried out by special services, covering the same area. Whilst this might have been due to the 'special' or 'segregated' aura surrounding this disease, the possibility was also considered that leprosy, like tuberculosis, is intrinsically a more difficult subject to handle at primary health care level than maternal and child care, immunization, hygiene, contraception, clean water supplies, and so on.

After considerable discussion about duties, Ad de Rijk suggested that the village health worker might reasonably be asked to be concerned with the following:

- (1) Regularity of collection of anti-leprosy drugs and encouragement of patients to ingest the prescribed dose, regularly and for long enough.
- (2) Reporting on patients who (a) move out of the area, leave the country, travel, etc., or (b) arrive in the area for the first time.
- (3) Early recognition of complications, including damage to anaesthetic limbs and adverse reactions, with referral if indicated.
- (4) Case finding, including contact examination, with referral for all suspicious cases for further examination and diagnosis.

The methodology of training or instructing such workers in these simple duties was felt to be a matter for planning and execution at regional or perhaps district level, in view of the enormous differences in various countries of transport and suitable teaching centres.

Instruction on the spot, with a minimum of transport to centres where the conditions and facilities might be far superior to those of real life in the village, was thought to be important, but it was recognized that there might be difficulties in teaching the basic clinical signs of leprosy and its adverse reactions, in the absence of a suitable group of patients.

On the matter of leprosy in relation to other diseases, it was thought that leprosy should usually be brought into PHC after it had been established and shown to work for various other diseases or services, and that – with some exceptions – it was unlikely that leprosy could initiate PHC. The importance of supervision was discussed at some length, with the conclusion that its most significant component would probably come from ‘district’ level, but that it might be necessary to enlist personnel devoted almost exclusively to the supervision of PHC, in view of the usually heavy workload of those already working in district hospitals. Participants agreed that some element of vertical or specialized expertise would be needed in leprosy for many years to come, probably from district level upwards, and that there would be a continuing need for referral centres, able to diagnose, treat and generally manage all aspects of complications in leprosy.

The meeting ended with a discussion on the magnitude of the task created by the aim of health for all by the year 2000, in the area of medical and para-medical education and the provision of suitable health learning materials. It was thought that appropriate education, together with the necessary change of attitude, might well take 10 years. Meanwhile, it was important to collect a great deal more data on the integration of leprosy, and other diseases of similar importance, in those areas of the world which are practising, or claim to be practising, PHC. Indeed, perhaps the most important upshot of this meeting was the realization that there should now be available much more information on the effectiveness (or otherwise) of some aspects of PHC, including experience with leprosy.

NON-GOVERNMENT ORGANIZATIONS GROUP ON PHC; DECEMBER 1981, GENEVA

This was held on 4 December 1981 at the Ecumenical Centre in Geneva and co-ordinated by the Christian Medical Commission, with Dr Stuart Kingma as Chairman. Apart from UNICEF and WHO, the participants included a representative (Mr Bert Zielhuis from Amsterdam) of the International Federation of Anti-leprosy Associations. The Agenda included – ‘The role of NGO’s in formulating strategies for health for all by the year 2000’; Progress report on the Health Resources Group for PHC: PHC team leadership training by WHO; Health education; Pharmaceutical supplies to developing countries and UNICEF development of education kits (Address for copies of the minutes is not clear, but application could be made to CMC, 150 route de Fernay, 1211 Geneva 20, Switzerland.).

ILEP AND PHC: REPORT ON AD HOC WORKING GROUP NO. 6 – BONN, 11TH DECEMBER 1981

Inventory of PHC Projects With a Leprosy Component

In response to an enquiry to all ILEP Member-Associations, details were obtained from a total of 21 projects, providing either PHC, comprehensive health care or community health services of which leprosy control was a component. There were 9 in Africa, 2 in South America, and 10 in Asia. Defining PHC as ‘characterized by community participation, employment of village health workers, and integration with social and economic development’, projects combining PHC and leprosy control were identified as follows:

- (1) In Africa: Tanzania, Sierra Leone, Nigeria, Mali and the Sudan. Only in the Sudan is the PHC project fully integrated with leprosy control.
- (2) In South America: the village of Vila Nova, Sao Luis province, Brazil, comprises 2,200

inhabitants and was formed by ex-patients discharged from a custodial type leprosy colony. There are 5 primary health workers and 400 leprosy patients.

- (3) In Asia: 1 programme in Bangladesh, and 4 in India were identified as combining leprosy control and PHC.

Memorandum on Leprosy Control and PHC

This memorandum points out that the goal of health for all by the year 2000 entails the provision and training of some 6 million new health staff, including 850,000 physicians and 1.15 million village health workers. All these personnel will require some training in leprosy, if leprosy patients are to obtain a reasonable share of the service.

ILEP recognizes that the PHC approach may enhance the effectiveness of leprosy control measures in a variety of ways, such as by contributing to the accessibility and utilization of the leprosy service, and to better patient compliance. At the same time, ILEP can support PHC programmes, for example, by assistance with staff training and motivation, and by appropriate health education methods.

ILEP Member-Associations have a long experience in establishing both community participation and co-operation with governments and others in the leprosy campaign. They wish to extend this field of co-operation to all organizations concerned with all health care delivery programmes, especially, for example, tuberculosis control, and with development in general. At the same time, in communities where leprosy is of limited importance, leprosy control should not be imposed upon a PHC programme, as this may have the effect of increasing the popular stigma against the disease and its sufferers. The memorandum concludes with an excellent summary of definitions and explanations of PHC, formulated by the WHO, including its distinction from Basic Health Services.

THE TRAINING AND SUPPORT OF PHC WORKERS. PROCEEDINGS OF THE INTERNATIONAL HEALTH CONFERENCE, JUNE 1981

This is a 318-page paperback, giving a very full account of this conference, under the following main headings: 1, The selection, training and support of PHC workers; 2, training; 3, what PHC workers are; 4, strengthening of training; 5, increasing their ability to act effectively; 6, management and supervision; 7, increasing technical support; 8, programme support; and 9, review of experiences with different forms of programme support.

Published by the National Council for International Health, 2121 Virginia Avenue, N.W. Suite 303, Washington DC 20037 (This Council also handles a range of other publications on various aspects of PHC; the information co-ordinator is Virgil E McMahan.).

MORE TECHNOLOGIES FOR RURAL HEALTH; PROCEEDINGS OF THE ROYAL SOCIETY OF LONDON

A discussion organized by D A J Tyrrell, FRS, Sir William Henderson, FRS and Katherine Elliot. *Proceedings of the Royal Society of London, Series B*, Volume 209, Biological Sciences, 1980.

This wide-ranging discussion took place on 1st and 2nd November 1979 under the following main headings – Rural water and sanitation; Agriculture and nutrition at village level; Methods, equipment and techniques for rural health care and their evaluation; Drug supplies, management and manufacturing for local needs; Rural health care looks to the future.

The account in print runs to no fewer than 182 pages and should be studied in the original by all concerned with rural health.

Letters to the Editor

BLINDNESS AND PRIMARY HEALTH CARE

Sir,

The concept of Primary Health Care, though obviously not a universal panacea to all the health needs of the developing world, has since its enunciation in the Alma-Ata declaration been broadened to the point where I believe it has a significant relevance to many causes of disablement, and certainly is the basis of any attack on avoidable blindness.

Of the four priority causes of blindness which are now the main thrust of our prevention of blindness programme, 2 – trachoma and xerophthalmia – can certainly be tackled effectively at the level of primary health. The other 2 causes – cataract and onchocerciasis – do require secondary or tertiary care and, in the case of onchocerciasis, environmental control.

As I understand it, and I may well be over-simplifying the problem, the primary difficulty in leprosy control is identification at a sufficiently early stage to arrest the disease. In discussions at the Leeds Castle International Seminar on the Prevention of Disablement, November 1981, the opinion was expressed that control of leprosy was possible at the Primary Health Care level. This could be achieved through the identification of leprosy patients, in well-equipped primary health centres, possibly by the treatment of straightforward cases, and of course by the referral from the primary health level to other levels of the health services of people requiring more sophisticated treatment.

It is this basic ability of a competent primary health system to know its community, identify what it can do and refer what it cannot, which is generally regarded as its most important characteristic. Encouraged by the attention which has been brought to bear on disablement by the recent International Year of Disabled Persons, and by support from the World Health Organization, the important thing now is to get long-term action, and the centre of that strategy must be an effort of *prevention* of the major causes of disablement, including leprosy.

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INTEGRATION OF LEPROSY INTO A BASIC HEALTH CARE SERVICE

Sir,

In the former Belgian Congo (now Zaire), following successful campaigns against trypanosomiasis and yaws, the charismatic personality and vision of Dr (now Sir) Clement Chesterman has full scope under the government policy to respond to appeals from chiefs

and notables to inaugurate a community health service based on dispensaries established in the chief towns of each agglomeration. The area concerned was the medical sector of the Baptist Mission Hospital at Yakusu, covering about 10,000 square miles with a total population of some 105,000 representing 7 tribes, each with its own language and culture. The health authorities invited Dr Chesterman to develop a public health programme covering the whole area, and such were the good relations with the local population as the result of campaigns against trypanosomiasis and yaws that the hierarchical leaders in villages and *chefferies* asked for an extension of the developing health care programme into the districts they controlled. By the early 1940's health centres had been built by the people themselves in 18 strategically-situated villages so that nine-tenths of the population were within easy walking distance of medical help. Ten of these centres were eventually supplied with a binocular microscope and the usual stains for blood, lymph, urine, dermal scrapes, lymphatic node puncture, sputum and cerebro-spinal fluid. Both the lengthy training of the *infirmiers* (5 years) and the standard of knowledge and skill expected of them exceeded the standards now being advocated in the average Primary Health Care programme, and were those of good basic health care. Each health centre was responsible for the supervision of two to four subsidiary treatment centres. For the latter, the local community chose a suitable candidate – usually a senior schoolboy who had shown some interest in health matters – and the local *infirmier* undertook to train him for a 3-months' apprenticeship at his health centre. When the trainee had given evidence of competence and suitability, he was sent back to his village to take charge of an aide-post, which the villagers had already built. He was supplied with a few medicines and some dressings. On market days, the *infirmier* would cycle in to visit him and give treatment for leprosy, etc., and examine and prescribe for patients whose trouble was beyond the competence of the local aide. The area of activity of the latter was that of a well-organized Primary Health Care worker. Doctors from 3 agricultural companies in the area subsequently developed the statutory medical services required for contracted workmen and their families, and also assumed responsibility for the medical care of the people living in adjacent villages.

In 1935, Yakusu became 1 of 2 non-government schools for Medical Auxiliaries to receive official approval for a 5-year course for the diploma of *Infirmier*.² The first 3 years were spent at the Central Hospital, in class and ward-work, with periods of practical work in the district interspersed with clinical work at the hospital. Amongst transmissible diseases in the area were trypanosomiasis, yaws, tuberculosis, onchocerciasis and leprosy – the latter far commoner than early investigations had suggested. With the help of *infirmiers diplômés* and in training, leprosy survey teams discovered all clinically diagnosable cases of leprosy, and took eight slit-smears from each patient. These were fixed on the spot, and subsequently stained and read at the central hospital. In this way a complete record of all cases of leprosy was made, and kept up-to-date by annual whole-population surveys. Biopsies were taken of typical and of doubtful cases, to be examined by Dr R G Cochrane at the Leprosy Study Centre in London.

During this period, because of its medical and social importance in the community, leprosy assumed a greater prominence in clinical teaching, in the examination of skin and peripheral nerves and in microscopy. At first, treatment consisted of chaulmoogra oil by intradermal and intramuscular injection; then sodium gynocardate and proprietary preparations of derivatives of chaulmoogra oil were used. A plantation, 2½ acres in extent, of *Hydrocarpus wightiana* was developed.

The sulphones were used initially at the central leprosarium, whose patients increased from 118 to 1,025 as news of the success of the new treatment spread. When adequate supplies of drugs became available, 5,349 leprosy patients were undergoing treatment at the all-purpose dispensaries, and 2,749 registered patients with indeterminate or minor tuberculoïd leprosy were kept under observation and did not receive treatment; their lesions were resolving spontaneously.

A decline in the numbers of new cases of leprosy infection began to be observed within a few years of the installation of treatment for everybody suffering from leprosy, and coincident with the reduction in infectivity of patients with multibacillary disease and heavily infected nasal mucosa in this area of prevalence. After 8 years of leprosy treatment completely integrated into a Primary Health Care service covering the whole district, leprosy could be considered as being controlled. In the light of modern knowledge, it may be thought that dapsone monotherapy gave a false optimism to the programme, but in a country where over 82% of the diagnosed cases of leprosy give evidence of some degree of cell-mediated immunity, such optimism is not entirely misplaced. In 1958, 2,092 patients had been discharged from treatment, 'disease arrested', and the whole attitude of the people towards leprosy and its victims had been transformed.

The main purpose of this letter is to draw attention to an example of 'Primary Health Care', in which leprosy was completely integrated long before the current wave of enthusiasm. The secret of its success was the extremely careful selection, training and supervision of auxiliary staff. Wherever leprosy is concerned, I consider that there is a need for a high level of competence in diagnosis, treatment, the recognition of reactionary states, the management of nerve damage and eye complications – and that it is a short-sighted policy to rely on less well-trained workers than those described, albeit briefly, in this communication.

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References

- Browne SG. The indigenous medical evangelist in Congo. *Internat Rev Missions*, January, 1946; 59–67.
- ² Browne SG. The role of the medical auxiliary in field surveys in tropical Africa. *Trans R Soc Trop Med Hyg*, 1964; 58: 370–6.

LEPROSY AND PRIMARY HEALTH CARE: EXPERIENCES FROM MALAWI

Sir,

Attempts to integrate the anti-leprosy work into the general health work have been mooted and tried for many years under different guises. All have been unsuccessful and it is only recently that WHO have urged governments, where leprosy is a problem, to seriously consider, once again, the integration of leprosy treatment into the general health services and set the year 2000 as a target date for the total, successful, integration. As a starting point, in Malaŵi, as elsewhere, Ministries of Health were urged to complete, by 1980, a plan to achieve this goal.

With the present treatment regimens which call for the regular attendance of the patient at dispensaries, or where mobile treatment is available, for long periods of time special consideration must be given to the problem of the integration of leprosy work within the general framework of the general health service. To do this it would be useful to recapitulate the experience of the original LEPRO project when, at the end of its 10-year life, it handed back to the care of the Ministry of Health, Malaŵi, the residue of patients still receiving treatment in that area.

Two years prior to the handing over date, 1st January, 1976, a series of meetings with the Ministry of Health was begun to discuss the anticipated problems and to prepare the way

for the health units in the project area to assume responsibility for the treatment of the patients. During the run up period visits were made by the project staff to each unit to discuss with the officer in charge the take over and to explain what would be involved. Basically the District Medical Officer would resume responsibility for the patients in his area, as he had been prior to the project assuming this task. Under him the health unit would be responsible for the treatment of the patient and the provision of the necessary anti-leprosy drugs. The keeping of adequate records and the submission of returns was explained. To enable the handover to be made smoothly LEPROA undertook to maintain two supervisors, seconded Medical Assistants with considerable experience of leprosy work, who would visit the health unit when the unit was treating the patients. To this end, and in consultation with those concerned, a programme was drawn up whereby each unit would set aside at least $1\frac{1}{2}$ each lunar month for the exclusive treatment of the leprosy cases. This was in order that the treatment did not clash with other specialized programmes held at the unit (ante-natal, under 5s, TB etc.). A trial area was chosen and the hand over made 4 months before the main hand over date. This enabled any snags to be ironed out before 1 January 1976.

Despite the arrangements which had been made, however, it became increasingly obvious that, without the continual visits by the supervisors, there would have been a drift back to the situation which existed prior to the introduction of the specialized service; haphazard treatment to those patients who presented themselves, an inadequate supply of drugs and the absence of any case finding or holding by the health branch of the unit. One example suffices: the District Medical Office had to pay for the drugs used in the district and this included anti-leprosy drugs. He, therefore, had to balance his requisitions with the funds available to him and the anti-leprosy drugs, previously supplied free of charge by the specialized service, became an unwelcome extra to his already strained budget. Consequently anti-leprosy drugs, to say nothing of dressings for ulcers, suddenly were in short supply alleviated only by the limited stocks carried by the supervisors from the store of the specialist unit.

Record keeping, too, became an added chore to the officer in charge of the dispensary so that up-to-date, accurate, figures were not readily available. Attempts to persuade the health branch of the unit to trace absentees and, at the same time to undertake case finding in the villages, usually met with the explanation that this was not possible as there were no funds available to undertake the travelling involved.

Inevitably these experiences led the specialized unit to view the development of the project with some concern and wonder what could be done to overcome the problems which have been described. Those Medical Assistants who had received intensive training in the recognition and treatment of leprosy returned to their dispensaries with great enthusiasm. Inevitably those who were hard working in all their pursuits were swamped with patients of all complaints and, by virtue of their diligence, were unable to give sufficient time to the many special tasks they had to perform. Those whose approach was one of indifference soon made their feelings apparent to the people they were sent to serve and the empty clinics were stark testimony of this.

The lessons of the past must provide guidelines for the future integration; the most important of these is the acceptance of the Ministries of Health that leprosy is not something special requiring specialist services, that it is an illness, as are others, and that it should be treated in exactly the same manner as any other. For too long health authorities have assumed that leprosy is the responsibility of a body whose sole role is the treatment of the leprosy patient. Once this fact has been genuinely accepted then the implementation can be put into practice. Following acceptance by the authorities the next important step is to persuade individuals of its necessity. Instruction in the treatment and recognition of leprosy must be increased; in a 3 year training course in Malawi for Medical Assistants only 2 or 3

lecture sessions were devoted to leprosy. Suggestions were made that the pupils be sent to one of the leprosy hospitals for an at least 2 weeks intensive period of instruction were received with little favour. But, providing the will is present and instructions are passed on from the Ministries, then training can be expanded. Thus, as each cadre is posted to their stations, well trained personnel become available for the treatment of the leprosy patient within the overall medical service.

With the best will in the world, however, the satisfactory treatment of leprosy will not be achieved unless those in charge of the primary health unit are made aware of their responsibilities and are motivated to continue the regular treatment of the patients with consideration and understanding. Without this motivation successful integration will never be attained.

Whilst the necessity of treating leprosy within the context of the general health service is accepted the large numbers that have to be treated require that special sessions should be held so that the person responsible for the treatment can devote his whole attention to their needs which must include the admission of new cases, review examinations, laboratory examinations and a 'general complaints' clinic. If this is done then ample time can be provided for accurate record keeping.

Unfortunately for some time to come it must be necessary to retain certain specialized personnel with adequate training in all facets of leprosy control to advise those running the rural health units. The discharge from treatment must be made by experienced staff; the consequences of premature discharge from treatment are only too familiar and, until sufficient experience is gained, the treatment of the complications of leprosy must be in the hands of skilled personnel. To this end the retention of chosen, skilled, men from the specialized service should be made. These could be posted to strategic health units within an area so that they could be available to visit the primary health units when the treatment session is held. In addition, on these visits, they could advise on dermatological complaints referred by the health unit.

This would need transport and the next stumbling block would have to be overcome. The ever present problem of funds for transport must be answered. But with careful planning this can be reduced to a minimum. No impressive vehicle is required for motor cycles are satisfactory.

The final requisite for integration is the supply of the necessary drugs to the health unit. On too many occasions the success of a scheme has foundered on this point with, as has become apparent, the tragic consequences of drug resistance. The necessity of continued international provision of drugs and dressings may have to be negotiated for all too often the budgets of the countries most concerned with the problem of leprosy control are not sufficient. In this context WHO must use its influence on the richer nations to provide the essential requirements. Not a particularly difficult task if adequate planning goes into the requisitions.

With the implementation of this programme must come a greater awareness of the problem of health education and this must go hand in hand with the health authorities and social welfare departments. The prejudices of the people to leprosy must be overcome – a very real problem in Africa. The public must be made aware of the facts of leprosy not the fallacies. All too often schemes put forward for some form of integration of treatment or improvements in the efficient running of existing schemes have come to naught against the hostility of the general public. Every opportunity should be taken to get the message across that leprosy is just another sickness without sinister origin.

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SOME THOUGHTS FROM GHANA; HOW MUCH CAN THE PRIMARY HEALTH CARE WORKER TAKE ON?

Sir,

I was involved in Ghana at a time when the Government was first drawing up its plans for a primary health care programme. We worked to try to set down (1) the tasks that need to be done at the local community level, what these imply at the first referral level (in Ghana this is the rural health centre or health post), and in turn what these health centre tasks require in action by the secondary referral level, the district hospital (which is the place at which a doctor is found in Ghana). I regret that in Ghana we did not include leprosy control in our specifications and this was an oversight. However I now find the work has been done. Horst Buchmann's booklet (2) on Primary Health Care and leprosy is excellent. He is one of very few people who have analysed a topic in primary health care in detail and made specific recommendations.

My experience of planning Primary Health Care in Ghana has raised a most important issue. When one starts specifying everything Primary Health Care workers *need* to do, whether in maternal care, child care, (both preventive, nutritional monitoring and curative care of illnesses), adult curative care, environmental improvement and sanitation, let alone community development activities, leprosy and TB care too, it is apparent that the Primary Health Care worker may be able to do nothing at all. There is a story told from India of a multi-purpose primary health worker who on the day that he was visited by the health inspector to see how he was getting on with his environmental health work said that he had been so busy with curative care that he hadn't had time to do environmental work. On another day when he was visited by his supervisor for his curative work he said that he was very sorry he hadn't had time to do the records, monitor the drugs, etc., because he had been busy on environmental health work!

Horst Buchmann has done an immense service by specifying in detail the tasks that need to be done in leprosy control. In Ghana, we made considerable progress in specifying tasks to cope with many of the health problems which often occur with leprosy (see list above). We also made progress in dividing the tasks amongst the health resources of the local community (Level 'A'), the health station (Level 'B') and the district hospital (Level 'C'). Task specification is a huge step forward, but the challenge remains – how is one Primary Health Care worker going to do everything that health planners and ministries now specify need to be done?

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References

- ¹ Amonoo-Lartson R. (Chairman) *Proceedings of the Primary Health Care Manpower Sub-Committee*; report prepared by HJ Lovel. Ministry of Health, P.O. Box M-44, Accra, Ghana, 1979 (Introduction and Summary 117 pages; Appendices, Family Health 187 pages, Community Health 95 pages)
- ² Buchmann, H. *Leprosy control services as an integral part of primary health care programmes in developing countries*. German Leprosy Relief Association, Würzburg, Germany F.D.R. 1978.

LEPROSY AND PRIMARY HEALTH CARE IN BANGLADESH

Sir,

LEPRA sponsored me on my elective to Bangladesh, July–September 1981 to investigate the advantages and disadvantages of incorporating leprosy control into Primary Health Care. There is a popular call for integrated ‘horizontal’ health care delivered in a decentralized manner instead of ‘vertical’ health projects such as family planning or leprosy control. If, however, stigma, ignorance, and lack of resources still hinder leprosy control, it may be asked if integrating the care of leprosy patients into the general health services will put this subject at the bottom of the list?

Bangladesh is the second poorest country in the world, consequently with one of the highest aid inputs. It has a population of 85 million at a density of 1,414 people per square mile with a growth rate of 2.8% (which means the population will double in the next 25 years). 95% of the population is rural, and 40% of these are landless. The illiteracy rate is 80%.

Some health indices: infant mortality rate 140/1,000
 maternal mortality rate 25/1,000
 prevalence of anaemia 92%
 prevalence of diarrhoeal disease 80%
 prevalence of malaria 13/1,000
 prevalence of TB 5/1,000
 prevalence of leprosy 2.6/1,000

From these figures and from the pressurizing of some 120 voluntary health agencies it was considered Primary Health Care was essential. The national plan, therefore is now to have village level health care and advice about preventive medicine provided by voluntary village health workers supervised by paramedical workers.

Certain factors will influence the outcome of primary health care:

- (1) It must be realized socioeconomic conditions have a much more profound influence on the health of a population than the health service.
- (2) In the hierarchical society that exists throughout the Indian subcontinent (regardless of religion) the village is not a homogeneous, harmonious community. Disease is related to poverty and injustice. An ‘effective’ health service cannot be neutral. The health worker will be co-opted by vested interests or blocked (and sometimes violently).
- (3) Because there is an existing, self-perpetuating medical profession disseminating the health budget to lower levels away from the cities requires a strong, motivated government.
- (4) Health care is also disseminated by non-qualified allopathic ‘doctors’, drug store owners, homeopathic doctors and various other indigenous practitioners and spiritual healers. The government health centre is often the last port of call for the sick.

Leprosy registered patients number 40,000 out of a potential 200,000; that is only 20% have been located at some time and started on treatment. There is a wide geographical difference in prevalence ‘leprosy occurs in pockets’ unlike TB which has a much more general incidence in Bangladesh. Rangpur district in the north has an estimated prevalence rate of 10–15/1,000, whereas in the areas in which no leprosy services have been provided as yet the estimate is < 1/1,000.

The government leprosy services have 4 mobile clinics and 3 inpatient facilities; 2 of the latter I found to be virtually redundant as the patients in need went to the nearby voluntary hospitals. Currently the leprosy and TB paramedical workers are learning each others fields so that a greater number of them can disseminate information to general Paramedical Workers

(PMW), who can then facilitate more case finding.

The 7 voluntary leprosy agencies (of different denominations and sponsorship) together with the government services send their statistical returns to Dr I M Dadul Islam, Asst. Director Mycobacterial Disease Control. The following are some of my impressions as I visited 'Primary Health Care' and 'leprosy control' projects around the country:

(1) Most projects are covering enormous areas with difficult communications so that presentation of a patient to a clinic depends on him/her having heard about the clinic by word of mouth, and being sufficiently motivated to travel far (1 new patient I saw had come 240 miles taking 3 days on the roof of a train). The patient's regularity at the clinic therefore depends on his/her perception of the need to receive treatment, and the ease of getting there.

One project was attempting domiciliary care. There is 1 leprosy PMW per 100 general PMW's per 200,000 population. The general PMW finds the leprosy patient, the leprosy PMW then classifies the disease and organizes treatment. The general PMW delivers the medicine regularly and reports back with any problems.

- (2) Close to the hospitals or clinics where control schemes were being carried out, even in the most conscientiously surveyed area 20% of the population remained unexamined which is sufficient to hide people with the disease if the stigma is high.
- (3) Purdah of women and their seclusion, restricts them from travelling to clinics, and being examined by anyone other than another woman. Examination in the sunlight is very difficult. This restriction on women also limits the number of women who work, and what they do and where they can go.
- (4) The humidity and the sanitary arrangements make ulcer care and plaster of paris immobilization difficult if not impossible in the monsoon.
- (5) Where space is at such a premium, isolation of an infectious patient away from the 1 room where everyone lives and sleeps, is difficult.
- (6) Treatment of the same classification of the disease in different centres varies widely (dose of dapsons by a factor of 4 in an equivalent case). There is no nationwide drug policy, nor equal accessibility of drugs.

At the end of my stay I went through the statistical returns, analysing the percentage of patients registered as lepromatous, tuberculoid, borderline, indeterminate, unclassified and 'irregular', but regretfully came to the conclusion that there are so many variations in terminology and records that there is an urgent need for rationalisation of the whole system before helpful conclusions can be drawn.

Advantages of incorporating leprosy control into Primary Health Care

The rationale for the government leprosy services to expand into Primary Health Care is to find all cases (remember only a possible 20% are registered, if the original leprosy prevalence rate calculation was correct). If all local general health workers were case finding leprosy they could also do absentee check-ups, and perhaps eventually, delivery of drugs under supervision.

Primary Health Care and stigma? If general health workers can be educated so as to reduce their own fear of leprosy, then they can convince their clients. This in turn could be vastly more convincing if leprosy treatment could be shown to be more effective; at the present time, the regimen of drug treatment used in Bangladesh is of long duration, according to conventional advice in recent years, but if the recent WHO recommendations on combined therapy for leprosy are accepted and applied, this could make an enormous difference, particularly as all paucibacillary cases would require only 6 months treatment.

Disadvantages

At best above I have discussed the ideal situation. Primary Health Care does not exist in Bangladesh nationally, nor is leprosy a priority health problem. If leprosy aid organizations supply funds for government Primary Health Care there is a possibility that it may be put into water supplies, sanitation, latrines, nutrition education, and population control. At the moment, the direct care of leprosy patients is best accomplished by the voluntary leprosy centres. Their effectiveness and the future success of leprosy control generally in this country may depend crucially on whether or not short-course combined chemotherapy can be safely applied.

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LEPROSY AND PRIMARY HEALTH CARE WORKERS IN PAPUA NEW GUINEA

Sir,

The 3 major components of the leprosy control programme in Papua New Guinea are: rural para-medical workers, an integrated leprosy service subject to central control, and a standard management for the disease. The difficult terrain of Papua New Guinea, combined with a multilingual and geographically isolated population offers a peculiar challenge to health administrators. The village Aid Post Orderly (APO) has limited primary education, and his medical training is directed at the recognition of symptoms and their treatment, and the supervision of village health and hygiene. Above the APO, but still a primary health worker is the Health Extension Officer (HEO). HEOs have 10 years of schooling followed by 3 years of paramedical training. HEOs work in and from rural health centres but an essential component of their work is the supervision of the work of APOs in their district. The APO works usually in the village of his birth, while HEOs cover a larger population of 5 to 10 thousand people, and 5 to 10 or more APOs. The average HEO seems more at ease dealing with individual clinical problems in the health centre, and least happy in dealing with broader community related problems, including the supervision of APOs. The HEO is often not indigenous to the area he is working in, and may find himself at a cultural disadvantage in dealing with his subordinates.

The origins of leprosy in Papua New Guinea are uncertain. Early attempts at control through establishment of leprosaria and the enactment of restrictive laws proved ineffective. After the Second World War a separate leprosy service was born which was successfully integrated into the general health services in 1974. However the professional and technical aspects of the leprosy programme are still subject to central direction and control.

The third component of the programme has been the concept of the standard management of common diseases. Standard management rationalizes drug treatments, and thereby the pharmaceutical services. The standard management of tuberculosis and leprosy has been described by Kennedy.¹ In principle medical officers are expected to use standard managements, for the sake of unity and as an example to paramedical and other workers. In practice medical officers have usually received insufficient indoctrination into the importance of standard managements: or they complain of restrictions of their clinical freedoms: or they may feel that standard managements are not the optimal form of treatment for individual patients. In consequence the management of leprosy by medical officers, but not by primary health workers, is often bewilderingly varied.

APOs cannot initiate treatment for leprosy, but HEOs may if: there is a characteristic, anaesthetic, skin lesion: AFB are found in skin smears: there are thickened nerves. In practice HEOs are urged to obtain a second opinion from a superior before starting treat-

ment. Treatment is in two stages: in the first phase the patient is given daily supervised treatment, either as an out- or in-patient in hospital or rural health centre, depending on social, geographical and physical factors. During this phase the patient receives treatment, and health education and contact tracing are instituted. In the second phase treatment is contained with either daily self-administered dapsone, or twice weekly supervised dapsone. These treatments are given by or through village aid posts or rural health centres. APOs are instructed in giving treatments according to the standard programmes, recognizing if things are going wrong with the patient's progress, and keeping records of attendance. If treatment is being given through an aid post it is the duty of the supervising HEO to check that treatment is in fact being given correctly. Equally it is the function of medical officers in district hospitals to supervise the work of the HEOs. This also is an area where deficiencies occur. The majority of medical officers are clinically orientated, more at home in a hospital. Equally, the majority of medical officers in Papua New Guinea are still expatriates, most of whom have had little training or experience in the administration of public health programmes, or of the management of leprosy. The indigenous medical officers, trained at the Medical Faculty of the University of Papua New Guinea have received extensive training in community medicine, the importance of aid posts and rural health centres, and spend part of their residency programme working in isolated health centres. Despite this, these medical officers are not interested in Primary Health Care. The reasons for this are not always apparent. However, the University always has difficulty in filling the places available in the medical faculty. For those who do choose medicine, the rewards are to be found in well appointed urban hospitals. This attitude has been reinforced by some expatriate medical teachers who have emphasized the importance of hospital based treatment, and denigrated the role of rural health workers.

In terms of the management of leprosy, the present system has many advantages: it is inexpensive, making use of facilities which already exist: it serves the rural population where leprosy is found: it is spread across the whole country. The important constraints are: because of the success of the earlier vertical programme there is still widespread lack of enthusiasm for the integrated programme among all levels of health workers, many health workers have had little experience in the management of leprosy, and a new patient can generate considerable anxiety, and traditional attitudes to health are still widespread. Health is seen as being in the right relationship with the community and the environment, physical and spiritual; ill health is necessarily the result of a wrongful relationship and this can only be righted by traditional medicine, payment of compensation, magic or sorcery, pig-sacrifice or a combination of these. It is evidently impossible for a health worker who still clings to some of the old values to put his trust entirely on a handful of pills. A useful synthesis of traditional and western, though often accepted in principle, has not yet occurred.

The evidence in Papua New Guinea is that where there is enthusiasm the programme works well. The on-going education of all levels of health workers seems to be the basis for a successful programme, and will have to underpin the programme in the future. If sufficient enthusiasm and knowledge can be generated then most leprosy patients can look forward to a rosier future.

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Reference

- ¹ Kennedy M. *Standard Management of Tuberculosis and Leprosy in Papua New Guinea*. Port Moresby: Public Health Department, 1979.

Reviews of Books, Booklets, and other Documents on Primary Health Care

Space precludes a full review or listing of all the published material we have received and which may be relevant to this subject, but we record here, if only briefly, a selection of those received during the past few years, which we hope will be of value.

An Introduction to the Primary Health Care Approach in Developing Countries. A review with selected annotated references. Ross Institute Publication No 13, July, 1981 by Gill Walt and Patrick Vaughan

This is a booklet of 61 pages, with index, covering material on PHC under the following headings: health and development; health service planning and organization; manpower planning and training; pharmaceutical policy; community participation; traditional medicine; intersectoral effects; delivering Primary Health Care (PHC), the components. The entries are mainly from publications since 1975 and are selected ‘... with a view to illustrating the many facets of health and development that the PHC approach encompasses.’ This is essential reading for anyone concerned with PHC. It is available from the Evaluation and Planning Centre, Ross Institute, Keppel (Gower) Street, London WC1E 7HT. Price £2.00 plus postage.

MEDEX Primary Health Care Series; an overview; The John Burns School of Medicine, The University of Hawaii, Honolulu, USA

This is a paperback booklet of 32 pages describing ‘... the MEDEX approaches and materials for PHC development contained in 43 companion modules and manuals.’ Ministry of Health officials in Micronesia,

Thailand, Guyana, Pakistan and Lesotho have adapted and used various versions of the approaches and materials in their PHC programmes. A much larger loose-leaf document of 261 pages is also available from this centre entitled ‘*Manpower and Systems Development for PHC*’, which is a synopsis of approaches, prototype materials, adaptation methods and samples of country adaptations. It is dated June 1981 and gives an extremely detailed account of the approaches used.

Publications from WHO

These are obviously too numerous to record in detail but the following selection may be helpful

1. *Primary Health Care*; a joint report by the Director General of the WHO and the Executive Director of the United Nations Children’s Fund. International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September, 1978.
2. *On Being in Charge*; a guide for middle-level management in PHC, 1980.
3. *The Primary Health Worker*. Revised Edition. Working guide; guidelines for training; guidelines for adaptation, 1980.
4. *Reference Material for Health Auxiliaries and their Teachers*, 1976.
5. *Appropriate Technology for Health Directory*, 1978.
6. *National Decision-making for PHC*; a study by the UNICEF/WHO Joint Committee on Health Policy, 1981.
7. *Educational Handbook for Health Personnel*, 1981.

8. *Teaching for Better Learning*; a guide for teachers of PHC staff, 1980.
9. *Leprosy Control and PHC*. WHO document; 5 pages A4 size; LEP/WP/76.8.
10. *The Village Health Worker; Lackey or Liberator?* by David Werner, in Round Table, World Health Forum, *Volume 2*, Number 1, 1981, page 46.

CONTACT; Christian Medical Commission; World Council of Churches. Number 57, August 1980

This number is devoted to 'The Village Health Care Programmes; community-supportive or community-oppressive?' and is an examination of rural health programmes in Latin America by David Werner. Both this, and the CONTACT *Special Series* Number 1 of April 1979 on the *Principles and Practice of PHC* are vital reading for anyone interested in this subject.

Central African Journal of Medicine; 'PHC in the Medical School', by Tony Waterston of the Department of Paediatrics and Child Health in the University of Zimbabwe

Printed in *Volume 28*, Number 1 of January 1982, this article is an important contribution to the subject, which highlights the imperative need to educate medical students in the PHC approach in order to produce doctors who are orientated to the health needs of the community.

Tuberculosis Control through PHC, by K S Sanjivi

This paper was presented at the Silver Jubilee Symposium of the Tuberculosis Research Centre, Madras, India, December 1981 and emphasizes the value in tuberculosis of the PHC worker - '... the person who, for the first time in the history of health care delivery organization, is constantly available within a community of 200 families/1,000 population...'. Data are included to support improvement in case-finding and case-holding since PHC workers were introduced (Available from the author at the above address).

Médecine Tropicale; 'The doctor and PHC'

In *Volume 41*, Number 4, July-August 1981, Dr G Fournier reviews the needs of PHC in developing countries, giving emphasis to the urgent need for doctors to change their attitude and to take on actively and positively, a role in community and public health.

Leprosy Control Services as an Integral Part of PHC Programs in Developing Countries by Horst Buchmann, 1978

This unique paperback of 78 pages has already been reviewed in a previous issue of this journal, but remains the one outstandingly good text on Leprosy and Primary Health. It is unrivalled in its breadth of concept and invaluable as a source of almost all the really important references to this combined subject. (Printed by the German Leprosy Relief Association (Postfach 348, D 8700 Würzburg, West Germany).)

Pakistan; A Guide to Health; National Basic Health Services Cell

This is a 382-pp paperback training manual for community health workers, printed in 1980 and well presented under the following main headings; working with villagers for a community health programme, management of diarrhoea, nutrition; healthy living practices; first aid; immunization; common clinical problems; clean and safe normal delivery; family planning (Although obviously giving emphasis to a range of subjects other than transmissible diseases, the general approach and format of presentation are admirable and worth study.) (Published by the Ministry of Health, The Government of Pakistan.)

AHRTAG: PHC in Developing Countries; a Directory of Resources in the United Kingdom, 1982

This is a document of 25 pages on A4 size paper from AHRTAG, 85 Marylebone High Street, London W1M 3DE, listing agencies which are able to provide information and material on various aspects of PHC in developing countries. They are as follows: African Medical and Research Foundation

(AMREF); Appropriate Health Resources and Technologies Action Group (AHR TAG); BLAT Centre for Health and Medical Education (British Life Assurance Trust); The British Leprosy Relief Association (LEPRA); British Red Cross Society; Catholic Institute for International Relations (CIIR); Centre for Development Studies, University College, Swansea; Commonwealth Nurses Federation; Department of Child Life and Health, Edinburgh University; Health Education Materials Information Service (HEMIS); Hospital for Tropical Diseases; International Contraception, Abortion and Sterilization Campaign (ICASC); International Disaster Institute (IDI); International Planned Parenthood Federation (IPPF); The Leprosy Mission; Liverpool

School of Tropical Medicine; London School of Hygiene and Tropical Medicine – Department of Human Nutrition, Evaluation and Planning Centre for Health Care, Ross Institute of Tropical Hygiene; Moorfields Eye Hospital, Department of Preventive Ophthalmology; OXFAM; Returned Volunteer Action (RVA); The Save the Children Fund; Tear Fund; Tropical Child Health Unit, Institute of Child Health; UK Committee for UNICEF; United Nations Information Centre; University of London Institute of Education Library; War on Want; The Wellcome Institute for the History of Medicine Library; Westminster Medical Library; World Community Development Service.

Funding for Primary Health Care Research now Available, *Africa Health*, April/May 1982

PRELIMINARY research proposals are now being solicited by the Primary Health Care Operations Research project (PRICOR). The intention is to help developing countries find better ways to deliver primary health care services.

For five years (1982–87) PRICOR will fund 30 or more operations research projects, sponsor four workshops and two international conferences; commission a small number of background and methodological studies; and develop a repository of data on PHC operations research.

Approximately £450,000 is available for such work in 1982. No limit has been set for any given study, but applications will be classified as “small” (£5,000–£30,000), medium and large (over £65,000). Research projects should be completed if possible in no more than two years, and preference will be given to small and medium sized studies and projects of shorter duration.

Research proposals may be submitted by one or more individuals, organisations, institutions or consortia which have a relationship with a primary health care delivery system in a developing country. Preference will be given to research projects which will be developed and conducted by host-country researchers and which actively involve local decision makers in all stages of the research. Collaborative studies involving experts from outside the host country are also encouraged.

In the first instance, applications should be made by submitting a preliminary proposal of not more than 20 pages. These should be received by PRICOR by August 31st. Address: 5530 Wisconsin Avenue, Chevy Chase, MD 20815, USA.

TUBERCLE

The International Journal of Tuberculosis

Edited by K P Goldman (UK)

Tubercle is sponsored by the International Union against Tuberculosis. The purpose of the Journal is to publish original papers and review articles on all aspects of Tuberculosis and other mycobacterial diseases.

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1. Browne, S. G.: Lepr. Rev. 37, 141 (1966)

2. Azulay et al.: Lepr. Rev. 46 (Suppl.) 99 (1975)

3. Schulz, E. J.: Lepr. Rev. 42, 178 (1972)

4. Yawalkar, S. J., & Vischer, W. A.: Lepr. Rev. 50, 135 (1979)

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