Special Health Problems of Island Developing and other Specially Disadvantaged Countries

Report of an expert group

Commonwealth Secretariat

Special Health Problems of Island Developing and other Specially Disadvantaged Countries

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INTRODUCTION

The number of Commonwealth developing countries which are islands or which suffer particular disadvantages as a result of their small size, their remoteness from major centres and their limited resources is large. Because of their relative proverty and shortages of trained personnel, they are especially at risk in the face of disease epidemics and natural disasters.

These small countries need the services of a variety of categories of trained staff, which they cannot easily obtain. Their resources for staff training are generally very limited. They are rarely in a position to maintain expensive clinical facilities. The cost of their imports of medicinal drugs takes up a substantial portion of their small health budgets. Some of them are composed of scattered groups of islands with small communities, and are thus faced with difficult problems of transport and communication.

The health needs of such countries have long been the concern of Commonwealth Health Ministers' meetings, of Commonwealth regional groupings and organisations, and of the Commonwealth Secretariat. Significant achievements have already been made through regional cooperation; and for many of the smaller countries a regional approach is seen as essential if a reasonable level of health care is to be reached and maintained. Nevertheless, activities to assist small and disadvantaged countries have often lacked a special focus, and further strengthening of regional, and also inter-regional, cooperation geared particularly to the needs of those countries with the least resources seems to be required.

The need to concentrate attention on the special needs of the smaller states has been underlined at recent Commonwealth meetings at the highest level. Senior Commonwealth officials, meeting in Kuala Lumpur in 1978, saw the need to recognise the unique difficulties encountered by these states and, where appropriate, to develop special supplementary programmes of action designed to help overcome them. The Lusaka Meeting of Heads of Government in 1979 agreed that special measures of support were required to offset the disadvantages of small size, isolation and scarce resources, which severely limit the capacity of such countries to achieve their development objectives. The meeting requested the Commonwealth Secretary-General to pursue a programme of action which will enable the Commonwealth to respond both multilaterally and bilaterally to the special needs of smaller and specially disadvantaged member countries.

These considerations are explained by the Assistant Secretary-General, Professor K.S. Murshid, when welcoming to Marlborough House, on behalf of the Secretary-General, the meeting of experts convened to focus special attention on the special health problems of island developing and other specially disadvantaged countries, held from 21 to 25 January 1980. He emphasised the need to analyse these special problems, pointing out that they are not merely a scaled-down version of the problems of larger countries but are often different problems qualitatively.

The members of the expert group were invited to examine these problems and to make recommendations as to how they should most effectively be tackled, by individual governments, by regional groups of countries and by the Commonwealth Secretariat and other agencies, within available resources.

They were asked to undertake this task in their individual capacities, rather than as representatives of their particular countries or institutions. The Secretariat is grateful to the members of the group for putting their special knowledge and experience at the disposal of the Commonwealth.

The meeting was organised by the Secretariat and financed through the Commonwealth Fund for Technical Cooperation, with the assistance of a contribution from the Ciba Foundation* to cover the costs of the non-Commonwealth participants.

This report of the meeting includes a list of the conclusions reached, a summary of the discussions, an introductory paper prepared by the Secretariat, papers prepared by participants who led the discussion on particular topics, and other papers contributed by participants.

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*The Ciba Foundation was established 30 years ago in London to promote international cooperation in medical and chemical research. The Foundation is fully independent and its activities are determined by its staff and expert advisers. It organises small inter-disciplinary international scientific meetings, publishes scientific books and research reviews, offers library and information services and has some accommodation in London for visiting scientists and doctors. The Foundation is not normally a grant-giving agency, but has a particular interest in meetings in the health field, such as the one covered by this report, the aim of which is to produce guidelines for practical action.

LIST OF CONCLUSIONS

Health manpower planning

National

(a) For most island developing and other specially disadvantaged countries, there is a need to determine the use of manpower in primary health care programmes in close relation to the locally-defined tasks required for the provision of basic health services for their entire populations.

(b) Where appropriate, a tiered primary health care system should be developed which will use most effectively the professional skills of doctors, maximise the potential of village-level services through community health workers, and deploy mid-level health workers to provide supervisory, curative, referral, preventive and promotional services. Cooperation with other development workers is most important in this connection.

(c) The planning capability of the ministry of health should, where necessary, be strengthened to achieve the most effective use of scarce personnel and material resources, to facilitate the integration of health services with other developmental services, and to allow the health ministry to compete more effectively with other ministries for scarce resources.

(d) For the smaller countries in general, the further development of local programmes for training sub-professional personnel is needed. Competency-based, task-oriented programmes should be developed for the training of new cadres of health workers to produce efficient and cost-effective health care services.

(e) The status relationships of primary health care workers should receive early attention in health planning.

(f) In order that new initiatives in health manpower development should not encounter unnecessary legal obstacles, health legislation should be reviewed.

(g) Generic drug systems and treatment guides should be developed for use by primary health care personnel.

Regional

(h) Where appropriate, small countries with limited resources should cooperate with neighbouring countries on a regional basis in health manpower development, particularly in training programmes, and in the development of generic drug systems and treatment guides.

Commonwealth Secretariat

(i) Where outside support is required, the Commonwealth Secretariat and other agencies should,on request, provide all possible assistance for efforts by governments and regional groups to develop appropriate systems of health manpower - through providing consultants and training fellowships.

Travel and communication

National

(a) Since travel and communication constitute such an important determining factor in health services management, particularly in small countries, they should be given greater prominence in health planning.

(b) Everything possible should be done to make small isolated communities more self-sufficient by up-grading the skills of local health workers and improving their communication links to facilitate consultation with secondary care level.

(c) An analysis of travel and communication needs and resources should be made as a basis for deciding on appropriate arrangements for this vital element in the delivery of health services.

(d) This analysis should include transport and communication facilities operated by non-health departments, so that the possibility of these being used, where practicable, to assist the improved provision of health services may be taken into consideration.

(e) Higher priority for health is needed in relation to travel and communication resources. Discussion of the problem by national health councils should include participation by representatives of non-health departments possessing relevant resources, and cooperation to permit greater utilisation of resources for health purposes should be sought.

(f) The introduction of radio communication should be increased. A simple two-way voice communication system is needed, which users can be trained to maintain and repair, and which should be designed so as to permit modular replacement. The possibility of using radio and television communication by satellite should also be investigated.

(g) Standardisation of vehicles and the training of health personnel to do simple repairs on the vehicles they use are needed.

(h) The development of traditional means of transport should be promoted, where appropriate, as a low-cost alternative to motorised vehicles.

Regional

(i) Regional groups of countries should examine how far the travel and communication needs of their small island or other disadvantaged members for health purposes can be met through regional collaboration, and how regional communications in this connection can be improved. Ways in which external assistance could help to overcome difficulties should be specified.

(j) The special problems of the South Pacific islands in this respect call for particular attention, and the need for regional action to meet their special requirements is urgent.

Commonwealth Secretariat

(k) The Commonwealth Secretariat, donor governments and donor agencies should where possible respond favourably to requests for assistance for the improvement of travel and communication for health purposes.

(l) The Commonwealth Secretariat should, if requested, provide a consultant to examine travel and communication problems and resources in relation to health needs in the South Pacific, and to suggest roles that might be played by supporting agencies.

Demographic and health data

National

(a) Each small country needs a simple system of data collection, to obtain basic information on the population and its distribution, on transport and communication facilities, on the patterns of illness, on the frequency of necessary evacuations and disasters. Much of this information can be obtained from existing sources, and it should be supplemented by sample surveys.

(b) The information collected should be no more precise than the nature of the health problems require. "Quick and dirty" data are often adequate for health planning purposes, and can be collected by existing health staff as part of their duties.

(c) Consideration should be given to the levels of treatment which can be given by various levels of health staff, particularly in isolated circumstances.

(d) Management decisions and logistics planning, for the deployment of health personnel and supplies, and also disaster relief measures, should be based on the information collected.

(e) Special attention should be given to the provision of services for small isolated communities, in the context of the cost and the health risks involved, and to the training of personnel serving such communities in a wider range of skills.

(f) More information should be compiled and supplied to health personnel, and to training institutions, on the cost of imported drugs and on less expensive alternatives available. Attention should be given to the range of drugs appropriate for isolated situations.

(g) For the processing of health data, planning units should be given access to any government-owned computer services which may be available.

(h) Administrators and managers at various levels should be taught to present health data effectively. This is important not only for good planning and administration but also as a

means of securing a higher priority for health in the competition with other departments for scarce resources.

(i) Information based on data collected should be fed back to the personnel at the periphery to stimulate their interest and cooperation.

Regional

(j) Regional groups of countries should consider ways of collaborating in the development of simple systems of health data collection.

(k) The possibility of regional cooperation in training for health data collection should be examined, and universities and other training institutions should be involved.

(l) Regional arrangements for the training of health personnel (and their teachers) in a wider range of skills so that they may be better equipped to serve small isolated communities should also be considered.

Commonwealth Secretariat

(m) The Commonwealth Secretariat and other agencies should, on request, give whatever support is possible to the activities of individual countries and regional groups mentioned above.

Natural disasters and other emergencies

National

(a) Each small country should have a disaster plan, which should be regularly reviewed by a standing inter-departmental committee responsible for disaster preparedness.

(b) The allocation of responsibility is a vital element in such a plan, which should also deal with arrangements for food, shelter, blankets, supplies of vaccines, communications etc. Procedures and arrangements should be set out clearly in a manual or booklet.

Regional

(c) Disaster preparedness should also be a continuing regional responsibility, and regional groups of countries should examine what arrangements for regional collaboration to cope with disasters should be made and consider issuing a regional booklet setting these out.

(d) In this connection, coordination of external assistance is required. It should be determined in advance who is responsible for this and what organisation is required.

Commonwealth Secretariat

(e) The Commonwealth Secretariat and other agencies should, on request, assist governments and regional organisations with the development of a high level of disaster preparedness.

Specialist services

National

(a) The provision of tertiary care services is a major problem for the health authorities of small countries, few of whom can hope to be self-sufficient in this regard. The provision of expatriate specialists by donor governments does not provide a long-term answer to this problem.

(b) Improvement of secondary care facilities to reduce the need for referral, improvement of local conditions for professionals, and arrangements for short-term secondments from neighbouring countries merit consideration as ways of alleviating the problem.

(c) Where regular visits by specialists from other countries can be arranged, appropriate local facilities and supporting personnel should be provided.

(d) Where possible and appropriate, the health authorities in small states should endeavour to have some of their own nationals trained as specialists.

Regional

(e) A regional solution to the problem is required, and urgent attention to it by regional groups of countries, from whom the initiative must come, is needed.

(f) Regional groups, in collaboration with their universities, should develop a coordinated programme to stimulate the retention of specialists in the smaller countries through arrangements for continuing medical education, postgraduate education, and the provision of reliefs for trainees.

(g) Regional programmes might be developed, through university hospitals, by providing supernumary posts to permit regular visits to small countries lacking specialist services; such programmes might attract external assistance.

(h) Governments of the developing countries of the South Pacific might jointly work out a solution to the problems of providing tertiary care in the island states. Australia and New Zealand, the World Health Organisation and the Commonwealth Secretariat might be invited to take part in discussions to this end.

Commonwealth Secretariat

(i) The Secretariat and other agencies should respond favourably to requests for assistance for approved regional arrangements to provide small countries with tertiary health care services.

Pharmaceuticals

National

(a) Governments should consider providing suitably informed personnel to advise staff ordering and prescribing drugs. "Counter-propaganda" to withstand advertising pressure should be provided, particularly through medical education and continuing medical education.

(b) A limited list of drugs (generic, rather than proprietary, wherever possible) should be decided on and only these drugs should be made available for use in the government health service, except where special drugs are required for special conditions.

(c) More attention should be given to the management of drug supplies - to quality control, distribution, storage, stock control and the prevention of graft.

Regional

(d) Regional cooperation offers the best prospects for overcoming the difficulties of small states in relation to pharmaceuticals. Regional groups are urged to give increased and continuing attention to all aspects of the problem, including joint purchase, manufacture, quality control and training in storage and stock control. Information on developments should be exchanged between regions.

(e) Ministries of finance and industry should be involved in discussions of joint purchase and manufacturing, and it is also desirable to enlist the cooperation of pharmaceutical companies in efforts to overcome the difficulties of small countries.

(f) Where regional manufacture of drugs is in view, this is best approached gradually, by stages.

Commonwealth Secretariat

(g) The Secretariat should continue to encourage and support regional cooperation to help small countries to overcome their difficulties in relation to pharmaceutical supplies.

(h) The Secretariat might consider commissioning a handbook on practical therapeutics to promote cost-effective use of medicinal drugs.

Strengthening national and regional institutions

National

(a) The appropriateness of national health care systems and the adequacy of national health planning capability should be examined in all small states.

(b) Attention should be given to the requirements for mobilising national commitment for health improvement. These requirements include adequate health data, representative multi-sectoral health councils and satisfactory arrangements for collaboration between sectors with common interests.

(c) More attention should be given to the improvement of health management at the middle level, using in-service and unconventional training methods as well as formal training courses.

(d) Meetings of health professionals at national level should be encouraged. Professional associations should be invited to take part in national discussions concerning health service management and to articulate their views on how health care systems might be improved.

(e) Everything possible should be done by health ministries and professional groups to improve medical information facilities for health personnel, and isolated health workers should be provided with basic books, manuals and journals.

Regional

(f) Existing regional institutions, including universities, should focus more attention on the health problems of the smaller states. Recent moves in some regions to do this through special committees were welcomed.

(g) There is a parallel need to strengthen universities and other regional institutions in order to expand their capabilities for being effective focal centres for regional planning and action in the health field. The requirements for achieving this in each region should be identified.

(h) Previous recommendations concerning regional action on data collection and the improvement of travel and communication facilities are particularly important for strengthening institutions. Similarly, the training and deployment of doctors to provide secondary and tertiary care also call for regional attention and collaboration.

(i) The possibility of regional exchange schemes to enable policy-forming staff of small countries to exchange short-term visits to assess the appropriateness of health service structures merits consideration.

(j) Because weaknesses at middle management level are common among small states, arrangements should be considered for promoting innovative and unconventional methods of training (including, for example, the use of case-study techniques and short-term pairing with officers in neighbouring countries) on a regional basis.

(k) Representatives of universities and professional associations should be invited to attend regional health meetings, and encouraged to examine their capacity to perform a regional health role.

(l) Improved dissemination of medical and health information material, particularly to isolated health workers, is suggested as a suitable matter for attention at regional meetings, which might consider how small countries could be assisted in this respect.

Commonwealth Secretariat

(m) The Secretariat should do everything possible, within the limits of its resources, to support the activities of existing regional institutions and universities, designed to help small, disadvantaged countries.

Regional and international cooperation

Regional

(a) Regional cooperation is the best option for reinforcing the efforts of small and disadvantaged countries to overcome their special health problems and to develop appropriate health care systems.

(b) Where they already exist, arrangements for regional health collaboration should be strengthened to enable special attention to be focused on the health needs of small and disadvantaged countries

(c) The recently established committee on the health problems of small states in the East, Central and Southern Africa region, for instance, might review the health manpower needs of Seychelles and work out a coordinated programme of assistance to meet them.

(d) In the South Pacific, the promotion of a joint approach to the special problems common to small islands would require the collaboration of Australia, New Zealand, the Fiji School of Medicine, the University of the South Pacific, WHO, the South Pacific Commission and other regional institutions.

(e) Appropriate arrangements are required for ensuring continuity of action, planning, discussion, surveillance and evalutation of agreed regional collaborative activities.

(f) Regional health groups should consider placing as a continuing item on their agenda the review of machinery for communicating their decisions to national health staff, professional associations and universities, with the object of improving its effectiveness.

(g) Increased regional attention to the rationalisation of medical equipment, to preventive maintenance and emergency repair facilities, and to training technicians to service a variety of equipment, could be beneficial to small countries.

(h) Improved regional coordination of the activities of donor agencies is needed, possibly through inter-agency consultative meetings convened by regional health groups.

Commonwealth Secretariat

(i) The Secretariat should continue to do everything possible to assist regional health groupings, and to support their programmes designed to help the small and disadvantaged countries.

(j) The Secretariat should assist efforts in the South Pacific to establish, in collaboration with the University of the South Pacific, a regional inter-governmental health forum, and to develop machinery through which the island governments can collaborate to overcome their special health problems.

(k) The Secretariat should use its good offices to channel requests from small states for assistance to appropriate foundations and donor agencies. Such bodies should be provided with information and copies of relevant reports. Foundations and donor agencies might review their terms of reference in the light of the special needs of small disadvantaged states.

Distribution of report

Commonwealth Secretariat

(a) The report of the meeting should be distributed to ministries of health, regional health agencies, universities in the regions, professional associations, the World Health Organisation, the World Bank, foundations and other donor agencies.

(b) The report should be brought to the attention of the May 1980 Pre-WHA Meeting and submitted to the Sixth Commonwealth Health Ministers' Meeting in November 1980.

National and regional

(c) Ministries of health and regional health agencies should consider placing relevant recommendations of the meeting on national and regional health agenda as an item meriting continuing attention.

GENERAL REVIEW

The meeting began by making a general review, in the light of the introductory paper prepared by the Commonwealth Secretariat (see p 53), of the special health problems facing small developing countries. It was accepted that these were not merely a small-scale version of the problems of larger countries but often had special characteristics of their own.

2. It was noted that small countries had very slender economic resources; they lacked university medical schools, sophisticated medical facilities, and adequate training facilities for health manpower; and they were rarely in a position to pay professional staff salaries comparable with those obtainable elsewhere. They were obliged to have their doctors, and other health workers needing specialised skills, trained elsewhere and they lost professional manpower through emigration. Expatriate doctors, recruited to fill the gaps, had to be paid at higher than local rates. These countries had few, if any, specialists. In the circumstances, it was frequently found impossible for them to construct a traditional-type health service based largely on hospitals and adequate numbers of doctors with full professional training. The development of an improved system of primary health care and increased use of paramedical personnel were seen as their only feasible alternative.

3. This was seen to be the position in such African countries as The Gambia and Swaziland, for example. The few doctors available were based centrally, and primary health care for the greater part of the population was delivered through local health centres and clinics, staffed by nurses and paramedicals, which were the focal points for local health workers. The link between the centre and the periphery was tenous, however, due to poor communications and the lack of a capacity for adequate supervision.

4. Seychelles was cited as an example of a small island state with severe staffing problems. There were few Seychellois doctors and although it had been possible to recruit some expatriates the need for these to be able to speak French and patois had created difficulties. Mauritius, more fortunate in having a surplus of some categories of trained medical manpower, had been able to assist to some extent by sending doctors to Seychelles on short-term secondments but this was not always easy because of the separation from their families and the disparity in local conditions.

5. The meeting noted that in the small islands of the Caribbean, as elsewhere, there was popular pressure for better conditions and services, but that the legacy of hospital-based

health care had not been sufficiently supplemented by preventive and community services. Although conditions were gradually improving, with more attention being given to clean water supplies, housing, sanitation and health education, individual countries lacked resources, and they had found it impossible to provide a comprehensive medical service. Regional co-operation to assist these small states had been recognised as essential and had been fostered by the Caribbean Community. An important focus for regional health cooperation here was seen to be the University of the West Indies, with its three campuses in Jamaica, Barbados and Trinidad, collaboration being assisted by the relatively good communications in the region.

6. The meeting recognised that the developing countries of the South Pacific faced problems peculiar to this region. Separated by vast distances, many of them were composed of large numbers of very small scattered islands. Communication with small isolated communities presented severe difficulties and the task of providing these communities with adequate health care was formidable. Where there was a colonial inheritance of hospital-based health services, these were run largely by expatriates and involved heavy expenditure. There was little regional cooperation between the developing countries of the Pacific in health services, although valuable assistance had been given by Australia and New Zealand.

7. The Fiji School of Medicine, a national institution, offered some places to students from other Pacific countries, but the qualifications awarded were not recognised internationally as full professional qualifications and did not constitute a take-off point for specialist medical training. When candidates with appropriate qualifications for post-graduate training could be found, they had to go to institutions overseas where the teaching was rarely geared to Pacific conditions. Furthermore, a career structure for specialists was lacking in the island countries, and there were no local replacements when the few expatriate specialists left.

8. It was pointed out that health administration and management in the Pacific island countries faced special difficulties because of geographical factors, and improvement, particularly at the middle level, was badly needed. As elsewhere, supervision of paramedical workers was inadequate. Better environmental sanitation and water supplies were required, and there was also a need to educate people to use new facilities properly when it was possible to provide these. As was the case with many small states, the cost of preventive care was often beyond the resources of these island countries.

9. Participants agreed that in almost all the small countries there appeared to be little inter-departmental cooperation in planning. The cost and distribution of medicinal drug supplies presented serious problems, and facilities for the maintenance and repair of medical equipment were everywhere lacking. Capital development in the health sector was almost wholly dependent on external aid. Such aid often tended to be

geared to particular projects favoured by donors, rather than to the real needs of the recipient countries, and this had sometimes had a distorting effect on the local health care system.

10. The meeting accepted at the conclusion of this survey that there were two sorts of problem. The first was the problem of delivering health care in a small country with few resources; the second was the additional problem of doing this to scattered island communities. The small states of Africa came into the first of these categories, most island states of the Pacific into the second. The Caribbean was seen to differ from the Pacific in having good communications, smaller distances, fewer scattered island communities, and access to tertiary care within several hours travel. Common factors between countries in different regions were also noted - the problems of Seychelles were seen as similar to those of Western Samoa, for example. Management shortcomings at the middle level, the need for more dynamism and a greater grasp of overall issues and planning requirements were recognised as common to small countries in all regions.

HEALTH MANPOWER PLANNING

11. The presentation on the subject of health manpower planning, with particular reference to small states, was made by Dr. Richard A. Smith, author of the discussion paper Realistic manpower planning for primary health care: practical considerations (see p61).

12. Dr. Smith noted that the usual approach to health manpower planning was on the basis of individual categories of health worker. There had been too little consideration of the repercussions of introducing new cadres on the other cadres, however, and there was no commonly accepted mix of personnel. For an appropriate and effective mix of health professionals it was necessary to gear planning closely to the actual functions of health workers in the field.

13. Although there was no single planning model suitable for universal application, there were many common factors in the health care problems of various countries and in the approaches adopted to solve them. The problem facing planners in most developing countries included:

(a) the lack of a clear national health policy;

(b) low priority given to health in development programmes;

(c) imbalances within the health sector;

(d) shortages and maldistribution of manpower, facilities, equipment, supplies and finance;

(e) inadequate coverage of the population, particularly of isolated or scattered communites;

(f) under-utilisation of existing services and resources;

(g) insufficient or ineffective health education;

(h) insufficient community participation in planning and operating health services;

(i) inadequate and inappropriate training resources;

(j) inadequate attention to, and resources for, environmental sanitation.

14. Approaches to the development of manpower for the delivery of primary health care through the hospital-based, capital-intensive model, using increasing numbers of doctors and nurses, were unrealistic. Third world countries had led

the way in developing more appropriate models which relied on widely-deployed mid-level and community health workers, but these had not been wholly successful because of inadequate consideration of the support needed within the health care system, particularly as regards supervision and logistics. Also, training had been on medical school lines, in isolation from the rest of the system, and had not been sufficiently geared to the actual functions of these health workers in the field.

15. For the strengthening and extension of primary health care services, particular attention needed to be given to:

(a) the analysis and projection of health needs and the demand for services;

(b) enumeration of all types of existing health workers, including paramedicals and traditional healers;

(c) estimation of future health manpower requirements;

(d) detection of present and future imbalances between manpower requirements and supply;

(e) assessment and strengthening of the existing management structure.

16. An analysis of primary health care programmes which had failed to bring about a significant improvement in health care coverage had been carried out by the MEDEX group in Hawaii. The following eight major problem areas had been identified as basic elements in a productive approach to improved health service coverage.

(a) A broad base of support is needed to bring together government policy-makers, training institutions, professional associations and others with a particular interest in health care, as part of the planning process.

(b) A receptive framework, within which new types of health workers could perform satisfactorily, must be developed.

(c) Improved management capability is the key to successful programme implementation.

(d) The involvement of doctors in developing the curriculum for the training of health workers and in the teaching of curative care is essential.

(e) Competency-based training methods, based on task analysis, problem-oriented and omitting irrelevant knowledge, should be used for the appropriate training of mid-level and community health workers at low cost and in the shortest possible time.

(f) A deployment system needs to be developed for locating health workers in areas of need. Where they will work following training should be determined in advance,

suitable conditions of service and facilities should be provided, and an adequate management structure established.

(h) Arrangements for continuing education and professional development are required. Routine evaluation and supervision are essential for the improvement of skills.

(i) A health information feed-back, evaluation and planning system is necessary for obtaining timely and accurate information on all aspects of the primary health care system, and for adjusting and improving training and management.

17. Dr. Smith concluded his presentation by commending the MEDEX approach as a productive way of strengthening primary health care systems and improving health care coverage. It was flexible, it could be quickly adapted to solve local problems and it could be integrated into an existing health care system. It was a system particularly suitable for the health needs of small and disadvantaged countries.

Discussion

18. The meeting agreed that a broad base of support was needed to bring about an improved and more equitable distribution of health resources in small states, and particularly in those with scattered island communities. It was recognised, however, that difficult political decisions at a high level, and also considerable expense, were involved. The extension of health services at the periphery might even involve a weighting of resources towards the periphery and possibly a reduction of resources available for the centre. It was suggested that village communities might have in a sense been subsidising urban health services, and that the problem was how to reverse this weighting.

19. Considerable changes in the health care system might thus be necessary if the needs of the periphery were to be met, and for these sustained political and professional commitment was required. Commitment of the people, especially those at the periphery, was also needed, and community participation in the planning process was essential to bring this about.

20. It was pointed out that, while concentrating on the periphery, the relationship between the periphery and the centre should not be overlooked. People must have the opportunity to avail themselves of more sophisticated health care at the secondary and tertiary levels when this was necessary, so a suitable referral system was required. In some very small countries the sort of primary health care system under discussion might not be required, since the periphery was so close to the centre. Many small countries completely lacked tertiary care facilities, and for these regional cooperation and pooling of resources seemed the only answer. Nor was it possible, participants recognised, to rely completely on labour-intensive low technology for health services; some access to more sophisticated care was essential.

21. The meeting agreed that the basic necessity for each small country was, with the help of community participation, to analyse health care needs, assess local resources, and plan health services and manpower accordingly. Where it was beyond the resources of individual countries to meet certain needs (eg. staff training, tertiary care), groups of countries should endeavour to meet these through regional cooperation. Donor governments, the Commonwealth Secretariat and non-governmental agencies should respond wherever possible to requests for assistance in this connection.

22. Examples were discussed of the use of various cadres of health workers to extend primary health care services - nurse practitioners, medical assistants, medex staff, based in local health centres, and community health workers and nutrition aides in the selection of whom the local community took part and whose work was linked with the health centres. This sort of system was regarded as appropriate in particular for self-contained countries such as St. Lucia or Swaziland, and regular visits by a doctor to each centre were considered essential. It was suggested that primary health workers should also be placed in hospitals as the first point of contact with patients, with the object of discouraging patients from by-passing the health centres.

23. Flying doctor services were mentioned as a means of taking health care to isolated communities, but they were regarded as expensive and often an "expatriate" operation which did little to promote greater self-reliance in health care. It was considered that the use of nurse practitioners and similar cadres of primary health care workers reduced the need for such costly expedients.

24. It was noted that where there were status conflicts between different categories of rural health workers, involving questions of who supervised whom - public health nurses and medical assistants were quoted as an example - these indicated a need for health manpower planning decisions to be taken at national level with the object of creating a rational integrated system. The creation of such a system should involve members of the community who should have a say in determining what kind of health workers they wanted.

25. Participants emphasised that each country enjoyed its own sovereignty and that only its own government could decide what health manpower and facilities were required. Where needs were common to several countries but individual national resources were inadequate to meet them, it might be possible to meet them collectively by pooling resources. Political-economic issues might arise in regional groupings, however, and it might be asked why some developing countries should subsidise others.

26. It was pointed out that the Commonwealth Secretariat had been able to help in this connection by providing CFTC funds to enable students from the smaller states to train in more fortunate states in the region which were able to offer suitable training facilities. Assistance for regional

training programmes in West Africa and East, Central and Southern Africa, for example, channelled through Commonwealth regional health agencies, had been used in this way.

27. The meeting agreed that the creation of a satisfactory management capability was crucial to health manpower development, particularly at the middle level. The lack of this capability was seen as serious in many small states. It was noted that after independence, with the departure of expatriates, officers at the middle management level had moved up to the top level, for which they had often lacked the required experience, and the gap they had left at the middle level had been filled by personnel with limited training or expertise. Participants underlined the need for more management training from the top downwards. Small states often lacked the resources to provide this, and here again regional cooperation could be the answer. The regional courses in health management at the Ghana Institute of Management and Public Administration and at the East African Management Institute, which had been conducted successfully for several years with Commonwealth Secretariat support, were commended by the meeting.

28. One suggestion made was that management training might be included in the medical school curriculum, but some participants objected to this on the ground that too much had already been added to the curriculum. Another suggestion was that short-term practical secondments to other appropriate countries to study health management arrangements might be useful. It was pointed out that officers in senior positions often considered that they did not need training in management; the suggestion in this event was that they should be asked to teach management to others so that they would themselves learn in the process.

29. The meeting recognised that the island countries of the South Pacific faced special problems in connection with the training of physicians. In other regions it was already possible to undertake postgraduate training in the university medical schools and produce medical and surgical specialists. In the developing countries of the South Pacific this was not possible, since the University of the South Pacific did not have a faculty of medicine and the Fiji School of Medicine, a national institution, was not a fully-fledged medical school. The result was that almost all the specialists working in Pacific island countries were necessarily expatriates.

30. The meeting considered that this problem merited special attention by the governments of the South Pacific region, and suggested that further consideration might be given to establishing a medical faculty in the University of the South Pacific, possibly by further developing the Fiji School of Medicine for this purpose. It was recognised, however, that this was a matter for the governments themselves to decide, and also that the problem of brain drain might be involved. It was thought that donor countries - in particular, Australia, Britain and New Zealand - and certain non-governmental foundations might be able to assist in this connection.

Conclusions

31. The meeting reached the following agreed conclusions.

National

(a) For most island developing and other specially disadvantaged countries, there is a need to determine the use of manpower in primary health care programmes in close relation to the locally-defined tasks required for the provision of basic health services for their entire populations.

(b) Where appropriate, a tiered primary health care system should be developed which will use most effectively the professional skills of doctors, maximise the potential of village-level services through community health workers, and deploy mid-level health workers to provide supervisory, curative, referral, preventive and promotional services. Cooperation with other development workers is most important in this connection.

(c) The planning capability of the ministry of health should, where necessary, be strengthened to achieve the most effective use of scarce personnel and material resources, to facilitate the integration of health services with other developmental services, and to allow the health ministry to compete more effectively with other ministries for scarce resources.

(d) For the smaller countries in general, the further development of local programmes for training sub-professional personnel is needed. Competency-based, task-oriented programmes should be developed for the training of new cadres of health workers to produce efficient and cost-effective health care services.

(e) The status relationships of primary health care workers should receive early attention in health planning.

(f) In order that new initiatives in health manpower development should not encounter unnecessary legal obstacles, health legislation should be reviewed.

(g) Generic drug systems and treatment guides should be developed for use by primary health care personnel.

Regional

(h) Where appropriate, small countries with limited resources should cooperate with neighbouring countries on a regional basis in health manpower development, particularly in training programmes, and in the development of generic drug systems and treatment guides.

Commonwealth Secretariat

(i) Where outside support is required, the Commonwealth Secretariat and other agencies should, on request, provide all possible assistance for efforts by governments and regional groups to develop appropriate systems of health manpower - through providing consultants and training fellowships.

TRAVEL AND COMMUNICATION

32. The subject of travel and communication difficulties experienced by the small states was introduced by Professor E. R. Walrond, author of the discussion paper Travel and communications: their relation to health problems in small states (see p.75).

33. He pointed out that some of the countries whose problems were under discussion had populations of only several thousand. They often experienced particular difficulties arising from under-developed internal communications, their isolated communities were cut off from health services, and their health personnel and facilities tended to be badly distributed.

34. Some of the problems of small states were similar to those of rural communities within larger states. Their health services were under-manned and they often had to seek secondary and tertiary care elsewhere, for example. It was necessary to take into consideration a variety of possible means of communication in examining how their difficulties might be overcome. A useful way of doing this might be to look at different parts of the health care system in turn.

35. In the primary care sector, maldistribution of health services was often a reflection of the pattern of communications. Where doctors or other health staff were reluctant to reside in isolated rural areas, the answer might be to improve communications with such areas. In both rural and urban areas, it was important to site health facilities on regularly-used communications routes (eg. bus routes). In some cases, it might be desirable to re-route services so that public transport would pass close to health facilities. Attention needed to be given to the best ways of both bringing health personnel to patients and bringing patients to health facilities.

36. Where secondary and tertiary health services were concerned, there were generally good economic reasons for these to be located centrally. It was essential, however, that there should be adequate transport facilities for getting patients to them, especially in emergencies, and also for taking hospital-based doctors to visit rural communities, both to give clinical care and to supervise and train local health personnel. Telephone or radio communication links with local personnel were also highly important. On the existence of these the survival of patients in emergencies might depend; on the other hand, by making it possible to discuss cases, such links could also prevent the unnecessary transfer of patients to hospitals.

37. Transport and communication facilities were important for the continuing education of health staff. Visits by more highly qualified medical staff could improve the skills of local personnel, and ensure that conditions at the periphery were properly understood at the centre.

38. Poor travel and communication links were often a significant factor inhibiting the provision of better health care in small states, Professor Walrond emphasised. All available communication resources should be taken into consideration. Some relatively sophisticated resources that were available - such as radio facilities used by the police, or helicopters used by the armed forces - were often under-utilised and could provide valuable assistance, particularly in emergencies. Also, the importance of simpler ways of communication, using secretarial help and photocopying facilities, to convey clinical information should not be overlooked.

Discussion

39. Participants took the view that the health care systems in the small island countries tended to be on conventional lines and had often failed to meet the needs of isolated communities. It was considered that fresh thinking was essential on the level of primary health care appropriate for particular isolated groups of people, and on the communication links with the secondary level. Such groups were not confined to the South Pacific but also existed in the Indian Ocean, for example, where there were small island fishing communities.

40. It was emphasised that travel and communication problems experienced by the island countries of the South Pacific were of a different order from those encountered in other regions. Some of the small island communities had little contact with the outside world. Few ships called and there was often no airstrip. In any case, reef airstrips were expensive. Helicopters were used in Fiji, but their high cost severely restricted the number of flights that could be undertaken. Even if major investment in airborne services and joint use by several island countries were possible, the needs of the large number of isolated communities could not be met.

41. The options open to the island countries of the South Pacific were seen as limited. It was agreed that the best approach available to them was to make their isolated communities more self-sufficient where health care was concerned, by up-grading the skills of local health workers and thus reducing the need for referrals, and by improving radio communication to facilitate consultation. The need to improve radio links was stressed. Present links were often expensive and inefficient and much of the equipment was out of use as a result of breakdowns and lack of maintenance and repair skills. Sophisticated equipment was complicated and expensive. What was needed was a simplified voice communication system, using two-way transmitters/receivers which users could be trained to maintain and repair.

Equipment designed so as to permit modular replacements was desirable. Some participants considered that the possibility of radio and television communication by satellite merited investigation.

42. Poor and scarce telecommunications facilities and bad roads which were often unusable by vehicles in the rainy season were noted as major problems in many small countries. Vehicles for health purposes were often in short supply and in a poor state of repair. It was considered that more could be done to standardise vehicles imported by, or donated to, such countries, to assist maintenance and repair. It was suggested that health personnel should be trained to do simple repairs on the vehicles they used, and also that inter-departmental sharing of vehicles should be encouraged.

43. Attention was drawn to the economics of transport and communication in small countries. It was agreed that an analysis of needs and resources was called for in order for sensible decisions to be made on appropriate systems. The development of traditional means of transport was seen as an important alternative to expensive motorised vehicles. More cooperation between health departments and other authorities with transport and communication facilities, such as the police or the military, was called for. Participants pointed out that health tended to be given a low priority for transport, and it was suggested that consideration of the problem by national health councils, which should include representatives of other departments possessing relevant resources, might improve matters.

Conclusions

44. The meeting reached the following conclusions.

National

(a) Since travel and communication constitute such an important determining factor in health services management, particularly in small countries, they should be given greater prominence in health planning.

(b) Everything possible should be done to make small isolated communities more self-sufficient by up-grading the skills of local health workers and improving their communication links to facilitate consultation with secondary care level.

(c) An analysis of travel and communication needs and resources should be made as a basis for deciding on appropriate arrangements for this vital element in the delivery of health services.

(d) This analysis should include transport and communication facilities operated by non-health departments, so that the possibility of these being used, where practicable, to assist the improved provision of health services may be taken into consideration.

(e) Higher priority for health is needed in relation to travel and communication resources. Discussion of the problem by national health councils should include

participation by representatives of non-health departments possessing relevant resources, and cooperation to permit greater utilisation of resources for health purposes should be sought.

(f) The introduction of radio communication should be increased. A simple two-way voice communication system is needed, which users can be trained to maintain and repair, and which should be designed so as to permit modular replacement. The possibility of radio and television communication by satellite should also be investigated.

(g) Standardisation of vehicles and the training of health personnel to do simple repairs on the vehicles they use are needed.

(h) The development of traditional means of transport should be promoted, where appropriate, as a low-cost alternative to motorised vehicles.

Regional

(i) Regional groups of countries should examine how far the travel and communication needs of their small island or other disadvantaged members for health purposes can be met through regional collaboration, and how regional communications in this connection could be improved. Ways in which external assistance could help to overcome difficulties should be specified.

(j) The special problems of the South Pacific islands in this respect call for particular attention, and the need for regional action to meet their special requirements is urgent.

Commonwealth Secretariat

(k) The Commonwealth Secretariat, donor governments and donor agencies should where possible respond favourably to requests for assistance for the improvement of travel and communication for health purposes.

(l) The Commonwealth Secretariat should, if requested, provide a consultant to examine travel and communication problems and resources in relation to health needs in the South Pacific, and to suggest roles that might be played by supporting agencies.

DEMOGRAPHIC AND HEALTH DATA

45. The discussion on the problems of small states concerning demographic and health data was introduced by Professor Lindsay Davidson, whose Report on a visit to study health care delivery in a number of Western Pacific islands is included in the documents section of this report (see p.79).

46. Professor Davidson stressed the importance of adequate basic data for health planning and management. Since census data were available in most small states in fairly full detail, it was possible to obtain geographically-related demographic data and establish the populations of various districts and islands. Although communications data might not be available in convenient form, information on communications systems, on the types of transport available, on the time it would take to reach each outlying area, and on the costs of transport should be easily obtainable. Data on radio communication could also be collected.

47. What was not available in most countries was a local geographical breakdown of data on the patterns of illness, so that differences between particular areas or islands were not easy to identify. Information was also required, in relation to different sizes of communities, on the frequency with which various types of accident or illness or complications of pregnancy made the evacuation of patients desirable. By using sample surveys it was possible to collect the required information on these matters.

48. Few health administrations appeared to have given sufficient thought to the levels of treatment which could be given by the various categories of health service personnel, either on their own responsibility or after consultation by voice communication with more experienced staff. Decisions on this and on the circumstances in which referral or evacuation was considered necessary, were required.

49. Once the data had been obtained and the basic decisions had been made, the problem became one of management planning - of deciding on job specifications, arrangements for supervision, systems and frequency of travel and communication, and the allocation of available funds. Logistics planning, of the deployment of personnel and the distribution and maintenance of medical supplies, and special planning to cope with possible emergencies or disasters were also required.

50. Professor Davidson considered that it was desirable for a small country to make an economic evaluation of its proposed plan. For example, the frequency of disasters in a high risk area might justify the provision of a doctor for as

few as 500 people, even though he would be under-employed. Alternatively, in a similar situation it might be accepted that the lowest category of health worker would have to suffice, even though in the event of a serious casualty or disaster the small community would be without appropriate health care. There was an equation involving appropriate levels of health care personnel and their training and maintenance costs, on the one hand, and the availability and cost of communication by voice or transport by land or sea, on the other.

51. The constraints of the situation might require the training of categories of personnel for functions not generally recognised as normal for their level. Consideration would have to be given to the provision of suitable training facilities and curricula for this purpose on a national or a regional basis, to the revision of teacher training curricula, and to the appropriate administrative support.

Discussion

52. Participants pointed out that much of the data at present collected through existing systems was irrelevant and superfluous. Forms used for data collection were often too complicated. The information gathered was frequently inaccurate, particularly where births and deaths registration was not obligatory and mere estimates were used. Existing data on a national scale often assumed homogeneity and did not sufficiently take into account diverse pockets or small islands.

53. It was noted that to convince people of the importance of gathering data for future analysis was difficult, and that continuing collection, rather than sampling, was usually unjustifiably expensive.

54. The return of information to those at the periphery who were doing the basic collection of data was considered important, so that they could be made aware of the use being made of the data, and in order to maintain their interest and cooperation. Some illness patterns might be revealed as quite local.

55. It was agreed that all these points should be taken into consideration when planning the data-gathering processes, which should be made as simple as possible. The services of a fully-trained epidemiologist or a full-scale epidemiologically-accurate methodology were rarely required for reasonable health planning decisions in small countries. "Quick and dirty" data were often adequate for health service purposes, and could be collected by existing health personnel as part of their duties. A standard four-point system, APAR (acquisition, processing, analysis, retrieval), was mentioned.

56. The question of information on medicinal drugs was raised, and it was pointed out that, for economic reasons, more information was needed by health personnel on the cost of imported drugs and on cheaper alternatives available. There

appeared to be little information on the range of drugs considered adequate for isolated situations, and on the drugs actually used and their cost. These were matters which called for close attention by medical schools as well as ministries of health.

57. The processing of data in the planning unit of the ministry of health was also referred to. It was pointed out that where there was a government-owned computer available this was often under-utilised. Cooperation between the ministry of health and the department controlling the computer could greatly assist the processing and analysis of health data.

58. The importance of well-presented health data was emphasised as a means of securing a higher priority for health when there was competition between departments for scarce resources. It was recognised that administrators and managers at various levels must be taught to use data effectively. The application of commonsense could often cut through the data and planning jungle. It was suggested that a suitable motto for those concerned was: "Learn how the system works and then how to work the system".

Conclusions

59. The meeting agreed on the following conclusions.

National

(a) Each small country needs a simple system of data collection, to obtain basic information on the population and its distribution, on transport and communication facilities, on the patterns of illness, on the frequency of necessary evacuations and disasters. Much of this information can be obtained from existing sources, and it should be supplemented by sample surveys.

(b) The information collected should be no more precise than the nature of the health problems require. "Quick and dirty" data are often adequate for health planning purposes, and can be collected by existing health staff as part of their duties.

(c) Consideration should be given to the levels of treatment which can be given by various levels of health staff, particularly in isolated circumstances.

(d) Management decisions and logistics planning, for the deployment of health personnel and supplies, and also disaster relief measures, should be based on the information collected.

(e) Special attention should be given to the provision of services for small isolated communities, in the context of the cost and the health risks involved, and to the training of personnel serving such communities in a wider range of skills.

(f) More information should be compiled and supplied to health personnel, and to training institutions, on the cost

of imported drugs and on less expensive alternatives available Attention should be given to the range of drugs appropriate for isolated situations.

(g) For the processing of health data, planning units should be given access to any government-owned computer services which may be available.

(h) Administrators and managers at various levels should be taught to present health data effectively. This is important not only for good planning and administration but also as a means of securing a higher priority for health in the competition with other departments for scarce resources.

(i) Information based on data collected should be fed back to the personnel at the periphery to stimulate their interest and cooperation.

Regional

(j) Regional groups of countries should consider ways of collaborating in the development of simple systems of health data collection.

(k) The possibility of regional cooperation in training for health data collection should be examined, and universities and other training institutions should be involved.

(l) Regional arrangements for the training of health personnel (and their teachers) in a wider range of skills so that they may be better equipped to serve small isolated communities should also be considered.

Commonwealth Secretariat

(m) The Commonwealth Secretariat and other agencies should, on request, give whatever support is possible to the activities of individual countries and regional groups mentioned above.

NATURAL DISASTERS AND OTHER EMERGENCIES

60. The meeting discussed disaster and emergency preparedness in the light of relevant section of the Secretariat's introductory paper (see p.53). This pointed out that the effects of natural disasters on island developing and other specially disadvantaged countries were often severe. The response to emergencies tended to fall below the already limited capacity of such countries to deal with them, because of inadequate planning, lack of coordination of resources and paucity of properly-tabulated information on essential measures relating to health.

61. The patterns of some disasters, such as hurricanes and floods, were sufficiently predictable for required emergency measures to be anticipated, however. Contingency arrangements could be made for obtaining supplies of vaccines, drugs and equipment; sources in the region of various categories of skilled personnel could be identified; and help available from international agencies could be ascertained. The sequence of emergency action and arrangements for coordination could also be decided on in advance.

Discussion

62. It was noted that, for the island countries, hurricanes/ cyclones and tidal waves were not an uncommon occurrence, they often necessitated the evacuation of the population and their effects could be long-lasting. Earthquakes, volcanic eruptions, cholera epidemics, drought, flooding and air disasters were other emergencies quoted.

63. It was agreed that each country should have a standing inter-departmental committee responsible for ensuring a high state of disaster preparedness. Each country should have a disaster plan which should be regularly reviewed and where necessary up-dated, and in which health arrangements should be clearly set out. The local health authorities should be involved in drawing up this plan, particularly as much of the management role in a disaster was at the local level.

64. The allocation of responsibility was emphasised as a vital element in any disaster plan. It should be made clear who was in charge, who should mobilise resources, who should coordinate services. Attention should be given to the availability of food, shelter, blankets - all immediate requirements - and supplies of vaccines and other necessary drugs. The maintenance or repair of communications was another important requirement. A booklet laying down disaster procedures was desirable.

65. Participants emphasised the important role of the doctor in a disaster. Psychologically accustomed to emergencies, the doctor could keep emotion under control and play a leading role in stimulating and taking action.

66. It was agreed that, however well-prepared, no small state could cope with a substantial disaster unaided. Outside help was always needed and regional cooperation was an essential way of providing this.

67. It was noted that disaster preparedness had already been under regional consideration in the Caribbean and that countries of the region were used to helping one another when disaster struck. The meeting considered that regional arrangements to cope with disasters should be regarded as a continuing responsibility and clearly determined and made known to people at local level. The regional role was seen as a coordinating role, providing an overview of action required - in relation to essential supplies, communications, refugees and key personnel, for example. It was suggested that a regional booklet setting out regional arrangements and procedures might be prepared, if necessary with outside assistance.

68. Coordination of external aid when disasters occurred was also seen as an important requirement. Timely assistance by friendly governments had often proved crucial for dealing with the immediate consequences of disasters. A multiplicity of donor agencies often came to be involved, however, and donor competition occurred, resulting in politically-motivated pressure to accept aid without sufficient consideration of the local capacity to absorb it. Disaster-striken small states needed protection against "do-gooding chaos". This was seen as a matter particularly suited to regional consideration, the important point being to determine in advance who was responsible for coordination and what preparatory organisation was required.

Conclusions

69. The meeting agreed on the following conclusions.

National

(a) Each small country should have a disaster plan, which should be regularly reviewed by a standing inter-departmental committee responsible for disaster preparedness.

(b) The allocation of responsibility is a vital element in such a plan, which should also deal with arrangements for food, shelter, blankets, supplies of vaccines, communications, etc. Procedures and arrangements should be set out clearly in a manual or booklet.

Regional

(c) Disaster preparedness should also be a continuing regional responsibility, and regional groups of countries should examine what arrangements for regional collaboration to cope with disasters should be made and consider issuing a regional booklet setting these out.

(d) In this connection, coordination of external assistance is required. It should be determined in advance who is responsible for this and what organisation is required.

Commonwealth Secretariat

(e) The Commonwealth Secretariat and other agencies should, on request, assist governments and regional organisations with the development of a high level of disaster preparedness.

Note: Attention is drawn to the paper on Disaster preparedness presented to the 1975 meeting of Commonwealth representatives in Geneva prior to the World Health Assembly, and printed on pp. 21-28 of the official record of that meeting. An article on Emergency care in natural disasters, published in "WHO Chronicle" Vol. 34, No. 3 (March 1980), is also relevant.

SPECIALIST SERVICES

70. The meeting considered the position of the smaller countries in relation to the provision of specialist services. It was accepted that few small countries could be self-sufficient in tertiary health services. Some efforts by donor governments to assist such countries by providing them with expatriate specialists were seen as having had a distorting effect on the health care system, and also as giving rise to an unwelcome feeling of dependence.

71. It was suggested that the need for referral to the tertiary level might be reduced by improving secondary health care services, and that regional arrangements for short secondments of specialists from other countries might do much to meet the need for tertiary care. Arrangements of this kind, whereby senior doctors from Mauritius visited Seychelles, with the assistance of funds provided by the Regional Health Secretariat in Arusha (whose programmes in turn received financial support from the CFTC), were noted.

72. It was agreed that the possibility of a regional solution to the tertiary care problems of small states merited urgent consideration. It was suggested that this was a suitable matter for consideration by the regional committee on the health problems of small states established in the Caribbean, and by the similar committee recently set up by the Health Ministers of East, Central and Southern Africa. It was recognised, however, that even if regional arrangements to assist small countries in this connection were arrived at, continuing outside financial help might be required to make them work on a permanent basis.

73. Another problem raised was the failure of postgraduate medical trainees to return to their home countries after completing their training elsewhere. The improvement of local conditions of service was seen as often necessary to attract such doctors back. Even where trainees were bonded to their home governments to return, some preferred to pay their bond rather than return home.

74. Doctor participants emphasised that poor salaries (particularly where expatriates were paid more than locals), the existence of lucrative private practice either in the home country or elsewhere, and the absence of high-quality professional contacts (which gave rise to the fear of "professional death") were all factors militating against the return to government service of doctors who had undertaken postgraduate training outside their own countries, especially when their countries had few facilities to offer.

75. It was suggested that a regional university, such as the University of the West Indies, could do much to improve matters. It belonged to the countries of the region and was regarded by their nationals as their own, it was able to attract people to its service and it could develop a co-ordinated programme to stimulate the retention of specialists in the smaller countries through arrangements for continuing medical education, postgraduate training and the provision of reliefs for trainees.

76. For the South Pacific, this solution was recognised as not at present possible, because the University of the South Pacific lacked a medical faculty and the qualifications awarded by the Fiji School of Medicine were not acceptable in Australia, New Zealand or elsewhere as a basis for postgraduate training. The meeting considered that there was an urgent need for the governments of developing countries in the South Pacific jointly to work out a solution to the problem of providing tertiary care. Australia and New Zealand should be invited to take part as observers and the World Health Organisation and the Commonwealth Secretariat should also be involved.

77. Major factors influencing the location of doctors were seen to include whether they came from an urban or a rural background, where they had received their medical education, where they had received any postgraduate training, the sort of people who had influenced them, the types of inducement offered to them, and domestic considerations such as the attitudes of their spouses and educational facilities for their children.

78. It was recognised that many doctors, and particularly specialists, were unlikely to accept permanent location in small countries, and that arrangements for temporary postings were therefore necessary. Such arrangements could be made on a regional basis: the problem was how to plan and coordinate them.

79. One possibility suggested was a regional programme, supported if necessary by external assistance, which would provide supernumary posts in a university hospital to permit regular visits to small countries lacking specialist services. It was thought that such a programme might attract external assistance from donor governments and agencies. It would depend, however, on the commitment of small countries to provide appropriate local facilities and supporting personnel, and also, where possible, to have specialists of their own trained.

80. The meeting accepted that the initiative for such a scheme would have to come from the governments of small countries. The idea was seen as particularly suitable for consideration by regional groupings.

Conclusions

81. The meeting agreed on the following conclusions.

National

(a) The provision of tertiary care services is a major problem for the health authorities of small countries, few of whom can hope to be self-sufficient in this regard. The provision of expatriate specialists by donor governments does not provide a long-term answer to this problem.

(b) Improvement of secondary care facilities to reduce the need for referral, improvement of local conditions for professionals, and arrangements for short-term secondments from neighbouring countries merit consideration as ways of alleviating the problem.

(c) Where regular visits by specialists from other countries can be arranged, appropriate local facilities and supporting personnel should be provided.

(d) Where possible and appropriate, the health authorities in small states should endeavour to have some of their own nationals trained as specialists.

Regional

(e) A regional solution to the problem is required, and urgent attention to it by regional groups of countries, from whom the initiative must come, is needed.

(f) Regional groups, in collaboration with their universities, should develop a coordinated programme to stimulate the retention of specialists in the smaller countries through arrangements for continuing medical education, postgraduate education, and the provision of reliefs for trainees.

(g) Regional programmes might be developed, through university hospitals, by providing supernumary posts to permit regular visits to small countries lacking specialist services; such programmes might attract external assistance.

(h) Governments of the developing countries of the South Pacific might jointly work out a solution to the problem of providing tertiary care in the island states. Australia and New Zealand, the World Health Organisation and the Commonwealth Secretariat might be invited to take part in discussions to this end.

Commonwealth Secretariat

(i) The Secretariat and other agencies should respond favourably to requests for assistance for approved regional arrangements to provide small countries with tertiary health care services.

PHARMACEUTICALS

82. Problems encountered by small countries concerning the procurement, storage, distribution and dispensing of medicinal drugs were discussed by the meeting. It was pointed out that in some countries there was little treatment with drugs outside hospitals, because of the high cost of imported drugs, and that where some drugs were available these were often used inappropriately. At present most of the information doctors received about drugs came from the companies which sold them. The cost of drugs was a formidable problem for small states and took up a high proportion of the health budget.

83. It was agreed that the issue of cost containment was paramount. It was considered necessary for governments to provide properly-informed people who should meet and advise those who ordered and prescribed the drugs. "Counter-propaganda" to withstand the advertising pressure from the drug companies was needed, and participants took the view that this should be built into the system, particularly through medical education and continuing medical education.

84. The need was recognised for the medical profession to take a more disciplined look at what drugs were suitable for what conditions, in the light of their cost. It was suggested that a limited list of drugs should be decided on, specifying generic rather than proprietary drugs whenever possible, and that only these drugs should be made available for use in the government health sector, except when special drugs were required for particular conditions. Ninety per cent of medical requirements could be met from a limited list of essential drugs, without health standards being adversely affected. Outside this range, only small stocks of the more specialised drugs were needed. Immunisation drugs were seen as the most cost-effective.

85. It was suggested that a handbook on practical therapeutics (rather than a pharmacopoeia) could be influential in this connection, and that the Commonwealth Secretariat might consider commissioning such a handbook. Attention was drawn to the work of Professor Sanjay Lal, who had played a leading part in setting up the system in Sri Lanka which had dramatically reduced drug costs.

86. Inter-governmental arrangements were seen to offer the best prospects for the local manufacture of some drugs by small countries. Where regional production was contemplated, it was best approached in stages: first a data bank and staff training; then a re-packaging and labelling facility; and finally, if found practicable, actual production.

87. Bulk purchase of drugs was seen to offer clear advantages in reducing costs; and developments for this purpose, including the UNICEF scheme, ECHO (the Joint Mission Hospital Equipment Board Ltd.,in Britain), and a proposed WHO purchasing group, were mentioned. It was noted that possible arrangements on a regional basis for joint purchase by groups of countries had been repeatedly discussed but that progress had been slow. In some cases it had been retarded by the adverse influence of powerful commercial interest groups, about which participants expressed concern. Progress was seen to depend on the will of governments, and on the necessary financial and technical expertise. Larger countries had direct arrangements with suppliers and tended to be reluctant to join in purchase schemes with smaller states.

88. Not only drug purchase but also management, quality control, and training in storage and stock control were seen as activities suitable for regional cooperation, and the importance of the involvement of ministries of finance and industry was stressed. The desirability of enlisting the cooperation of pharmaceutical companies in efforts to overcome small countries' difficulties in relation to drug supplies was also underlined.

89. Difficulties in maintaining the cold chain for vaccines were mentioned, and it was recommended that everything possible should be done to stimulate research for the development of heat-stable vaccines, especially for measles.

90. The meeting welcomed developments in the Caribbean where a joint contracting scheme serving some of the smaller island countries was operating successfully, in West Africa where the West African Pharmaceutical Federation was now organically linked with the West African Health Community, in East, Central and Southern Africa where Health Ministers had recently decided to set up a regional committee on pharmaceuticals, and in the South Pacific where the South Pacific Bureau for Economic Cooperation (SPEC) had promoted discussion of joint purchase. The efforts of the Commonwealth Secretariat to encourage and support regional cooperation in this field were strongly commended, and all possible action through Commonwealth and regional meetings to keep attention focused on the problem was urged. An inter-regional exchange of information in this connection was recommended.

91. Another problem raised was that of serious health risks resulting from medicinal drugs being freely available on the open market, uncontrolled. This had been tackled in The Gambia by the formation of a committee which included representatives of the Ministry of Health, the medical profession, primary health workers and the vendors of medicines, with the purpose of deciding what kinds of drugs were suitable for sale on the open market. The meeting agreed that the problem was not confined to small countries and that strict measures of control were essential.

Conclusions

92. The meeting agreed on the following conclusions.

National

(a) Governments should consider providing suitably informed personnel to advise staff ordering and prescribing drugs. "Counter-propaganda" to withstand advertising pressure should be provided, particularly through medical education and continuing medical education.

(b) A limited list of drugs (generic, rather than proprietary, wherever possible) should be decided on and only these drugs should be made available for use in the government health service, except when special drugs are required for special conditions.

(c) More attention should be given to the management of drug supplies - to quality control, distribution, storage, stock control and the prevention of graft.

Regional

(d) Regional cooperation offers the best prospects for overcoming the difficulties of small states in relation to pharmaceuticals. Regional groups are urged to give increased and continuing attention to all aspects of the problem, including joint purchase, manufacture, quality control and training in storage and stock control. Information on developments should be exchanged between regions.

(e) Ministries of finance and industry should be involved in discussions of joint purchase and manufacturing, and it is also desirable to enlist the cooperation of pharmaceutical companies in efforts to overcome the difficulties of small countries.

(f) Where regional manufacture of drugs is in view, this is best approached gradually, by stages.

Commonwealth Secretariat

(g) The Secretariat should continue to encourage and support regional coooperation to help small countries to overcome their difficulties in relation to pharmaceutical supplies.

(h) The Secretariat might consider commissioning a handbook on practical therapeutics to promote cost-effective use of medicinal drugs.

STRENGTHENING NATIONAL AND REGIONAL INSTITUTIONS

93. The discussion on strengthening national and regional institutions to enable them to deal more effectively with the special health problems of small countries was introduced by Professor Kenneth Newell, author of the paper Some special health problems of island developing and some other specially disadvantaged countries (see p.93).

94. Professor Newell began by emphasising that most small countries shared a number of problems which it was advantageous for them to tackle in collaboration, through a continuing relationship and common programmes.

95. General principles put forward as world health policy were not always applicable to small states. A multi-tiered referral system, for example, which might be appropriate for larger countries, might be seen to be based on unrealistic assumptions if applied to such countries as Kiribati, Seychelles or Western Samoa, where a single "monopolistic" system might be more appropriate. Another consideration was that in some small countries ill-health was inextricably linked with poverty, so that the abolition of poverty through multi-sectoral action had to be a primary health goal.

96. In many small countries the questions to be answered were: how could "usual" health services best be provided, and how could the isolated community deal with the "exceptional" event?

97. For small isolated communities it was possible to provide a suitably-trained health worker who could deal with most of the usual medical conditions. The level of care provided depended on the level of training of the health worker and on the form of supporting, linked services. The type of health worker and the form of supporting services would depend on local circumstances, but a more highly trained person would be required at the periphery than was at present normal.

98. To deal with exceptional events, however, specialised persons and equipment were required, and more referrals and better communication arrangements were necessary. The number of referrals could be reduced if the peripheral health worker was more highly trained and provided with suitable equipment and pharmaceuticals, and if voice communication by radio with a secondary facility was possible.

99. Professor Newell said that at present many of the smallest countries were facing their special problems in isolation, and were insufficiently aware that these were shared by their neighbours. A forum for the discussion of

common problems and for strengthening existing resources was therefore desirable. The initial organisation of this was best promoted by a neutral body such as the Commonwealth Secretariat.

100. As had already been discussed, improved data collection for health planning was needed in small states, and for this similar countries could adopt common methods. Then national health system models needed to be prepared, reflecting the existing system, its successes and shortcomings, and constraints, including those relating to the existing type of health worker and to communications facilities. Such models were most important and should provide alternatives to the three tiers of the existing system. Outside assistance for this process might be required.

101. Constraints should be identified and clearly described, in components, so that common problems could be more effectively tackled on a regional basis or the assistance of appropriate problem-solving organisations (e.g. universities, WHO, Commonwealth Secretariat, Appropriate Technology Group) could more effectively be sought. Most small states needed assistance to finance their health development costs and some might need help in preparing proposals for submission to international or bilateral donors; the Commonwealth Secretariat might be able to provide such help. Few small countries could hope to be self-sufficient and in the long run they would continue to be at a disadvantage unless they collaborated with neighbouring countries.

Discussion

102. The meeting was in complete agreement with the approach outlined in the Secretariat's introductory paper. It considered that the first priority was for individual countries to consider the appropriateness of their national health care systems, and that the strengthening of existing institutions was likely to be a major element in any national or regional health programme.

103. There was some discussion on how to mobilise the political commitment on which national and regional health policy decision-making depends. The need for accurate health data on which to build a case for political decisions in relation to health was underlined, as also was the importance of close collaboration by health authorities with those in other sectors where there were common interests.

104. Curative services were recognised to be more easily "saleable" than preventive services and the need to improve the health infrastructure. The need was seen for doctors and other health personnel to be more positive "health salesmen" and for the creation of more widespread public demand (including that of women) for better health services at the periphery rather than expensive sophisticated hospitals at the centre.

105. The inter-relation between health and other development sectors was also stressed. A health element should be

included in development schemes in all sectors wherever appropriate, and each country should also have a national health council which should include representatives of such sectors as agriculture, education, finance and public works.

106. Weaknesses in middle-level management were seen to be common in the health services of small countries. It was suggested that this was partly due to methods of recruitment and partly to the difficulties of developing a suitable career structure. Suitable training was also lacking. Innovative and even unconventional methods of training were worth considering; these might include in-service training and periodic pairing between officers with similar responsibilities in different countries within the region, as well as formal training on a national or regional basis, using case study techniques.

107. The meeting agreed that most small countries needed support in order to develop programmes for training sub-professional personnel. Regional programmes for this purpose, which made possible the pooling of resources, were often the best option. The Commonwealth Secretariat and other agencies were urged to respond favourably to regional requests for assistance with such programmes.

108. Attention was drawn to the "ladder" approach which was being tried in a new university in the Philippines, in four stages:

(i) students half-way through high school were trained to work at the lowest level of the health system;

(ii) from this level people were selected for further training (e.g. as nurses or medex);

(iii) from these people there was further selection for training as "super-medex";

(iv) finally super-medex were selected for training as medical practitioners.

Objections were raised to this approach, however, on the ground that it gave rise to expectations of advancement which often could not be met; it had been tried elsewhere and not found successful.

109. One suggestion made was that an exchange scheme might be started for policy-forming staff in small countries to exchange short-term visits to make an assessment of the appropriateness of the respective health service structures and thereby stimulate thinking.

110. The next priority was to consider how national health systems could be supplemented through regional cooperation. Participants took the view that existing regional institutions including universities, needed to focus more attention on the health problems of the smaller countries. It was noted that regional institutions might need strengthening for this purpose.

111. The role of universities, some of which had the advantage of transcending national boundaries, was viewed as important, but it was recognised that they had to be provided with additional resources to enable them to undertake non-traditional activities in the regions. Many small states could not hope to have a university of their own, but where there was a regional university it was sometimes found possible to establish a faculty presence in a small country.

112. Some small countries experienced difficulty in placing their medical students in the universities of neighbouring countries; regional cooperation and sometimes external assistance were important in this connection.

113. It was also pointed out that few universities had involved themselves in health service (as opposed to scientific medical) research, and that research could help countries which lacked suitable resources to undertake it. Universities had so far taken little part in the training of health staff other than doctors. Given the required financial resources and inter-departmental cooperation, they could play a useful role in this connection, and also in health management training (which had been started in the University of the West Indies).

114. Universities could play a part in the establishment and activities of regional technical assistance groups. They could assist the collection and distribution of reference information relating to health needs. They could participate in the planning, implementation, surveillance and evaluation of programmes designed to meet these needs - particularly education and training programmes. They could organise workshops, seminars and study courses to assist the development of health programmes. They might also be able to identify sources of support and to provide special technical assistance themselves.

115. It was accepted that the expansion of the university role in the health training field called for policy and planning decisions within universities. It was considered that the universities should be agents of change in the developing world, not least in relation to health services. The Commonwealth Secretariat and other agencies might be able to supplement their resources for this purpose.

116. From the point of view of its regional institutions, the South Pacific was once again seen to constitute a special case, as its University had no medical faculty and the Fiji School of Medicine was not a fully-fledged medical school. The result was that, with the exception of a few nationals of the developing countries who had undergone the whole of their medical training elsewhere, all the specialists in the developing countries were expatriates. Some participants wondered whether the time might be ripe for the Fiji School of Medicine to be up-graded into a full medical school, affiliated to the University of the South Pacific which would then award full medical degrees.

117. Participants saw a need for national professional associations to be encouraged to articulate their views on how health care systems might be improved within existing resources. There was a special need in small countries for members of the health professions to take a full part in discussion of questions involving health service management.

118. The importance of promoting meetings of health professionals at both national and regional level was underlined. Assistance for such meetings, and also for the exchange of information on research and medical technology, was seen as a suitable role for foundations and other donor bodies. It was also thought desirable that representatives of professional associations should be invited to attend national and regional health meetings.

119. The inadequacy of medical and health information resources in small countries, particularly where there were no libraries, was mentioned. It was considered that health ministries and professional groups should do everything possible to improve such facilities - for example, through providing isolated health workers with basic books, manuals and journals, if necessary with regional assistance. The improved dissemination of health information was suggested as a suitable subject for examination at regional meetings.

120. A recent Commonwealth Foundation scheme, in which the Secretariat was also involved, to provide bursaries to enable senior medical students to spend their elective period in Commonwealth countries other than their own, was warmly welcomed. This was seen to be of possible assistance to small states with inadequate medical manpower.

Conclusions

121. The meeting reached the following agreed conclusions.

National

(a) The appropriateness of national health care systems and the adequacy of national health planning capability should be examined in all small states.

(b) Attention should be given to the requirements for mobilising national commitment for health improvement. These requirements include adequate health data, representative multi-sectoral health councils and satisfactory arrangements for collaboration between sectors with common interests.

(c) More attention should be given to the improvement of health management at the middle level, using in-service and unconventional training methods as well as formal training courses.

(d) Meetings of health professionals at national level should be encouraged. Professional associations should be invited to take part in national discussions concerning health service management and to articulate their views on how health care systems might be improved.

(e) Everything possible should be done by health ministries and professional groups to improve medical information facilities for health personnel, and isolated health workers should be provided with basic books, manuals and journals.

Regional

(f) Existing regional institutions, including universities, should focus more attention on the health problems of the smaller states. Recent moves in some regions to do this through special committees were welcomed.

(g) There is a parallel need to strengthen universities and other regional institutions in order to expand their capabilities for being effective focal centres for regional planning and action in the health field. The requirements for achieving this in each region should be identified.

(h) Previous recommendations concerning regional action on data collection and the improvement of travel and communication facilities are particularly important for strengthening institutions. Similarly, the training and deployment of doctors to provide secondary and tertiary care also call for regional attention and collaboration.

(i) The possibility of regional exchange schemes to enable policy-forming staff of small countries to exchange short-term visits to assess the appropriateness of health service structures merits consideration.

(j) Because weaknesses at middle management level are common among small states, arrangements should be considered for promoting innovative and unconventional methods of training (including, for example, the use of case-study techniques and short-term pairing with officers in neighbouring countries) on a regional basis.

(k) Representatives of universities and professional associations should be invited to attend regional health meetings, and encouraged to examine their capacity to perform a regional health role.

(l) Improved dissemination of medical and health information material, particularly to isolated health workers, is suggested as a suitable matter for attention at regional meetings, which might consider how small countries could be assisted in this respect.

Commonwealth Secretariat

(m) The Secretariat should do everything possible, within the limits of its resources, to support the activities of existing regional institutions and universities, designed to help small, disadvantaged countries.

REGIONAL AND INTERNATIONAL COOPERATION

122. The meeting discussed the advantages of regional collaboration as a means of supplementing the limited resources of island developing and other small disadvantaged countries. The need for an effective organisational framework was emphasised in the Commonwealth Secretariat's introductory paper which, while accepting that the details had to be worked out in individual regions, pointed out that agreement at the highest level of decision-making on the machinery for collaboration was required.

123. The Secretariat paper also stressed the need to identify and agree on the roles and responsibilities of participating groups, including not only ministries of health but also universities, professional associations and community groups. The importance of appropriate administrative arrangements for sustained planning and action on agreed measures of collaboration was also underlined.

Discussion

124. The meeting endorsed the emphasis placed by the Secretariat paper on the need for appropriate arrangements for regional cooperation. The regional arrangements already established in the Caribbean, the South Pacific, West Africa and East, Central and Southern Africa were noted, but it was considered that there was a need to focus more sharply on the organisational requirements for dealing at both regional and national levels with the health needs of the small and specially disadvantaged countries.

125. Where the South Pacific was concerned, the meeting saw an urgent need for countries to establish a regional forum for the development of a joint approach to the solution of the special health problems common to the small island states. It was thought that Australia and New Zealand would be able to help, and that assistance might also be forthcoming from the Commonwealth Secretariat and other agencies. It was agreed that the report of the meeting should be sent to governments and agencies which could play a helpful role, and it was suggested that the Commonwealth Secretariat, in particular, might be able to use its good offices to promote the development of machinery through which the island governments could collaborate.

126. In this connection, the achievements of regional cooperation in other regions were emphasised. Areas in which it was suggested that improved regional cooperation in the South Pacific could be particularly beneficial were

specialised health care, transport and communications, and the training of health staff.

127. Particular attention was given to the special difficulties faced by Seychelles in connection with medical manpower shortages, and to regional action aimed at overcoming these difficulties. Assistance given by Mauritius and other countries was commended, but it was considered that the newly-formed East, Central and Southern Africa committee on the health needs of small states in that region might with advantage review the needs of Seychelles in particular, work out a coordinated regional programme of assistance, and specify what external help might be required. In this connection, it was suggested that professionals visiting Seychelles should both provide clinical treatment and raise the level of expertise of local staff.

128. Increased regional attention to the rationalisation of medical equipment, to the provision of preventive maintenance and emergency repair facilities and to the training of technicians to service a variety of equipment was called for. A regional training and repair centre, with travelling technicians to visit small countries, was one suggestion made. Developments in various regions, some promoted and supported by the Commonwealth Secretariat, were noted with approval.

129. It was suggested that existing arrangements for regional cooperation were sometimes not as successful as they might be, because decisions of regional meetings were not communicated downwards by ministries of health in individual countries. Such communication was seen to be essential, and the need was recognised for the persons responsible for and involved in carrying out regional decisions to be clearly identified. Some sort of "regional presence" in individual countries was required. The machinery for channelling decisions to universities and professional groups was also considered ineffective. The participation of non-governmental organisations and other ministries at the national level was regarded as essential.

130. It was recommended that regional health groups should examine the machinery for communicating and implementing their decisions, and particularly those concerning the problems of small states, with a view to improving its effectiveness, and that this should be a continuing item on their agenda. Universities and professional associations (e.g. of doctors, nurses, pharmacists) also should examine their capacity to perform a regional health role.

131. Experience showed that, once established, functional cooperation for health purposes tended to continue despite set-backs to regional cooperation in other fields. Another point in its favour was that donor agencies were inclined to respond favourably to requests for assistance with regional schemes.

132. Better coordination of the activities of donor agencies was thought desirable. A recent inter-agency consultative meeting in the Caribbean was noted, and it was thought that

similar consultations should be encouraged in other regions. It was also suggested that more should be done to encourage pharmaceutical companies to take account of the special needs of small countries and to support their health infrastructure.

133. The meeting suggested that the Ciba Foundation, the Sandoz Foundation (the activities of both were described) and other similar bodies might review their terms of reference in the light of the needs of small countries, as revealed in the discussions. The Commonwealth Secretariat was asked to use its good offices in channelling appropriate requests for assistance to suitable foundations, and to provide foundations with reports of Commonwealth meetings to keep them informed on the types of assistance needed.

134. Commonwealth Secretariat support for regional health cooperation was commended. It was noted that this was premised on initiatives by the governments in any particular region. It was considered that where regional health groupings did not already exist the Secretariat should do everything possible to help their formation and to support their activities designed to help the smaller and disadvantaged countries. The role of the Secretariat in connection with the health needs of small states, as outlined in the Secretariat's introductory paper, was noted with approval.

Conclusions

135. The meeting reached the following conclusions.

Regional

(a) Regional cooperation is the best option for reinforcing the efforts of small and disadvantaged countries to overcome their special health problems and to develop appropriate health care systems.

(b) Where they already exist, arrangements for regional health collaboration should be strengthened to enable special attention to be focussed on the health needs of the small and disadvantaged countries.

(c) The recently established committee on the health problems of small states in the East, Central and Southern Africa region, for instance, might review the health manpower needs of Seychelles and work out a coordinated programme of assistance to meet them.

(d) In the South Pacific, the promotion of a joint approach to the special problems common to small islands would require the collaboration of Australia, New Zealand, the Fiji School of Medicine, the University of the South Pacific, WHO, the South Pacific Commission and other regional institutions.

(e) Appropriate arrangements are required for ensuring continuity of action, planning, discussion, surveillance and evaluation of agreed regional collaborative activities.

(f) Regional health groups should consider placing as a continuing item on their agenda the review of machinery for

communicating their decisions to national health staff, professional associations and universities, with the object of improving its effectiveness.

(g) Increased regional attention to the rationalisation of medical equipment, to preventive maintenance and emergency repair facilities, and to training technicians to service a variety of equipment, could be beneficial to small countries.

(h) Improved regional coordination of the activities of donor agencies is needed, possibly through inter-agency consultative meetings convened by regional health groups.

Commonwealth Secretariat

(i) The Secretariat should continue to do everything possible to assist regional health groupings, and to support their programmes designed to help the small and disadvantaged countries.

(j) The Secretariat should assist efforts in the South Pacific to establish, in collaboration with the University of the South Pacific, a regional inter-governmental health forum, and to develop machinery through which the island governments can collaborate to overcome their special health problems.

(k) The Secretariat should use its good offices to channel requests from small states for assistance to appropriate foundations and donor agencies. Such bodies should be provided with information and copies of relevant reports. Foundations and donor agencies might review their terms of reference in the light of the special needs of small disadvantaged states.

DISTRIBUTION OF REPORT

136. It was agreed that the report of the meeting should be distributed to:

Ministries of health
Chief medical officers
Regional health agencies
Universities in the regions
Professional associations
The World Health Organisation
The World Bank
Foundations and other donor agencies

It should be suggested to ministries of health and regional health agencies that relevant recommendations of the meeting might be placed on the national and regional health agenda as an item meriting continuing attention.

137. It was agreed that the report of the meeting should be brought to the attention of the May Pre-WHA Meeting and submitted to the Sixth Commonwealth Health Ministers' Meeting in November 1980.

APPRECIATION

138. Appreciation was expressed to the participants for making themselves available for the meeting and for contributing so many valuable ideas. The financial support of the Commonwealth Fund for Technical Cooperation and the Ciba Foundation was greatfully acknowledged. Thanks were expressed to the Commonwealth Secretariat for the organisation of the meeting.

DOCUMENTS

SPECIAL HEALTH PROBLEMS : ISLAND DEVELOPING AND OTHER SPECIALLY DISADVANTAGED COUNTRIES

Introductory paper prepared by the Commonwealth Secretariat

In the communiqué issued after their meeting in Lusaka in August 1979, Commonwealth Heads of Government "welcomed the opportunity to discuss the special disadvantages that beset the growing number of smaller member countries, particularly the island developing countries and certain other specially disadvantaged member countries. They agreed that in order to offset the disadvantages of small size, isolation and scarce resources which severely limit the capacity of such countries to achieve their development objectives or to pursue their national interests in a wider international context, special measures of support were required".

2. Although size of population is a convenient criterion for identifying such countries, other factors, including their geography and degree of isolation, and the quality of their economic, technological and administrative infrastructure, must also be taken into account. A number of distinctive constraints flow directly from these factors. The most critical is the fact that, by virtue of their small size and limited resources, these countries cannot hope to achieve unaided, however great their efforts, the potential of more fortunate countries. They have special problems and special social, administrative and economic needs. They are invariably characterised by limited material and personal resources. Their problems are not only quantitatively but also qualitatively different from those of larger countries.

3. In the health field they are at special risk in relation to needs that require highly-trained (and sometimes even modestly-trained) personnel, to disease epidemics, to natural disasters, to problems of brain drain, to illnesses of key staff. The need to make health services available at both the social and geographical periphery is particularly critical. Most of these problems are not exclusive to small states, but are also shared by many other developing countries. However, smallness, isolation and other special circumstances add particular dimensions and challenges.

4. For most of these countries the reality, both present and future, is that the standard of their medical care services will depend more on how efficiently they can utilise available national and regional resources than on any additions they are likely to be able to make to these. This requires a shift of priorities in planning from more to the better use of existing resources. Carefully designed and imaginatively planned systems of health care become even more essential.

Special approaches

5. It is proposed that the meeting should focus on what special approaches are open to these countries, and also to the Commonwealth Secretariat and other aid agencies in assisting them to meet their needs. How can the development of national and regional self-sufficiency best be promoted? How can the utilisation and potential contribution of existing national or regional institutions be maximised? How can regional and inter-regional collaboration be strengthened and extended? Indeed, for many small states there exists virtually no alternative to regional collaboration if reasonable standards of health care are to be achieved.

6. It is recognised that no single formula can be worked out which would be applicable to all countries, or even to one country for more than a limited duration. It is also recognised that the final details of the initiatives to be adopted will necessarily vary according to the geography, special needs and local resources of individual countries. Diverse as their backgrounds may be, however, there are likely to be certain common patterns of need and of approach. It is with these common patterns that the meeting will be mainly concerned. Country-specific measures would need to be worked out eventually at the national or regional level.

7. It is recognised that many Commonwealth countries already provide special assistance to the smaller or more disadvantaged states in their regions. This and the other forms of assistance currently available, however, commonly lack the special focus required, nor are they normally coordinated into a planned and organised strategy for the long-term solution of perceived health problems.

Health manpower planning

8. The shortage of appropriately-trained personnel probably presents the greatest barrier to the development of adequate health care systems in these disadvantaged states. Three main strategies for overcoming it merit consideration:

(a) better selection and training of health professionals;

(b) practical arrangements for sharing of scarce personnel; and

(c) agreements for obtaining from neighbouring countries the technical and specialist assistance they can provide.

9. The questions that need to be considered include the following. How adequate is the current mix of professionals that are available locally and in the region? How can they be made more effective? What additional or revised training programmes are required? Which of these programmes can be best run locally or regionally, and what are their requirements?

What external aid may be needed and how and where can this be best obtained? How can better use be made of expertise available locally and in the region? How can existing regional institutions assist in this respect? If they cannot, what are the requirements for enabling them to do so? What arrangements can be made for sharing scarce personnel? What cadres of experts are there in the region and how may their services be made available in areas of need?

Travel and communication

10. Many of the "developing" countries may remain "never to be developed" unless the special problems associated with remoteness and isolation are clearly identified and resolutely tackled. To the extent that they may be the key not only to health but to general national development, these difficulties present an important challenge to the countries concerned and to the wider international community. Isolation cuts off large numbers of people from the mainstream of human activity, results in a waste of human resources, and retards progress in both human and national terms. An increasing number of international agencies, including the World Health Organisation, recognise this and are making substantial efforts to assist. The challenge is for each country to find the most effective means of channelling to its own advantage all the goodwill and assistance that may be available both within and outside its region.

11. The range of communication needs may be wide, and includes communication by telephone, radio and written correspondence; and transportation of materials, patients and health professionals, by animal-drawn vehicles, jeep, ambulance, small boats, and modern air or ocean services. The large capital outlays and the high running costs of shipping and airline transportation pose special problems, and may require substantial international support. Whatever the need, an appropriate plan of action and an agreed strategy for implementing it must be worked out beforehand.

Demographic and health data

12. Demographic and health data, on the basis of which appropriate resource allocation and health policy formulation can be achieved, are meagre in the developing world as a whole and particularly in the countries the meeting is concerned with. Better data are necessary for effective planning and for achieving the best possible distribution and utilisation of resources.

13. The challenge is to bring health care facilities within reach of most of the people, using severely limited resources in ways that will yield the greatest possible benefits. This requires the development of a detailed set of objectives based on precise health data. What specific disease problems are

comprising the health or the population? To what extent? In what age groups? What order of importance do these problems merit? What programmes can be designed to deal with them? The requisite system need not be complex. It should be a simple, indeed preferably simple, system of gathering and monitoring on a continuing basis the information on which projects and programmes can be planned and implemented.

14. How adequate are existing health data and information systems for national or regional health planning? How can they be improved? Is advantage being taken of the priority that is being currently given by the World Health Organisation, the World Bank and many other agencies to programmes for improving national and regional health data collecting systems?

Strengthening national and regional institutions

15. The strengthening of existing institutions is likely to be a major element in any national or regional health programmes, and it is towards this objective that the major contribution of the Commonwealth Secretariat and of other agencies might most appropriately be channelled. The universities also are involved, and it is important that they should have a full appreciation of the problems with which their teaching is concerned. Their involvement should not be viewed as a distraction from the mainstream of academic medicine but rather as an opportunity to make their contribution through teaching and research and as a consultative resource to governments.

16. Assistance from external sources may be necessary, but the most useful measures are likely to be those which have a strong regional flavour and draw to the greatest possible extent on existing regional institutions. There may be a need to strengthen such institutions and to expand their capacity to become more effective focal centres for regional planning and action. Such centres might:

(a) help both to establish and to coordinate the activities of regional health assistance groups;

(b) assist in the collection and distribution of reference information relating to national and regional health needs;

(c) participate in the planning, implementation, surveillance and evaluation of educational and other programmes designed to meet these needs;

(d) organise appropriate workshops, seminar study courses and other meetings necessary for the harmonious development of the programmes;

(e) help to identify appropriate budgetary sources of support; and

(f) provide special technical assistance as need is identified.

Regional collaboration

17. The advantages of regional collaboration as a means for developing countries to make the most economic and effective use of limited resources are obvious. Although regional health groups have been established in the Caribbean, the South Pacific, West Africa, and East, Central and Southern Africa, there is a need for them to focus more sharply on the special health needs of the small and disadvantaged countries in their regions.

18. How can regional programmes to meet the needs of such countries be best developed and extended? What regional initiatives are practicable? What roles can be played by existing national and regional institutions? How can these be assisted to perform their roles more effectively? What resources would need to be allocated to such programmes? What are the likely sources of this assistance? What are the special areas in which regional collaboration is most likely to be effective? What special provisions need to be made for regional action in relation to them? What are the special roles that might be played by the Commonwealth Secretariat and other health agencies in promoting such collaboration? What roles are open to individual countries themselves?

Regional organisation

19. An effective organisational and administrative framework for regional collaboration is required. Here again the details have to be worked out in individual regions, but in each region essential elements are likely to include:

(a) agreement at the highest level of national and regional decision-making about priorities and necessary measures;

(b) a broad-based administering council, preferably set up in the context of any existing regional arrangements for health collaboration;

(c) identification of, and agreement on, the roles and responsibilities of participating groups - ministries of health, universities, professional organisations, community groups; and

(d) appropriate arrangements for sustaining action, planning, discussion, surveillance and evaluation of the activities involved at both national and regional levels.

Natural disasters and other emergencies

20. The effects of natural disasters on island and other specially disadvantaged countries are often severe. The response in such countries to emergency situations tends to fall below their already limited capacities. This inadequacy is due mainly to poor planning, lack of coordination of

resources, paucity of statistical data and imperfect tabulation of the various health-related components of disasters.

21. Some disasters, such as hurricanes and floods, present patterns sufficiently predictable for the problems associated with them and the requisite emergency measures to be readily anticipated. Contingency arrangements can be made, for example, for obtaining emergency supplies of vaccines, drugs and medical equipment. Identification of the categories, and likely sources in the region of skilled personnel required can also be made beforehand. Help obtainable from WHO, the International Red Cross and other international agencies, and the requisite measures for obtaining it, can be ascertained. The sequence of executive measures for initiating and coordinating appropriate emergency action can also be decided on in advance.

The role of the Commonwealth Secretariat and other aid agencies

22. A number of factors inhibit the mobilisation, coordination and utilisation of external finance by island and other disadvantaged countries. These include:

(a) complex procedures of aid agencies and multilateral financial institutions which place a heavy burden on limited planning and administrative resources;

(b) lack of information on potential sources of finance; and

(c) limited manpower capability for identifying, preparing, evaluating and implementing suitable projects.

23. The Commonwealth Secretariat might use its special knowledge of, and its relationships with, international health aid agencies to help in relation to these issues. Through its CFTC divisions for general technical assistance and for education and training, it might also assist with:

(a) the establishment of regional technical assistance groups, wherever possible, through existing regional institutions;

(b) strengthening existing regional health education and service institutions to enable them to be more effective focal centres for meeting identified needs;

(c) providing specific technical assistance as need is identified; and

(d) supporting national or regional training courses and seminars.

24. There is also the need to coordinate and harmonise the activities of both internal and external health agencies in most regions. Apart from the more effective and economic use of resources that this would promote, it would prevent duplication of effort and would facilitate the formulation of

better health plans. Regular, although not necessarily frequent, inter-agency consultations should be encouraged. The central coordinating council might be made responsible for arranging such consultations. The Commonwealth Secretariat might also be able to assist in this respect.

REALISTIC MANPOWER PLANNING FOR PRIMARY HEALTH CARE: PRACTICAL CONSIDERATIONS

Paper prepared by Dr. Richard A. Smith*

There are a number of ways to look at health manpower planning. Some plans are developed for publication to attract resources from donors, others for practical implementation. This discussion will deal with practical planning for implementable health manpower development programmes appropriate to specific health care needs and adapted to the contexts of specific national health care systems.

DETERMINING HEALTH MANPOWER NEEDS

In developed and developing countries, studies and plans on manpower supply and requirements have usually been done on a categorical basis - e.g. the supply of physicians, nurses, or laboratory technicians. Many planners make assumptions about future changes in the organisation of the delivery of health services and about the utilisation of manpower in categories other than those being analysed or developed. Too often the implications of increases in the supply of a single category of manpower on the need and demand for other categories of manpower are not taken into consideration. The introduction of new cadres of manpower, either de novo or through re-training of existing health personnel, presents difficulties that have inhibited the development of health manpower appropriate to a country's specific needs and resources.

Adequate objective data for health manpower planning are often lacking. There are no commonly accepted assumptions about the quantity or mix of health professionals and distribution patterns that would provide adequate, accessible care to all individuals. There are numerous methods for estimating the need and demand for health manpower, including:

(a) techniques using physician/population or nurse/population ratios - these are too simplistic;

(b) approaches based upon professionally defined criteria - these are subjective and strongly biased;

(c) methods based on current utilisation rates of health services by a defined population group with access to comprehensive health services - these are insufficiently applicable since too much variation is possible;

(d) economic methods, including econometric modelling - these produce apparently rational figures, but

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> frequently they are too complex and assumption-ridden to be realistic; such methods ignore the irrationalities of the system, and they arbitrarily place values on phenomena to which it is difficult or impossible to ascertain numerical values.(1)

These methods have serious drawbacks. Most of them deal with the projection of manpower needs on a categorical basis, in isolation from one another. Frequently they are also isolated from the reality of services that are needed - services that often can be provided by personnel with less sophisticated but more appropriate training. Nevertheless, we have to live with these methods because planners have to offer and support systematic estimates of personnel needs in order to obtain resources for health programmes. Task analyses of the jobs that need to be performed could economise efforts and resources. To determine effectively an appropriate manpower mix requires ending the isolation of health manpower planning from the realities of the health workers' jobs in the field - that is, from the implementation process.

This is the thrust of this discussion, a thrust that has been given impetus by Alma Ata, other WHO initiatives and the work of individual countries diligently strengthening the delivery of basic services to their populations. A component of this thrust includes incorporating the linear, rational thinking of the planner with the unpredictable, irrational activity inherent in any social system. Consideration needs to be given to non-static political environments, dwindling resources, and elevated popular expectations. One must attempt to develop the possible rather than the improbable (and know the difference between the two). It should be apparent that health manpower planning needs to be focused on the provision of primary health care services utilising the most appropriate health perscnnel, in contradistinction to planning around established personnel categories only.

PROBLEMS FACING HEALTH PLANNERS

No single model for planning primary health care programmes has universal application. Circumstances vary significantly from country to country. However, a review of the experiences of many programmes indicates that there is a great deal of commonality in health sector problems and in the general approaches proposed to solve these problems. The problems facing health planners in much of the developing world include the following.(2)

Lack of a clear national health policy, leaving health planners without guidelines for programme development.

Low priority for health. Health receives a low priority in the development programmes of many countries, and health officials must compete for limited financial resources with more economically appealing industrial or agricultural programmes.

Imbalances within the health sector, giving rise to emphasis on curative rather than preventive/promotive services, urban rather than rural coverage, hospital rather than ambulatory care (particularly in allocation of funds and staff), quality rather than

quantity of care, high technology rather than appropriate technology, training of doctors rather than of auxiliary health workers, and scientific rather than traditional medical practice.

Shortage and maldistribution of scarce resources

(a) Health manpower

(i) Limited numbers of health workers, particularly doctors and nurses. Ratios range from one doctor per two thousand persons to one per seventy thousand.

(ii) Inappropriate training of health workers, particularly for the health problems and working conditions of rural areas.

(iii) Maldistribution of health workers. It is extremely difficult to induce doctors and other highly skilled staff to work in rural areas. It is unlikely that this difficulty will be overcome in the near future barring major social and organisational change in many countries.

(iv) Inadequate definition of roles and insufficient delegation of simple tasks to individuals with less sophisticated but more appropriate training.

(v) Inadequate utilisation of traditional healers and birth attendants.

(b) Facilities, equipment, and supplies

The limited capital available for initial purchase of equipment and supplies is an impediment to expanding services. This limitation is compounded by supply management problems, including transportation and communication difficulties that hinder distribution of supplies, and lack of capability for equipment maintenance and repair.

(c) Finances

Shortage of funds is a chronic problem for the health service system in most countries. Constant vigilance is required to insure that new programmes are affordable and that recurrent operating funds will be available for such programmes.

Inadequate population coverage. It is difficult to achieve adequate health service coverage of mobile or widely dispersed populations - e.g. island communities separated by ocean, villages isolated by rugged terrain (jungle, mountains, vast roadless lands).

Under-utilisation of existing services and resources is a problem in many areas. Planners must identify the reasons for under-utilisation, if past impediments are to be successfully avoided.

Insufficient or ineffective use of health education.

Insufficient community participation in programme planning and the operating and financing of health services frequently results in services which a community may not understand, desire, or use. Countries that have improved health services rapidly have paid special attention to community attitudes and participation and have sought maximum community participation.

Insufficient and inappropriate training resources - educational materials, inappropriate training systems, and inadequate numbers and quality of trained tutors - hamper development of necessary health manpower and may give rise to inappropriate training for the tasks required. This problem is particularly characteristic in the training of auxiliary primary health care manpower.

Inadequate attention to, and resources for, environmental sanitation, such as unsafe water supply, insanitary waste disposal, and poor or non-existent vector control.

APPROACHES TO HEALTH MANPOWER DEVELOPMENT

A variety of approaches are used around the globe to develop manpower to deliver primary health care services. Until recently, primary health care was thought of as curative services provided by doctors, assisted by legions of nurses and other support personnel. This hospital-based model is the predominant practice of developed countries and has been the goal developing nations have attempted to reach. It has taken a long time for health planners to recognise that this high-level, resource-intensive approach to health services is unrealistic because of excessive costs and continued inadequacies in coverage. There is now growing awareness that a plethora of doctors is not a panacea for the myriad of problems associated with the delivery of health services.

Third World countries have been in the forefront of the development of more appropriate methods to provide health care services to their people. Many developing countries have realised that the traditional, highly intensive medical care provided by elaborately trained professionals working in expensive urban hospitals reaches only a few of their people. A more desirable model relies on the services of mid-level and community health workers widely deployed throughout the country, especially in the rural areas. Such a model for the provision of primary health care services can reach many more people and makes better use of severely limited resources. This new model for primary health care services also pays attention to the provision of preventive and promotive health care (immunisation, safe water supply), and thus the demand for curative services is reduced. Numerous developed nations are now agreeing that the high-technology, traditional model is inappropriate, and they too are beginning to make changes in their health care delivery systems to reduce costs and to improve accessibility.

During colonial rule and after independence, many countries developed mid-level health workers*, under central control but without peripheral connections. The workers were successful up to a point and for limited population coverage. These programmes were oriented primarily towards the training of health workers, without adequate concern for their support within the health care system. Emphasis was placed on tutor training, with little concern for the development of appropriate and relevant curricula based on an analysis of the tasks the workers would be expected to perform. Training usually was modelled on medical school curricula. Too frequently students did not acquire the necessary knowledge and skills when taught by traditional methods.

There are newer methods and technologies available, although some programmes will continue to use abbreviated medical school curricula to train mid-level workers. Other programmes are training health workers based upon manuals prepared by individuals and international organisations. Others use training methods such as the flow-chart or algorithm technology. Newer still, competency-based training will be discussed later in this paper.

China's dramatic emphasis on community health workers called attention to possibilities that country-wide basic health services could be provided at the periphery if there were national commitment to do so, and if national resources could be mobilised. The use of barefoot doctors in China undoubtedly influenced the World Health Organisation to alter drastically its concept of acceptable means for provision of health care services. The World Health Organisation began to promote the use of peripheral primary health care workers, and stimulated some developing countries and bilateral donors to support this movement. Recently, however, health professionals have become aware of serious problems associated with the training of community health workers in isolation from the rest of the health system. Since there is no Journal of Negative Results, only through informal communications which transcend politics have health professionals learned that programme failure is almost assured when programme design omits certain elements, such as strengthening management support in such crucial areas as supervision and logistics.

In planning the strengthening of a primary health care programme to improve the quality and quantity of services, including increased population coverage, particular attention must be given to the following.

Analysis and projection of health needs and the demand for services.

Enumeration of all types of existing health workers. This analysis should include paramedical workers and indigenous practitioners and healers, assess their productivity, and weigh the potential for upgrading these workers to become better providers of primary health care. Subsequently, specific task analyses and

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* called in various countries: medical assistants, nurse practitioners, medex, physician assistants, feldshers, medecin Africain, etc.

job designs should be made, as foundations for the development of appropriate manpower.

Estimation of future health manpower requirements, in both qualitative and quantitative terms, and training needs in light of the overall health programme.

Detection of present and future imbalances between estimated manpower requirements and expected supply.

Assessment and strengthening of the existing management infrastructure for the health service system within which present health manpower function, including organisational structure and supervisory capability, and management systems of transportation, communications, drugs and supply, health information, facilities and equipment maintenance.(3)

EIGHT PROBLEM AREAS

There have been numerous primary health care demonstration programmes involving mid-level and/or community health workers, but many have failed to make significant contributions to health care coverage for a number of reasons. The MEDEX group in Hawaii has examined the experience we have had in seven years of collaborating with five developing countries that have planned and implemented primary health care programmes, and we have gleaned information regarding the successes and failures of primary health care programmes in twelve other nations. In analysing these experiences, we have identified eight major problem areas. Consideration of these problem areas allows health planners to approach, in a logical and organised manner, key problems in the development of a multi-tiered health manpower infrastructure that will be the backbone of a national health care system.

First, a broad base of support is needed to bring together government policy-makers, training institutions, organised medicine, practising doctors, and others with vested interests in health care as part of the planning process. Together, they will offer the protective backing needed for the programmes to sustain themselves. Experience also dictates that a national commitment is needed if such a programme is to have significant and lasting impact.

Second, a receptive framework, within which new types of workers can perform, must be developed. Adequate pay and a new place in the personnel structure of the existing health system for the new personnel need to be secured. It is imperative that mid-level and community health workers be given a positive image that does not connote inferiority. There will be role dissatisfaction unless the image of these workers is positive, firmly established, and widely known. To aid this process, the primary health care worker could have a distinctive uniform as well as a special title in countries where these are considered important. The community should be involved in selecting candidates for training and in the planning process for the development of community health services. To prevent the community from feeling that they are getting "second class" care, some of these health workers should be assigned to the regional hospital out-patient

department and the rural primary care referral centre so that rural people will recognise that they are getting similarly appropriate care near their home.

Third, management capability, an area which is increasingly being recognised as the adhesive that holds primary health care systems together. Lessons from the successes and failures of other programmes are not difficult to find. Management capability is the key to successful programme implementation, operation, and replication. Special attention throughout programme planning and operations often needs to be given to an organisational structure that can provide a sound framework for supervision and support, and to management systems analysis and improvement in finance, personnel, facilities/equipment, supply, transportation, communication, and information.

Fourth, there must be involvement of doctors in developing the curriculum and in the teaching of curative care activities. Doctors must be involved because they feel and express responsibility for the quality of medical care practised in their country and are the ultimate referral point. If doctors design and help implement the training and then help supervise the workers (directly or indirectly), they will become strong supporters of the primary health care concept.

The fifth problem area is appropriate training. The abbreviated medical school model can be used or similar approaches based upon task analysis; however, competency-based training methods are now accepted in many countries as the most economical, effective, and resource conserving technology for developing countries. Based upon task analysis, the training is problem-oriented so that irrelevant knowledge is omitted from the curriculum. It is designed to assure that all students acquire all of the skills and knowledge required for competent performance of their specific primary health care roles. If this method is used, students are trained at low cost and in the shortest possible time. The training should be in rural areas if possible and trainers should have rural experience in both preventive and curative care. It is critical that attention be paid to communication and organisational skills. The University of Hawaii's Health Manpower Development Staff (the MEDEX group) is developing and testing a set of prototype modules that can be adapted to the specific needs of individual countries for training mid-level and community health workers. These modules constitute a competency-based curriculum that covers well-focused content areas and yet allows curricular flexibility. There are additional advantages to this modular approach: new curricular elements can be added or deleted with ease, achieved competence is easier to test, and the modules can combine a variety of educational methods and activities. The modular approach can also be used for continuing education.

With specially prepared modules, medex* trained by the modular system can train more peripheral workers (community health

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* To avoid confusion, medex is used in this discussion as a generic term to encompass all mid-level health workers.

workers), thereby creating a multiplier effect. If handled adroitly, this multiplier effect can be used to provide primary health service coverage to the majority of a country's population in a relatively brief time. To achieve this, doctors train and supervise medex. The medex, in turn, train and supervise community health workers, using a modular format that is similar to - but less sophisticated than - the modules used to train medex. The content of the community health worker modules is simplified, and there are other adaptations necessary for the training of less literate students. This system provides a unique training and supervisory interlock. This interlock and the resulting multiplier effect reduce the need for large centralised training institutions and conserve other scarce resources. In addition to covering curative, preventive, and promotive health, the modules also teach the needed skills of mid-level and peripheral management to these new health workers. Unlike doctors and nurses in developing countries, who are usually trained to a universally accepted standard, medex and community health workers are country-specific. The out-migration or "brain drain" of these categories of workers therefore will be minimal.

LIST OF STEM MODULES

Designed by the health manpower development staff, John A. Burns School of Medicine, University of Hawaii.

Core skills

Anatomy and physiology
Medical history
Physical examination
Causes of diseases
Formulary

General clinics

Common skin problems
DEENT problems
Respiratory system and heart problems
Gastro-intestinal problems
Genito-urinary problems
Infectious diseases
Common medical conditions

Trauma and emergency

Trauma and emergency

Maternal and child health

Problems of women
Child care
Family planning
Diseases of infants and children
Pre-natal and post-natal care
Labour and delivery

Community health

Community environmental health
Community family planning
Community nutrition

Community health work

Diarrhoea and dehydration
Nutrition
Hygiene
Clean and safe normal delivery
High-risk pregnancies
Community co-operation
Common clinical problems
Family planning I & II

Management

Organising and managing health services
Utilising management support systems
Evaluating and planning work
Supervising health team members

Sixth, to develop medex and community health workers without a deployment system is a major reason for the failure of many programmes that train health workers. In most instances, community health workers should be selected by and from the communities they are to serve. Where feasible, this should apply to medex as well. In any case, each medex should be destined for an area of serious need even before he is trained. He should not be trained and then allowed to settle in a comfortable and desirable location where usually there is less need for his skills. Where he will work following training should be pre-determined, and no effort should be spared to assure that he is assigned to the pre-determined location. Otherwise programmes such as these will have little long-term effect. In addition, if government priorities are not fully committed to providing adequate salary, housing, supplies, equipment, and supervisory personnel for rural health, one might as well not train these people. There has to be an adequate and on-going organisational and management infrastructure. Workers have to have adequate career security. Otherwise personnel will offer only curative care services (since villagers reward this behaviour), or they will migrate to urban areas. In other words, the medex and community health worker must have incentives to do a good job. These incentives are different in each culture and must be individualised.

Seventh, a continuing education and professional development programme must be implemented. Skills will decay if workers are not supervised, if performance is not routinely evaluated, if weaknesses are not identified and corrected, and if continuing training is not provided. Socially and educationally isolated in harsh rural environments, these exceedingly important contributors to development need to be satisfied in their jobs to be effective. They should not be deployed and forgotten. Attention to personal needs and desires for increasing skills should be recognised and fulfilled.

The eighth basic problem area is a health information feedback, evaluation, and planning system. This system should provide timely and accurate information on all aspects of the primary health care system, and the means for adjusting and improving training and programme management. Close attention must be paid to political as well as operational issues.(4)

These eight problem areas have become basic elements in a productive approach to improved health service coverage. They are areas to be considered following delineation of the services needed to initiate or strengthen a primary health care system using appropriate manpower as its action thrust. Initiating or strengthening primary health care systems with the MEDEX approach has added advantages: it is flexible and can be quickly adapted to solve country-specific problems, and it can be implemented and integrated into an already functioning health system. Consideration of these eight problem areas allows development of a planning and design approach to manpower needs for primary health care which has flexibility within a proven framework. Each country will handle these problem areas differently. However, with this approach to design and planning, the major elements of a successful primary health care programme with appropriate manpower are identified for appropriate action.

MEDEX is an approach to designing and implementing programmes which develop an appropriately supported manpower infrastructure to deliver basic health services throughout a country. Once developed, the functioning infrastructure can be the bulwark of a national system that extends and integrates the horizontal, intersectoral aspects of primary health care. Such a system should provide adequate means for permanently sustaining vertical programmes (e.g. immunisation, nutrition, child spacing, environmental sanitation) that are often crippled when interest in them and resources allotted to them diminish.

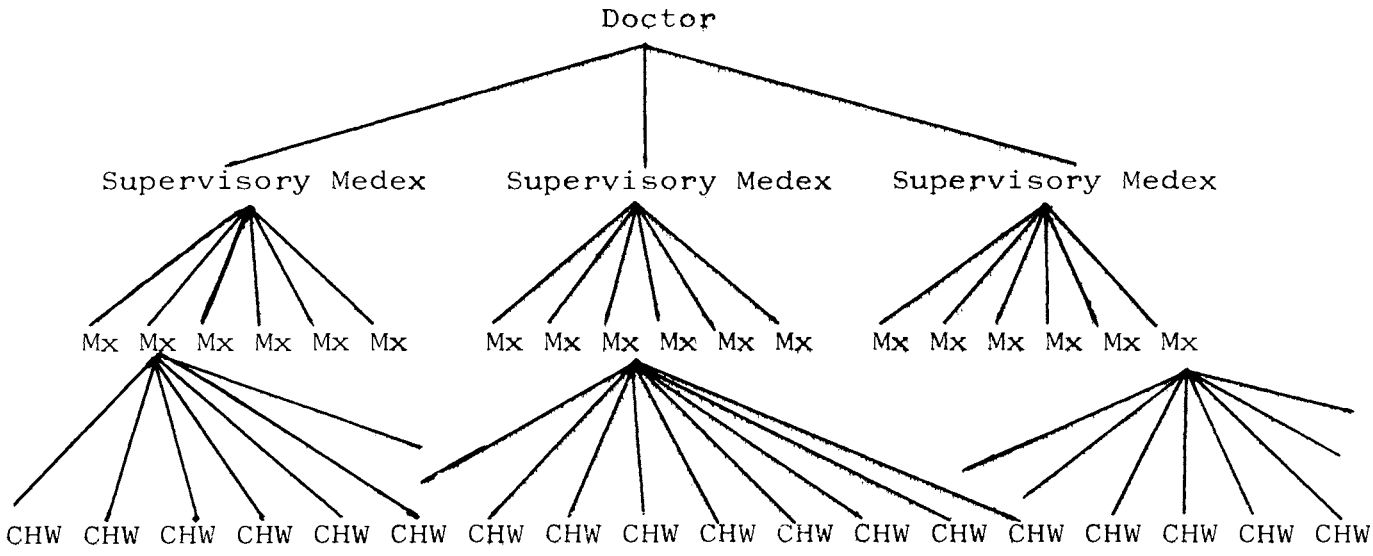
The MEDEX approach is a composite distilled from the experience of many professionals, based on their reported and unreported work in manpower training and primary health care planning. MEDEX staff members themselves have worked in more than seventeen developing countries. Their experience has been forged into an approach to improving and expanding primary health care. It is a clearly-defined but flexible systems approach to strengthen the delivery of country-specific primary health care services in the Third World. This approach emphasises systems planning and management, in addition to the training and deployment of mid-level and community health workers. The objective is to develop primary health care programmes which include the strengthening of planning, organisational structure, training, and management support systems necessary to extend and sustain basic, integrated, preventive, promotive, and curative health services on a nationwide basis, from the centre to the rural periphery. The first International MEDEX Network Conference, held in Honolulu in October 1979, verified the validity of this approach. Representatives from countries with MEDEX-type programmes (multi-tiered primary health care manpower) agreed that the major problems they had to solve in developing their programmes were encompassed under the categories discussed above, even though the conference participants represented countries with widely different geographic and social circumstances such as widely scattered island populations (Micronesia), small countries with difficult terrain (Guyana and Lesotho), and a large, heavily populated nation (Pakistan).

Health planners utilising the MEDEX approach feel that government health systems should have the following characteristics to improve and sustain primary health care services:

Planning capability	Management capability	Training capability
MOH planning evaluation system	Organisation of delivery system (including supervisory structure)	Community health workers
Integration Planning (integrating organisation and planning with resource allocation)	Management systems' Analysis & implementation:	Mid-level workers
		Tutors
		Supervisors
	Finance	PHC physicians
	Personnel	Health service administrators
	Facilities/equipment	Management training (for all levels)
	Supply	
	Transportation	Continuing education (for all levels)
	Communication	
	Information	

integration with health and other developmental systems

This type of approach to primary health care makes it possible to expand services without excessive financial investment. The key to the system is the mid-level workers or medex, who serves as a "boundary spanner". This worker provides a liaison between central or regional resources and the community, and bridges the cognitive and social distance between doctors and the community health workers. Re-training of health workers already employed by the government (e.g. medical assistants, nurses, malaria workers) to become new kinds of primary health care workers conserves resources. The medex train and supervise community health workers near their villages without the creation of more expensive training institutions. The deployment and multiplier effect of this training/supervisory interlock resembles the following:



This paper has described an approach to planning improved and expanded primary health care systems based upon new manpower configurations. It is hoped that the review of problems confronted by those responsible for delivering primary health care services will prove useful to planners. Flexibility and the capacity to adapt and glean appropriate experiences for local consideration are important for planners who want to develop successful health programmes with significant social impact.

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TRAVEL AND COMMUNICATIONS: THEIR RELATION TO HEALTH PROBLEMS IN SMALL STATES

Paper prepared by Professor E.R. Walrond*

Many of the new countries in the Commonwealth are small states, small in terms of population and in many instances in land mass and identified resources. Many, like those in the Caribbean, are separated by sea although grouped together. Within these states mountainous terrain, forests or other ecological factors, along with the underdeveloped state of roadways, make internal communications difficult.

These factors are reflected in the health problems of the small states. Thus within the state, the isolation of rural communities is reflected by a maldistribution of health personnel and services, and as a consequence the inability of rural populations to utilise what services are provided in the country.

In addition, because of the underdevelopment of the small states themselves, their national health problems suffer from the deficiencies of rural communities. Thus in small states the services are undermanned, have poorly-developed facilities, and patients may have to travel to other countries for secondary and tertiary care services.

These factors have profound effects, reflected in communications both within the small states and between these states and other, better developed states. Thus in any consideration of the effects of travel and communication on the health services of small states, one needs to consider both internal and external communications, and the variety of such communications, including travel by road, sea and air and communications by letter, telephone, telegram, radio and even satellites.

In considering the influence of travel and communications on health care in the small states, one can easily see the influence that this can have in all areas of health care, including primary, secondary and tertiary care, and in the related educational programmes, particularly those for continuing education. It might therefore be useful to reflect on travel and communications in small states in relation to the provision of the different parts of the health care system.

Primary care

In this sector the factor most frequently complained about is the maldistribution of services. Travel and communications have an important bearing in the production of this maldistribution, in that health care personnel, unless they have other overriding interests in the economic, cultural or political

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field, will not locate themselves in rural or poor urban areas. This is not a problem that has been solved by suggesting to health care personnel that they are unconcerned or even unpatriotic, for often the pressures of family life may determine their attitudes.

In approaching the possible solutions to this problem, it is important to take these factors into account. Such a consideration might lead one into realising that it may not be the best solution to try and provide unwilling resident personnel, but rather to develop travel and communication lines which can help solve the problems in these undermanned areas.

In poor urban communities the travel and communication problem is usually soluble. However, the maldistribution of health personnel in this sector is sometimes aggravated by the reluctance of the most experienced personnel to work in these areas, and there is consequently a lack of a proper role model for more junior personnel. This problem is further accentuated in the rural areas by inadequate travel and communication facilities.

Solutions must therefore be addressed to both these aspects. Systems are needed which will bring both senior and junior personnel into the under-served areas, and where travel difficulties exist the use of modern means of communication must be considered. Flying doctor services are familiar as a means of bringing the doctor to the patient in an emergency, as also is the use of the helicopter for bringing the patient to the doctor. What needs to be explored is the use of such systems for bringing the doctor to patients for routine services. This should involve travel by senior people so that a proper role model is provided for the patient service, and for the proper promotion of on-the-spot education efforts for local health personnel.

It is not uncommon in small states to see health care facilities sited away from usual bus routes, leaving them under-utilised, whilst central facilities are over-utilised because the transportation routes lead to them. Careful planning on siting, or some re-routing of services at special times of the day, could help to solve such problems.

Secondary and tertiary services

It is clearly economic to centralise the expensive facilities required to provide secondary and tertiary services. However, in under-served areas most patients requiring these services present emergency problems. Although this fact reflects inadequacies in both the primary and secondary care services, it highlights the importance of travel and communication services in the provision of health services, particularly for emergency secondary care. Since there is a lack of personnel to travel to emergencies, it is important to provide means of communication between local health personnel and hospital-based physicians, as well as an efficient means of transportation. If telephone services are not available, then one must look to more sophisticated means, such as radio links. It is not unusual where such services are provided to find them under-utilised or poorly utilised since they are seen not as a means of information exchange but merely

as a means to facilitate transfer of patients. Clearly, proper communication can make a lot of difference to the survival of patients in emergencies, apart from any question of obtaining agreement to transfer. In order to achieve effective communication, personnel need to get to know each other, either by periodic visits from the periphery to the centre or the other way around. In some instances, this objective could be achieved by the use of more sophisticated telecommunication techniques.

In secondary and tertiary care in small states, the care of patients, both during an illness and follow-up, is grossly inhibited by a lack of information that may be available elsewhere. Often the health professionals are blamed for not transmitting such information. However, any desire to do so is frequently inhibited by the lack of secretarial help or photocopying services. These simple administrative tools must be seen as a proper expense in the provision of an adequate service for patients.

Continuing education

The kind of movement of senior personnel suggested in the provision of primary care services can play an important role in a continuing education programme. Similarly, benefits in this area can be seen from the information exchange and contact between personnel necessary for the provision of secondary care. With supplementation from audio-visual aids, such exchange and contact can grow into an effective continuing education programme, particularly since senior education personnel would be able to bring a greater local knowledge into the programmes.

Summary

The influence of poor travel and communication links can be seen to be a gross inhibitory factor in the provision of good health care facilities in small states. In many instances sophisticated means of travel and communication are available but are under-utilised or poorly utilised for the purpose. In some instances some simple services are not provided, because their simplicity often makes them seem unimportant. The services should be used to bring more effective communication between personnel in rural and central facilities, including the use of sophisticated means of travel to bring senior health personnel into contact with the under-served areas.

Recommendations

1. Effective communication between peripheral and central services (both within and outside small states) should be promoted in order to improve the delivery of health care and to facilitate the continuing education of health personnel. In particular, modern means of transport should be provided to move patients to central facilities for secondary and tertiary care, and to move senior health personnel to peripheral areas.

2. Secretarial help, including photocopying services, should be provided to assist the effective communication of clinical information.

REPORT ON A VISIT TO STUDY HEALTH CARE DELIVERY IN A NUMBER OF WESTERN PACIFIC ISLANDS

Prepared by Professor Lindsay Davidson*

I am most grateful to the World Health Organisation for the opportunity to undertake this survey and to all those in the various countries who gave me of their time and for their patient answering of all the questions I asked of them.

INTRODUCTION

The countries of the South Pacific, although small, represent among them an enormous variation in size, facilities and development. Papua New Guinea is the largest, with a population of approximately three million (greater than New Zealand). The next largest, Fiji, is approximately a fifth of the size of Papua New Guinea in terms of both population and area, while the smallest has approximately one-fifth of one per cent of the size and population of Papua New Guinea. Clearly, therefore, even though one is speaking of small nations, it is unrealistic to consider that any of the problems are susceptible to universal solutions.

Nevertheless, certain generalisations can be made. The population density of the thousands of islands involved (e.g. the state of Fiji, although thought of by most as an island, actually consists of 320 islands) is from 5 to 50 persons per square kilometre. Population growth rates are of the order of 2.5 to 3 per cent, around 40 per cent of the population is aged less than 14 years, and the dependency rates for 100 adults are 158 to 200.

Three of the countries - Papua New Guinea, the Solomon Islands, and the New Hebrides - have endemic malaria, and filariasis is endemic throughout the region. Epidemic infectious disease is usually controlled, although there have been recent outbreaks of cholera in Kiribati and of whooping cough in the New Hebrides. The major causes of morbidity and mortality are respiratory diseases and diarrhoeal diseases with in some countries tuberculosis as a specific problem. Leprosy is not a major problem in the region, nor is malnutrition except at weaning and in certain localised geographical areas, but unlike the generality of developing countries degenerative heart disease and diabetes are beginning to be a major problem and the most prevalent malnutrition syndrome is obesity.

Almost all the countries have inherited what might be described as a colonial type of health service, with either a British or a French orientation as these two countries had the major responsibility for these nations before independence.

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The health services were based on expatriate medical staff normally located in a hospital setting with a concentration of hospitals where the expatriate administration was located, with the accent on therapeutic medicine as in developed western countries and with, by and large, the tendency to wait for the sick to come to the health institutions rather than looking for health problems to solve in the community. In most cases, of course, the coverage was not complete and this is particularly so in relation to those states whose territory is subdivided into numerous islands. The majority of the population did, and still do, consult first with the local traditional healers and only later, and often as a last resort, with western-type medical services.

In some countries the preponderance of hospital-based facilities is so marked that 70 per cent of the national health budget is expended upon the hospital, which has often been built with outside aid funds. With independence, indigenous dissatisfaction with this state of affairs has resulted in several of the nations in a formal parliamentary enquiry into the national health services, recent examples being in Fiji and Western Samoa.

There has been little attempt at regionalisation of health delivery services either on a national or a supra-national scale, partly because of the relatively small differences in the level of availability of services within countries, and partly because of the natural reluctance of the population to be referred sometimes to places outside their conceptual experience even if within the country. There has been also a limited traffic of transfer of patients from these countries to the super-specialist facilities of neighbouring Australia and New Zealand, but in these instances the expenses of the transfer and treatment have usually been donated by the recipient country on a quota basis and one constant request throughout the countries I visited was for an increase in the quotas.

Some attempts at regional provision of training facilities have existed - for example the Fiji School of Medicine - and the constraints and difficulties of this programme will be discussed in a separate section.

I would now like to turn to certain specific areas which merit special consideration.

HEALTH MANPOWER

Medical manpower

The major source of doctors for the regions was and is expatriates. Most of the specialists in the hospitals and many of the hospital medical officers are still in this category. There are two local sources of doctor manpower:

(i) the Fiji School of Medicine; and

(ii) the medical school of the University of Papua New Guinea.

The fact that neither qualification is registrable for practice in Australia or New Zealand has great significance for postgraduate training. The Fiji School of Medicine was designed to provide on a regional basis local medical practitioners capable of providing total medical and surgical care for the community, except in urgent exceptional circumstances, and in concept was thus designed because of the extreme isolation of some of the communities served by these officers. The Papua New Guinea School of Medicine is designed to produce a medical graduate of international calibre. At this present time both institutions are in considerable disarray.

The Fiji School is grossly under-staffed and under-funded to perform its function of training medical graduates, let alone provide the additional courses it is trying to provide for other health personnel, and now it has had in addition forced upon it a course for medical assistants at a lower level. It is currently under the control of the Fiji Health Department which has been subject to a recent governmental enquiry, and it has also been looked at by an international committee of Australian and New Zealand experts which has recommended that it come under the wing of the University of the South Pacific. It is clear from my discussions that many people feel that:

(a) under present circumstances it would not be likely to be acceptable to the University of the South Pacific in terms of its standards;

(b) although the school authorities attribute the high failure rate among non-Fijian students to inadequate educational preparation, the view is held outside Fiji that the students from other countries are being treated differently from the local students by school authorities; and

(c) the numbers of graduates from the School are inadequate for the needs of Fiji alone, let alone the other countries concerned.

Nevertheless, it must be said that this is an absolutely vital health facility for the whole area, and this question of the regional responsibility and financing of the Fiji School of Medicine is a matter for most urgent consideration. The loss of this regional facility would be an international disaster.

The medical faculty of the University of Papua New Guinea also has major problems. Forty of the 45 staff are expatriates and the school has had difficulty in maintaining adequate levels of staffing. The student intake has never yet reached the appropriate quota level so that the school is willing to take students from other countries, but the governments of the other countries have difficulty in getting students to reach the educational levels demanded, on the one hand, and in financing them on the other. Additionally, from the local situation in Papua New Guinea there is a dearth of medical students because medicine and doctoring does not have in that country the high esteem that it has in most of the rest of the region, nor the

high pecuniary rewards that are available in most of the rest of the region (advancement in the administrative side of the Papua New Guinea Government is at this time likely to be more expeditious and more profitable for a bright young man).

So the medical school in Papua New Guinea is not yet even able to meet the demands of Papua New Guinea and is unlikely to make a substantial contribution to the needs of the area for some years; and, as 55 out of the 60 medical specialists in Papua New Guinea are expatriates, it would be at least one to two decades before the staffing of the school could be expected to be by Papua New Guineans.

With regard to nurse training, the position is somewhat better. Most countries have a nurse training school at the major hospitals and in most cases the standard of the nursing qualifications has been acceptable in New Zealand as registrable at nursing aid level, so that it is possible for the nurses from the South Pacific to obtain postgraduate training if not qualifications. The system in Fiji and Papua New Guinea is more advanced, and as well as training for general nurses specific training is available for public health and community nurses.

In all the countries that I visited, however, there was concern about the very large drop-out rate of student intakes (30 to 40 per cent) and the very large losses in terms of students who were sent abroad for postgraduate training (80 to 90 per cent in some countries). In none of these countries was a serious attempt being made to train more nurses and there is clearly a growing problem developing in many areas in relation to the respective roles of the well-trained public health nurse who had a higher educational entry level and a longer training compared with the medical assistants (New Guinea health extension officers) who, in many cases, might have a lower entry level and a shorter training and yet are being considered by the system in a more dominant role.

The ancillary medical staff position with regard to health service personnel other than medical and nursing is uniformly a disaster area. There is a medical technologists course in Fiji, but paradoxically throughout the Pacific there is a major lack of people in this area, as the general education systems have been such that those who do come to the top are capable of going forward to the higher positions such as doctors and nurses or moving rapidly on the administrative side, and there is no group of science-orientated students to move into these areas which carry no charisma of respectability in the eyes of the population concerned.

Administration

As in western countries, much of the top health administration is in the hands of medically-qualified or Fiji School of Medicine graduates or those with higher education at tertiary level. There is, however, a huge gap between those in the top-level situations and the workers at the grass-roots level which is almost a void. Again, this is a function of the

general educational system which up until recently in most areas has been devoid of significant numbers of secondary school graduates (e.g. in the Solomon Islands there is only one school taking students to university entrance level). While time will doubtless help to improve the situation, there is really at this moment urgent need for the provision of a middle-level management administrative cadre.

A final point worth emphasising in this area is the total lack, because of size, in most of these countries of any possible career structure. For example, most of the middle-size countries (that is, those with populations of the order of one hundred to one hundred and fifty thousand) require perhaps two or three surgeons, and since it is possible to be a fully trained general surgeon by the age of 35 then it is clear that one such career post may arise about every 10 to 15 years, which scarcely gives a young local graduate much grounds for pursuing a career in such an area. This applies across the board in health services, whether we be talking of surgeons, medical officers of health, opthalmologists, physicians, pharmacists, malariologists, epidemiologists, or whatever.

Additionally, despite the obvious inadequacies in the availability of staff in many areas, there is often a mismatching between existing staff and the work that they are required to do, so that quite often personnel are over-trained for their work location and what is required of them. Examples are a doctor in Samoa with surgical expertise working as a district medical officer but using a substantial part of his time to perform cold hernia surgery in primitive surroundings within 12 kms of the national base hospital; or a qualified medical officer trained at the University of Papua New Guinea running a district clinic 15 kms from the base hospital on a bus route and resident on site, when clearly the type of work being done by the clinic would be more appropriate for a well-trained nurse plus a daily or twice-weekly visit from a medical officer.

Again, the problem of supervision and direction also is important. For example, in E'ua (Tonga) the medical officer on an island with approximately 5,600 people within 10 km, with a daily boat (2 hours) and a twice-daily plane (7 minutes) to Nuku'alofa, was involved in nothing but therapeutic medicine. He saw one or two patients a day at one clinic and 20 to 30 patients at his own clinic where he saw every patient, but by comparison with the other clinic most of those did not require to be seen by a medical practitioner. He had an obstetric workload of approximately two cases per month. He had a brand new, as yet unopened, 16-bedded hospital and spent much of his time in his garden. He appeared to have no instruction or training in relation to preventive medicine, public health, health promotion and prophylactic maternal and child health care.

The point I am making here is that the scarce resources available were being used in very traditional ways and in none of the countries that we visited was there any evidence of attempts to break away from the inherited system other than in Papua New Guinea.

COMMUNICATIONS

Communications are a serious problem in the Pacific Islands. There are certain areas, such as in the large island of Espirito Santo in the New Hebrides, where ground communication is limited and difficult and there are many isolated coastal hamlets. In other cases such as in E'ua (Tonga) although the island has 15 kms of road this is extremely rough and unmetalled and such transport as is available is not necessarily available to health services personnel. But in the whole geographical area the major form of transport is by sea and in terms of medical emergency this can be slow and unreliable. For instance, while we were in Fiji the Assistant Secretary of Health spent eight hourse in a boat trying to reach a neighbouring island and had to return due to weather conditions without reaching his destination, and some more remote islands have no air connections and only two or three boat connections per annum.

In many cases also there is no radio, telephonic or telegraphic communication between isolated communities and the centre so that, for instance, again in the New Hebrides, in Espirito Santo to obtain help for a case of obstructed labour meant a two-day walk for the husband, a 12-hour wait for the availability of a boat and an 8-hour sea trip by the boat to the patient's location - by which time, of course, the problem had resolved, in this case fortunately with survival of both mother and child. As a result, the evacuation of even major casualties (often due to accidents) is frequently not possible. Health services planning has got to take this problem into account either by providing a standard of service which can cope with every emergency in every locality or making radical changes in the system in order to develop medical services associated with a suitable communications strategy to enable rapid evacuation of serious problems.

In the wider field of communication for learning, the co-operation with the University of the South Pacific in relation to its satellite stations could very well be used as a regional health services educational system and thought should be given to the ways in which this can be developed over the next few years.

PUBLIC HEALTH

The main problems of these countries are still those which are related to basic public health concerns and which have to a large extent been overcome in western countries. The major diseases are still infectious diseases: malaria, filariasis, the diarrhoeal diseases and respiratory diseases including tuberculosis. The methods of control of these diseases are well known but the application of the solutions is beyond the purse of most of the countries concerned. In addition, since these countries have inherited a colonial health service based upon central hospital facilities they find themselves in the situation where they have more than adequate hospital accommodation and the continued servicing of this takes approximately the same amount of the total

health service budget as it does in westernised countries - that is, around 60 to 70 per cent. At the time when the western countries were overcoming their public health problems they were able to devote a larger proportion of their health budgets to the public health as against the hospital system.

There are three main inter-related areas of concern. The first is the environment, particularly in relation to water supplies and sanitation. The water supply problem is compounded by the often small isolated communites on the one hand, and by the fact that in many of the islands there are no running streams and water has to be obtained from shallow wells with increased risk of sewage contamination. Sewage disposal is, of course, very primitive and often directly contaminates the lagoon or beach area.

The second problem is the question of educating the population. Many of the present adults have never been to school, or have at most been to primary school, and are illiterate. In public health matters this problem is compounded again by the isolation and by poor communications, with poor distribution of leaflets and pamphlets to a somewhat illiterate population and with large areas where the population are unable to afford or maintain means of tapping in to the national broadcasting networks where they exist. Even dry-cell batteries and small transistor radios are beyond the means of peasants in a subsistence economy. In addition, there has been a failure of the health administrations to date to give sufficient emphasis to the educational aspects of public health problems to any, far less all, of the ranks of the health personnel apart from isolated exceptional examples such as the public health nurses in Fiji.

The third problem is the application of standard preventive medicine. Nutrition is apparently not a major problem except at weaning and except for obesity, but maternal and child care services are mainly primitive, family planning is mainly unaccepted,and dental care is almost totally lacking. Prophylactic immunisation is often offered in central locations but is not part of a programme and in any case often breaks down peripherally because of the 'cold chain' problem. The prophylactic treatment of, for example, filariasis has nowhere had adequate mass coverage and acceptability, while malaria prophylaxis is out of the question on cost grounds. Finally, the central administrative planning of what is worthwhile or possible and what is not has often not been of the highest standard.

Mental health services are, by and large, still in the era of punitive sequestration of those who are too difficult to manage in the community.

In the more general terms of relating health development to general development, there is little evidence of inter-departmental cooperation between health, education, and agriculture, in the forward planning. Where any attempt has been done to assess the view of the population, as in a survey in Tonga, the first three priorities came out as water supplies, roads and - only third - local health facilities.

EXISTING HEALTH FACILITIES AND ADMINISTRATION

Apart from the often stated need for the ability to transfer individual patients with special problems abroad and the seeking of funds for this purpose, by and large the hospital facilities in each country are more than adequate in terms of the physical structure and in terms of nurse staffing, but there is a lack of specialist medical care in many of the countries. This is mainly due to the fairly recent departure of expatriates, on the one hand, and the clear lack of educational facilities to produce local people of educational standard to specialise at an international level, on the other, combined with the absence of any possible career structure.

At the other end of the scale, the current expectations of the indigenous populations can clearly be met by the provision of such health workers as the aid post orderly in Papua New Guinea, working up through the nursing aid or similar to the more sophisticated public health nurse of Fiji. The areas of gravest concern are those of middle management. This applies both to health personnel and to allied professions such as health inspectors, malaria control teams, etc. Throughout the Pacific there is almost a complete absence of persons acting in this middle level supervisory role. The reasons, of course, are fairly clear, in that those who were in this role in the expatriate colonial systems now find themselves in charge of the systems in the higher administrative positions, and there has as yet been no time to train replacements due to the forever-present 'lack of career structure' bogey. In some cases this has resulted in examples of the Peter principle - i.e. persons being promoted till they get to a job they can't handle - and this again is a factor in the difficulties the countries are experiencing in the priod of change.

There are several other areas of concern within the present structures which merit individual mention.

Technical Services

There is not only a lack of technical manpower but also a considerable lack of technical equipment. The latter is due partly to lack of funds to supply this but more particularly to the lack of technical maintenance. In this regard it is clearly impossible to justify the provision of a maintenance technician in each area of expertise in each country. The two possible solutions, regionalisation and multi-purpose technical staff, will be discussed later.

Drugs are a major problem also. The cost of drugs, their distribution, the storage of drugs and the provision of drugs on a long-term basis are all major problems. A recent meeting sponsored by the World Health Organisation to discuss a regional solution to this problem has taken place in the Pacific.

Finance

Most of the countries have a subsistence economy and within that the health services have a relatively low priority

in relation to general development. So for many years to come it is unlikely that health budgets will grow at anything more than the current inflationary rate. This means that the distribution of health money within the budget will have to be altered from the present distributions, which are heavily loaded on the therapeutic side, if the general standard of health and health care in these countries is to be improved.

Such capital development as is available is usually dependent upon foreign aid of one sort or another. One of the problems that faces these countries is that most often the donor of foreign aid wishes it to be used for a specific project, and although such a project may have a relatively low priority in the country's health development plan needs, it is often deemed politically unwise to refuse the offer. This further distorts the progressive re-ordering of the system towards local needs.

SUMMARY

The problems, therefore, are those of small, isolated, geographically fragmented, poorly-educated communities with subsistence economies and a shortage of secondary and tertiary educational facilities, who have inherited a therapeutically-oriented hospital-based health care system conceived on conventional lines but with incomplete coverage. They have to attempt to alter this through an administration which is thin in top management, completely lacking in middle management and chronically short of personnel at all levels of sophistication.

In such newly-emergent nations there is a strong political pressure to internalise the solutions and remain totally independent in a situation in which in reality the solutions are external, both in terms of financial help (both for capital development and current expenditure) and for the facilities for the provision of the necessary manpower.

In addition, in the existing situation a large percentage of those who are selected for external training do not return because of lack of career opportunities and other social reasons from countries in which in any case the provision of appropriate training facilities is at best a marginal addition to those countries' own programmes.

SOME SUGGESTIONS TOWARDS SOLUTIONS

Administration

A striking consistency was noted in the conventionality of the thinking of the health administrations which, in most cases, was clearly inappropriate but not unexpected, as the top administrators in most of the countries had, in fact, grown up with a conventional system. Some way of breaking this cycle must be found so that each country can look at itself and propose its own rational solution or solutions to its own problems.

I believe that in each case the provision of a national health advisory council with representatives from health, education, agriculture, finance and the community could be useful in guiding health administrations out of their present conceptual ruts.

In addition, I believe that it is appropriate to develop shortish-term secondments (3 - 6 months) between aid-giving countries and the countries of the Western Pacific at top administrative level in the health services. The major object of this would be to give practical developmental experience to the top-level management of the countries concerned, while the persons seconded from the aid-giving country would mainly concern themselves, apart from the routine administration, with thinking towards new types of health planning for the country concerned. I would place this as a top priority to be considered.

The second area in which this is relevant is in the question of manpower planning: looking at the maladaptions in the present systems, developing some primitive type of statistical work to aid manpower planning and assessing the potential and curricula needs of multi-potential technologists. If it is possible, for example, for primary health care to be the responsibility of an aid post orderly, it is possible to train someone to be a practical radiographer plus laboratory technician plus even perhaps maintenance technician where the work in a particular unit does not justify the employment of all three.

Specialist training

Similar considerations would be relevant in relation to specialist training. Preliminary soundings of colleagues at the Royal North Shore Hospital in Sydney would indicate significant numbers of specialist prepared to spend two to three months in these countries while the appropriate specialists from there could undertake practical refresher courses in Australia or New Zealand or the United Kingdom.

Health promotion and preventive medicine

The published statistics suggest that in most countries almost 100 per cent of the children are now at primary school. Clearly, therefore, appropriate health education and health promotion activities ought to be part of the primary school curriculum and certainly of all teacher training. There is good evidence now throughout the world to suggest that this approach is:

(a) effective as the children grow up; and

(b) passed on to and adopted by the parents provided enough emphasis is put upon it in the schools.

Regional cooperation

Through the auspices of the World Health Organisation or the South Pacific Commission, with specific aid to nations from appropriate countries, it should be possible to work towards:

(a) a regional pharmacopoeia and a regional supply and distribution of drugs;

(b) a regional technology service with preventive maintenance for microbiological, virological, biochemical, cardiological and radiological, etc, apparatus;

(c) regional cooperation in the management of exceptional cases either by the provision of visiting specialist teams, as in the current cases of the visiting teams of opthalmologists in the Solomons or the cardiologists and cardiac surgeons to Papua New Guinea, or by increased quotas of referrals to aid-country facilities;

(d) regional cooperation would also be important in medical information systems.

In connection with (d), the library facilities of both the Papua New Guinea School of Medicine and the Fiji School of Medicine are as yet in the development stage, and in most of the other countries the library facilities, if existent, are primitive. An important regional initiative would be the development of adequate medical information systems. This might be envisaged developing through the University of the South Pacific in association with its satellite communication network. Even the donation of a number of standard journals to the base hospitals in any of these countries would be a welcome addition to their library facilities.

Communications

One of the major problems in the area is that of communications. These are mainly by sea. The solution to their problems in each of the island nations may very well be different and dependent upon total thinking about the health services. For instance, in Samoa it might well be appropriate for all major health services to be concentrated on the national hospital and an ambulance service provided to bring suitable patients from the rural clinics, with the withdrawal of most medical officers except for the two major hospitals in the two islands. On the other hand, the needs of Papua New Guinea will be most clearly met by the further development of its present system on more traditional lines, including specialist hospitals, district medical officers, health extension officers, and aid post orderlies.

Many of the countries have fallen into the conventional colonial pattern in the past and are now thinking in terms of the standard World Health Organisation family care system, whereas neither may be entirely appropriate.

The Fiji School of Medicine

For all the countries I visited except Papua New Guinea, the Fiji School of Medicine must be the major source of medical manpower for the foreseeable future. It is currently in a crisis situation. I believe that either the Commonwealth, the South Pacific Commission or the World Health Organisation must take major initiatives in a regional conference to consider the problems of the school and their solution. Australia and New Zealand should certainly be invited to participate as it is clear that the major source of supportive manpower, technical help and perhaps aid money will come from these two countries.

Foreign aid

Although the ex-colonial powers, Britain and France, still have a significant input into the area, for the future the countries most concerned will be those geographically adjacent, particularly Australia and New Zealand (and perhaps Japan but there, there is a major language barrier). Past contributions from Australia have mainly been major building projects, but from New Zealand there have been a whole host of health-related activities, including providing facilities for training in New Zealand. Australia has only relatively recently entered the health field.

However, in neither country is there a serious attempt to provide the type of courses or the sort of training which the Western Pacific needs - e.g. short, one- to three-month courses in epidemiology or health services management particularly slanted to Pacific needs, a course to produce a multipotential medical technologists, postgraduate training in appropriate fields for nurses.

The problems are partly a question of the registrability and academic levels of the people coming into Australia and New Zealand for such training and partly the lack of interest in the aid-giving countries in providing such courses from their institutions of higher education. It would seem:

(a) appropriate that secondments from Australia and New Zealand towards institutional strengthening on a short-term basis would help to induce interest in the donor countries;

(b) that geographical linkages between particular institutions and particular countries might be helpful;

(c) that Australia at least should consider sending a health mission to the Western Pacific specifically to look at what it can do in terms of institutional strengthening;

(d) that there is also urgent need for a specific small grants scheme as well as institutional strengthening and secondment schemes. A Health Coordinating Authority to help the

Australian Development Assistance Bureau with the administration planning, and the making of appropriate contacts within the Australian system for support from Australian health experts is also required. The Commonwealth Institute of Health (formerly the School of Public Health and Tropical Medicine) could provide such a liaison facility.

ENVOI

The opportunity to visit these several countries, all with similar but different problems, was most educational and I hope that the information I gained can be turned to effective use in encouraging and developing cooperation between Australia and this fascinating area of the world.

ADDENDUM

Telephone conversation with Dr. Ross-Smith, WHO, Suva

(1) Fiji School of Medicine, The University of the South Pacific and the Fiji Government have set up a joint committee to consider its future, with Dr. Ross-Smith as an observer from WHO. The main problem is the long term budgetary one for the Fiji Government.

(2) Nutrition. A WHO consultant recently visited the area and found pockets of under-nutrition of considerable severity in the Solomon Islands and in Kiribati as well as the weaning problem and the over-nutrition in Tonga, Samoa, etc.

(3) A regional pharmacopoeia and the WHO-recommended list produced after the regional conference is now in use as "the 200 essential drugs list".

(4) A special course for medical technologists with 30 students from the South Pacific is being run by the Upper Hutt College in New Zealand.

(5) The WHO regional office had a consultant working on the satellite problem and this concept is going ahead in relation to health now. The equipment has been upgraded but there are still problems in linking Australia.

SOME SPECIAL HEALTH PROBLEMS OF ISLAND DEVELOPING AND SOME OTHER SPECIALLY DISADVANTAGED COUNTRIES

Paper prepared by Professor Kenneth W. Newell*

I gratefully acknowledge the assistance of the Sandoz Foundation in making funds available to me to collect information from and consult with governments in the Pacific, South East Asia, the Caribbean and elsewhere, and to consult with the World Health Organisation, the Commonwealth Secretariat and the Christian Medical Commission. This paper is based upon material from these sources and I am most grateful for the interest and the responses to my enquiries from these multiple authorities.

THE NATURE OF THE PROBLEM

It is widely recognised that many different groups of countries have different health problems requiring quite different solutions. The past decade has been filled with appreciations of these special needs and unique solutions and some individual, national, regional and international actions have resulted from the prominence that has been given to these identifiable special cases. For example:

(a) Special Disease Problems. A recognition of the size and nature of the problems with onchocerciasis in West Africa, and cholera in Bangladesh and in Bengal, has resulted in national and regional action which has been dramatic and of major health relevance; or

(b) Poverty. The leadership of the World Bank in underlining the dominant role of poverty as the major factor influencing health in many rural and peri-urban areas (quite independently from the level of national wealth or health services) has been an important factor in altering attitudes and actions relating to development.

These and similar special classes of examples have not stood in the way of debates upon some major fundamental principles on health care and development such as those on Primary Health Care by WHO[1] or the declarations of the 1978 Alma Ata Conference. However, it is probable that these general principles are based upon certain hidden assumptions which do not fully apply to some populations which, by reason of their size or geography, differ from the usual pattern.

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[1] Organisational Study on Methods of Promoting the Development of Basic Health Services, Official Records of WHO, No. 206 pp. 103 (1973).

One such assumption or principle is that a multi-tiered health care system is more economic, more acceptable to people, and potentially as effective as a single-tiered system. The reasons for this have been described in a large number of WHO publications[2,3,4] and include both the sensible use of health workers of different levels of training at different levels of the system snd the advantages of having a health care system which attempts to deal with health problems as close to where people live as possible. The most usual pattern is for at least three tiers:

(i) primary single or double tier close to people's homes for home and ambulatory care;

(ii) secondary level capable of providing district hospital or health clinic services;

(iii) tertiary level for specialty needs.

While the patterns of use may vary widely between these three or more levels in different situations, the one which has appeared to be the most economic and practical has been the one where about 85% of the health tasks have been dealt with within each tier and about 15% of tasks have been referred to the next level. There is nothing magical about the 15% referral figure, but in practice it appears that if the referral rate drops much below this level then one has the expense and other difficulties of an over-trained health worker at this point. If the referral rate is very much greater than 15% many people feel that that tier is a useless and ineffective assistance point and they ignore it or jump over it to a higher tier. This both destroys the lower tier and overloads the tiers above.

This multi-tiered assumption, with its inherent critical values, is an unstated component of primary health care (as described by WHO) and, while it in no way detracts from its effectiveness and practicability in most countries, it assumes that such a referral and support pattern is possible in others. However, it is known that in some countries this is not the case.

Two factors are important in influencing this difference in countries which have limited health budgets: the total population of the country and the geographical grouping and ease of communication between within-country communities.

There is no general acceptance of the minimal size of the population required to properly justify a full set of tertiary care facilities. However, it is likely that the population size

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[2] Djukanovic V. and Mach E.P. Alternative approaches to meeting basic health needs in developing countries, WHO 1975.

[3] WHO, Primary Health Care. Report of the International Conference on Primary Health Care, Alma Ata, September 1978, pp. 2.

[4] Newell, K.W. Health by the People, WHO 1975.

is probably greater than one million for the more usual specialties and many millions for the more exotic super-specialties. This could mean that for countries of less than one million it is improbable that a complete tertiary level can be economically justified and a regional or inter-country referral solution is necessary.

Such solutions have been the pattern of the past in many small countries, but it is perhaps insufficiently understood that in some countries or areas the ad hoc or existing arrangements are taking up to as much as one-quarter to one-third of the total health expenditure (e.g. in the Trust Territories of the Pacific Islands). This enormous proportion appears to be partly due to a failure to explore more economic and acceptable regional arrangements and partly due to a failure to develop an efficient and acceptable secondary tier (i.e. an unnecessarily large proportion of people are being referred to unnecessarily specialised and expensive facilities - taking transport and care costs together). This excessive proportion of health expenditure spent upon tertiary care decreases the resources for primary and secondary care and increases tertiary care expenditures with a snowball effect.

The second factor of geographical grouping and ease of communication is of equal or even greater significance. While it may be said that a community as small as 200, 500, 1000 or 2000 persons may justify a primary care resident health worker (depending upon the wealth of the country) the decision is not solely dependent upon economics of community size. It also depends upon the ease or difficulty of communication (taken in the widest sense) between the primary and the secondary levels. Different reasoning must apply to a 500-person community one mile from a secondary care facility than to an island community (for example) 50 or 100 miles from secondary care with no radio, no air-strip, and one regular boat a year. In the latter case the realities of geography may make it necessary to consdier the minimal unit of primary care to be a population of 50 or 100 or that the isolated 500-person community should have a greater health care capability and therefore decrease the need for the same proportion of referrals to the secondary worker levels. It may also justify a very considerable health expenditure upon communications plus a different type of secondary care facility able to cope with the support required in a different and original way.

Taken together, these two factors alone may by their nature force a government to:

(a) develop a multi-tiered health system of quite a different pattern from that used in larger countries;

(b) train and employ health workers in different tiers with very different qualities and capabilities;

(c) implement a unique referral and support pattern;

(d) suggest a different resource allocation of the health budget;

(e) search for a different set of drugs, equipment, techniques and communications equipment which would be impossible to justify for that country alone but which have similar qualities to a number of other countries facing similar problems;

(f) consider regional collaboration for both tertiary care and for some common needs such as training schedules and teachers training facilities.

It is my thesis in this paper that while major steps have been taken in these directions (e.g. in Fiji) there is still a large series of unknowns and major problems to be solved. The delays in moving towards solutions have been because the differences in the nature of the problems from other patterns have been insufficiently appreciated, because many of the countries involved have been small and without technical development resources of their own, because there has been no forum within which such countries can discuss their common problems and agree upon solutions, and because the total populations concerned have appeared so small (in world terms) that they have had little or no leverage in their search for help and support. There is little doubt that many of the problems are solvable using existing knowledge and technology and it would appear to be consistent both in terms of humanity and of explicit world aims (Health for all by the year 2000)[5] that steps be taken to do so.

Using the reasoning given above, there are good grounds for stating that island states do have special health problems and these problems have many similarities to some of the problems of other disadvantaged countries when they are small (in population terms) or they have all or some of their communities isolated due to geography.

Some relevant countries

Annex A lists some countries which are likely to fall into this category. It is in no way complete. A significant proportion are known to be worried by these problems in response to direct and indirect enquiring.

In the Pacific the large majority are members of the Commonwealth, although the geographical and other problems in the new Federation of States of Micronesia, in the Marshall Islands, and in the French Polynesia are very similar.

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[5] WHO Formulating strategies for health for all by the year 2000, Geneva 1979.

In the Indian Ocean the Seychelles' (and the Maldives') problems are like those of many Pacific Island groups. They differ markedly from those of large single islands, such as Mauritius (and Réunion).

Superficially the Caribbean geography would also indicate many similarities. However, recent consultations with the University of the West Indies persuade me that the distances, the considerable populations on most islands, and the existing communication networks developed for other reasons put most Commonwealth Caribbean states into a separate category. However, some (such as the Turks and Caicos Islands) are very similar.

In South East Asia and the West Pacific there are two large at-risk groups. One includes Indonesia and the Philippines, which have large isolated island populations which may total many millions of persons. The other includes countries with a large land mass but difficulties of access (e.g. Papua New Guinea and Nepal), and here it appears irrelevant that the separation of communities is by mountains rather than by sea as the resulting problems are very similar. In Africa there may be many similar examples which have not been included.

When using even an incomplete list[6] and restricting it to the Commonwealth, it would appear that the populations at risk may be from 5 to 10 million from 20 to 30 countries with a median GNP per capita (1976) of less than 700 US dollars. If non-Commonwealth countries are included the population may be doubled. Thus what may seem to be a minor problem restricted to, for example, countries such as the New Hebrides (population 99,000) or the Turks and Caicos Islands (population 6000), may in fact be an important problem justifying a major collaborative effort.

It is suggested that for a boundary line to be drawn it could be reasonable to give emphasis to those countries (or parts of countries) where a significant part of the population is settled in communities of 2000 persons or less and where reasons of geography prevent access to a secondary health care facility by more than 24 hours of travel or only at prohibitive cost.

Indicators of success or failure of solutions could be based upon:

(a) certain health status indicators (e.g. IMR etc.)

(b) cost

(c) acceptability

(d) ability to cope with certain death-threatening emergencies (e.g. obstructed labour, acute intestinal obstruction, haemorrhage etc.)

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[6] e.g. Memorandum by the Commonwealth Secretary-General, Commonwealth Heads of Government Meeting, August 1979, HGM/79/6 Annex 1.

(e) equity (comparability with major centres)

(f) poverty and links with development

Summary

1. There are precedents for considering that some special groups of countries have unique health care delivery and other problems which can be assisted by collaborative endeavours.

2. The problem of small developing countries with scattered populations by reasons of geography are different in a number of respects.

3. Such countries include a number of small island states and some parts of countries within continents. Many of these are in the Commonwealth. In total these may be more than 30 and have at risk populations of 10-20 million persons.

4. There are reasons to belive that improvements can be made to the health and health services of these countries if unique solutions are found using existing knowledge and technology.

5. It is likely that costs will always be higher in small countries with scattered populations but some of these extra costs can be decreased by joint action and regional collaboration.

SOME POSSIBILITIES

If the problem as stated is a real one, and if success can be judged in the way suggested, the alternative solutions are varied. However, all the alternatives are directed towards the manner in which a health service (preventive, promotive, curative, developmental) of comparable standard can be provided at a similar cost despite the known geographical realities.

It is most improbable that this can be done. Any service which inherently requires links with the major centre(s) for training, supervision and support, has a referral component, and requires continuing logistic support, will cost more if it is dispersed. The initial choice then is whether a country chooses to provide a more incomplete or lower standard of service at the periphery for the same per capita costs as the national average, or whether it will accept the extra costs involved.

Studies of national health budgets of medium and large countries show that, either from choice or as a historical accident, the great majority of such countries spend a greater per capita amount of the health budget on central rather than on peripheral populations (i.e. the reverse of the above). This difference may be as great as ten times. Such inequities would appear to be less acceptable in many of the countries listed in Annex A because they are largely multiple island communities with the periphery having a greater proportional political leverage. This paper therefore assumes that a government decides that all areas and groups, irrespective of their location, should have an equivalent or comparable service and the problem is therefore to

provide this in an acceptable manner and at a minimal additional cost.

At the primary and secondary health care levels the constraints of geography and demography make certain further principles beyond argument. These include the following.

Single or monopolistic system required. In a system which is divided into so many small geographic fragments parallel or competing systems clearly multiply the costs and decrease efficiency markedly. Whether such a system should be public, voluntary or private is dependent upon national ideology but the arguments for a single functioning system are overwhelming.

Poverty and development. The demonstrated links between poverty and ill-health are so clear that now there can be no question that the abolition of poverty where it exists must be the primary health goal. This must mean that any health policy directed to even an isolated community where poverty exists must be multi-sectoral and be anti-poverty orientated. Such a statement has two separate riders. The first relates to those communities where the existing and potential resources are so small that there is no local development possibility to abolish poverty. Here a rational view leads one to conclude that the community is socially non-viable. Political and social factors may result in a rejection of such a reality. Instead, a country may support the continuing existence of such communities by direct or indirect subsidies. The second relates to those communities where poverty has been abolished and there is the potential for further socio-economic development. Such further development has little direct health significance but may have considerable other social and economic importance. It is clearly not a dominating health goal and yet the increase of wealth in the future can lead to the support of further health and other services, greater self-sufficiency, and social survival.

Examples from isolated New Zealand rural communities show that the abolition of poverty can sometimes be a product of the more efficient use of land by, for example, the amalgamation of smaller units. This required less labour and the resulting migration out may make the population too small to justify a school. The school closes. Because there is no school, families with young children will not stay to work in the dairy factory, which also closes. As there is no factory, dairy farming stops and the land may be abandoned. An apparently sensible initial development step has thus led to a result which is against both individual and national interests. Development has social risks and cannot be thought of in purely economic terms.

Accepting such principles, the design of a health service delivery system has two different aspects. What service can best provide the "usual" services and how can an isolated community deal with the "exceptional" event?

The "usual"

The two additional costs of isolation that have to be minimised are the provision of a resident health presence even in

small communities and methods of decreasing referral to the secondary health care tier. These two needs are in conflict. On the one hand, the temptation is to decrease the technical capabilities of the health worker (and thus the training and running costs) as the population group he or she is responsible to becomes smaller. If this is done, then the proportion of health problems which need to be referred to a higher technical level would be expected to increase. In a situation where transport/communications costs are high or prohibitive the latter costs may far outweigh the savings in the former. There is no simple solution to this dilemma. Both aspects must be placed within the same equation and the total is the only figure with health economic relevance.

Despite this, the possibilities are quite varied and not as depressing as they would appear. There is a wide spectrum of possible health workers ranging from the policeman or postman with some first aid knowledge through to the full- or part-time health assistant, to the nurse, the medex or medical assistant, and the various levels of doctors. Each of these designations has a different meaning in different countries. In one country a health assistant has direct diagnostic and treatment responsibilities. In another his role is largely that of an intermediary between the health system and the community. In Fiji or Tanzania, a medical assistant is known, and acts in his level, as the resident "doctor". In the Trust Territories of the Pacific a medex is an "extension of the physician".[7] Such differences in the meaning of titles bring confusion and highlight professional jealousies between different groups within the health services. They also obscure the now well and widely demonstrated fact that it is possible to train and employ a health worker with a minimal general educational background and a brief training period who can deal locally with the vast majority of "usual" health problems. Such a person is not a "substitute" for a doctor and has a high effectiveness and acceptability rating if he or she:

(a) is resident in the area,

(b) is linked effectively and continuously with other levels of the service,

(c) is properly supplied and equipped,

(d) has continuing training opportunities.

The level of capability and responsibility is partly dependent upon the degree of isolation, but in most of the areas of over 100 persons faced by countries listed in Annex A this level is less than that of a graduate of the Fiji School of Medicine and greater than that of a health assistant. At such a level it is possible to consider such a person (or persons) dealing with 85-95% (or more) of the "usual" if the prior listed conditions are met. The form of training and the form and

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[7] W.M. Peck, MEDEX. Statement prepared for Micronesian Leaders, 1974.

manner of meeting the essential pre-conditions require special technical papers but are clearly practicable as judged by existing experiences and knowledge.

Even within such a framework there are a number of variants and unresolved issues. To whom should such a health worker be responsible? (e.g. to another health worker of similar background, or to a doctor?) Is it better to have a single full-time health worker or two half-time health workers with the same or different responsibilities? Is it an advantage or a disadvantage that the health worker was originally from the same area or island? These and other questions are important and the answers are likely to vary in different countries.

At this stage the conclusions may well be that:

(i) it is possible to plan for a resident health worker even in isolated small communities who could deal with most of the usual conditions;

(ii) the proportion of the "usual" which is dealt with is dependent upon the level of training of this health worker and upon the form of the supporting linked services;

(iii) it is the form of the linked and supporting services which can most easily be manipulated;

(iv) it is likely that the "mix" of the type of health worker and the form of the supporting services would be unique to each individual country and situation, although there may be common technical components.

The "exceptional"

Almost by definition, any primary care system has health related events which cannot be effectively dealt with at that level. These are the "exceptional" events. Some clearly need highly-specialised persons and facilities to deal with them. However, time also enters the picture and the number of such events which require such actions in, for example, a 24-48 hour period are relatively small. The remainder fall into a wide grey area which can be dealt with by the specialised services in a non-urgent manner or where possible other solutions can possibly be found. An example could be a retained placenta. This may be a health emergency which a local health worker in a small community may rarely if ever meet with. However, with some knowledge of the principles of the birth process, with radio or other contact with a central base, and with access to appropriate pharmaceuticals and equipment, such an event could be locally faced. It seems probable that the number of referrals to a secondary health service tier could be decreased if:

(a) there was a local health worker of the type described able to deal with usual events;

(b) systematic study was made of the interventions possible which could be used with radio links and other indirect equipment and pharmaceutical support;

(c) a supporting network was established to implement these findings;

(d) provision was made for the very rare urgent transfer of a life-threatening emergency to a secondary facility.

It is becoming more and more accepted that the question of how an exceptional health event could be dealt with in such circumstances has rarely been considered. The progress in the treatment of severe dehydration in babies from intravenous rehydration in special centres to oral rehydration is a case in point.

Reference has been made in the earlier part of this paper to the costs incurred and to regional and other solutions which are possible in secondary care referrals to tertiary levels. In addition some of the same thinking described in primary-secondary care referrals may also be applicable here.

Summary

1. Any dispersed health system to isolated communities is likely to cost more than one without these disadvantages.

2. A likely national decision of many countries will be to try to attain equality of health service benefits to all of the population rather than equality of health expenditure. This in practice means a form of subsidy to those living at the periphery.

3. Decisions upon what form the services will take must rest at least partly upon a complex equation which takes into account local costs and the cost of the supporting communications/transport network.

4. It is likely that the cheapest and most effective solution will be in a local health worker higher than a health assistant and lower than a doctor who can act in his own right and undertake some exceptional tasks with indirect support.

5. The development of such workers, their training, the equipment, the drugs and communication equipment they will need, the methods they will use and the secondary supporting system which will be required all require further development.

6. While many components in (5) may have wide applicability, the unique situation in most countries will require individual health system solutions. This development of national systems will frequently require support from outside the countries themselves.

SOME MECHANISMS FOR STRENGTHENING AND MOBILISING EXISTING NATIONAL, REGIONAL AND INTERNATIONAL RESOURCES WHICH WOULD ASSIST IN SOLVING THESE PROBLEMS

Acceptance of a problem

The past two years of travel and discussions have convinced me that a problem exists and that it is recognised locally in a long list of countries. However, in most of these countries it is considered that all aspects of their problem are unique and they are unaware of the similar worries of their neighbours. As many of these countries are small and with limited technical and academic resources, they feel powerless to grope for a solution other than in an ad hoc manner.

The first step must be to provide a forum by which they can agree upon the nature of their problems and to discuss the similarities and differences of their objectives. From there, mechanisms could be suggested upon how these problems can be solved. Such a forum could possibly be initially regional although other forms of structuring are possible.

Such a forum may well be best undertaken by the sponsorship of a host government or by bodies such as the Commonwealth Secretariat or WHO. The large proportion of Commonwealth members in any listing of eligible countries is highly significant.

Provision of data

Preceding parts of this paper refer to certain crucial data which must influence decisions. Some are geographical and demographic (who lives where and what are the existing links), some are economic (poverty, potentials for development, breakdowns of health expenditures), some are epidemiological (direct and indirect health status indicators, referral rates, effectiveness measures), and some are political and relate to the future ambitions of each country. It is my impression that much primary data is already present (e.g. in Fiji, Trust Territories of the Pacific etc.) but has not been tabulated or produced in a usable form. In many countries this can be done within the country at minimal cost in a short period if a case can be made that the information could be useful and the country required it. This is a reasonable second step.

Preparation of national health system models

Fundamental outlines of alternative health service systems need to be prepared for each country. These should reflect the existing system, the gaps and successes, the alternatives if a different division was made between the primary, secondary and tertiary tiers, and the constraints (type of health workers, resources, communications and transport, health problems etc.). While this is fundamentally a national activity, technical support would be required in many cases from outside.

Development of usable components

A large number of constraints could be resolvable if they were identified and described in direct problem terms. These include radio equipment which can be cheap, locally run and repaired, lists of drugs with a higher safety factor, equipment, emergency (or exceptional even) procedures, training and continuing education systems, usable transport (what are the economics between a helicopter, an amphibean and a reef airstrip?). It is unlikely that these will be fully faced by the world community unless their usefulness in a number of situations can be demonstrated. If the need can be stated, and they are properly described, then it would seem reasonable to either set up a group or regional mechanism for solving them or to refer them to international or world problem-solving groups (the universities, industry, the Commonwealth Secretariat, WHO, the applied technology group etc.).

Search for development costs

For many countries listed it is improbable that development costs could be locally fundable. Some national health objectives may need to be restricted to self-sufficiency in running costs once an amended health system is operational. Some governments may not unreasonably need assistance in preparing suitable proposals prior to their submission to an international or a bilateral source of funds. Possibly the Commonwealth Secretariat or WHO could provide such assistance or it could be even developed in a regional way.

Implementation of an amended system

A country of the size of many of those listed understandably has difficulty in calling upon the whole range of expertise necessary to implement an amended system. Outside help will frequently be required.

Development of regional or collaborative structures

No health system is ever final or optimal, and continuing change and development requires continuing support. The ever-increasing complexity of living, governing and administering must mean that in the long run the smaller countries will be at a disadvantage unless they can collaborate and develop together what may be unattainable separately. Still-developing institutions such as the University of the West Indies or the University of the South Pacific indicate both the difficulties and the possibilities for collaborative action. Some similar mechanisms involving both the health services themselves and the academics may be the possible answer.

CONCLUSION

The steps towards the solution to the health and health service problems of small countries or countries with isolated communities cannot be put on paper with every step clearly defined

and the answer at the end. One can describe with clarity the initial steps and the possible benefits which could result. The steps which follow must fully express those conclusions and agreements which have gone before, and must also recognise some of the individual qualities of uniqueness which have led to the different countries' diversity and independence.

The events or forces which have led to individuality are frequently followed by a feeling of wanting to share or collaborate upon their own terms. Such moves must come from internal rather than external forces and cannot be planned by experts, however well intentioned. Therefore it seems proper that the end of this paper should be left blank.

Information already publicly available shows the countries described to be at a disadvantage in health service terms. It is likely that because of their nature they will continue to have some disadvantages. However, some ways of decreasing these disadvantages are available and these could be implemented by starting a series of national, regional and collaborative steps and drawing upon the pool of goodwill which exists within and outside the Commonwealth.

Some countries facing island and isolation health service difficulties

Area	Commonwealth	Non-Commonwealth
Pacific islands	Cook Islands Fiji Niue Tonga Western Samoa New Hebrides Tuvalu Solomon Islands Kiribati Nauru (Pitcairn, Norfolk Islands etc.)	American Samoa French Polynesia Trust Territories of the Pacific - Federation of States of Micronesia - Marshall Islands - Palau
Indian Ocean islands	Seychelles	
South East Asia/ Pacific countries with isolated islands and other populations	Papua New Guinea	Indonesia[+] Philippines Nepal
Caribbean islands	Turks and Caicos	
Atlantic islands	St. Helena Ascension Tristan da Cunha Falkland Islands	
Africa		

[+] Typified by populations in such provinces as Nusa Tenggara, Riaw, Molucca etc. Personal communication from H.E. Dr Suwardjono, Minister of Health, 1979.

MANAGERIAL TRAINING FOR MIDDLE-LEVEL HEALTH ADMINISTRATIVE PERSONNEL

Discussion paper prepared by Dr. Calvin H. Sinnette*

As we approach the end of this first month in the penultimate decade of the twentieth century, it is altogether fitting that we are meeting to consider the special health problems of smaller states and to discuss methods which can be utilised to alleviate or resolve those problems. Criticism, as many of you are aware, has been expressed in a number of quarters regarding the 1978 Declaration of Alma Ata which states, inter alia, that "a main social target of governments ... should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life." Without entering into that debate, it appears most unlikely that smaller states will achieve this "main social target" by the beginning of the next century unless special attantion is given to their unique problems.

It has been my experience that the confluence of issues arising out of seemingly isolated and unrelated circumstances often play a significant role in focusing attention on a particular question. No better example can be cited than a series of recent events which provided the background for this paper. In September, while I was on a month-long trip, a senior official in the health ministry of a small African country spent nearly an hour with me venting his dissatisfaction and frustration with the performance of intermediate staff within his ministry. Shortly after my return from Africa, I received a copy of a report in which Caribbean Health Ministers voiced concern about the management of health services in that region. Some four weeks later, during informal discussions, a member of an international health organisation commented on the weak technical leadership in certain Latin American and Caribbean health ministries. Finally, in late November, a mere three months after having set out on my African trip, I received the provisional agenda for this meeting; an agenda containing many items relating to deficiencies in health administration. Call it serendipity, coincidence or what you will, what strikes me as particularly pertinent to this meeting is the emergence of the same set of issues from different parts of the developing world within such a short span of time.

It is not my intention to contemplate the metaphysical aspects of happenstance, nor is it to suggest that what I have just described should come as a surprise to anyone around this table. The problem of an ineffective administrative infrastructure is not confined to the health sector or to smaller states. Nor, I hasten to add, is it only encountered in the so-called developing countries. To some degree, it is a world-wide phenomenon crossing both public and private sub-divisions of society. For the smaller states with limited natural and human resources,

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however, the problem takes on added importance. If the situation is as serious as I have suggested, a logical next question is: "Do those entrusted with the responsibility of providing adequate health services perceive an urgent need for remedial action?"

One indication of the level of concern administrative deficiencies have received may be obtained from the Caribbean report to which reference was made earlier and to which I would like to return. In July 1978, a resolution was adopted at the conference of Ministers Responsible for Health, holding its fourth meeting in St. Lucia, West Indies, which reads in part; "In determining priorities for the Caribbean, we have adopted as our criteria (a) the magnitude of a given problem; (b) its social and economic importance; and (c) its susceptibility to preventive and remedial measures." The resolution then goes on to state, "Applying these criteria, we have arrived at the following determination of the priorities: (1) The more dynamic and creative management of the health services." (italics mine).

Although it is not stated explicitly that the priorities are listed in rank order, I think it is safe to assume that they consider the problem of inadequacies in health services management to be of the greatest magnitude, to have the most important social and economic significance, and to be the most susceptible to preventive and remedial measures. One may have reservations about the criteria that were chosen but there seems to be little doubt that, in at least one part of the world, the highest government health officials regard it as a problem in need of prompt attention.

Staff performance is, of course, influenced by many factors, none of which should be under-estimated. They range from the qualifications of recruited personnel to the ever-present "brain drain"; from senior level supervision to opportunities for career advancement; from the intangible element of motivation to the concrete issue of sick leave. Important as these matters may be, they are peripheral to the more central issue of technical competence. Without a real grasp of the overall process in which they are involved, middle-level health administrative personnel too often function as alienated automatons. They frequently are unaware of the meaning of procedures such as operations research or inventory control because of their diverse educational backgrounds and varied levels of formal education. For many of them, the role of certain international or regional health agencies is shrouded in a cloak of mystery.

To correct these and other shortcomings in administrative proficiency, a training programme is proposed which would be sufficiently broad in scope to achieve three major objectives:

(i) to provide information on the important health problems within a specific country or region and to indicate those activities which are in progress to address those problems;

(ii) to expose all participants to the basic principles of health services administration and planning;

(iii) to equip middle-level managers with the necessary vocabulary and technical skills to function effectively in their job assignments.

A prototype curriculum is appended to this paper, and without going into the details of course content I would like to point out that the greatest amount of time should be allocated to health services administration. Although I do not hold strong views on the criteria for selection of candidates to the programme, it seems reasonable to suggest that personnel employed in ministry headquarters should be given the highest priority. It is this group, located at the physical hub of national health activities, who are likely to influence the behaviour and attitudes not only of their immediate subordinates but of their counterparts in the periphery as well. The long-range goal, of course, is to provide managerial training to all middle-level health administrative personnel and to establish a system for providing periodic refresher training.

I have purposely avoided discussion of instructional pedagogy. It is a matter beyond my competence and probably is worth a seminar in and of itself. Suffice it to say that details such as refinements in curriculum design, instructional methods and the choice of suitable reference materials should be worked out with recognised authorities in the field. As a former department chairman who has had to engage in combat with colleagues in other disciplines for adequate teaching time in the academic calendar, I have no difficulty in insisting that the required portion of the training programme be taught in not less than nine months. One recognises that financial and other considerations may make it difficult for governments to permit personnel to be away for this length of time. Nevertheless, a strong case can be made to persuade governments that their health interests will be best served investing in the programme for the proposed period.

It might be helpful at this point to comment briefly on the field observations section of the curriculum. This optional two- to three-months period is designed to follow the phase of didactic instruction. Its purpose is to provide students with an opportunity to observe health administrative activities in settings similar to their own. If arrangements can be made, it could also serve to permit observations of a contrasting system of health care.

In his letter of invitation to this meeting, Professor Stuart indicated that approaches to solutions of the health problems of smaller states "would have a strong regional flavour". I wholeheartedly concur with this, as well as with a later statement in the same letter pointing to the fact that for smaller states to benefit from proposed solutions there is no alternative to regional cooperation. Despite the sometimes unfathomable behaviour of politicians, I still prefer to believe that the governments of smaller states would realise the wisdom of participating in a regional managerial training programme and eschew attempts to mount similar efforts locally.

In conclusion, permit me to add a note of caution. It would require an extraordinary act of faith to believe that a training

programme such as has been proposed will create an administrative Utopia for senior health officials. It will not lessen the demands for salary increases - it may aggravate them! Nor does it guarantee improvement in the performance of typists, messengers or drivers, all of whom are vital cogs in the machinery of health delivery. Nonetheless, if one has to choose a place to intervene in the dismal cycle of administrative malaise afflicting the health apparatus of smaller states, I cannot conceive of a better starting point than with middle-level administrative personnel.

PROTOTYPE CURRICULUM

I. INTRODUCTION TO INTERNATIONAL HEALTH

1. Major health problems and current health issues in the developing world with special reference to the health problems of island developing and specially disadvantaged countries.

2. Relationship of health to national development.

3. Role of international, regional and private voluntary health organisations.

II. BASIC PRINCIPLES OF HEALTH SERVICES ADMINISTRATION AND PLANNING

1. Demography, vital statistics and epidemiology

2. Health care budgeting and financing.

3. Personnel, data and facilities management.

4. Computerisation: benefits and limitations.

5. Communication and transportation logistics.

6. Systems analysis.

7. Comparative health systems including traditional health systems.

8. Organisational development and behaviour.

III. SPECIAL HEALTH PROGRAMMES

1. Maternal and child health.

2. Nutrition.

3. Health education/promotion.

4. Family planning.

5. Communicable disease control.

6. Mental health.

7. Environmental health.

IV. SPECIALISED SKILLS DEVELOPMENT

1. Preparation of manuals, job descriptions, etc.
2. Conference planning.
3. Community organisation.

V. FIELD OBSERVATIONS - Optional

A COMPREHENSIVE HOSPITAL SERVICE FOR CARIBBEAN TERRITORIES

Paper prepared by Professor Sir Harry Annamunthodo*

The territories of the English speaking Caribbean extend from Belize in the west and to Guyana in the east. They include:

(a) the larger independent countries of Bahamas, Jamaica, Trinidad and Tobago, Barbados, Guyana.

(b) the smaller territories - independent countries, Associated States and colonies.

THE LARGER TERRITORIES

Bahamas

The Princess Margaret Hospital has recently been renovated and there is provision for all the major specialties. There was an arrangement for treatment in the more specialised disciplines. Neurosurgical problems were either sent to Miami, or there were regular visits by neurosurgeons from Miami. Cardiac surgery problems were referred to North America or University Hospital, Jamaica. The facilities for opthalmology were adequate at one time. I do not know what is the present position. A plastic surgeon used to visit from Miami. There did not appear to be a major problem in ear, nose and throat (ENT) surgery. Facilities for renal dialysis are available. At one time a dermatologist in private practice worked part-time at the hospital. The laboratory and x-ray services were reasonable. I understand there is budgetary provision for staff in most disciplines but from time to time there are vacancies.

Jamaica

Specialist services are available in one or all of the three major hospitals: University Hospital (UH), Kingston Public Hospital (KPH) and Cornwall Regional Hospital (CRH). There are neurosurgical units in UH and KPH. Patients from the smaller territories are accepted for neurosurgical investigation and treatment at UH. There is a joint UH/Ministry of Health cardiothoracic unit which accepts patients from the smaller territories. Renal dialysis is available in the UH and KPH and renal transplantation has been performed at KPH.

There is budgetary provision for all the specialist services but from time to time there has been difficulty in filling posts. This is particularly so at the present time because

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of the acute emigration problem. When services have been reasonably well-manned, much assistance has been given to the smaller territories but distance and cost of transportation from the Eastern Caribbean impose a limitation.

Barbados

Most services are available. There is no neurosurgical or cardiothoracic unit. In these areas patients are usually transferred to UH, Jamaica. Patients from Windward Islands are usually accepted for treatment at the Queen Elizabeth Hospital (QEH), Barbados.

Trinidad

Most services are available. There is no cardiac surgery unit. These patients are often referred to UH, Jamaica. Patients from the Eastern Caribbean Islands often seek treatment in Trinidad in the private sector.

Guyana

There appears to be a problem in maintaining the establishment of specialists at the present time. Many of the patients requiring cardiothoracic or neurosurgical treatment go abroad often to Venezuela or to UH, Jamaica. The diagnostic services are weak. Cost of transport imposes a limitation on number of indigent patients sent abroad.

THE SMALLER TERRITORIES

The smaller territories (independent, Associated States or colonies) have populations varying from 50,000 - 120,000 in the the independent or Associated States to 5,000 - 10,000 in the colonies.

Belize

There is provision for the major discipline. Patients requiring cardiothoracic or neurosurgical treatment are usually referred to UH. Patients who can afford to do so often seek treatment in North America or Mexico. ENT and ophthalmological services are deficient. The University of the West Indies (UWI) has, on an ad hoc basis, in the past arranged for the occasional visit by an ENT surgeon. The UWI has often in the past provided relief surgeons and visits by an orthopaedic surgeon. I doubt whether this is possible now. Routine diagnostic facilties are inadequate. Transportation cost to a centre abroad is a major problem for the indigent patient.

Cayman Islands

There has been a great improvement in the availability of specialist services recently, due largely to emigration of doctors from Jamaica. Because of the association of Cayman with Jamaica in the past, free movement of people which then existed, the fact that many Caymanians have relations and friends in Jamaica, the present good and relatively inexpensive

air service between Jamaica and Cayman and the better state of finance of the poorer Caymanians, it is relatively easy for patients from Cayman to avail themselves of the services provided in Jamaica.

Turks and Caicos Islands

Transportation to Jamaica is a greater problem than from Cayman, but it is possible for patients to obtain treatment in Jamaica.

British Virgin Islands

The services provided are limited because of the size of the population. Many patients seek or ask for treatment in the American Virgin Islands and a small number go to Jamaica.

Leeward Islands

Treatment facilities in the major disciplines are available in Antigua but are less adequate in St. Kitts. Patients requiring more specialised services are sent to Jamaica, but with changes in air-line schedules this has become more difficult and more costly in recent times. Laboratory and x-ray services are inadequate.

Montserrat, because of the population size, has a major problem in providing a comprehensive hospital service. Many patients go to Antigua, Jamaica or Barbados. Patients requiring cardiothoracic or neurosurgical treatment are referred to UH, Jamaica. There does not appear to be any ENT or opthalmology service. A few of these patients are referred to UH, but the majority probably remain untreated.

Windward Islands

Treatment facilities in the major specialties are available. There is often a recruitment problem, which is probably less in St. Lucia than in the other islands. An unscheduled American Medical School has started in Grenada and it appears there is likely to be a proliferation of similar institutions in St. Vincent, Antigua, Montserrat and elsewhere. These institutions will undoubtedly be profitable to the promoters and may boost the tourist industry of the territories but the advantage to the medical service is not yet obvious.

SOME OF THE PROBLEMS

Territories with populations of 50,000 - 12,000

These territories recognise the need for a basic comprehensive hospital service. Their economies, however, place a limitation on their ability to do this or to provide for good medical planning and administration.

In most cases it is difficult to recruit a medical administrative officer (CMO) from among citizens and they have had to rely on retired expatriate officers. Many of these are not

experienced medical administrators, have found local problems unsurmountable, have not been able to appreciate the local problems and local susceptibilities and have retired into the job for the contract period. Some have had experience and have been able men. I am convinced that until the territories can attract trained and mature, but not retired, citizens into these posts there can be no long term planning and improvement of their medical services.

The time is probably appropriate for the governments to review these posts against the background of their past experience and consider:

(a) what they expect of these officers;

(b) whether it is essential for these functions to be performed by a doctor.

Would a trained non-medical officer perform these functions just as well or better than an untrained doctor? If it is essential that the officer be medically-trained, what training or experience is required? Do they need a full-time or part-time officer? If a part-time officer, how will the rest of his time be utilised, and would this help in recruitment? If a trained non-medical officer can do the job, the training and experience required should be determined. "Training should not be equated with attendance at a short course." Should an advisory professional committee be established to advise the medical or non-medical officer?

In most territories there is provision for a consultant general surgeon, a gynaecologist, a physician, an anaesthetist and in some cases a paediatrician. The problem arises when any of these officers is on leave or when there is a vacancy. There should probably be a minimum of two officers in each of these disciplines. The second officer would not need to have a higher qualification but should have experience. In anaesthetics, the second person could be a trained nurse anaesthetist. In obstetrics and paediatrics the officers should be given responsibility for maternal and child health of the territory and not restricted to the hospital service.

There are three main problems:

(a) providing adequate cover in the main disciplines - in surgery this has always been regarded as essential but it is no less essential in the other major disciplines;

(b) providing service in the more specialised areas - e.g. ENT, ophthalmology, dermatology;

(c) providing reasonable diagnostic facilities.

Territories with populations under 15,000

These include Cayman Islands, Turks and Caicos Islands, British Virgin Islands and Montserrat. Probably with the

exception of Cayman, these territories experience enormous difficulty in maintaining adequate consultant services in the major disciplines. Even if they could afford four or five consultants, recruitment would be difficult and the officers would be under-employed. As a result they tried to employ a consultant surgeon who is expected to be a consultant in all disciplines. Such persons are well-nigh impossible to find.

UNIVERSITY ASSISTANCE

Appreciating the problems of the territories, the University of the West Indies has given the following assistance.

Whenever possible, it has provided a relief, usually in surgery or anaesthetics. Officers of these departments have volunteered to do this on a purely voluntary basis, often during their vacation. In recent years this has not been possible.

The UH has served as a referral centre for the smaller territories. This was intended to be in areas where diagnostic and treatment facilities are not available - e.g. cardiothoracic, neurosurgery. In practice, simple cases are often referred when there is no consultant. These patients, because they have had no investigations, because they cannot be discharged from hospital as early as the Jamaican patient and because of the delay in arranging travel, especially for children, usually occupy beds more than twice as long as the Jamaican patient. In some cases, delay in making return travel arrangements by the territories has been over a month. This has placed a great and often unnecessary strain on beds at the UH. In addition, only a few patients can take advantage of these facilities and I am not sure priority is necessarily given on basis of medical urgency. The cost of hospitalisation, often for "hotel" use of hospital beds, has so far been met by the UH.

Consultants in some specialities - e.g. orthopaedics, ENT - have visited some territories and conducted clinics and operating sessions. Many non-urgent cases can be treated in this way - e.g. an ENT surgeon and an anaesthetist were able to perform over 40 operations in three days in Dominica and see over 100 clinic patients; a team of general surgeon, orthopaedic surgeon and anaesthetist performed over 60 operations in St. Kitts and Nevis in one week.

The staff of the UWI has provided a postal and telephone consultation service and a consultant service in pathological histology.

Because of the frequent requests for assistance and the difficulty in meeting them, the UWI about 15 years ago made the suggestion to the territories that if the territories would provide funds for one lecturer in each of the major disciplines, the university would arrange for a senior staff member in each discipline to spend 2-4 weeks in each territory each year to provide relief services. The university in consultation with the territories would organise the programme well in advance. This would allow the consultants in the territories to plan their leave and to attend conference/refresher courses, etc.

The UWI would also be prepared to have consultants from the territories on a regular basis for observation/refresher etc. This would alleviate the feeling of isolation and be a morale booster. The cost of the lecturers, shared by the territories, would be relatively small and the UWI would try to obtain additional funds from external sources if necessary. It was proposed to start in surgery in the first instance.

The territories were enthusiastic in principle but no attempt was made to implement this proposal, and after two years of frustrating correspondence and on-the-spot discussion in many of the territories the plan was abandoned. It was felt by the UWI that it would probably have been better for the initiative to come from the territories and UWI assist in the implementation of their proposal. In abandoning its proposal, the UWI expressed its willingness to advsie and assist in any proposal which the territories make. I regret that nothing further was heard.

SUGGESTIONS FOR THE PRESENT

Since the UWI proposals, many of the smaller territories have achieved independence or associated statehood. A central coordinating body, the Caribbean Community Secretariat, has been set up in Guyana. There is now more communication between the territories at ministerial and other official level. There is an annual meeting of Ministers of Health and of medical administrators. The University has extended the Medical Faculty into Trinidad and Barbados and a second medical school and teaching hospital is now planned. Air communication between the Windward and Leeward Islands and Barbados and Trinidad has improved and telephone communication is now good.

The independent and Associated States are committed to providing an adequate basic service in the major disciplines. In order to do this they should have at least one person of consultant status and one person of competence and experience in each discipline for short term and relief purposes. Medicine, paediatrics, surgery, and obstetrics and gynaecology may be treated together, provided the officers have the competence and experience. In anaesthetics, an officer of diploma level and a nurse anaesthetist should be adequate.

In many of these territories - e.g. Grenada, St. Lucia, Dominica, St. Kitts/Nevis - there is a second hospital. By improving these hospitals and through regular visits by consultants from the main hospital, say two days per week, better use can be made of the hospitals and patients can be treated nearer their home.

Arrangements for the training of these officers should be made with the UWI. Often territories cannot from their slender resources and personnel release officers on salary for this purpose and external assistance may be required on a short-term basis.

It must be appreciated that, even though budgetary provisions may be made for these posts, recruitment may be

difficult. External assistance may be required on a short term basis but it is not the solution to the problems. The territories should agree to assist each other e.g. Consultants of the Windward Islands should be regarded as a pool, etc.

An alternative is for relief to be provided from a central point, as was suggested by the UWI. Because of relative ease of communication from Barbados, relief staff may be attached the Faculty of Medicine in Barbados.

The specialised services - e.g. ENT, ophthalmology, dermatology , etc. - cannot in most cases be provided by each territory and should be organised from a central pool. A schedule of regular visits, say for one week every two months, can be arranged. There should be an officer in each territory with some experience who can treat the patients within his competence and act as liaison with the consultant in the central pool. Again, the Faculty of Medicine, Barbados, may be an appropriate base. Barbados has in the past allowed use of its hospital beds for this purpose on an ad hoc basis. With such a scheme the demand will be greater which will need discussion with the Government of Barbados. External financial assistance may also be required.

It is doubtful whether these territories can in the near future provide good diagnostic services. In most cases these can be improved by provision of good equipment and trained technicians. In the absence of a consultant pathologist and radiologist there is often no clear definition of responsibility for the functions of the pathology and x-ray departments. I suggest that a consultant should be put in administrative charge of each of these departments - e.g. consultant surgeon in charge of x-ray and physician in charge of pathology. Arrangements can be made for consultation and for morbid histology with Trinidad and Barbados. If the technical staff are trained in processing tissues, slides for morbid histology can be prepared on the spot and sent to the consultant. This would obviate delay and reduce cost of packaging and postage. Visit of a consultant from Trinidad and Barbados can be arranged largely for on-going education of the technicians.

To a large extent a similar arrangement would apply to radiology. In most cases films can be reported on by the consultant physician or surgeon and in time a good technician should be able to carry out many simple procedures. Regular visits by a consultant, say for a few days every two or three months, should be adequate. Consultation in an emergency can be made by post or telephone.

For the Western Caribbean territories - i.e. Turks, Cayman and Belize - assistance can be arranged through UWI. Montserrat can obtain some assistance from Antigua.

Once the principle of coordinated mutual assistance is agreed, and the Government of the base territory (Barbados) and the UWI agree to support such a scheme, and the necessary financial provisions are made, the programme for the Eastern Caribbean can be organised by the Vice-Dean's Office (Barbados) and the necessary clerical assistance provided for this.

A PROPOSAL FOR ASSISTANCE WITH SPECIALIST MEDICAL SERVICES FOR THE SMALL STATES OF THE COMMONWEALTH CARIBBEAN

Paper prepared by Professor E.R. Walrond*

Health services in the small states of the Commonwealth Caribbean are widely recognised to be grossly inadequate at all levels. There are shortages of personnel and equipment. Whilst the major efforts to assist these states are properly directed towards social and preventive medicine, and to providing an effective primary care service, these services cannot be appreciated by the affected populations unless an adequate secondary care service is also provided. An adequate secondary care service can only be provided by the availability of physicians and an adequate supply of allied health personnel.

This paper will concentrate on the supply of physicians for secondary and tertiary care, but must not be seen as in any way diminishing the importance of the training and retention of allied health personnel in the provision of these services as well as those in primary care.

At present, the secondary services in the small states in the English-speaking Caribbean have stagnated at best, and deteriorated in some places. This has led to governments and individuals seeking secondary services abroad. This is natural in some developing states, but when it leads to expenditure of scarce funds to seek simple secondary care services abroad, then there is a wastage of resources which compounds the original problem.

In discussing this problem at the 1979 Conference of Ministers responsible for Health in the Commonwealth Caribbean, the desire was expressed to find ways of getting specialist help for the small states. In considering this problem, possible solutions are compounded by a number of factors indigenous to the existing situation in the small states themselves.

There is no doubt that the desire of all these states is that there should be available resident specialist care. Resident specialists are seen as prestigious and a highly visible part of the service, providing care to the individual in the community, when the individual is most in need of medical services, namely, during a serious illness and in particular in emergencies. However, specialists in medicine can serve communities in less obvious and less individualistic ways. For example, they are invaluable in times of disaster.

In the Caribbean, disasters have been a part of our consciousness, and in recent times have included aircraft disasters, hurricanes, floods and volcanic eruptions. The need for a coordinated system of help for the under-manned small states has become clearly evident.

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Specialists can also provide invaluable continuing services in the organisation of health services, and in the training of physicians and other health personnel, as well as carrying out community programmes in care.

The low level of government salaries in small states has been a severe deterrent to the recruitment of specialists. When this is coupled with poor facilities, recruitment becomes difficult, and this extends to qualified nationals.

The programmes of assistance in the past have consisted of recruitment of non-nationals with their salaries boosted by more advantaged countries. This has not solved the problem. In some instances such assistance may have aggravated the problem by having non-nationals working in superior conditions of service; whilst on the other hand, when nationals have been recruited, the relatively poor salaries given ensure that they have to engage in private practice. The result is that the latter is often done to the detriment of the public service.

The limitations on recruitment of specialists may therefore be summarised to be:

(a) poor salaries, with the complication of an extensive private practice being required, and a resulting poor public service;

(b) poor facilities, which includes lack of equipment and professional contacts;

(c) policies of aid where conditions of service for non-nationals are superior to those for nationals.

This paper will put forward a programme which seeks, both in the short term and in the long term, to solve the problem of specialists working in the small states of the Commonwealth Caribbean.

The short-term solutions can be summarised as:

(i) the provision of visiting specialists for short and medium-term visits to provide service, education and professional contact, whilst working alongside existing specialists;

(ii) providing treatment facilities at regional centres for tertiary care and some secondary care problems.

The long-term solution depends on the atmosphere set by the short-term programme, and the rate of build-up of local facilities to attract nationals to be recruited into specialist positions in the small states.

SUGGESTED PROGRAMMES

Tertiary care services

Some of the states in the Caribbean now provide some tertiary care services, such as radiotherapy, to patients who are sponsored by governments of the small states. Some of these services are inhibited in their effectiveness by the bureaucracy that administers them; by an attempt to charge economic fees in some cases; and by negative attitudes of government and health personnel to such assistance in some instances. For these services to be more effective to the benefit of the peoples of the small states, the following suggestions are made.

(a) The Governments of Jamaica, Trinidad and Tobago, and Barbados should (as governments within the Caribbean Community with tertiary health care facilities) make a formal commitment to the Community to provide tertiary care services under the same conditions as obtain for their own citizens. We feel that such aid from the better-developed areas can only do good in the promotion of the spirit of economic and social cooperation within the Caribbean community.

(b) The University of the West Indies (UWI) should continue to give support for the services provided by governments in tertiary care services, and to stimulate a well-defined programme of continuing education related to the available services in the region.

Rotating specialist services

The dearth of specialists in the small states relates to poor facilities and lack of professional contacts. The boosting of salaries for overseas specialists has not solved the problem, in that it creates inequities locally which inhibit national recruitment and is associated with a poor public service commitment by nationals. It would appear that the better developed facilities of the more developed countries, along with the professional contacts and the international reputation of the Medical Faculty of the UWI, could act as a basis for the attraction of additional specialists into the region. Once attracted, a properly-coordinated programme of bilateral visits would promote the short- and long-term solutions outlined above. Thus, if extra posts are created in the UWI for this purpose, then departments of the faculty could provide a commitment to service short- and medium-term visits to the less well developed small states.

In order to carry out such a programme effectively, there will be a need for a programme coordinator with an administrative assistant. A programme coordinator could be appointed from among the specialist staff, particularly if these are increased as suggested in the outline below. An efficiently-run programme would not envisage any immediate increase in junior staffing, particularly in view of the following action in continuing and postgraduate education.

Continuing and postgraduate education

The UWI Faculty could, by means of the programme outlined above combined with a programme of junior staff fellowships and exchanges, provide an intra-Caribbean programme of continuing and postgraduate education. This will have enormous benefits in re-tooling the skills of existing specialists, and increasing the service and commitment to national services by junior staff. There is little doubt that prolonged postgraduate training outside of one's country is likely to diminish one's commitment to working in it, and therefore every avenue should be explored to do as much of this training as possible on the spot.

In conducting a programme in continuing and postgraduate education for health personnel in the small states, one envisages that during visits of academic personnel to these states they will help to organise, participate in, or conduct the following kinds of activities:

(i) consultation on patients and health care problems;

(ii) provide technical services alongside existing personnel within the available local resources, and by this means improve the skills of local personnel;

(iii) conduct short courses in specific problems in patient care and health problems, by means of seminars, conferences or lectures;

(iv) act as a link in providing educational material from the coordinating centres - e.g. books, copies of articles, tape-slide programmes or video-cassette material;

(v) use the experience obtained about local problems and resources to better orientate and train health personnel being trained in the coordinating centres, and also to make locally-produced educational materials more relevant.

Fellowships will allow both junior and senior personnel to spend periods of time in the corrdinating centres to benefit from the better facilities available there. These, combined with a well-coordinated exchange programme, could ensure that there is no service gap in the small states during such educational activity.

Methodology

It is suggested that regional coordinating centres be based at the teaching campuses of UWI - in Jamaica, Trinidad and Tobago,and Barbados. It would be desirable for each centre to have specific small states as their areas of responsibility, without excluding cooperation and assistance from any particular centre in carrying out the programmes.

Funds should be obtained to appoint additional academic staff and postgraduate training places at the UWI coordinating centres, providing that departments give commitments that:

(a) staff members will travel to small states to provide specialists services and continuing education courses;

(b) staff members could advise governments on their services and infrastructure, leading to the improvement of local services, with the aim of attracting nationals to remain in or to be recruited into the services;

(c) exchanges of staff at a specialist and postgraduate training level will be provided to allow staff based in the small states to carry out courses and to work in facilities in the better developed facilities at the coordinating centres, without interfering with the services in the small states.

The services that presently appear to be most in need of such a programme involving supernumerary appointments are in general medicine, general surgery, orthopaedics, otorhinolaryngology, pathology, radiology and primary care.

Thus a programme from a coordinating centre such as Barbados, serving several of the small states which have traditional communication lines to that country, could be looked at in the following manner, with the necessary budgetary provisions made.

Staff - 7 lecturer/senior lecturer posts
1 administrative assistant

Space - office space for staff with necessary equipment

Travel - 1 visit per month for each country in the scheme, i.e. approximately 85 visits per year of one week's duration or about 600 subsistence days and 85 return air fares.

Postgraduate and specialists student exchanges, 2 for each contributing territory each year of 6 weeks duration, i.e. 28 return air fares and 1180 subsistence days.

In summary, some 115 return air fares within the Caribbean and 1780 subsistence days.

Advantages

The advantages of such visits and exchanges and the placing of the additional specialists can be summarised as follows.

(a) For the small states

(i) an increased pool of specialists available to treat patients in their territories, and also in territories with better developed facilities;

(ii) on-the-spot continuing and postgraduate education of existing staff;

(iii) continuing advice and upgrading of facilities which should help in the long term to recruit nationals into specialist positions;

(iv) the provision of replacement specialists to allow leave for postgraduate courses of existing staff;

(v) the scheme does not involve local inequities in the conditions of service.

(b) For the more developed states

(i) the provision of more academic posts available for local teaching, service and research;

(ii) service of the additional staff member can be calculated to be at least half of the year locally;

(iii) the provision of more staff to assist in the coordinated assistance to the small states so necessary in maintaining the viability of the Caribbean Community, which has so far proved to be of greater benefit to the better developed states.

The local expenditures that would be required by the small states would be the provision of transport for visiting staff and assistance with their accommodation.

Expenditures that will be needed in the coordinating centres would be the provision of space, furniture and daily expenses related to stationery, telephones, etc.

Medical education in the less developed states

The programme of visits outlined above will provide the basis for up-grading of primary, secondary and tertiary services, continuing and postgraduate education. If this programme succeeds, then undergraduate education could be expanded in the small states by the expansion of more elective opportunities and possibly the introduction of limited clerkships, particularly in community medicine.

The increased presence of university academic personnel may also be seen as an opportunity to stimulate the implementation of local training and continuing education of a variety of allied health personnel, particularly those working in the field in primary care.

Funding

It is desirable that overseas agencies, such as the British Overseas Development Administration, should review their assistance programmes to include a programme of this sort, and that the better developed Caribbean countries should increase their contributions to UWI to promote a programme such as this. Budgeting for travel and subsistence would need to be included in such assistance. The capital requirements for space could be sought through agencies such as USAID and preferably could be included in other development projects such as the Mount Hope Complex and support hospitals. Such an inclusion would allow a better rationalisation of facilities and ensure that materials such as audio-visual aids are used to the maximum benefit of all professionals in the area in continuing and postgraduate education.

SPECIAL HEALTH PROBLEMS OF SMALL STATES

Paper prepared by Mr. F.G. Louisy*

Small states the world over, endowed with limited natural and trained human resources, are faced with special problems in their efforts to raise living standards and improve the quality of life of their peoples.

The small sovereign states in the Commonwealth Caribbean (referred to as LDCs) are no exception, and they have problems the solution of which, in the view of the writer, appears to be at present beyond their resource capacity.

It is clear, from the conclusions and recommendations of studies and reports by international experts, that small island sovereign states require substantial, if not massive, investment and technical assistance to build the necessary infrastructure, educate and train the population, develop and apply appropriate technology, create appropriate employment opportunities - so that governments can implement policies and plans to meet the pressing and rising expectations of the masses.

The health problems inherited by the small states in the Commonwealth Caribbean are nearly similar in nature, as these states emerged from an almost identical colonial tradition. The period of deprivation and neglect has been long. Now new knowledge and the speed and effectiveness of the modern mass media have combined to create an enlightened and heightened awareness, which in turn has generated a burning desire on the part of improverished former colonial peoples for better conditions.

It is not being suggested here that no assistance whatsoever has been given. In fact, assistance is being given, but the quantum and the method are inadequate and unrealistic, resulting in the inability of these small states to make the desirable impact on the social and economic conditions of the people within a reasonable period of time.

In this field of health, quite apart from the many individual and separate studies and reports by international experts which have identified special problem areas, it is fortunate that the special health problems of these states are on record. They have been identified by the people themselves, through meetings of the Conference of Ministers Responsible for Health in the Commonwealth Caribbean region.

The special health problems in St. Lucia include the following.

Water
Health manpower
Housing

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Solid waste disposal
Liquid and sewage waste disposal
Nutrition
Health education
Communicable diseases
Planned population growth
Hospital facilities and equipment and
their maintenance
Environmental health
Disaster prevention, preparedness and relief

WATER

Water is essential to life. The human being cannot exist without it - he uses it for drinking, cooking, bathing, washing, treating diseases, saving property from fires, etc - in short, water sustains life. In many small states the water supply is lacking both in quantity and quality.

In St. Lucia the supply and distribution of water have not kept pace with economic development. Inadequate catchment protection imposes constraints on the effective capacity of the system, resulting in severe shortages during the dry season. Present water storage facilities limit the scope for treating raw water for domestic use. Existing systems of filtration and cholorination are probably linked to the reported incidence of schistosomiasis, a water-borne disease, in rural communities.

The problem generally is - the development and protection of water resources - adequate storage capacity - efficient and effective distribution systems - quality control - to meet increasing consumption demands in order to enhance socio-economic development by having:

(a) water in quality and quantity safe for drinking;

(b) water in quantity and quality appropriate for industrial use.

HEALTH MANPOWER

The development of manpower is one of the essential conditions - indeed a pre-requisite - for socio-economic progress. A shortage of qualified personnel in different fields in one of the most serious problems in these small states. In health the shortage appears to be greater than in other sectors.

There is an acute shortage of specialists in the health services of St. Lucia and of the small states - the LDCs. This special problem confronting small states in the Commonwealth Caribbean was recognised as long ago as February 1969 at the very first Conference of Caribbean Health Ministers held in Port of Spain, Trinidad and Tobago.

The services of the following specialists are required:

Opthalmologist
Otorhinolaryngologists (ENT)
Radiologist
Paediatrician
Leprologist
Dermatologist
Neurosurgeon
Cardiothoraxic surgeon

The proposal is for the establishment of a pool of specialists to meet the needs of these states. The method of funding the pool and the question of logistics must now be examined.

Training

Training of health personnel at all levels to meet the new challenges facing the small states must be an on-going business. In the past, inadequate funds for fellowships and scholarships have curtailed and frustrated the training requirements of all the states.

HOUSING

The level of investment required to provide the population of any country with adequate housing is tremendous. In the case of the less developed countries, it is usually overwhelming. Countries which have tried to approach the problem of inadequate housing in terms of public housing alone have generally found this to be impossible. The number of houses any government can afford to build, even in the advanced countries such as the United States, is negligible when compared to need. The housing needs can be met only by encouraging private construction activity. The implication of all this is that the cost-benefit analysis of housing projects usually involves the consideration of two basic alternatives: direct public housing or measures encouraging private construction.

The urgent need in St. Lucia has been identified under two categories:

(a) aided self-help housing

(b) low-cost housing

Aided self-help housing schemes will alleviate the rising demand for quarters among low income groups; under such schemes the people could be organised to provide the labour in the construction of their houses. Programmes of this nature could also bring about community participation and involvement in other developmental aspects of community life.

Low-cost housing projects are intended to establish this type of accommodation in rural areas to provide population with an amenity to enable them to enjoy a basic natural human right - the right to shelter.

SOLID WASTE DISPOSAL

Housing, commercial and industrial development in the islands is producing a rapid deterioration of the environment as liquid and solid waste is being disposed of without, or with inadequate, treatment in land and water, creating aesthetic and health hazards that are becoming highly detrimental to the economy of the countries.

Liquid or waterborne waste collection treatment and/or disposal are dealt with by a fragmented group of agencies having various geographical, technical and legal jurisdictions and lacking the personnel or technical capability to cope with the problem.

There is urgent need - and time is not on the side of the small states - for the establishment of satisfactory and suitable systems for the collection, transportation, processing and disposition of solid waste.

Some of the existing systems of solid waste disposal include:

(a) open burning

(b) incineration

(c) landfill

Advocating new methods of total capability in solid wastes processing, a company brochure stated:

> "Slightly unglamorous but absolutely vital, the processing of solid wastes underpins the fabric of modern industrial society.
>
> In a period of increasing environmental consciousness and realisation of limited resources, the collect-it-and-dump-it attitudes of only a few years ago have disappeared for good. In their place is a growing body of knowledge and increasingly sophisticated equipment,"

New methods include:

(a) compost production plant

(b) pulverisation plant

(c) high density bailing

It is hardly necessary to emphasise the importance of a proper method of waste disposal in a developing state. Essentially, it is to safeguard and improve health and to aid social and economic development.

LIQUID AND SEWAGE WASTE DISPOSAL

In the rural areas of developing small states septic tanks and latrines are the methods of disposal more widely used. In large population concentrations - cities, towns and villages - and in areas where new housing projects are being developed, as well as in localities where lots are not large enough to have an individual system per house or where the soil has low absorption characteristics, a sewage system is the suitable method of disposal.

Technical assistance as well as funding is required to design and establish sewage disposal systems in cities, towns and villages.

NUTRITION

Recent statistics released by the Caribbean Food and Nutrition Institute reveal that 17 per cent of all St. Lucian children under five years of age are underweight and that 25 per cent of all deaths of children are the result of malnutrition and/or gastro-enteritis. Moreover, the data show clearly that 70 per cent of all St. Lucian families consume insufficient food to meet their daily calorie requirements. The problem of nutrition is being tackled on many fronts: national, regional and international.

At the national level, the states are committed to programmes to improve food balance and the nutrition status of their peoples. Schemes exist in agriculture for diversification and stimulation of greater production of food crops, cereals, fish and meat.

At the regional level, the Caribbean Food and Nutrition Institute (CFNI) has been assisting over the years in this important area. At the regional level too, there is under consideration the proposed Regional Food and Nutrition Plan.

At the International level, the World Food Programme has approved a number of projects under which commodities such as:

wheat flour,
dried whole milk, and
dried skim milk enriched
with Vitamin A

are made available to interested governments for free distribution to vulnerable groups with the aim of improving their nutritional status.

What is required here is the intensification of effort at all levels - national, regional and international - to wipe out malnutrition from the population of these small sovereign states.

HEALTH EDUCATION

In order to ensure the non-occurence of "something" in this context of "disease" it is widely recognised that effective preventive measures are not only the best guarantee but also the least expensive.

Health authorities, faced with spiralling costs in the delivery of health care, appreciate the valuable role of prevention in the maintenance of community health. One of the strategies through which prevention of disease can be effectively implemented is a well-designed health education programme.

A WHO expert committee on health education of the public stated that the principal objective of health education is to help people achieve health by their own actions and efforts. Health education begins, therefore, with the interest of people in improving their own conditions, and aims at developing a sense of responsibility. Its general purposes are:

(a) to make health a valued community asset;

(b) to help individuals to become competent in, and to carry on, those activities they must undertake themselves, as individuals or in small groups, in order to realise fully the state of maximum physical, mental and social well-being; and

(c) to promote the development and proper use of health services.

The importance of public knowledge of basic personal hygiene, of clean and healthy surroundings, of food values, of the proper method of food preparation and handling, of the advantages of breast feeding, of the benefits of immunisation against all the preventable diseases, of the need to make full use of health services available, to name a few, can help to prevent and remove many health problems facing small developing states.

Therefore, an appropriate comprehensive programme of health education, well established and implemented, should go a long way in reducing the heavy burden of health expenditure on governments and peoples of small states.

Governments of these small states should endeavour to establish health education programmes through a department, bureau, unit or a health desk within ministries.

COMMUNICABLE DISEASES: CONTROL AND ERADICATION

It has been indicated in reports that many deaths in the small states resulting from communicable diseases could have been prevented by immunisation.

The small states, which already suffer from the lack of trained manpower and the brain drain, especially in the health field, must find ways and means to halt the drain, caused by communicable diseases, on their human resources. A vigorous campaign must be waged against sexually transmitted diseases, and all other communicable diseases.

PLANNED POPULATION GROWTH

The population pressure and its adverse effects on the entire fabric of small states has been too well documented to need elaboration in this paper. Well-designed family planning programmes - taking into account religious sensibilities - with an education component forming an integral part of the package should be implemented where governments express interest.

HOSPITAL FACILITIES: EQUIPMENT AND THEIR MAINTENANCE

In many of the small states, hospital facilities need up-grading, or alternatively modern new hospitals,to meet the needs of the population, should be constructed.

The other area of serious concern is the absence of life-saving equipment in some hospitals and also the poor maintenance status of existing equipment.

While it is recognised that the trend is towards community medicine with primary health care playing its vital role, there need to be a certain number of beds in up-to-date hospitals for the delivery of health care at tertiary level.

ENVIRONMENTAL HEALTH

As far back as 1972, a report stated: "Pollution is a widespread problem that will grow in importance if adquate measures are not taken to check its spreading and expansion. In developing countries population growth is high and urbanisation (land development) and industrialisation are gaining momentum, producing human concentrations which cause all sorts of pollution derived from man's activities."

In small states there is the special concern about water pollution, which can be brought about by urbanisation and industrialisation when untreated wastes are conveyed to water sources, streams, wells, beaches etc, or by faulty operation of treatment plants.

The need appears to be for technical assistance in the first place to establish the scope and methodology of the work to be done, and to define and assign responsibility and authority to cope with this special problem in a lasting and organised way.

DISASTER PREVENTION, PREPAREDNESS AND RELIEF

Regional and international disaster preparedness planners have long recognised that the Caribbean has high levels of risk from natural and man-made disasters. They agree that preparation for events they consider unavoidable has been insufficient.

In the aftermath of a national disaster, severe public health problems requiring immediate and effective action may arise. During the first 24 hourse of a disaster, a country usually has to depend exclusively on its own resources. Until external assistance arrives, local health services and survivors will usually care for the injured. These facts indicate the need for comprehensive emergency preparedness and planning.

Governments should designate a senior technical and administrative official to act as focal point to stimulate and promote health emergency preparedness, to coordinate with existing international and/or regional organisations and to assist authorities in the coordination of relief operations. The designation of this senior official is a pre-requisite for the development of health preparedness activities and the effective channelling of necessary resources.

CARIBBEAN PROBLEMS AND PRIORITIES

The small states of the Caribbean comprising:

Antigua	Montserrat
Barbados	St. Kitts - Nevis - Anguilla
Belize	St. Lucia
Dominica	St. Vincent
Grenada	

have jointly identified special problem as follows:

(a) human resources - training of allied health technical staff within the LDCs;

(b) pool of specialists - for service in LDCs;

(c) internship programme - within LDCs;

(d) health education and community participation - to encourage people to accept certain responsibilities for their health;

(e) treatment of cancer - a regional centre within the LDCs;

(f) technical assistance - in project identification and preparation;

(g) brain drain - the problem of competition between small states and more developed states;

(h) laboratory services - to meet the needs of small states;

(i) upgrading of peripheral health service facilities - to provide improved health care in rural and remote areas;

(j) maintenance of health service equipment - to reduce heavy expenditure on replacements;

(k) environmental health - all aspects - to provide adequate health protection and to maintain a healthy environment for economic activity.

For the wider Commonwealth Caribbean, the Ministers Responsible for Health have identified the principal health issues and priorities as follows:

"One of the fundamental prerequisites for formulating a health policy is the careful and correct identification of the health problems.

We find that in the Caribbean Community as a whole the principal health issues are as follows.

1. The population of the Caribbean Community has continued to increase at about two per cent per annum. The crude birth rate has been declining steadily in nearly all the countries during the past ten years. There has also been a gradual decline in emigration as well as in infant mortality rates. The population of the Community is young, approximately 60 per cent being under 25 years of age.

2. Among the greatest causes of sickness and death are poor environmental conditions and the resulting communicable diseases, namely, gastro-enteritis, dysentery and typhoid. The high rate of intestinal parasitic infestation among children is significant. Cholera remains a serious threat.

3. The chief dangers in the environment arise from insufficient and unsafe water supplies. Insanitary excreta disposal and poor food hygiene come next in importance. The other problems in the environment have a distinctly lower priority.

4. Mothers and children make up two-thirds of the whole population and have high rates of sickness and death. Services, including family planning, are inadequate in coverage and in quality.

5. Combined malnutrition and diarrhoeal disease in children under two years of age account for most of the deaths in this young age group, but also for one-fifth to one-third of deaths for

all ages.

6. More than half of the children of the Caribbean Community under five years of age suffer from malnutrition and more than half of the households are not receiving their food energy requirements. This can only mean that large numbers of our citizens of all ages are unable to achieve their full potential because of malnutrition.

7. Twenty to thirty per cent of all deaths in the Caribbean Community are due to communicable diseases, and one-third of these deaths are due to diseases that could easily be prevented by immunisation.

8. The sexually-transmitted diseases are on the increase. Tuberculosis remains a major problem, and so does leprosy.

9. Diabetes and high blood pressure are common and often undetected and uncontrolled until they give rise to grave complications that strike down adults at the height of their productive capacity.

10. Mental illness constitutes about one-half of the total volume of illness, and the mental health services are sadly deficient. Drug abuse falls under this heading, but in the Caribbean Community the most important drug problems are alcohol and tobacco smoking.

11. Diseases of the teeth and gums are universal, and the care of the mouth is seriously deficient. The dental services are largely given over to extractions and more needs to be done for prevention and conservation.

12. All the countries are infested with the mosquito that transmits yellow fever and dengue in populated areas. The virus that causes yellow fever is found in the forests of Guyana and Trinidad and nearly all the South American countries, and could at any time spread through the Caribbean Community.

13. There is lack of knowledge and of a sense of personal responsibility and community participation in health, and the majority of the countries do not have programmes in health education, which would remedy this state of affairs.

14. There are serious weaknesses in the management of the health services, in the availability of information about the health situation, in the

availability of trained staff, in the relevance of training to the needs of the health services and of the people of the Caribbean Community, and in the supply and maintenance of health care facilities. The delivery and cost of health care have become serious problems. The health laws are out of date.

Priorities

1. The more dynamic and creative management of the health services.

2. The education, training and retention of health personnel and especially those involved in the delivery of primary health care.

3. The health education of the public, with particular emphasis on the responsibility of the individual and active community involvement.

4. Environmental health, with special reference to the quantity and quality of drinking water supplies and the sanitary disposal of human waste.

5. Food and nutrition, especially a programme that makes immediate provision for the needs of the vulnerable groups and, in the longer term, ensures that no citizen of the Community is prevented by malnutrition from achieving his full potential.

6. The health of mothers and children, with special reference to total coverage of maternal and child health care during pregnancy, child-birth and childhood."

APPROACHES TO SOLUTIONS

It is appreciated that the small states will have to develop appropriate national strategies, aimed at the solution of their problems by the allocation of resources - money, materials and men - for immediate short- and long-term measures.

It is also recognised that these small states stand in urgent need of substantial, if not massive, investment and technical support, if they are to achieve an acceptable standard in the health of their populations by the year 2000.

Financial implications

The position of small states (developing countries) has been succinctly put in a WHO publication:

"In most countries there will be a need to re-allocate resources. In addition, in many countries it will be necessary to increase the national health budget to the greatest possible extent in order to provide the population with essential health care. Maximum use will have to be made of local energy, materials and resources with the government in the full analysis having to ensure that they are adequate for the health development programme agreed upon.

Although most of the resources for national health development come from the country concerned, there will nevertheless be a need for substantial and continuing international support for developing countries. The nature of this support must be subject to decisions of the government of the developing country concerned.

It is essential to consider the costs of programmes and services and how they can be borne. These might include government direct and indirect financing social security and health insurance schemes, local community solutions and the use of external loans and grants. While each country evolves its own methods of financing health and health care services in the light of its circumstances, it is also useful to study the experience, successes and failures of others."

The writer is of the opinion that, in view of the size of the states concerned, their different stages of development and the fact that they are engaged in an integration exercise, massive investment and technical assistance might be more effectively channelled through existing regional institutions such as:

Caribbean Development Bank

Caribbean Community Secretariat (CARICOM)

Eastern Caribbean Common Market (ECCM)

Organisation of East Caribbean States (OECS) - proposed.

However, as sovereign states - albeit small ones - it goes without saying that they have the prerogative to enter into bilateral arrangements with other states for assistance for solutions to their health problems.

Where are the funds and technical assistance to come from?

National funding

(a) Government budget (taxes)

(b) Contributions from employers and employees

(c) Social security schemes - national insurance

(d) Private insurance schemes

Technical cooperation among countries within the region

International funding and technical assistance

(a) International Monetary Fund

(b) European Development Bank

(c) Developed Commonwealth countries - Britain, Canada, Australia, New Zealand, etc.

(d) OPEC states

(e) International agencies

(f) Bilateral agreements with other countries

It should be noted that already a number of regional and international institutions and agencies are in the field in the Caribbean, including

CARICOM	UNFPA
PAHO/WHO	IPPF
UNDP	UNICEF
USAID	PROJECT HOPE
ODA	ILO
CIDA	CHEC
CETC	OAS
UWI	CIDA

Can these states look forward to receiving genuine assistance without any infringement of their integrity and sovereignty? The Commonwealth of Nations and the international agencies possess adequate resources to genuinely provide the assistance required by the small states.

For some states the need is for:

(a) technical assistance for project identification and preparation;

(b) prompt approval of projects submitted and early release of funds for implementation.

For others, where projects have been identified, the need is for:

(a) technical assistance for preparation of detailed documentation to meet criteria of donor agencies;

(b) prompt approval of project submitted and early release of funds for implementation.

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HEALTH DEVELOPMENT PROBLEMS OF SMALL STATES: THE DESIGN OF APPROPRIATE HEALTH DELIVERY SYSTEMS FOR THE ISLANDS OF THE PACIFIC AND INDIAN OCEANS

Paper prepared by Dr. J.H. Hirshman*

SUMMARY

A health delivery system for small countries is proposed which is largely government-financed, without discouraging a modest private sector. It is proposed to be based on only a comparatively small central administrative core with progressive decentralisation and with the strength as far as possible at the periphery. Peripheral health workers of comparatively short training and modest educational standards, with community support and involvement, are the basis for the service at rural and peripheral urban level. These workers, with supervision and support from medical assistants and nursing staff and with the support of environmental sanitation staff, will have public health and clinical responsibilities and will have a controlled range of medicaments and equipment at their disposal, as well as some transport and the possibility of the referral of patients to higher echelons.

The peripheral system of basic health services with community support fits into the primary health care concept. It aims at as much self-reliance as possible with limited resources. It gives the medical profession a leadership role in public health and clinical medicine but does not rely on an unobtainably high and expensive level of doctors and medical specialists. The system requires a conscious investment in, and a political decision towards, preventive medicine and public health.

This applies particularly to maternal and child health, including full immunisation coverage, to family planning, to environmental sanitation, to communicable disease control and to nutrition - in other words to areas of proven preventive effectiveness. The system, of course, must also provide curative services including hospitals, but such hospital services as are appropriate for the country and are not wasteful of resources.

Economic improvements markedly help health. Conversely, better health helps the economy.

It is suggested that health is not a matter for health workers alone. Government and private inter-sectoral coordination in health is necessary, as are a nutrition policy, adequate but not excessive budgetary support for health, and facilities for staff training and staff development. Existing traditional health

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workers and methods should not be discarded but their useful features and community trust utilised.

Bulk purchasing of medicaments, vaccines, standardised equipment, etc., is proposed in a framework of technical cooperation between a number of small countries or states. Training of health staff should also be on a cooperative basis between countries, with states possessing greater resources serving as training areas for the more sophisticated health categories. Appropriate managerial and health planning skills should be developed and a modest health statistical and information system set up for planning and evaluation.

The proposals are not made as a rigid design but as one suggested way, with alternatives and flexibility available to suit country circumstances.

WHAT ARE THE HEALTH PROBLEMS AND CONSTRAINTS IN HEALTH CARE DELIVERY?

Countries with populations ranging from a few thousand up to a million or so face similar problems of small resources, limited health manpower and problems of access to health care facilities by the population. This is indeed the case in the small island states of the Pacific and Indian Oceans.

The biggest causes of illness and death in the islands and in most developing countries, large and small, are those of respiratory and diarrhoeal diseases. These are the two main killers, particularly in childhood. Other communicable diseases follow in importance. Malaria, where it occurs, is of great significance, aggravates the health situation profoundly and causes major economic problems. Malaria in the South Pacific is confined to Papua New Guinea, the Solomon Islands and the New Hebrides; it does extend into the Indian Ocean.

Significant bacterial diseases are tuberculosis, leprosy, the main venereal diseases, meningitis, leptospirosis, tetanus, other clostridial infections and whooping cough. The pneumonias and bronchopneumonias are included under respiratory diseases, usually the leading causes of mortality and morbidity. Gastroenteritis, typhoid, and the diarrhoeal diseases as a whole are the second largest cause of mortality and morbidity. Cholera has reached the South Pacific in Nauru and the Gilbert Islands (Kiribati).

Of the viral diseases, hepatitis, dengue, influenza and the viral components of diarrhoeal and respiratory infections are important. Poliomyelitis is no longer common. Rabies is not endemic in the Pacific.

Parasitic diseases are still important, with malaria foremost, followed by filariasis and intestinal parasitic infections (ascaris, hookworm, amoebiasis). Fungal infections are frequent, but in the main affect only the skin. Malnutrition, particularly of the weaning period is a common problem as is anaemia in women. Nutritional problems are aggravated by parasitism and by infections whether malarial, intestinal or other.

The chronic diseases are rising markedly in importance as communicable diseases come under control and as the population ages. This is just same as in larger developed and developing countries. Thus heart disease, hypertension, cancer and diabetes need increasing attention. Diabetes is particularly prevalent in Mirconesia and Polynesia. Obesity is common.

Mental illnesses and stress syndromes are not infrequent. The image of the carefree islander is a myth. Alcoholism is increasing but drug abuse is still comparatively rare.

Traffic accidents and other injuries are a significant cause of hospital occupancy, death and disability.

Infant mortality rates range from about 35 or 40 per thousand, to 100 plus. Urban infant mortality rates are better than rural figures. Crude death rates range from 5 or 6 to about 15.

Birth rates are generally still high, with a young population structure and a high dependency burden. Annual population increases vary but are mostly about 2 per cent or above. Life expectancy is rising, with female life expectancy, as usual, significantly higher.

Rural populations still make up the bulk of the people health services must reach but urbanisation is increasing and peri-urban slums with marked health and sanitation problems are not uncommon.

Environmental sanitation is generally poor, with water supplies not safe and excreta disposal inadequate. Air and water pollution, however, in the small states are not yet a serious problem. Housing standards are variable but are generally not conducive to optimal health. Garbage disposal is unsatisfactory. Vectors such flies, rats and mosquitoes are problems, with mosquitoes the most significant disease carriers. Communications are serious constraints in health services. The scattered nature of some islands groups makes health services delivery and service design complicated and more expensive.

A compact state with little need for sea travel and not too rugged a geography has great advantages over scattered island groups.

Roads, transport availability, shipping, telecommunications networks and administrative and managerial capacity are all important factors in health service design.

Educational levels are a constraint, not only in health personnel training but the educational level of the mother is probably one of the most important factors in child health. Cultural factors, community development and participation, womens' clubs and womens' interests and the status of traditional medicine all influence health services design and capability.

It is within the above social and epidemiological backgrounds that health care delivery systems and their appropriateness have to be developed.

WHAT KIND OF HEALTH SERVICE?

The scope for a private sector in health services delivery will be limited, particularly in the small island states and in those where a significant middle class has not yet developed. Basically, therefore, the health services are government-supported and financed from general revenue, with variable fees and collection charges according to government policy. Such charges often only result in token revenues and they sometimes do not even cover the cost of collection. Health insurance schemes are difficult to administer in small countries, though appropriate attempts are well worthwhile in the larger island states.

The most important decision for the govenrment, considering the limited resources, is the way in which most benefit can be obtained for health money expended. A conscious investment in preventive medicine and public health is essential.

Health promotion, curative services and preventive services are all necessary and have to be integrated into a practical whole. Curative facilities will always be necessary, no matter how efficient preventive services are, but the money spent on the costlier forms of curative services must be carefully gauged.

Unfortunately, the colonial heritage has emphasised the monumental hospital, beloved also by politicians because a plaque can be affixed and as it is a visible symbol of "health" - or rather ill-health.

Hospitals will always be needed. It is only the type of hospital and the level of facilities that need to be kept in tune with resources and needs.

Too many small countries spend 70 per cent of their health budget on curative facilities and medicaments, particularly on hospitals built in an expensive fashion through well-meaning bilateral aid. The countries are then saddled with large running and maintenance costs for inappropriate hospital facilities and the health budget has little left for other purposes.

A primary health care approach, with community involvement, is suggested and this will be discussed later on in this paper. Traditional medicine, often deeply rooted in the culture should be not destroyed but utilised whenever feasible, discarding the harmful, developing the good, and re-training and using traditional health workers.

WHAT KIND OF PREVENTIVE EMPHASIS?

Small states should concentrate on proven preventive measures. The following areas are suggested as priorities.

Environmental sanitation: safe water supply, safe excreta disposal, food control and hygiene, reasonable housing standards, sanitary garbage disposal, disease vector control, pollution control where applicable.

Maternal and child health preventive measures:

(a) The fullest possible immunisation coverage for diptheria, tetanus, whooping cough, (DPT vaccine), poliomyelitis (oral vaccine) and tuberculosis (BCG vaccination) - this involves the availability of vaccines of proven effectiveness, managerial capacity in scheduling coverage and follow-up and a cold chain to keep the vaccine potent till administered.

(b) Nutritional guidance and improvements; health education.

(c) Family planning, child spacing, prenatal services, prevention of obstetric complications; anaemia and parasite control.

Communicable disease control measures and campaigns (malaria, filariasis, tuberculosis etc.): practical measures to minimise disease introduction, i.e. "quarantine" services, and some epidemiological competence.

Accident and traffic accident prevention to the extent practicable.

A degree of effort in occupational health, as appropriate to country conditions. This extends to agricultural workers and is not confined to industry. Pesticide and other toxic substance control is included.

WHAT KIND OF HEALTH STRUCTURE?

Let us agreed that health is too important to be left to the health professionals alone.

There has to be inter-sectoral collaboration and support, with a total government and community involvement in health policy. Without being over-elaborate for small countries, coordination for health is needed from public works, education, agriculture, community development, labour and other related sectors. Whatever economic planning board or finance ministry exists should be involved and should be aware of social needs and not only economic needs. For many health problems, for example in mental ill-health, in malnutrition and in problems arising from high fertility, the possible solutions are largely outside the strict health services, and social, cultural and political efforts are needed to supplement what health services can do.

A modest national health advisory council is suggested for small countries, which advises the ministry of health, and through him, the cabinet. Such a council should have reasonably broad government and community (consumer) representation.

Let us also agree that the technical skill and knowledge of health workers must be augmented by an adequate managerial, administrative and logistic capacity of the staff and of the health service as a whole.

The structure should be capable of responding best to peripheral, rural demands. It should not be overweighted centrally. A minister of health should be the political and the administrative head. He need not be medically qualified. There would be a technical head under the minister, preferably medically-qualified and with public health orientation and training. The subsequent structure depends on the size and other circumstances of the small countries and this need not be described in detail. There need not be a strict division into curative and preventive services and in small countries health administrators should be as a multivalent as possible and not over-specialised. There should be a strong environmental health section, closely coordinated with "public works", clearly-defined responsibility for maternal and child health including family planning, for communicable diseases, for community nursing and for the education and training of health staff. There has to be adequate decentralisation to divisions and/or districts. Every effort should be made to reverse the usual trend of good access to health care in urban areas and poor access in the periphery in rural sectors.

Primary health care, as interpreted and adapted to each country's needs, provides this approach. It is no panacea, and really it is only a slogan for an approach, but in essence it means the provision of health care of an adequate type through primary health workers who have to be appropriately trained but whose training need not be of long duration. There must be support for, and supervision of, such primary health workers and there must be referral possibilities. There also should be community involvement, with the community having a hand in the choice of the primary health care workers and ideally sharing the support for him or her in collaboration with the government. This could apply to their housing, part of their salary and also to the labour component of building health centres, water supplies etc.

I do not believe that it is practical to ask communities to shoulder all the finance needed for primary health care, but a reasonable share is salutary.

I have a great belief in women power. In most cultures, women's committees concerned with health and social progress can exert a powerful influence. They can achieve more than the health professions by themselves, particularly in child health and family planning.

The primary health care worker needs a means of transport, whether a horse, a bicycle, motor-cycle, car or boat - in other words, whatever makes sense in the circumstances.

He or she needs a supply of well-chosen essential drugs and essential equipment. He or she needs adequate housing, a simple but clean health centre or sub-centre that can also serve as a health education and demonstration facility, and clear instructions. A manual for primary health care workers should be developed and this must be augmented by regular supervision and re-training. He or she needs to know when to call for help and where to call. They need communications means. He or she should get out into the community and should not sit in a health centre waiting for patients.

No small country, or any country for that matter, can rely predominantly on doctors for health care delivery. Leadership can be given by appropriately-trained doctors with a broad outlook, but doctors will always be expensive to train and maintain and will tend to avoid the periphery.

The peripheral staffing basis should be village health workers or urban primary health care workers with training of six months to a year. A degree of literacy is required. Re-trained traditional health workers may be suitable. Support and supervision will come from more highly trained nurses and midwives and from medical assistants. Sanitation workers, particularly sanitarians/health inspectors, are needed to support the environmental sanitation efforts of primary health care staff.

WHAT KIND OF DRUGS/MEDICAMENTS?

Doctors prefer a wide choice of drugs and like to prescribe widely - though not always wisely. Small countries cannot afford large drug bills and large drug inventories.

The World Health Organisation has developed lists of essential drugs, with flexibility for country circumstances. These drugs should be bought by generic name if possible (i.e. by chemical substance rather than by proprietary name). Thev should be bought in bulk as advantaheously as possible by small countries banding together in purchasing schemes to obtain better prices from reputable manufactures.

Traditional drugs and herbal medicines which are beneficial, or at least harmless, can be used. The local cultivation of useful medicinal plants and their processing should be encouraged.

WHAT KIND OF HEALTH CENTRE, EQUIPMENT AND TRANSPORT?

This should all be as appropriate and simple as practicable, and there must be provision for maintenance. Equipment should be standardised and well-meaning donations of all kinds of different equipment discouraged. It is realised that is not always easy to look the gift horse in the mouth.

Shipping is important for states with scattered island populations, particularly for those with limited or non-existent air services. Whether there should be a medical ship is a question that can be answered only by weighing all factors pertinent to each country. It is expensive but for some larger island groups it may be necessary.

Preventive maintenance may be an unfamiliar concept, but it is essential.

In general, the most practical, uncomplicated levels of buildings, transport and equipment that will do the job should be looked for, always with maintenance and cost-effectiveness in mind. There need to be some adequately-trained technicians who can check and maintain electro-medical and laboratory equipment, including X-rays. They will not be able to do everything, but

they can do preventive maintenance, minor repairs and at times even major repairs.

WHAT KIND OF HEALTH BUDGET?

While this must vary with the size of the countries and other circumstances, such as the policy towards fees for medical services and the country's transport and communication facilities, it is felt that 10 per cent of the total government budget for health would be a reasonable approximate yardstick.

WHAT KIND OF HEALTH STAFF AND WHAT TYPE OF TRAINING?

Doctors with training appropriate to the country's circumstances and a public health orientation are needed for public health leadership and for clinical/curative tasks.

There is no need whatever to aim for the doctor/population ratios of the so-called developed countries. While some small Pacific states have achieved ratios of one doctor to approximately 2000 people, one doctor for 4000-5000 people can be quite sufficient if other categories exist to take up some of the tasks. Much will depend on the accessibility of the population. Scattered smaller islands with small populations compound the problem. Medical assistants are important in my view, and this does not just apply to small island countries. These can be trained from scratch in a two to three years course or they can be developed by giving nurses additional training. Medical assistants can combine public health, clinical diagnostic and health promotional (health education) roles. They are a supervisory echelon for village health workers. One medical assistant for about 1,500 to 2000 of the population, depending on circumstances, could be aimed for.

Nurses and midwives are familiar categories of great importance and impact. They are usually the real "work horses" of the service and are not often given sufficient credit and good enough conditions. They should have a community orientation, not only bedside skills, and should be trained locally, and not only in a hospital setting. Nursing aides or similar auxiliary categories with shorter training can be very useful.

The basic peripheral workers, village health workers or urban health workers are perhaps the most basic if adequately selected, trained and motivated and if they have community support. Training of six months to one year, carried out locally, with good supervision, support and re-training is proposed. The aid post orderly in Papua New Guinea is a good example. Educational standards need not be high but a degree of literacy is most useful and some basic idea of a scientific approach to health.

Well-trained and practical sanitarians/health inspectors who are willing to get their hands dirty are worth their weight in gold. One to three years training is required, depending on the standard sought. They should be supported by basic environmental workers of little formal training who can help them at village level even on a part-time basis. Specialised sanitary

engineers are most important people but their full-time employment is usually not feasible in the small island states. A pharmacist and pharmacist assistants are needed. Assistant pharmacists' training can be carried out in some of smaller countries, but the training of full-qualified pharmacists usually requires developed-country facilities.

Dental services can be given by a very small cadre of qualified dentists supported by dental assistants, dental hygienists and, as required, dental technicians.

Radiographers, laboratory technicians, physiotherapists and nutritionist may all be needed, but for very small states flexible multivalent workers can carry out some of these functions adequately. As an example, nurses or nursing assistants can carry out some laboratory examinations, some X-ray technical work and even some physiotherapy. Medical assistants and nurses can help nutrition education.

All health workers can, and should, be health educators but one or two health professionals should have special training in health education techniques so they can pass these on to their colleagues. As for the clinical areas, most countries, unless very small, will need some "specialists"; some of their doctors should at least be trained in priority areas even if they cannot be termed "qualified specialists". These priority areas are internal medicine including cardiology and chest diseases, general surgery and orthopaedics, paediatrics, obstetrics and gynaecology, and anesthesiology. The second priority perhaps are ophthalmology, skin diseases, ear nose and throat, psychiatry and pathology. More "rarefied" specialties like neurology, neurosurgery, gastro-enterology, urology, endocrinology can usually only be covered by visiting specialists through collaboration from other countries. Even the second priorities and some of the first cannot always be met from indigenous resources, but there could be a pool of specialist resources common to two or three states in collaboration. There will always be cases where the transfer of patients to countries with greater facilities will have to be considered; this is an expensive exercise but at times unavoidable. As stated before, the public health administrator/medical officer needs a public health qualification with a reasonable grounding in epidemiology and communicable disease control. He should also have sufficient management skills to help his staff. Very importantly for health services, there have to be people with managerial and administrative skills, such as hospital administrators, supply officers, etc.

Health information and statistics are needed for feedback and for evaluation and planning efforts. There should be country health programming, even for small states, and some health planning skill available within the health administration.

A qualified health statistician may be a luxury and is rarely found in the island states, but a man with a good head for figures and a well-organised clerical mind will do nicely and can lead the needed health statistics section.

WHERE SHOULD HEALTH STAFF BE TRAINED?

It is clearly uneconomical and virtually impossible for small states to train all their health workers within their boundaries.

The only practical solution is for one of the larger developing countries in an area to provide facilities for basic and some post-basic training with support from the other countries in a Technical Cooperation among Developing Countries (TCDC) approach.

Fiji is a good example in the South Pacific where the Fiji School of Medicine trains doctors, dentists, laboratory technicians, health inspectors, radiographers and others for most of the area. Fiji can also provide some bost-basic training. Peripheral health workers, nurses, midwives and possibly medical assistants should have their basic training locally whenever feasible.

For specialised training one will have to use facilities in developed countries, provided they are appropriate and flexible.

Whether the training of doctors and dentist is at university level or at diploma level is to me immaterial but the prestige aspects are recognised and the pressures are for degrees and their recognition "internationally". The brain drain away from small states is unfortunately real and serious but there are no ready answers that fully respect human rights.

The aim should be to practise scientific medicine without frills and over-elaboration. This will require a level of diagnostic and laboratory services that is reasonable but not over-sophisticated. Self-reliance should be aimed for as far as possible. "Scientific medicine" however does not exclude the helpful contribution traditional medicine can make.

GENERAL COMMENTS

Hard as it may seem, small states must cut their cloth according to their resources. That is not always a health disadvantage. "Over-doctoring" and "over-medication", so commonly found in the "developed" world, can be damaging and counter-productive.

Let me say in conclusion that these outlines and proposals should in no way be looked at as a rigid mould. I believe the outline to be workable, and much of it exists now or is being developed. It fits in with the guiding principle, namely, access to appropriate, hopefully effective health care for all, health care without frills and prohibitive cost. There will never be "health for all" and slogans that imply this should not be misunderstood. There can however be access for all to appropriate health care and help and dignity in pregnancy, childbirth, illness and in the inevitable terminal phases of life.

There can and must also be a great reduction in <u>preventable</u> illness and death. The technology for this exists and it can be made applicable to available resources.

It should not be tolerated if what is available today in appropriate health technology is not applied and accessible. Countries however can find their own way that suits them best in health service design, within the above technical considerations and their own constraints.

Some, with already considerable health personnel resources and no great geographical problems, may not opt for village health workers of short duration training. Others may not agree, for various reasons, including professional conservatism, to a medical assistant category. Alternatives can be found. Let us however not just carry on inappropriate transfers of health care patterns that do not work well, are increasingly expensive and which deny social equity and health access to those that need them most.

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