ACTION ON RECOMMENDATIONS OF THE FIFTH COMMONWEALTH MEDICAL CONFERENCE

Action by Governments

Paper prepared by the Commonwealth Secretariat*

This paper has been prepared from the replies of 26 governments to the Secretariat's request for information on national action implementing recommendations of the 1977 Medical Conference. In providing an indication of what particular governments are doing, the paper may also be useful to other governments faced with similar problems, who may wish to seek additional information either direct or through the Secretariat. The Secretariat will be pleased to use its good offices to channel enquiries appropriately.

BRAIN DRAIN

2. Many governments sending students to other countries for medical training rely on bonding arrangements to ensure their return. Barbados, Niue, Tuvalu and Western Samoa are examples. Postgraduate students from Tonga mostly take courses in New Zealand and Australia, where arrangements have been made for temporary registration and for this registration to be cancelled when training is completed. The Government of Tonga continues to pay doctors' salaries for the duration of approved postgraduate courses overseas (including one increment if the course is for one year or more). Kiribati has imposed bonds on doctors undertaking WHO fellowships.

3. The bonding system employed by Fiji for medical students on government scholarships obliges them, when qualified, to serve in the national health service for a period equivalent to the duration of their training, or else refund the cost of their training. The examination of the (US) Educational Council for Foreign Medical Graduates is not allowed in Fiji. The Fiji Medical Council has recognised the postgraduate qualification awarded by the Philippines Board of Anaesthesiology. The qualifications awarded by the Fiji School of Medicine do not constitute an acceptable qualification for postgraduate study in Australia or New Zealand.

4. Any student pursuing a course overseas under the sponsorship of the Government of Malta is required to serve for a certain period in an institution in Malta after completing the course. This requirement is strongly enforced for both medical and paramedical personnel. Legislation has also been enacted to ensure that newly-graduated doctors man the hospital services of Malta for a two-year period after their graduation. This is to overcome the problem caused by housemen leaving after only one year to undertake postgraduate studies, graduation in Malta being biennial.

---

* A revised version of the paper submitted to the Sixth Commonwealth Health Ministers Meeting, incorporating information received after the issue of that paper.

5. In Cyprus the increased numbers of medical and scientific staff who have been trained overseas in recent years have made possible an expansion of the health services and there has been no problem of brain drain. The Gambia, however, which also lacks its own medical school, has experienced difficulties in retaining the services of its nationals who undergo medical training in other countries where conditions of service are more attractive.

6. Seychelles faces severe difficulties. At present, all 18 practising specialists are expatriates and out of the 16 medical doctors in post only 5 are Seychellois. About 24 Seychellois doctors are thought to be working elsewhere. Nine medical students are at present being trained abroad and it is expected that three more will be sent for training in 1980. Seychellois doctors working overseas, and also newly-qualified doctors, are being encouraged to return home with offers of assistance for air fares (including those of families) and subsidised accommodation for the first year after return. Soft housing loans and loans at sub-commercial rates for car purchase are being offered. Efforts are being made to send Seychellois personnel on refresher courses or seminars at least once every three years.

7. Other countries which have reported have given details of domestic action being taken to induce their trained personnel to serve in their home countries. Basic and postgraduate medical education and training programmes in Ghana, for example, have been designed to be closely relevant to the country's particular health needs. In Western Samoa the improvement of local salaries of medical, nursing and paramedical staff is being sought through the Public Service Commission and attention is being given to making working conditions and career structure sufficiently attractive to encourage staff to work in their home country rather than seek employment elsewhere. Efforts are being made in Bangladesh to provide doctors with appropriate posts on their return from postgraduate studies abroad. Niue makes monetary rewards and conditions of service as attractive as possible, and ensures that its requirements for postgraduate training overseas are always based on local needs.

8. Medical teaching curricula in Sri Lanka are being revised to ensure that they relate closely to local conditions and promote a sense of national commitment. A Postgraduate Institute of Medicine has been established to strengthen the national base of medical education. Salaries and allowances have been improved, and consultation practice, yielding additional income to practitioners, and other fringe benefits have been granted with the aim of encouraging doctors overseas to return home. Discussions have also been held with the relevant authorities in Britain with the object of getting Sri Lanka doctors to return home after completing their postgraduate studies.

9. In Malaysia conditions of service and career prospects have been improved, promotions expedited and transfers minimised, and up-grading and re-structuring of medical posts are under consideration. Post-graduate training, geared to local needs, is being expanded and teaching facilities in hospitals are being improved. Staff are encouraged to take postgraduate courses, and postgraduate examinations are being arranged in Kuala Lumpur in conjuction with such bodies as the Royal Colleges of Australia and Britain. When suitable postgraduate courses are not available in Malaysia, bonded scholarships are offered to enable selected medical officers to attend courses overseas. Medical courses at Malaysia's two universities are geared to the country's needs.

About 128 doctors now graduate annually at the University of Malaysia and in five years time a further 192 each year will graduate at the National University.

10. The system of medical education in India is being modified to suit local needs, and facilities for postgraduate training are being expanded. Medical graduates are being allowed to go abroad for further training only when adequate facilities have not yet been developed in India. The Government offers fellowships for advanced training where this fits in with the requirements of the country. The health service infrastructure is being modified in order to provide specialist services at district level. The Central Scientific and Industrial Organisation has a pool of scientists for which medical specialists are eligible.

11. Few doctors from Kenya are now trained outside the country. Post-basic training in major disciplines is also done in Kenya; a few places are offered to non-Kenyans, who are expected to return to their own countries on completion of their studies. Kenyans taking postgraduate medical training abroad are usually employees of the Ministry of Health; they are granted study leave with full employment benefits and are bonded to serve for at least two years on their return after completing their studies. The major brain drain is from the public to the private sector. After qualifying, doctors must undertake three years government service. Doctors in government service have recently been banned from doing private practice. Recommendations for the improvement of terms of government service, to induce doctors to remain in the public service, have been made to the relevant authorities. In view of the shortage of medical specialists - especially pathologists, ENT surgeons, psychiatrists and anesthetists - recruitment from other countries therefore continues, while at the same time postgraduate training is being expanded.

12. The limited extent of the brain drain from Tanzania has not warranted any measures to curb the migration of doctors. The medical school in Dar es Salaam has postgraduate programmes for doctors in internal medicine, surgery, obstetrics and gynaecology, public health, pathology and opthalmology. When it is necessary to send doctors abroad for postgraduate training in fields that cannot be adequately covered locally, the majority return home after completing their studies.

13. Following a recent study of brain drain problems in the health sector in Malawi, an arrangement has been made through the British Council whereby Malawi medical students being trained in Britain will undergo their pre-registration internship in Malawi.

14. Britain is steadily increasing the output of its medical schools in order to reduce its dependence on doctors from overseas, and the British system of medical education aims to promote a sense of national commitment and to be relevant to people's needs. For students from overseas who undergo postgraduate training in Britain, "temporary" registration (which, despite the term, in fact permitted unlimited tenure) has been replaced by "limited" registration under the provisions of the Medical Act 1978 which came to effect early in 1979. Limited registration is tenable only for an aggregate period of five years (except for doctors who previously held temporary registration), and cannot in any circumstances be extended. There is provision for doctors with limited registration, who meet the necessary requirements, to proceed to full registration, but in general the introduction of limited registration may be expected to reduce the number of overseas qualified doctors able to remain in Britain after completing their postgraduate training.

15. Medical education in Australia is similarly orientated towards meeting the needs of the people, and efforts are being made to ensure that funds for research are sufficient to keep local research workers in the forefront of their fields. As a "receiving" country, Australia takes the view that the primary resonsibility for controlling brain drain rests with the "sending" countries, but at the same time responds as positively as it can by, for example, withholding immigration approval for overseas doctors under bond. It was recently decided that overseas students should be required to leave Australia at the end of their studies and that return for permanent residence would not be approved within two years of their departure.

16. New Zealand is among other receiving countries whose policy is in accord with the Medical Conference recommendations. In India, too, foreign nationals who come for advanced training are not encouraged to stay in the country after their training has been completed. Ghana has experienced no difficulties with the few non-nationals trained in the University of Ghana Medical School in connection with their return to their home countries, and so far only Ghanaians have been admitted to local postgraduate programmes.

17. Swaziland, lacking its own medical school, is appreciative of the cooperation of other Commonwealth countries in providing training places for its medical students. Most of these return home but the kind of brain drain experienced is from the public to the private health sector which offers greater monetary rewards and more congenial working conditions. In the past four years about 80 per cent of newly-qualified doctors have left government service after no more than two years. The solution to the problem remains to be found and necessitates a continuing dialogue with the medical profession. Banning private practice is not seen as the answer, as this is likely only to stimulate an exodus to other countries. Increasing salaries to the satisfaction of the profession will only result in dissatisfaction on the part of other public servants. Swaziland is not alone in being faced with the problem of how to motivate doctors to deliver badly-needed services in the government sector and to play a leading role in the task of reaching an acceptable level of health for all.

MAINTENANCE AND REPAIR OF MEDICAL EQUIPMENT

18. Governments report increasing efforts to develop local repair and maintenance facilities, to train technical staff and to standardise equipment.

19. An electro-medical division in the Sri Lanka Department of Health has been made responsible for medical equipment. The services of a qualified electro-medical engineer have been obtained and training is being sponsored by WHO. Foreign consultancy services have also been sought to improve maintenance and repair work. Arrangements for a reliable supply of spare parts have been made with donor and supplier countries, who have also helped with the ordering and installation of expensive equipment and the training of local staff. Standardisation of equipment is being pursued, but this is not always found practicable when equipment is obtained from various sources under aid agreements.

20. Facilities in India for the maintenance and repair of sophisticated equipment are being established at various levels. The Central Scientific Instrumentation Organisation provides services for medical

institutions through its eight workshops, and the larger hospitals are being encouraged to develop their own workshops. Conference recommendations concerning spare parts and servicing facilities for donated equipment are being followed, and the Indian Standards Institute has set up various panels to standardise medical instruments and equipment. Manufacturing units are required to meet the Institute's standards: this also applies to the large quantities of medical equipment exported to neighbouring countries. India provides training facilities for personnel from neighbouring countries on request.

21. Ghana has as yet no comprehensive repair and maintenance service, but the need to develop a bio-medical engineering department with units at local level has been recognised. This will take time; meanwhile, emphasis is being placed on strengthening existing repair facilities, standardising equipment and training technicians. At present, each medical unit is responsible for maintaining its own equipment, with the exception of x-ray and dental equipment for which there are separate central facilities. Selected staff are being trained in maintenance, and steps are taken to ensure that equipment is supplied with sufficient spare parts. In purchasing, preference is given to equipment for which servicing facilities are readily available.

22. The Gambia has sent an officer abroad for further training, and has obtained the services of an expatriate expert to train local staff in the repair of refrigerators to maintain the cold chain system.

23. A system of preventive maintenance is in force in Malta for medical equipment and hospital installations. This has been made possible by a programme for staff training, both locally and, when necessary, overseas. Whenever possible, arrangements are made with overseas manufacturers, as part of the installation agreement, for the training of local personnel in installation and maintenance of newly-acquired equipment. Standardisation is pursued where practicable.

24. Equipment in Cyprus is being standardised wherever possible, and spare parts sufficient for a number of years are bought with equipment, to permit servicing and repair locally. Sufficient trained personnel are lacking, however, and a course at the Technical Institute of Cyprus has been organised with the assistance of WHO.

25. The medical engineering section of the Barbados Ministry of Health has developed a comprehensive service for repairing bio-medical equipment. The staff are fully trained and emphasis is placed on continuing education. Standardisation of equipment is being effected as a gradual process.

26. Malaysia has recently established a bio-medical engineering division in the Ministry of Health and efforts are being made to standardise equipment.

27. In Bangladesh there are plans to develop the central workshop, where training is conducted with the assistance of a WHO expert, into a central training institute and to develop four regional workshops with mobile teams attached to them. It is also intended to establish a workshop at each hospital and each medical school. At present, servicing facilities offered by the medical firms are utilised where these are available. A committee on standardisation is to be formed.

28. The Kenya Ministry of Health in 1978 set up a maintenance training

school at Loitokitok with an initial intake of eight trainees. Two similar schools are to be started shortly, at Voi and Nyeri. The one-year training course covers electricity, water installations, metalwork, carpentry, general mechanics and building work. A training programme at the Kenya Polytechnic for bio-medical engineering technicians is also under consideration. Two Kenyans have attended the regional training course at the Swaziland College of Technology. Kenya is streamlining the procurement of medical and dental equipment and giving attention to standardisation, but, as elsewhere, the lack of trained technicians to carry out preventive maintenance and the repair of sophisticated equipment is seen as a serious problem.

29. Tanzania sends student technicians for training on the regional course in Swaziland. A suitable scheme of service has been designed to provide a career structure for them, and on completion of their training they are posted to the consultant hospitals, which have sophisticated equipment. The African Medical and Research Foundation, based in Nairobi, Kenya, is arranging to conduct rural workshops at Ndareda Hospital, in northern Tanzania, to train rural health workers to maintain and repair medical equipment used in district hospitals, rural health centres and dispensaries. An attempt is being made to standardise x-ray equipment by obtaining it from a single source, but standardisation of medical equipment in general is proving difficult because donated equipment comes from a variety of sources. Donors are asked to supply spare parts.

30. Malawi has established a maintenance and repair unit in the Ministry of Health. A senior engineer has been appointed, and he is assisted by two technicians who have completed the two-year regional training course in Swaziland. Four more trainees are to be sent to this course to increase the capacity of the unit. A consultant expert who recently visited Malawi prepared a comprehensive list of equipment related to the country's needs to assist standardisation. When equipment is purchased, the need to ensure an adequate supply of spare parts is fully recognised.

31. Swaziland has suggested that evaluation of the regional course at its College of Technology is desirable, and that particular attention needs to be paid to the standardisation of equipment. Seychelles, which has had a technician trained on the Swaziland course, reports that the variety of makes of medical and dental equipment is too wide for him to cope with. To overcome its difficulties, Seychelles is attempting to establish a maintenance workshop under a qualified hospital engineer and to standardise equipment.

32. In Fiji all hospital electronic equipment is serviced by suppliers' agents locally, an arrangement which is not always found satisfactory. A trainee has been sent on the first WHO regional course in maintenance and repair which began in 1979, in New Zealand, and it is also proposed to send a laboratory technologist for six months training to Otago University.

33. Other South Pacific countries which have trainees on the WHO course include Solomon Islands, Tonga, Western Samoa and Niue. The small, scattered Pacific island countries face particular difficulties with the maintenance of their medical equipment. Breakdowns resulting from humidity, ageing equipment, inexperienced handling, the lack of trained personnel, and distance from repair centres are reported by Solomon Islands, where the Department of Public Works assists with repairs.

Niue, which has made progress with the standardisation of x-ray equipment, employs the maintenance services of a regional firm based in Fiji. Tonga, which also reports progress with the standardisation of equipment ordered for hospitals, has problems with donated equipment because of the lack of spare parts and the lack of expertise in repair work. Tuvalu also lacks trained technicians and is dependent on training facilities overseas. New Zealand has assisted by sending technicians to the island countries to repair equipment, train local staff and establish stocks of spares. In Kiribati, where a comprehensive repair and maintenance service has not yet been developed, local staff are being trained with the help of Australian technical assistance personnel who are working on a sewerage scheme.

34. Australia is not alone among reporting countries in indicating the benefits to be obtained through regional cooperation in this field, using a common supply language, promoting standardisation of equipment, increasing the availability of spare parts, facilitating training, and safeguarding both patients and staff. In Australia itself, each state is developing a comprehensive electro-medical equipment maintenance service, standards for evaluation and testing of equipment are being co-ordinated, and a standardised hazard alert reporting system is being developed. Australian state health authorities are promoting the standardisation of equipment, and the introduction of a computerised inventory of medical equipment is under consideration. Australia has assisted in a consultative role with equipment for Sri Lanka, and has provided training facilities.

35. Britain also has a comprehensive service for maintenance and repair. Staff are given appropriate training, and benefit from the existence of an appropriate career structure. As a donor country, Britain makes enquiries, as a matter of routine, about the spare parts and servicing facilities required by countries receiving donations of medical equipment, and has been active in seeking to reduce the number of types of equipment and to harmonise standards and specifications. Britain also provides assistance, when requested, in purchasing equipment and training technical staff.

PHARMACEUTICALS

36. All countries are grappling with the formidable problem of how to reduce the cost of medicinal drugs, how to control quality and how to ensure an effective system of storage and distribution. The introduction of essential lists of drugs continues to increase, as also does the emphasis on the use of generic drugs where practicable. Encouraging moves in the South Pacific to launch a regional scheme for drug procurement are summarised in the separate paper on regional action.

37. In Sri Lanka, which has achieved a significant reduction in drug costs, the supply of pharmaceuticals is organised through a state corporation with the necessary expertise (including that concerning tariffs and other financial matters) at its command. Storage and distribution are organised by a division of the Health Department. A national formulary committee has been established and generic drugs are used. Raw materials for a number of commonly-used drugs are imported in bulk and formulated and capsuled in Sri Lanka. Every effort is made to ensure that imported drugs conform to international standards. Prescriptions are handled by qualified pharmacists who are assisted by dispensers (auxiliary pharmacists). All staff dealing with medicines are properly trained.

38. Regulations have been in force in India for many years to ensure that drugs manufactured, distributed and sold in that country are of satisfactory quality. The major requirements of public hospitals and dispensaries are met by government supply organisations at central and state level. The third edition of India's national formulary has been published in 1980. Where quality of exported drugs is concerned, India participates in the WHO certification scheme.

39. Malaysia operates a central purchasing, storage and distribution system which is coupled with government pharmaceutical production facilities and makes it possible for drugs for the public sector to be obtained at reasonably low cost. There is a standard list of 600 drugs and the use of generic drugs is being encouraged, despite persuasive advertising by pharmaceutical companies. There is provision for items not on the list to be purchased for special cases on the recommendation of consultants in general hospitals. A statutory scheme for drug registration is being prepared for implementation when a national pharmaceutical control laboratory is completed; this will make possible more effective monitoring. Qualified pharmacists are responsible for the public sector drug supply and management system, and are assisted by trained dispensers in hospitals, laboratory assistants in pharmaceutical laboratories and medical storekeepers in the stores.

40. In Bangladesh a list of 31 essential drugs for primary health care has been drawn up, and there is also a list of 182 drugs by generic name for general use. Nearly 85 per cent of the medicinal drugs used are formulated locally by 130 manufacturers, including 8 multinationals. Formulation capacity is being further expanded. A publicly-owned pharmaceutical production unit has been set up and facilities for the production of vaccines are being increased on the basis of a feasibility study carried out by a World Bank team. The Government is also considering plans for the Bangladesh Chemical Industries Corporation, a public enterprise, to set up a multi-purpose synthetics plant and an antibiotic fermentation complex. The Ministry of Health's Directorate of Drug Administration, which has offices at district level, is responsible for the administration of drug legislation, for supervising drug supply and management, and for monitoring quality. There are at present two drug testing laboratories at national level, and two similar peripheral units are to be set up. A new pharmacy ordinance to regulate the training and practice of pharmacists has been enacted and four pharmacy schools are to be established. Basic drug legislation is being reviewed and new legislation is being drafted; new narcotics legislation is currently under consideration.

41. In Malta the importation and sale of all pharmaceuticals is under legislative control, through a system of licensing at both wholesale and retail level, which is related to the availability of locally-manufactured preparations. Supplies for government health services are obtained by the Department of Health through tenders or by direct orders after quotations. The formulary for drugs used by government services is reviewed and up-dated. All drugs manufactured locally are subject to quality control. Imported drugs must be accompanied by quality certificates from the authorities in the country of origin, and are also subject to laboratory control carried out by the Health Department. All staff dealing with medicines are suitably trained and the Department has its own training course for pharmacy technicians.

42. Pharmaceutical legislation in Cyprus provides for the control of importation, manufacture, prices and quality, and is kept under review.

Regulations govern the operation of private firms and medical stores, the registration of pharmacists and wholesale dealers, and the supply of drugs. Legislation is also in force to control narcotic drugs and psychotropic substances. Drugs for the public sector are purchased by generic name through tenders and must be registered in Cyprus or freely sold in the country of manufacture. Private sector supplies are also registered and must be imported through accredited agents. Most pharmaceutical storage facilities have air-conditioning and refrigeration, and there are appropriate arrangements for distribution through hospital pharmacies to rural health centres and, in the private sector, through wholesalers to retail pharmacies. A list of about 500 essential drugs, subject to annual revision, is distributed to all doctors and pharmacists in the public sector. About 80 drugs are formulated and packaged by a local pharmaceutical company whose production covers about five per cent of the country's requirements. Productions exported by this firm are subject to strict quality control and must conform to domestic standards. Imported drugs are analysed at the government laboratory, by consignment or by random sampling. Staff dealing with medicines must have had appropriate training, and use is made of auxiliary pharmacists.

43. Britain has a national formulary and a Medicines Act, the provisions of which cover most matters relating to medicinal drugs and are kept under review. The same standards are applied to the manufacture of pharmaceutical products for export as are applied to medicines for the home market.

44. Australia also has a well-established system for the assessment, procurement, testing, storage and distribution of prescription pharmaceuticals, most of which are supplied under the Pharmaceutical Benefits Scheme in accordance with the National Health Act, the remainder being provided through public hospitals. Relevant legislation is kept under review. The Schedule of Pharmaceutical Benefits fulfils the role of a national formulary, lists drugs primarily by generic name and minimises price differentials between listed brands of products. In addition, the Australian Pharmaceutical Formulary, published by a non-governmental organisation, provides basic standards for prescribed pharmaceuticals in common demand. Manufacturing concerns are inspected regularly, in relation to the requirements of the Australian Code of Good Manufacturing Practice which encompasses WHO recommendations on chemistry and quality control. Certification is issued for exported pharmaceuticals, where required. Imported pharmaceuticals are monitored for quality by the National Biological Standards Laboratory under the Therapeutic Goods Act 1966.

45. In New Zealand the Drug Tariff, a ministerial direction issued under the Social Security Act 1964 and amended three times a year, lists about 2000 medicines which are available to the patient free of charge. Where there is more than one brand available in the same therapeutic group and prices differ, only the less expensive is provided free of charge, the others bearing a part-charge to the patient. With the exception of drugs supplied by hospital pharmacies, all distribution is handled by private enterprise, through wholesale and retail firms. Only in cases where use requires special knowledge, or where there is doubt about safety, is availability restricted to hospital pharmacies. Premises for manufacture and storage are inspected at least once a year. The Department of Health issues prescribers' notes to medical practitioners, who are visited on an annual basis by pharmacists and practitioners from the Department to discuss the use of medicines. The British national formulary is used and the use of generic drugs is encouraged.

Manufacturing, which is almost entirely concerned with formulating and packaging, is subject to the Health Department's Code of Good Manufacturing Practice. Distribution is recorded and drugs can be recalled - there were 29 recalls in 1979/80. The Department has a medicine testing programme (Mediqual) to monitor imported products on both a random and a problem-oriented basis. Legal requirements ensure that only suitably-trained people handle medicines, and trained dispensary technicians assist registered pharmacists in hospitals and retail pharmacies. There are pharmacy schools in New Zealand and students from other Commonwealth countries are accepted for training.

46. Barbados is introducing a management and service system, the Barbados Prescription Drug Plan, designed to reduce the cost of prescription drugs to the public while at the same time making quality drugs of non-therapeutic value continuously available. Drugs listed in a national drug formulary will be available to the public at bulk quantity prices negotiated with manufacturers or their local distributors. Other drugs will continue to be freely available, subject only to the forces of supply and demand, and physicians will be at liberty to prescribe them if the patient is prepared to pay. There will be a Drug Benefit Service under which the Government will accept a direct financial role on behalf of named beneficiaries in respect of a sub-list of formulary drugs of particular cost and therapeutic significance, which are frequently used for common illnesses and account for a high proportion of drug expenditure. The Drug Benefit Service will also expand the existing list of drug beneficiaries (social assistance and old-age pension groups) to include certain high-usage groups such as diabetics and hypertensives. The Drug Supply Section will negotiate, guide and monitor the total drug procurement and distribution process with the object of ensuring a continuous supply of quality drugs at reasonable prices, but will not itself purchase or distribute drugs.

47. Ghana also is considering modification of its system of drug procurement, storage and distribution, and its national formulary, introduced in 1976, is due for review. The Ministry of Health has prepared an essential drugs list and a priority drugs list, and is actively promoting the use of generic rather than proprietary drugs. Imported pharmaceutical products are monitored and Ghana has joined the WHO certification scheme. Personnel dealing with medicines are suitably trained; auxiliary pharmacists (dispensing technicians and assistants) have been employed for some time.

48. A committee in The Gambia is examining the procurement storage, distribution, processing and use of pharmaceuticals. Legislation is to be reviewed.

49. Tanzania is attempting to rationalise the purchase, storage and distribution of pharmaceuticals by making one organisation responsible for all these functions. In view of the heavy reliance on imported drugs, quality control capacity is being developed to prevent importation of drugs of doubtful quality. Tanzania has a national formulary which is undergoing revision, and it is seen as important that practitioners should respect the guidance the formulary provides, and that their training should make them more appreciative of the cost of the drugs they prescribe, so that expenditure on drugs can be kept down.

50. Kenya has listed essential drugs by generic names. A new management system for drug supplies to rural health facilities, aimed at both adequate supply and proper use, is being tested out in two districts

before nationwide introduction by mid-1982. The whole system of drug procurement, storage and distribution in Kenya has recently been reviewed, and the central medical store is being decentralised to bring about more efficient distribution. The Ministry of Health has established a small quality control laboratory in collaboration with the pharmacy department of the University of Nairobi medical school. The aim is to expand this laboratory, but personnel with the required training and experience are at present lacking. There is concern in Kenya about the dumping of certain drugs by multinational companies and the Government seeks the assistance of the countries where the supplies originate to prevent this.

51. In Malawi a national list of medicinal drugs has been prepared and the establishment of a public health laboratory, which will be able to monitor standards of imported drugs, is under discussion.

52. In Seychelles only items on a list of 231 drugs are regularly imported. As a result, drugs account for only 6.6 per cent of recurrent health expenditure. The list is reviewed twice yearly, and where necessary amended, by a drugs committee. Consumption of drugs in the private sector is limited; there are only two private pharmacies and sale elsewhere is negligible. Legislation is being prepared under which the private pharmacies will be brought under government control and allowed to sell only a limited range of drugs; a general sales list covering all retail drugs sold has been prepared. Under the new legislation all imports of drugs will require the approval of health authorities. Seychelles is collaborating with other countries of the East, Central and Southern Africa region in efforts to work out a scheme for drug procurement on a regional basis.

53. The island countries of the South Pacific report progress with the South Pacific Pharmaceutical Service project, sponsored by the South Pacific Bureau for Economic Co-operation (SPEC) and WHO, for regional bulk purchasing. Tonga is among the participating countries and Western Samoa has offered facilities for the regional service. Tuvalu has also decided to become a member of the regional service, and participation by Solomon Islands is under consideration. Australia has been actively concerned in preparatory studies for the service. Fiji, although involved in the initial moves to set up the regional service, has decided to set up its own national purchasing scheme. Kiribati, which uses the British national formulary and has sent a pharmacist to meetings in Fiji on the supply and distribution of pharmaceuticals, hopes to rely on the regional service for monitoring its imported drugs. Niue's medical supplies are purchased through New Zealand and are subject to New Zealand standards.

ABORTION LAW AND PRACTICE

54. Abortion is a controversial matter in most countries and, although the report Abortion Laws in the Commonwealth has been under consideration, few governments report action to amend existing legislation.

55. The Government of Barbados, where the first of the two medical-legal workshops organised by the Commonwealth Secretariat was held in 1979, is one of the exceptions, and proposes to liberalise its laws relating to abortion. A draft Termination of Pregnancy Bill has been prepared, taking into consideration the experience of other countries, and has been referred for comments to such interested bodies as the

Barbados Association of Medical Practitoners, the Bar Association and the Barbados Christian Council.

56. Malawi reports that the second Commonwealth medical-legal workshop, held in Lilongwe in 1979, stimulated local discussion of issues relating to abortion law and practice. In Seychelles, where abortion is illegal, consideration is to be given to amending legislation to allow abortion on medical grounds when the life or health of the woman is in danger. Abortion is lawful in Sri Lanka only when performed in good faith in order to save the life of the woman, but the possibility of amending the legal provisions is to be given careful study. A parliamentary move in Britain to narrow the criteria under which abortion may be performed was unsuccessful. In Fiji, the main opposition to legalising abortion is reported to come from religious bodies, whose influence is considerable. Legislation in Kiribati was reviewed in 1979 with the assistance of the Attorney-General.

57. In Kenya, abortion is legal only on health grounds, e.g. multiparity or conditions such as hypertension, vascular disease or diabetes which are aggravated by repeated pregnancies. There have been many deaths as a result of illegal abortions, however, and family planning counselling has therefore been intensified and sex education is being introduced in colleges and other institutions.

58. In Australia, where abortion is a state (rather than a federal) concern, the Australian Capital Territory's Termination of Pregnancy Ordinance 1978 prohibits the termination of pregnancy anywhere other than at a public hospital. Australia's family planning programme is expected to reduce the number of unwanted pregnancies and hence abortions.

59. New Zealand's Contraception, Sterilisation and Abortion Act, passed in December 1977, came into effect in 1978. The Act provides for a three-member Abortion Supervisory Committee, appointed by the Governor-General on the recommendation of the House of Representatives. The first and the current chairman have both been women - the former a magistrate, the latter a person prominent in public affairs - and the other members are a specialist and a general practitioner. The functions of this committee include keeping under review abortion law and practice in New Zealand; dealing with applications for licences under the Act and, where appropriate, revoking such licences; prescribing standards in institutions where abortions may be performed; and ensuring that these standards are maintained. The committee must take all practicable steps to ensure that there are counselling facilities for women in relation to abortion, and it also recommends maximum fees for the performance of abortions. The committee is also required to collect and disseminate information on the performance of abortion, to ensure the consistent and effective operation of the Act, and to report annually to Parliament.

60. Besides containing some new provisions relating to pregnancies resulting from incestuous intercourse and to sub-normal women, the New Zealand Act provides that abortion is legal within 20 weeks from implantation if the doctor performing the operation believes that there is serious danger to the life or the physical or mental health of the woman. Amending legislation in 1978 added the provision that abortion should not be unlawful if there is substantial risk of the child, if born, being so physically and mentally sub-normal as to be seriously handicapped. Between 20 weeks and birth the test provided by the Act

is more restricted; it is necessary that the doctor should believe the operation to be necessary to save the life of the woman or to prevent serious permanent injury to her physical or mental health. Since the passing of the Act, difficulties have arisen from a lack of doctors willing to offer their services as certifying consultants or operating surgeons, and from the lack of facilities in some metropolitan areas. The number of abortions performed in New Zealand dropped from 5,842 in 1977 to 3,166 in 1979.

COMMUNITY PARTICIPATION

61. The reports received from governments contain ample evidence of the importance placed in member countries, both developing and developed, on participation by the community in planning and carrying out health programmes, particularly those concerned with the expansion of primary health care.

62. In Solomon Islands participation is widespread at central and provincial levels and in local rural communities, and is described as "the keystone of the health services". Kiribati is following the Medical Conference recommendations wherever practicable. The training of its health workers is orientated towards community participation, but it has a shortage of trained health educators. Health education is already part of school curricula and the health needs of adolescents are also receiving attention. In Niue the community takes part in preventive activities such as mosquito control work, and trained staff undertake health education through communication media, village organisations and schools.

63. Tuvalu's national health plan for 1980-83 indicates the need to develop primary health care and encourages local councils and the community to participate in this development, including planning. In-service training and the training of community leaders are conducted in collaboration with WHO. Local seminars are held to disseminate health information and promote a general awareness of health requirements. There is a central committee concerned with the organisation of the health service and the involvement of the community.

64. In Tonga, where community participation has been an accepted concept for some years, it has played an important part in the success of several programmes, such as those for the improvement of rural water supplies and for the control of filariasis. There has been less progress with community involvement in health planning and programming, except in the implementation stage, but more involvement is being encouraged.

65. The people of Fiji are receptive to any moves to improve their health services and full community support and cooperation are forthcoming for improvements in health care at village level. For example, in a rural water supply scheme introduced as part of the Rural Development Programme the community is providing the unskilled labour and one-third of the cost of materials, the Government supplying the remaining two-thirds and the services of technical staff. Rural housing and electrification schemes operate similarly. Other programmes, such as those for environmental sanitation, school health, immunisation, family planning and maternal and child health services, are also dependent on full community participation for their success.

66. Women's health committees, in existence since 1925, play a key role in health care and community development in Western Samoa. Established in all villages, they look after the health of pre-school children and collaborate with visiting district public health nurses in connection with immunisation and nutrition. They plant vegetable gardens and keep poultry and cattle for the promotion of a balanced diet. In 1978 the Women's Health Committee Organisation of Western Samoa was established to strengthen the participation of women in health care, nutrition, agriculture and handicrafts.

67. The New Zealand Government's special advisory committee on health services has set up working groups to consider ways of facilitating more community involvement. Workshops in planning have been held for health personnel, and district management teams are encouraged to use local community groups as a source of information for planning. Considerable attention is being given to health education - of the family by nursing staff and others engaged in education for parenthood, in school curricula through collaboration between the Departments of Health and Education, and of the working population by occupational health teams in consultation with workers and management. The health education officer responsible for training is undertaking postgraduate studies. The Department of Health is increasing its use of media advertising for health education, and has concluded agreements with manufacturers and advertisers to limit advertising of tobacco and alcohol. Advertising is monitored by a special committee. Community health care funding from a levy on tobacco and alcohol has been made available to hospital boards for the expansion of community-based services. Some hospital boards publish health education material. There is continuing public release of health policy statements and reports and of discussion documents on re-structuring the health services.

68. In Australia the provision of health education is the responsibility of the state health authorities, which conduct programmes in schools (such as the Schools Preventive Health Programme of New South Wales) and develop programmes directed at the community in general. The Australian Government is developing a National Health Promotion Programme to encourage healthy life-styles. The aim is to foster an approach to health which will bring about a shift from the emphasis on curative medicine to greater commitment of individuals, families and the community to positive health goals. A communications campaign is being developed through the use of market research studies to ascertain the most acceptable means of presenting positive health values to the public. A five-year blueprint - demonstrating the necessary social, legal, industrial, environmental, economic and professional inputs - will be available in 1980. A conference on health promotion is planned; television, radio and newsprint material is being prepared; and a book to guide people to healthier patterns of living is in view. Resource manuals for doctors and hospital staff are being produced, consumer health indices are being developed, and projects to stimulate public interest and discussion are already under way. Health workers are trained in communication skills, including the use of two-way radio communication.

69. Advertising of cigarettes on television and radio in Australia is prohibited by legislation, and a Media Council administers self-regulatory codes within the advertising industry, including a voluntary code for cigarettes. The Department of Health has reached agreement with the alcohol industry on a code for alcohol advertising; an Alcohol Beverages Advertising Council has been formed by the media and the industry. There are moves to increase the involvement of local

community services in health care, through a variety of advisory and promotional bodies. The Family Planning Association and the Australian Catholic Social Welfare Commission, for example, are actively concerned with the problems of adolescents, and an Adolescent Counselling, Treatment and Information (ACTION) Centre, funded under the Family Planning Programme, caters for the needs of at-risk youth. Each state and territory has an occupational and industrial health department. The cooperation of Aboriginal healers is being sought and a compendium of traditional remedies is in view.

70. Britain has over 300 full-time health education officers in post, an increasing proportion of whom have diplomas, and health education is also provided by doctors, nurses and other health professionals in the course of their normal duties. In-service training at both national and local level emphasises the importance of community participation. A working group is expected to report during 1980 on health education training needs and entry standards. The Health Education Council and the Scottish Health Education Unit make considerable use of the mass media. The Health Education Council pays particular attention to the needs of the working population (for example, in its current "Better health - look after yourself" campaign)including the social groups with the highest risk of ill-health. The Council liaises closely with the Schools Council and supplies health education material for school curricula, including projects for primary school children; the Schools Council issues material on the problems of adolescents. Local health authorities provide a health education service in cooperation with education authorities, commerce and industry. The British Government's approach to the control of advertising is through voluntary agreements with the industries concerned. Planning in the national health service is on a cyclical basis and multi-disciplinary; it involves various levels of government and statutory authorities and provides at each stage for consultation with the community.

71. Health educators are deployed in Sri Lanka's 19 health divisions, and more are being trained so that each of the 101 sub-divisions will have an educator. At village level, community ealth workers with the necessary training undertake health education. Regular use is made of newspapers and radio for health education purposes. Little progress is reported with the control of commercial advertising inimical to health, although a cosmetics law is being drafted. The Health Education Bureau and the Family Health Bureau coordinate their activities directed towards the family unit. In schools, health is an integral subject in grades 1-5 and a special subject in grades 6-10. Health education is included in teacher training curricula. New curricula with emphasis on community participation have been developed by the Institute of Health Sciences for the training of health workers. Besides basic training there is regular in-service training and periodic evaluation. The health problems of adolescents - including the hazards of sexually-transmitted diseases, smoking and alcohol - have received special attention. The Health Ministry has officers specialising in occupational health and professional guidance is provided for the health education programme of the Ministry of Labour, with which trade unions are associated and which includes family planning and other aspects of family health. Education in preventive care is combined with curative treatment in hospitals. Health education is an important part of the national health system. A National Health Council has been established and divisional health councils are to be formed. Community involvement in health planning and the adoption of appropriate technology for environmental sanitation and community health are being encouraged.

72. The Government of India started a Community Health Volunteer Scheme in late-1977, under which the village commmunity selects a villager to be trained in first aid and the treatment of minor ailments and in basic preventive, promotive and rehabilitative health care. After training, the community health volunteer provides on-the-spot service, with technical guidance from government health staff and supervision by the community. Over 130,000 volunteers have so far been trained and by 1983 there should be one in every village. An independent evaluation has shown that the scheme has been well received by village communities, which themselves participate in the establishment of primary health centres and sub-centres and rural dispensaries, and in some states operate the primary health care programme with government assistance.

73. In Malaysia the Ministry of Health has launched a Community Health Renewal Movement, a strategy for the mobilisation and involvement of the community, particularly in under-served areas, in measures to improve their health care system, supporting and supervising community health workers. A nationwide community education programme with a health input, directed particularly at the family, uses radio and other mass media. The Ministry's health education unit is being strengthened, health programmes are being prepared for broadcasting by radio, and health education officers are being posted at state level to organise community education activities and train various categories of personnel in health education techniques. Guidelines and talking points have been distributed to all health personnel, and villages are to be provided with radios. A survey of under-served areas in Peninsular Malaysia, Sabah and Sarawak has identified individuals and organisations willing to take part in the Movement, which will be planned and implemented at village level. Traditional birth attendants, teachers, young people and retired government officials are among those being trained in various aspects of health care, including first aid and the treatment of minor ailments. The importance of community participation, both in providing essential health care and in encouraging self-help and self-reliance, is being strongly emphasised.

74. Bangladesh now has 25 health education officers with diplomas in public health, but faces difficulties arising from a shortage of printed material, films and transport.

75. In Singapore the training and health education department of the Ministry of Health, which was drawn together with the primary health care department in 1978, reaches out to various groups of the population, through polyclinics, schools, hospitals, factories and community centres. Talks, film shows, slide shows, training courses, seminars and exhibitions increase people's health knowledge and show them how to help themselves. Improved socio-economic conditions and increased literacy have helped periodic health campaigns to educate people in the prevention and treatment of diseases. The Home Nursing Foundation, established by the Ministry of Health in 1976, also involves community participation. The Foundation cooperates with other public and private agencies in providing free nursing care for the aged, disabled and non-ambulant chronic sick in their own homes, and encourages and promotes community interest in the care of the aged. Sixty staff nurses operate through the polyclinics to provide this care, and free transport to and from polyclinics and hospitals is provided.

76. The development of health education at community level in Barbados continues, with increasing use of the mass media, periodical youth

meetings to discuss health issues, and promotion in polyclinics and other primary care facilities. A national planning unit has been established and community participation in the development of health programmes is encouraged. The creation of health advisory councils is under consideration. Grenada also reports evidence that health education is making an impact.

77. Public participation in health activities is encouraged in Malta, both to stimulate further development of the health services and to obtain assistance for their delivery. Members of the community are represented on statutory committees concerned with health care, and participation by voluntary bodies in the care of certain groups, such as the physically and mentally handicapped, is fostered.

78. In Cyprus there is community participation through membership of hospital visiting boards, health boards and improvement boards of local authorities. Community assistance is sought for solving various health problems, recommendations always being seriously considered and wherever possible implemented.

79. The people of Seychelles are reported to be very health-conscious and active in requesting and evaluating health facilities. Community participation has been strongly encouraged in recent years. In the new system of community health care being introduced, it is formalised in the shape of a community health committee in each village, composed of members of the Seychelles People's Progressive Front, health personnel and schoolteachers. These committees are proving very active.

80. In Ghana, where a national health policy with clearly-defined objectives has been developed, self-reliance and participation are accepted as part of this policy and promoted not only in health programmes but in all community development projects. The increasing numbers of village health workers being trained are coming to play a major role in primary health care. Village health committees have been functioning for some years and the mass media are used for health education, focused on the family unit. Health education is included in the training curricula for all health workers, community health workers are trained in motivation, and annual refresher courses for selected workers are held. Hospital workers are encouraged to give health education. An occupational health programme for organised labour groups is being developed. Traditional birth attendants are used for maternal and child care, including family planning, but traditional healers are yet to be accepted, although the Government has established an institute for research into plant medicine. Community involvement in health planning is an integral part of the primary health care programme. A national health planning unit has been created with the assistance of USAID and regional units are contemplated when resources permit. A Public Health Act has been prepared which will provide for the setting-up of health advisory councils. Appropriate mechanisms exist for dealing with advertisements which promote ways to life inimical to health. The use of appropriate technology in environmental and community health programmes is being encouraged.

81. Considerable progress in involving members of the community in primary health care activities is reported by The Gambia. An encouraging dialogue has been established and communities have shown themselves quite well-informed about health needs and willing to make a positive contribution to the planning and execution of health programmes, assisted by committed and tactful official guidance.

82. In Malawi health education at community level is seen as the most effective means of preventive medicine, and the health education unit of the Ministry of Health is being strengthened and expanded.

83. Involving the community in health and health-related activities is a major element in Kenya's integrated rural health programme to achieve the WHO target of health for all by the year 2000. Community involvement is seen as essential for increasing the coverage and improving the quality of basic health services and for providing rural health services as an integral part of overall national development. The theme of the 1979-83 National Development Plan is the alleviation of poverty, and health is identified as one of the basic needs, requiring full participation by members of the community in matters concerning their own health. Numerous health facilities have been constructed through community self-help effort, and 14 community-based health care projects throughout the country, mainly coordinated by church-related, non-governmental organisations, are currently in operation.

84. Tanzania sees community participation as vital and requiring multiple approaches. A recent conference of the country's regional medical officers worked out ways in which health workers should interact with the community; health education at community level was seen as extremely important and the need for properly-trained health educators was endorsed. Radio communication is being extensively used in health education campaigns. The training curricula for health personnel are being reviewed with the object of ensuring that such personnel are properly prepared for promoting better health in the community. At the same time, attention is being given to the need to learn from members of the community actual health needs as perceived by them. The target unit for health development is the extended family. More attention is being paid to raising the health status of mothers and the under-fives, and through a national school health programme, launched in collaboration with the Ministry of National Education, health education is being integrated into the school curriculum. A group occupational health programme for the urban working population is being extended to cater for workers on large farms, but workers in small industries and individual peasant farmers have yet to be reached. Efforts towards health education in hospitals depend on the the enthusiasm of hospital staff.

85. Although traditional healers are socially recognised and there is legislation permitting their practice, the approach to traditional medicine in Tanzania has been inhibited by the reluctance of modern-trained professionals to develop a dialogue and understanding with the healers. The village health worker is increasingly regarded as the health service ambassador in the villages, but some difficulty has been experienced in identifying the most suitable type of person for this role. Recruitment of young school-leavers has been found disappointing, and the established villager and the village married woman are now seen as more promosing. Community participation in socio-economic development programmes has been obtained by using government and political party machinery, and particularly through regional and district development councils and village development committees, and the aim is to ensure that health occupies a prominent place in these programmes. The Ministry of Health has a planning unit, but a national health advisory council has yet to be established. Major emphasis is placed on the use of auxiliary health workers as a permanent feature

in health manpower development, with continuing education as an important feature.

FOOD AND NUTRITION

86. The improvement of nutrition is widely accepted as a multi-sectoral problem, and many of the countries reporting have established special inter-disciplinary bodies to formulate policy and programmes. Nutrition units have been created in ministries of health, training in nutrition is being given to most health personnel and surveys have been made to identify groups at risk. The importance of nutrition in primary health care programmes, and particularly in maternal and child health care, is everywhere recognised. Attention is also being given to food standards and food preservation, in accordance with Medical Conference recommendations.

87. Tanzania has a fully-fledged parastatal Food and Nutrition Centre which is charged with preparing a national food and nutrition policy. Work is being done on the nutritional value of locally available foods, weaning diets, and food storage and preservation using low-cost and traditional technology. Attention is also being given to product standards for staple foods, the regulation of food additives, pesticides and contaminants, and to micro-biological hazards. Legislation providing for quality control of foods and beverages is in force. The Food and Nutrition Centre, which works in collaboration with the Ministries of Health and Agriculture and other state organisations, aims to eliminate the florid forms of malnutrition. Nutrition work is also conducted through the maternal and child health clinics, and will be extended through the school health programme when this is established.

88. An inter-ministerial nutrition coordinating committee has been formed in Kenya to advise on food policy. The key ministries represented on this committee are those responsible for economic planning and development, agriculture, health, basic education, and culture and social services. Other nutrition activities are performed by non-government agencies such as the Catholic Relief Services, the Kenya Freedom from Hunger Campaign, the National Christian Council of Kenya and the National Council for Social Services. In the health component of the current five-year development plan 1979-83, nutrition activities focus on the training of nutritionists and nutrition field workers, research and field studies, incorporation of nutrition education into the training curricula of all health workers, and the introduction of nutrition education at all levels of schooling. Nutrition education is directed towards better agricultural practices including harvesting and storage, sound feeding practices particularly for vulnerable groups, better food hygiene and better use of both family and public resources. The maternal and child health and family planning programme provides a good infrastructure for the promotion of knowledge about nutritional requirements, particularly those of infants and children, and sound nutritional practices.

89. The Ghana Ministry of Health has a nutrition division, with sub-units at local level, and the establishment of a national food and nutrition committee, to advise on national programmes and develop an information system, is proposed. Data on nutrition are obtained from routine records and special surveys. All health nurses and auxiliary workers are given training in nutrition, and nutrition education features prominently in maternal and child health care programmes. All nutrition education activities place emphasis on the importance of balanced diets based on locally-available foods. Breast feeding

is promoted, and industrial research is currently being done on the development of a weaning food from local products that can be produced commercially at a low price. The Ministry of Agriculture and the Food Research Institute of the Council for Scientific and Industrial Research are promoting and developing low-cost technology for food storage and preservation. The Ghana Standards Board develops food standards and measures for control in collaboration with the Ministries of Health, Agriculture,Industry and Trade.

90. Bangladesh has a National Nutrition Council which formulates food and nutrition policy under the chairmanship of the Minister of Health and Population Control. An applied nutrition programme combats malnutrition among vulnerable groups by promoting kitchen gardens, fruit growing, fish culture and poultry farming. High-protein capsules are distributed to children under six years of age. The Institute of Public Health Nutrition in 1978 organised a regional seminar, sponsored by WHO, to examine the effectiveness of feeding programmes, and in 1979 a national seminar on the role of the health sector in nutrition was held in collaboration with WHO and UNICEF. Guidelines on nutrition are provided as part of the national development plan and medical, nursing, paramedical and health education personnel are given training in nutrition. Priority is given to nutrition in health education. A manual on nutrition has been prepared for use by health personnel. A balanced diet based on local foods is advocated, simple formulae for supplementary foods for young children have been developed, the mass media are used to promote breast feeding, and the use of artificial baby foods is discouraged. Regulations on food additives, pesticides, contaminants and microbiological hazards are enforced. Low-cost technology for storage and preservation of foods is being developed.

91. The phased national food and nutrition programme in Malaysia, initiated in 1971, has been extended to 47 districts in Peninsular Malaysia and to Sarawak and is now being started in Sabah. The aim is to increase food production, improve health, intensify community education and participation, provide supplementary feeding as a temporary measure where necessary, and above all to increase community self-reliance and self-help. The programme is coordinated by the Prime Minister's Department and all related agencies - including those concerned with health, education, agriculture, veterinary services, fisheries, home economics, and information - are involved. Attention is being given to underprivileged groups in urban areas. The Government is considering proposals drawn up by a nutrition committee for the formulation of a national food and nutrition policy and the creation of a coordinating council, for extending the applied food and nutrition policy throughout the country, for strengthening community nutrition education by all agencies, and for establishing a national nutrition surveillance system. A pilot project on nutrition surveillance has already been started with the aid of UNICEF. Nutrition education is an important part of maternal and child health care. A national committee with representatives of relevant agencies and the infant food industry has been set up by the Ministry of Health to promote breast feeding. Balanced diets, including weaning diets, based on local foods are used in cooking demonstrations in clinics and homes. A national code of ethics on infant foods has been issued, and the prior approval of a special committee is required for advertisements, literature and instructions concerning infant foods. All health personnel are given training in nutrition.

92. In Singapore, improved socio-economic conditions, a cleaner

environment and a better general level of health have been combined with a significant improvement of the nutritional status of the people over the past five years. At the primary health care clinics a systematic programme is operated for mothers, starting early in pregnancy, and for neonates and pre-school children. There are health education talks, supported by films, slides, pamphlets and charts, and weekly nutrition demonstrations feature the preparation of cheap local foods in healthy and culturally-acceptable ways. At-risk cases are identified and are followed up at the clinics. In schools, children in need of additional nourishment have their diet supplemented with wheat and with soya bean mixed with skimmed milk(provided for five years up to 1980 by the World Food Programme). Regulations enforced by law on food handlers, hawkers, markets, restaurants, and canteens have reduced food adulteration. Routine inspections and random samplings are carried out, as also is meat inspection at local abattoirs and for imported meat on arrival. Regular training programmes for medical and paramedical staff equip them to disseminate nutrition information to the people, and this process is supplemented by exhibitions, talks and seminars.

93. To formulate a national nutrition policy in India, the Ministry of Social Welfare has set up a central coordination committee which includes representatives of departments concerned with food, agriculture, rural development, economic affairs, and health and family welfare, and also of the Planning Commission and the Indian Council of Medical Research. The Ministry of Health and Family Welfare has a nutrition unit and operates programmes for the prevention of blindness due to vitamin A deficiency, and also of anaemia and goitre. The National Nutrition Monitoring Bureau, established under the auspices of the Council of Medical Research, is conducting diet and nutrition surveys in ten states. Re-orientation courses for medicial officers and paramedical staff of primary health care centres are being modified to incorporate a nutrition component, and community health volunteers are also being trained in nutrition. Breast feeding is almost universal in India; a slight tendency in urban areas to change to bottle feeding is being discouraged. There are government programmes for supplementary feeding; for the production, processing and supply of highly nutritious foods; for nutrition education; and for the extension of health-based nutrition. There is a Prevention of Food Adulteration Act; minimum standards for foods and regulations on food additives, pesticides and contaminants are enforced; and a Central Committee on Food Standards advises on matters arising under the Act.

94. In Sri Lanka land and agricultural development policies and food distribution measures have been designed to prevent all florid forms of malnutrition, and health sector programmes provide supplementary nutrition supplies for needy sections of the community. The Ministry of Health works closely with the Food and Nutrition Policy Planning Division of the Ministry of Plan Implementation in formulating national nutrition policy. The Medical Research Institute of the Ministry of Health has a nutrition unit staffed by qualified nutritionists. Personnel engaged in community health programmes - medical officers, health inspectors, nurses and midwives - receive training in nutrition, including in-service training. Nutrition is an integral component of the health education programme, much work has been done to formulate and popularise well-balanced diets, and the virtues of breast feeding have been highlighted through the mass media. Legislation, including a Food Law, has been directed towards the protection of consumers. Increased attention is being given to storage and preservation of food. The Bureau of Sri

Lanka Standards and the enforcement agencies of the Ministries of Health, Trade and Local Government are actively concerned with the maintenance of food standards.

95. An extensive survey of the health of children carried out in Seychelles in 1979, the International Year of the Child, revealed that 6 per cent of children were undernourished and 11 per cent were malnourished. The survey also pointed to the serious effects of improper nourishment on expectant mothers during pregnancy. These children and mothers have been included in an "at risk" register and remedial measures are being undertaken by the Ministry of Health, the Ministry of Labour and Social Services and non-governmental organisations. Children under five years old attending children's clinics and also pregnant women are being given supplementary food and nutrients. Nutrition does not present a serious problem among adults. The staple diet is locally-caught fish and imported rice, supplemented by local supplies of chicken, pig-meat and vegetables. The prices of essential foodstuffs are controlled.

96. Drought in the Sahel has caused crops to fail in The Gambia and the problem has been compounded by general ignorance about nutrition. However, with food aid and the help of expatriate experts, and through collaboration between all relevant ministries, sustained efforts are being made to improve the food supply and the standards of nutrition of the people. Nutrition is an integral part of maternal and child health services.

97. Malnutrition in Barbados is on the decline. The Government decided in 1978 to appoint a National Food and Nutrition Committee, composed of representatives of relevant ministries and organisations, and a National Nutrition Centre, established in 1972, which is responsible for providing information on all aspects of nutrition through written material, visual aids and statistics, evaluates nutrition programmes and organises lectures and discussions. A "dial-a-nutritionist" programme is planned. The Centre provides training in nutrition for personnel concerned with child care and food service and is responsible for community education in nutrition. It promotes breast feeding and has recently published a maternal and child health manual, an infant feeding manual and a booklet on low-cost, high-nutrition weaning diets which is widely used for training. The Ministry of Agriculture and Consumer Affairs is responsible for the promotion of low-cost technology for food storage and preservation and also for the protection of consumers against undesirable advertising; the need is recognised for greater cooperation between this Ministry and the Ministry of Health.

98. High priority is placed on nutrition in Malawi's maternal and child health programme, through which any cases of malnutrition are identified and treated. A medical nutritionist is being recruited with the assistance of WHO. A national nutrition survey has recently been launched, and commercial production of a highly-nutritious food is due to start shortly.

99. In Malta there are signs that over-nutrition is a problem in certain groups; this is seen as a possible factor contributing to the high incidence of diabetes. Clinics have been set up to advise diabetic patients on treatment and diet, and a diabetes survey is being carried out. Nutrition is part of the training curricula for all locally-trained health personnel, and nutrition specialists are being made available in the Health Ministry. Following a recent World Health

Assembly resolution, the Ministry has taken steps to ensure that no advertising of infant foods is carried on radio and television. Legislation on food standards has recently been up-dated; both imported and locally-manufactured foods are monitored. Particular attention is being given to potentially toxic residues in food, in addition to the normal microbiological monitoring.

100. Cyprus has no problem of under-nutrition and no diseases are associated with this. The main problems are over-eating and obesity, which are being tackled through health education.

101. In Fiji the Cabinet has approved the formation of a Food and Nutrition Committee, with representatives from all sectors concerned, including health, agriculture and education. The committee will formulate national policy and give advice on both locally-produced and imported foods.

102. A gradual change in dietary habits in urban areas is reported by the Solomon Islands. More protein, in eggs and meat, is being eaten, but there is also increased consumption of sweet carbohydrate foods and sweet soft drinks. The Government has increased the tax on imported soft drinks. In the rural areas there is little change, and people are being encouraged to eat more protein. Studies have revealed some malnutrition but the extent is as yet uncertain.

103. There is no serious malnutrition in Kiribati, nor in Tonga where the setting-up of a nutrition unit in the Ministry of Health is envisaged to advise on balanced diets based on local foods and weaning diets for infants.

104. In Western Samoa the Health Department, the Agriculture Department and the rural development division of the Prime Minister's Department work together in the promotion of food production, balanced nutrition and health education. Nutrition and home science staff of the Health Department promote balanced diets through women's health committees. A nutrition education centre is planned near the national hospital. UNDP assistance is being received for the supply of milk biscuits for primary school pupils and milk powder for pre-school children. A weaning food, developed at the Alafua Food Processing Laboratory, has been well received.

105. A national seminar on nutrition was held in Tuvalu in 1977, in collaboration with the South Pacific Commission, and a seminar on leadership training in 1980 placed special emphasis on the need to improve nutrition. Improvement is being sought through integrating teaching on nutrition in primary health care, directed to both individuals and groups. The Medical Department is seeking a short-term consultant to advise on the values of local foods and to plan hospital diets.

106. The eradication of malnutrition is a primary health care objective in Kiribati. Health workers are given training in nutrition, an information system is being developed, balanced local diets are formulated and publicised, and breast feeding is encouraged.

107. The florid forms of malnutrition rarely occur in New Zealand, where a Nutrition Advisory Committee advises on food and nutrition policy and the Department of Health has a nutrition unit. The recommendations of the Medical Conference are being followed wherever possible.

108. In Australia some under-nutrition occurs among the Aborigines and there are a number of programmes to remedy this. A national nutrition policy is under consideration. The Department of Health has a nutrition unit and increasing emphasis is being placed on the nutrition component of the health services, for which the National Health and Medical Research Council has recently recommended guidelines. There has been a significant recent increase in nutrition training courses, and also an increase in breast feeding. Research in the storage and preservation of food is encouraged. Laws to control food standards are becoming more uniform. Standards on additives, pesticides and contaminants are recommended by the Health and Medical Research Council.

109. The few cases of malnutrition occurring in Britain are usually due to debilitating clinical diseases. A variety of bodies deal with food and nutrition policy. Both the Department of Health and Social Security and the Ministry of Agriculture, Food and Fisheries have specialised nutrition units, and advisory bodies include the Food Standards Committee, the Food Additives and Contaminants Committee and the Committee on Medical Aspects of Food Policy. The Family Expenditure Survey provides information on food purchases and the National Food Survey information on food consumption. The contribution of good nutrition to health is reflected in the training of all health professions and in health education activities, including those of the Health Education Council which launched a national health education programme in 1980 using television, radio and advertising in the national and local press. Advice on infant feeding is provided by the expert Committee on Medical Aspects of Food Policy. It is national policy to advocate breast feeding, which has increased in recent years following the stimulation of public concern. Control of advertising of foods is the responsibility of the Advertising Standards Association, which lays down well defined guidelines. The development of product standards for staple foods continues, and existing standards are reviewed where appropriate. Regulations govern food additives and contaminants. A programme of food surveillance checks the adequacy of safeguards against pesticide residues in food.

THE ROLE OF HEALTH MINISTRIES AND MEDICAL SCHOOLS

110. Most of the island countries of the South Pacific and several of the other smaller countries which reported to not have a medical school, and where there is a school of nursing - as in Western Samoa, Seychelles and The Gambia, for example - this is under the direct control of the Ministry of Health. Reports from countries where medical schools do exist all reflect recognition of the importance of liaison and coordination between medical schools and health ministries, to ensure that the training given is closely relevant to changing health needs and current national health programmes.

111. The Fiji School of Medicine is a national school administered by the Fiji Ministry of Health, and is not part of the University of the South Pacific, so there is no problem of coordination. It provides training for students from a number of other Pacific island countries besides Fiji, including Tonga, Western Samoa and the Solomon Islands. The School's Academic Board, of which the Permanent Secretary of the Ministry of Health is chairman, is responsible for curricula and includes representatives of the teaching staff, the senior clinical staff of Fiji's main hospital, the Ministry of Education and the University of the South Pacific.

112. From New Zealand a high level of interaction between the Departments of Health and Education, medical schools and university authorities is reported. Health Department staff regularly contribute to medical school teaching programmes and shared appointments are becoming more common. The Health Department and the National Medical Research Council have embarked on a joint programme of health services research which is expected to lead to developments in the Department, the universities and the working health service. National efforts to improve medical manpower planning have prompted medical schools to review the educational goals in the light of changing social needs. Regular reviews of medical school curricula are likely to follow.

113. Continuous close liaison in Malta between the Ministry of Health and education authorities and institutions has existed for many years. It has been standard practice to integrate clinical and pedagogic aspects through a system of conjoint posts. This integration process has recently been formalised by contractual requirements for appropriate medical staff to carry out both clinical and teaching duties. The liaison between the Ministry of Health and the university results in a continuous adaptation of both curricula and research to the needs of the nation. Long-term health strategies are prepared by the Ministry as part of the national development plans. Preparatory work for the 1981-85 plan is concentrating both on the consolidation of existing services and on the introduction of new ones.

114. In Malaysia close liaison is maintained between the Ministry of Health and the Social and Preventive Medicine Department of the University of Malaysia. The Ministry provides part-time lecturers for this Department. Similar liaison exists between the Ministry and the National University of Malaysia, and the general hospital in Kuala Lumpur is used as the university's teaching hospital, senior consultants acting as honorary professors. The Ministry of Health has established an operational research unit and the Institute of Medical Research has a rural health service research unit.

115. The Medical Council of India, a statutory body, is responsible for the maintenance of uniform standards of medical education, both undergraduate and postgraduate. Greater emphasis is being placed on community-based research studies, which are expected to result in curricular changes. National policy on medical education is related to the development by the Government of national health policy. Fora are provided for the review of medical curricula and research on the basis of prevailing needs. Some colleges are being provided with mobile clinics to enable them to render services to adjoining rural areas and expose students to actual needs.

116. Dialogue is maintained in Sri Lanka between the Ministry of Health and the Ministry of Higher Education, medical schools and the University Grants Commission in connection with national health policies and strategies. These include the expansion of the health care infrastructure; the prevention of communicable diseases through immunisation and improved environmental sanitation; nutrition supplementation; health education; family health and family planning; and the further development of all categories of health manpower. Consultants of the Health Department collaborate with university teachers in the work of teaching hospitals. Cooperation between the universities and the Ministry of Health in health services research is being pursued and official studies have been undertaken with university assistance. Further attention is being given in medical schools to the relation of the medical curriculum

to prevailing health needs.

117. Ghana's Ministry of Health has close informal relationships with the country's two medical schools. Steps are being taken to strengthen and formalise these relationships to promote coordination of activities. Some Ministry staff are part-time lecturers in the medical schools, and some medical school staff are assigned part-time duties within the Ministry. Health service research is a function of the planning unit of the Ministry, and the staff of the universities and other institutions are involved in research activities when the need arises. Studies are currently being carried out to review the training programmes for non-professional health workers, with the aim of making these more relevant to current and foreseeable health needs. The medical schools are aware of the need to re-define their goals and review their curricula, there is cooperation between them and the planning unit of the Ministry of Health. The Ministry has formulated national health policies and programmes for attaining health for all by the year 2000 through expanded primary health care.

118. In Tanzania the medical school of the University of Dar es Salaam is incorporated in the Muhimbili Medical Centre, a parastatal organisation under the Ministry of Health. The Faculty of Medicine is however responsible to the Ministry of National Education. This three-cornered relationship sometimes gives rise to difficulties, and improved machinery is sought to facilitate interaction. The medical school is understandably keen to offer postgraduate courses which would attract international recognition, but is less keen on offering courses at lower than first-degree level. Committees for the selection of candidates for undergraduate and postgraduate training have joint representation from the medical school and the Ministry of Health. Teachers from the Faculty of Medicine are represented on the Tanganyika Medical Council and the Tanganyika Medical Training Board, which supervises the training of paramedical staff.

119. There is a close working relationship between the medical school and the Ministry of Health in Kenya. Ninety doctors are now graduating each year and the first dental surgeons and pharmacists graduated in 1978. The postgraduate (M.Med) programme is going well, and postgraduate students are sponsored by the Ministry of Health. While in training, both undergraduate and postgraduate students provide badly-needed services. Although the training of paramedical staff is the responsibility of the Ministry, the medical school is involved in curricula development as well as in the actual teaching. Some Medical Training Centre diplomas (e.g. laboratory and environmental health) are awarded by the medical school. The Ministry and the medical school are partners in the provision and development of health services.

120. All medical faculty members of the University of the West Indies (UWI) in Barbados serve with institutions run by the Ministry of Health, such as the Queen Elizabeth Hospital, the psychiatric hospital and the Enmore Health Centre. Some faculty members are also engaged in outreach activities at health centres. Surgical, obstetrics and gynaecology clinics are conducted by university staff. Ministry of Health consultants and public health officers teach medical students in a number of subjects, including public health practice. Although there is no health service research unit in the faculty of medicine, the research of faculty members and projects undertaken by students during their community medicine clerkship make a relevant contribution. The medical faculty has emphasised to other faculties the importance of a

good national health service and a conference has been held in Barbados on primary health care. The curriculum of the UWI medical faculty is kept under constant review and changes have been introduced following work in the University's Department of Social and Preventive Medicine (in Jamaica) and discussions at the Caribbean Health Ministers' conferences. It is anticipated that the appointment of a lecturer in community medicine in the Barbados faculty will stimulate further educational and research programmes in primary health care.

121. In Britain, in addition to existing contacts between the health authorities and universities, the Chief Medical Officer of the Department of Health is setting up a new forum for the purpose of strengthening links between the Department and the Universities. Some teaching of community medicine at both undergraduate and postgraduate level is already undertaken by staff of health authorites and some service work is done by academics; this interchange is to be further encouraged. Under the Medical Act 1978 powers previously exercised by the General Medical Council in relation to medical education have been transferred to a new Education Committee of the Council. This committee has the general function of promoting high standards of medical education and coordinating it at all stages, and it will issue from time to time recommendations as to the medical curriculum to indicate to university medical schools and other examining bodies the courses of study and examinations considered necessary and sufficient to enable a person to qualify as a doctor. Medical schools will need to adjust their curricula in the light of these recommendations to ensure that their graduates qualify for registration - which is a statutory function of the General Medical Council.

122. There are a variety of informal mechanisms in Australia through which cooperation between the federal and state Departments of Health and the medical schools are ensured. These include professional medical associations and societies and conferences of federal and state Health Ministers. The Tertiary Education Commission, in its role of funding medical schools, can make suggestions as to curricula revision and can note shortcomings of medical colleges and medical assocations. Nevertheless, the need for more integrated planning for medical manpower and for a closer relationship is recognised.

123. Among other countries reporting, Bangladesh reports no difficulties over the coordination as all medical schools come under the Health Ministry. All medical personnel in Cyprus receive their professional training overseas, but appropriate legislation is in force to maintain high standards.

CHANGING HEALTH CARE DELIVERY SYSTEMS

124. Everywhere the primary health care approach is becoming dominant. Most governments report a significant increase in the training and deployment of community health workers of various grades and in preventive and promotive activities. Health planning and manpower policies reflect widespread awarness of the importance of gearing the delivery system to changing needs, and particularly to the needs of the underserved members of the community.

125. The Gambia emphasises the stimulus given by the Alma Ata Conference on Primary Health Care to the improvement of its health care delivery system, previously based on the colonial pattern of doctors

working in hospitals largely serving the 20 per cent of the population living in urban and peri-urban areas. Concentration on primary health care has involved a drastic review of this system. The community is now involved in identifying needs, the village has been made the starting point, the emphasis is now on the under-served 80 per cent of the population, and the focus is on prevention, promotion and a basic curative service. Training schemes for health auxiliary staff are being developed and hospital services are being improved to take in an increasing number of referrals, but geared only to providing relevant facilities to meet the needs of the majority of the population. Full collaboration with ministries responsible for finance, agriculture and economic planning is being sought.

126. Health manpower policies and programmes in Ghana have been formulated on the basis of the need for a shift of emphasis from curative to promotive and protective health services. More attention is being given to health management and, following experience with the regional health management and administration courses at the Ghana Institute of Management and Public Administration (organised in cooperation with the West African Health Community and with support from the Commonwealth Secretariat), arrangements are being made to design similar courses at various levels in Ghana.

127. The rural health service in Malaysia is being reviewed to extend primary health care coverage to under-served and under-privileged sections of the community. The infrastructure for these areas will necessarily involve community participation, community health workers and traditional healers. Preventive and promotive health services - family health care, epdemiology and control of communicable diseases - are to be given high priority in the Fourth Malaysia Plan for 1981-85 with the aim of producing a better balance between preventive and curative services. The Government is strengthening the training of medical and paramedical personnel to improve health care at all levels.

128. India's recent five-year plan places increased emphasis on primary health care in rural areas, and on the needs of vulnerable groups such as mothers and children and people with low incomes. Priority is being given to tribal and hill areas. Preventive and promotive health care, rather than curative care, is receiving greater attention and rural and backward areas are being given priority in the allocation of funds. The expansion of hospital-based services has been curtailed and the training of paramedicals and community health volunteers is being greatly expanded.

129. In Bangladesh the primary health care approach to support individual, family and community responsibility for health is an integral part of the national health system. The services of "village doctors" (Palli Chikitsak) are being used and the Thana health complexes are being strengthened. The new approach involves health education, the promotion of improved nutrition, safe water supplies and sanitation, immunisation against major diseases, treatment of common diseases and injuries, and the provision of essential drugs. About 15,000 family welfare workers and community health workers (one per 5,000 of the population), and also traditional medical practitioners and midwives, are being specially trained to deliver primary health care in addition to medical and other health staff.

130. The health care delivery system in Sri Lanka is being geared closely to the needs of the people. Through the National Institute

of Health Sciences, the Health Education Bureau and the Family Health Bureau, and through the appointment of large numbers of village health workers, increasing emphasis is being placed on the preventive and promotive aspects of health care. The integration of traditional medicine with the modern system of health services is under consideration by a special committee appointed by the Government. The manpower development component of the national health plan is to be reconsidered in the light of difficulties experienced in persuading doctors and other health professionals to work in rural areas. To overcome the lack of adequately-trained administrators, measures have been initiated to train professionals in administration of a comparatively early stage of their careers; the management capabilities of lay administrators are also being developed through training.

131. A radical change in the health delivery system of Seychelles began in 1978 with the formulation of a new national health plan for 1980-84. Adopted in 1979, the plan gives high priority to health not only as an end in itself but also in view of its contribution to national development. It provides for a free health service, financed from taxes and made available as close as possible to all sections of the population. Maternal and child health care, including family planning, is given special attention. The new organisation places emphasis on community health services, separated from hospital services which will constitute the secondary, referral level. District health teams are to be composed of a doctor as team leader and community nurses, health inspectors, dental auxiliaries and other health personnel. Of the five health districts planned, three are already in existence. District health services include medical care, ante-natal care, maternity care, child health services, school health services, environmental sanitation, health inspection, health education and medical social services. It is planned to have a resident dental surgeon and laboratory technicians serving each district by 1984; in the meantime dental and laboratory services are being provided through weekly or fortnightly visits.

132. A change from hospital-based services is also being effected in Swaziland, through the construction of rural clinics to provide primary care for people in rural areas. The clinics are staffed by nurses qualified in general nursing and midwifery, to whom health inspectors and assistants are being added. Nurses are being trained as practitioners capable of providing diagnosis and treatment, and also health education. Curative services and maternal and child care (including family planning) services will be available under the same roof. Health assistants are being trained to promote a healthy environment and clean water supplies. In addition, rural health visitors are being trained to give first aid treatment in local homesteads, to encourage people to take advantage of maternal and child health services, and to promote good nutrition and domestic and environmental hygiene. Two-day seminars for local community leaders are held to discuss family health and family planning, which involve a departure from ideas traditionally held. Nursing assistants are being trained to help nurses in rural areas and to supervise the rural health visitors. The changes in the health care delivery system are designed not only to improve preventive care but also to promote community participation and make people more self-reliant in the care of their health. At the same time, more political commitment and intersectoral coordination for health improvement are seen to be required.

133. Tanzania's approach to providing health services is based on the realisation that, with limited resources and unlimited problems,

priorities have to be worked out carefully. It has been found that an expensive hospital-based system has made difficult the extension of essential health services to the mass of the population who live in rural areas. A study in 1973 showed that, while 90 per cent of the country's population lived within walking distance (10 km) of some health facility (hospital, health centre, or dispensary), only 25 per cent lived within walking distance of a hospital. In accordance with its socialist policy, Tanzania has therefore settled on a health service consisting of an infrastructure of rural health posts based round district hospitals. The key manpower cadres for this service are the general duty medical officer, nurses, medical assistants, rural medical aides, health officers, health auxiliaries and village health workers. This health service is designed to provide basic health care for everyone which the country can afford, and to contain a built-in referral mechanism whereby each health problem is dealt with at the level appropriate to the need. Poor communications, great distances and the lack of reliable means of transport give rise to difficulties where the referral system is concerned, but if Tanzania has a contribution to make to the world-wide search for better methods of delivering health care, it is to show that a lot can be achieved with a little money.

134. Malawi held a national conference on primary health care in 1978, which was attended by representatives of all sections of the community. Since the promotion of primary health care is dependent on community participation, village health committees have been established in a number of areas. Formal training schemes for tribal birth attendants are being started and a register of these attendants has been established.

135. The activities of the Ministry of Health in Kenya are organised in six major programmes: curative health, preventive and promotive health, rural health services, health manpower training, medical supplies, and medical research. The concept of primary health care is being translated into an action programme to cater primarily for the under-served rural community, involving additional physical facilities and increased community participation; pilot projects have already been developed. Family health problems, communicable diseases, illnesses resulting from poor environmental sanitation, and conditions related to malnutrition and under-nutrition constitute Kenya's main health problems. Particular emphasis is placed on maternal and child health and family planning services, in four stages: pregnancy and delivery, the infant's first year, pre-school years, and school years. Promotive, preventive and curative health activities are integrated and multi-purpose nurses are being trained to conduct them. A National Family Welfare Centre, in which specialist paediatricians, obstetricians and gynaecologists participate, provides guidance on all matters related to family health. The role of community-based health workers, including traditional birth attendants, is recognised.

136. The proposed new National Health Service in Barbados is based on the concept of universal entitlement to health care and on ambulatory services delivered by primary health care teams led by general practitioners. Each team will include nursing and other support personnel and will be responsible for a panel of citizens who will be able to register with the team of their choice. The teams will operate from polyclinics or other special premises, and arrangements will be made for a 24-hour service all week and for home visits where appropriate. Preventive and curative care will be integrated and the emphasis will be on continuity of care.

137. Curative and preventive health services in Singapore, previously separate, were integrated in 1976 and outpatient, maternal and child care and school health services all come under the Deputy Director of Medical Services who is responsible for primary health care. In 1978, health education services were brought under the same administration so that comprehensive health care could be provided. This integration has made it possible to provide health care close to people's homes and has facilitated better utilisation of available manpower, financial and material resources. Primary health care is provided through polyclinics located at strategic points - for example, on housing estates. Each "new generation" polyclinic provides curative medical (including psychiatric) care, maternal and child health care and family planning services, dental care, home nursing care and health education. About two per cent of those attending the polyclinics are referred to the hospitals for admission, operations or specialised medical care.

138. The arrangements for health care delivery in Malta are kept under continuous assessment and adjusted where necessary to accord with the changing health needs of the people. Priorities in recent years have been the improvement of hospital services (including the provision of new services such as intensive therapy), the expansion of community health services and the integration of their preventive and curative aspects, and the expansion of services in certain target areas such as geriatric care and maternal and child care. In order to obtain the necessary manpower for these services, a training programme for such disciplines as nursing, physiotherapy and laboratory technology has been instituted.

139. Efforts are being made in Cyprus to provide a uniform primary health care service in all parts of the island. More emphasis is being put on the training of health administrators. A new national health scheme, on which an expert is working with a special committee, is to be introduced shortly. Current priority problems in Cyprus are Cooley's anaemia, the school health service and the psychiatric services.

140. Health care in Fiji is delivered through health centres and nursing stations distributed throughout the islands in the group, and through district, divisional and specialist hospitals. Because of the geographical distribution of the small islands, the cost of health care delivery is high and more emphasis is being placed on preventive and promotive services which will reduce the number of people requiring institutional care.

141. The delivery system in Western Samoa, besides providing secondary and tertiary care at district hospitals and the national hospital, is designed to bring health care close to the people's homes at village level. In this the active participation of the women's health committees is vital. These committees work in cooperation with trained health aids and with the support of sub-health centres in the villages, manned by public health nurses and nurse aids. Health centres, each covering 6-8 villages, are manned by three senior staff nurses, two nurse aids and one assistant health inspector. At secondary level, the district hospital, which may cover 4-5 constituencies, is operated by a district medical officer, three staff nurses, two nurse aids and a health inspector. At tertiary level, the national hospital at Apia is the referral hospital for the whole country.

142. Tonga established a training course in 1979 for medical assistants,

to staff health centres and rural dispensaries where no medical officer is available. The 1980-85 development plan places emphasis on preventive and promotive health services.

143. In the Solomon Islands village health aids and health extension practitioners have been introduced as part of a general effort to expand primary health care, particularly in rural areas. There has been legislation to improve environmental health. Medical practitioners are being permitted to practise privately; at present such practice is limited, but it is expected to increase.

144. Current plans in Tuvalu are directed to the improvement of primary care and in particular to the strengthening of preventive services, with the full participation of the community. More health workers are being trained and local seminars are held to encourage community participation and awareness.

145. Health personnel and facilities in Kiribati, as elsewhere, are subject to the limitations imposed by existing resources. More emphasis is being given to preventive and promotive activities, and a crude method of evaluating the effectiveness of health care, by interpreting monthly data from peripheral areas, is used. Traditional medicine is being taken into account.

146. Efforts are being made in New Zealand to provide fuller population-based information for all aspects of health planning. Greater emphasis is being given to preventive and promotive services, but economic difficulties restrict the re-direction of resources. Experience is growing in involving the community in health planning. Evaluation of health service performance has been slow to take root; some interest is now evident in the medical schools but efforts involving all sections of the health service are seen to be required. A major research effort is under way to examine traditional medicine as practised in the Maori and Pacific island communities and its relationship to modern medical systems. Persuading doctors and other health workers to work in rural areas is not a major problem in New Zealand, but the lack of adequately-trained health administrators is a key factor affecting the development of health services. A College of Community Medicine has been established with a view to improving all aspects of health administration. Training programmes are being reorganised and expanded, and efforts are being made to improve career opportunities for health administrators.

147. Health service administrators in Australia are constantly working towards the objective of ensuring that the services, personnel and facilities are determined by the assessed needs of the population. Community services are integrated with doctors and hospital-based health care and a National Health Promotion Programme is being developed. Views expressed by the community are taken into account in health service planning. Evaluation techniques are being encouraged at federal level through planning and research grants, and are increasingly being applied as part of state community health programme projects. Various inducements are offered by authorities in remote areas to attract medical personnel. There is no lack of adequately-trained health administrators in Australia.

148. The planning system operated by Britain's Department of Health and Social Services and the Scottish Home and Health Department provides the basis for issuing to National Health Service authorities guidance documents dealing with national health strategy. The system

is designed to ensure that the cost of policies, both in terms of finance and skilled manpower, matches the resources available. A planning system introduced in 1976 for England and Wales provides a comprehensive framework within which all factors affecting the delivery of health care can be considered and plans can be produced for the future development of health services locally. A scheme for area planning in Scotland is also being piloted. Besides providing places for senior personnel from developing countries to undertake health administration training in Britain, encouragement is being given for the setting-up of courses in the developing countries themselves.