Chapter - 5

Suggestive Measures
MODIFICATION IN DRUGS POLICY, 1986

INTRODUCTION

1. The Drug Policy of 1986, which was titled “Measures for Rationalisation, Quality Control and Growth of Drugs & Pharmaceuticals Industry in India” was evolved under the dynamic guidance and leadership of late Shri Rajiv Gandhi. This was done after a detailed examination of the various issues. The main objectives of the Drugs Policy, 1986 are as under:

(a) Ensuring abundant availability, at reasonable prices of essential and life saving and prophylactic medicines of good.

(b) Strengthening the system of quality control over drug production and promoting the rational use of drugs in the country;

(c) Creating an environment conducive to channelising new investment into the pharmaceutical industry to encouraging cost effective production with economic sizes and to introducing new technologies and new drugs; and,

(d) Strengthening the indigenous capability for production of drugs.

2. For meeting the requirements of medicines for health needs at reasonable prices and strengthening the indigenous base, the government has, over the years been guided by the above Policy. Implementation of the main policy provisions has been through the I (D&R) Act on Industrial licensing aspects and thorough Drugs (Prices Control) Orders under the Essential Commodities Act in regard to the pricing mechanism. The Drug Policy has also given the policy framework in regard to Quality Control and Rational Use of Drugs. Enforcement of quality and standards in medicines is done through the provisions contained in the Drugs & Cosmetics Act, which is administered by the Ministry of Health and Family Welfare.
PRESENT STATUS AND APPROACH ADOPTED IN REVIEW

3. Over the last several years, policy inputs have been directed towards promoting the growth of the industry and in helping it to achieve a broad base in terms of the range of products and technologies needed to produce them from as basic a stage as possible. The results have been very encouraging. As on date, there are about 250 large units and about 8,000 small scale units in operation, which form the core of the Industry (including 5 central public sector units). These units produce the complete range of formulations i.e. medicines ready for consumption by patients and about 350 bulk drugs, i.e. chemicals having therapeutic value used for production of formulations. It is estimated that 70 percent of the indigenous demand for bulk drugs and almost the entire demand for formulations are being met through domestic production.

4. During the last decade the production of bulk drugs has grown from Rs. 240 crores in 1980-81 to Rs. 1320 crore 1993-94 and corresponding increase in production of formulations has been from Rs. 1200 crores to Rs. 6900 crore. The export performance of Industry has also been commendable. The trade balance has been positive for the last four consecutive years. During 1992-93 the trade balance was Rs. 560 crores (excluding exports of Medicinal Castor Oil).

5. Since 1986, the Drugs Industry has grown significantly, as mentioned earlier in terms of production of bulk drugs and formulations. In many cases manufacture of bulk drugs has also been established from the desired basic stage. It is estimated that in case of bulk drugs production the contribution of small scale sector is approximately 30 percent of the total production in the country. It may also be mentioned that the pharmaceutical sector has also able to carve a special
niche of itself in the international market as a dependable exporter of bulk drugs. As already mentioned, the industry has been a net exporter in the last four years.

INDUSTRIAL LICENSING

6. Import and Economic policies have undergone major changes like pruning of the Negative list for imports, doing away with the actual user condition and full convertibility of Rupee on trade account. In this changed scenario it is felt that there is no need to be more restrictive than before in granting industrial approvals, provided the two main concerns i.e. achieving basic stage manufacture and discouraging undue imports, are adequately taken care of. Under the circumstance these objectives can be achieved only through circumtariff mechanism and the EXIM policy and as such Industrial Licensing and conditions stipulated therein have lost their relevance. It is also felt that, like in the other sectors of the economy, production would get the necessary impetus to meet any future demands as well as of ensuring adequate availability of drugs at reasonable prices if a more liberalised regime is operated in granting industrial approvals. Many of the drugs reserved for the public sector undertakings have lost relevance vis-a-vis production programme of these units. Therefore, there is need to prune the list of items reserved for the public sector to only a few select items where capacity in public sector is adequate meet the country’s demand and heavy public investment has been made.
RESEARCH AND DEVELOPMENT

7. The drugs Industry is a highly R & D oriented sector in which there is a very high rate of obsolescence. This sector has also been identified as one of the thrust for exports. There is, therefore, need to ensure that the technologies used in the country are cost effective and efficient. It is necessary to attract greater investment into this sector in order to update the existing technologies and for bringing into the country technologies which are not currently available. At the same time it has to be noted that the Indian companies have achieved considerable stature in terms of production as well as in marketing ability and indigenous technology has also reached a commendable level in many cases. However, in view of GATT accord and impending changes in Patent Laws, the subject matter of Basic Research in drug sector has assumed greater importance and needs to be attended to on an urgent basis.

INVESTMENT

8. Keeping in view the need to encourage more investment in this importance sector to achieve the future demand likely to be placed on it order to meet the growing needs of the country as well as to promote exports, it is proposed to treat the entire drugs and pharmaceutical sector as a high priority industry for the purposes of permitting foreign investment in terms of Appendix-III of the New Industrial Policy. It is also proposed to treat companies with foreign equity upto 51 percent on par with wholly Indian companies. It may also be mentioned that at present with foreign equity upto 40 percent are already enjoying this facility and, in the circumstances mentioned above there is no need to place any fresh curbs on their activities. Similarly, it is felt that automatic approval for foreign technology agreements can be permitted for all items in the Drugs and Pharmaceuticals sector.
to encourage the introduction of newer and more efficient technologies, subject to their fulfilling the standard conditions laid down in the Industrial Policy. However, keeping in mind the levels of technology already available in the country, it is necessary to consider proposals involving foreign equity participation above 51 percent on merits of each case.

PRICING

9. The aberrations which have come to notice, in the listing of drugs and their categorisation for the purpose of price control, need to be eliminated by the use of transparent criteria applied across the broad on all the drugs with the minimum use of subjectivity. The high turnover of a drug is an index of its extent of usage and is considered to meet the requirements of objectivity justifiable on economic considerations. However, the monopoly situation in cases of drugs with comparatively lower turnover has also to be kept in view. Also, as an experimental measure, drugs having adequate competition may not be kept under price control and if this proves successful it would pave the way for further liberalisation. In the event, however, prices of these drugs not remaining within reasonable limits, the Government would reclaim price control.

10. The categorisation of drugs into two lists with different maximum allowable post-manufacturing expenses (MAPE) allows a lower MAPE of 75 percent for the drugs requirement for national health programmes (Category I drugs) as against 100% for olkers (Category II drugs). To encourage the production and availability of these drugs, it is considered necessary to allow a uniform MAPE in all cases of drugs under price control. Further, to achieve uniformity in prices of widely used formulations, it is considered that there
should be ceiling prices for commonly marketed standard pack sizes of price controlled formulations and it should be obligatory for all, including small scale units, to follow the prices so fixed. Also, to give encouragement to manufacture of drugs from basic stage, it is considered necessary to allow higher return in such cases over the existing rates.

11. In the light of the apprehensions expressed in the Parliament on the likely spurt in the prices of medicines, it has been felt that it would not be desirable to allow automaticity in the pricing mechanism. The Government would set up an independent body of experts, to be called the National Pharmaceutical Pricing Authority, to do the work of price fixation. This expert body also be entrusted with the task of updating the list of drugs under price control each year on the basis of the established criteria/guideline. Time limits would be provided for deciding the applications of price approvals and, to begin with, it is proposed to set a time limit of two months for formulations and four months for bulk drugs. This body would also monitor the prices of decontrolled drugs and formulations and oversee the implementation of the provisions of the Drugs (Prices Control) Order. The Government would have the power of review.

12. Government will keep a close watch on the prices of medicines which taken out of price control. In case, the prices of these medicines rise unreasonably the Government would take appropriate measures, including reclamping of price control.

QUALITY CONTROL AND RATIONAL USE OF DRUGS

13. Quality Control and Rational Use of Drugs are important aspects of Pharmaceutical Industry. Steps have been taken for strengthening Drug
Control Organisation by sanctioning additional posts at various levels and by establishing subzonal offices at Hyderabad, Ahmedabad and Patna. The Bio Laboratory at Madras has been upgraded to the level of National Laboratory. The Central Drugs Laboratory at Bombay, functioning from 1992 is in the process upgraded while Regional Laboratories at Guwahati, Chandigarh and Hyderabad are in the process of being set up. To improve the existing state drugs Testing Laboratories and to set up new ones, wherever not established, funds have been sanctioned under a Centrally Sponsored Scheme, besides providing funds under this scheme for augmenting drugs inspectorate staff. For certain categories of drugs, which had caused adverse effects due to the lack of drug control in one or the other state, the central government has taken upon itself the responsibility of granting license. These drugs are: (i) Large Volume Parenterals, (ii) Sera and Vaccines and (iii) whole Human Blood and Blood Products. Moreover, the good Manufacturing Practices (GMP) have been made mandatory.

14. Screening of irrational or harmful drugs is an ongoing exercise and 44 categories of formulations have been banned so far and the definition of new drugs has been widened and guidelines issued on clinical trials. With a view to ensuring proper dispensing and rational use of drugs, packagings have been standardised. Five leading hospitals at Pondicherry, Chandigarh, New Delhi, Bombay and Lucknow have been identified as Adverse Drug Reaction Monitoring Centres.

15. While Ministry of Health and Family Welfare are taking some action on these matters, the general perception unfortunately is that this area is presently being neglected. In the interest of the consumers, there cannot be any
compromise on quality aspects of medicines and the problems has assumed greater dimensions in view of the large number of small scale drug manufacturing units which are estimated to be over 8000 in number.

NATIONAL DRUG AUTHORITY

16. In view of the above it is envisaged that a National Drug Authority may be set up by a separate Act of Parliament to perform the following functions:

1. Develop and define basic appropriate standards relating to the manufacture, import, supply, promotion and use of drugs.
2. To approve and register pharmaceutical products for use in the country only if
   (a) It meets real medical need,
   (b) It is therapeutically effective, and
   (c) It is acceptably safe.
3. To enforce effectively appropriate quality standards of medicines and Good Manufacturing Practises, throughout the country, having full regard to the needs of public health and standardise dosage strengths and pack sizes of formulations with a view to check proliferation.
4. To monitor standard practises in drugs promotion and use and to clearly identify those which are acceptable and prohibit those which are unethical and against the consumers interest.
5. To monitor the prescribing practises and to evaluate their appropriateness for the purpose of guiding the medical profession and for achieving the aim of rational prescribing.
6. To ensure that appropriate information about registered pharmaceuticals is made available for the guidance of consumers having regard of:
(a) the adverse consequences of non-compliance by patients particularly in the case of antibiotics, steroids etc.

(b) dangers of self-medication and

(c) the need to involve consumers as full partners in the health care system.

7. To prepare and publish a national formulary and formularies relevant to various levels (like district hospital, community centre, primary health centres) for the guidance of consumers as well as doctors.

17. The functions mentioned above involve new responsibilities which will include:

Special focus on examining the technology of bulk drugs; capacity validation of machinery; assessing suitability of manpower for bulk production; undertaking scientific scrutiny of master formulae for manufacture of formulations; developing testing labs for cosmetics, diagnostics and devices; laying down standards for veterinary drugs; examination of labels and promotional claims and prescribing procedures for public hearing under the Drugs and Cosmetics Act; monitoring of clinical trials for the protection of human rights; quality control of herbal medicines; updating new drug approval process; weeding out of irrational combination formulations; and formation of expert committees for examination of new drugs.

18. In addition, screening promotional literature monitoring ongoing clinical trials through an Institutional Review Board, unearthing sub-standard and spurious drugs with the help of Legal cum Intelligence Cells, centralising all manufacturing licences for inter-State commerce, updating Good Manufacturing Practices and education to achieve judicious use of drugs, setting up of new analytical testing labs, as well as imparting continuous education and skills for inspection and testing and setting of Dispute Mechanism Cell are envisaged.

19. There is an imperative need to undertake upgradation of the drug testing facilities under the central and state organizations as well as augmentation of the Drugs Control and enforcement staff to enable statutory inspections to be undertaken as provided for under the Act. Therefore, there is need for establishing more zonal and sub-zonal
offices under the Central Drugs Standards Control Organisation as well as additional Regional Drug Testing Laboratories.

20. The implementation of the above proposals would require additional funds, which are proposed to be mobilized by levying a cess of 1% on production of drugs and pharmaceuticals, by a special legislation to be piloted by the Ministry of Health and Family Welfare. The funds mobilized through the cess would be utilized also fore encouraging Research and development in the drug sector.

INDIGENOUS AND OTHER SYSTEMS OF MEDICINES

21. Various aspects relating to development and promotion of Ayurvedic, Unani, Sidha, Homeopathic and traditional systems of medicines would be actively pursued and the machinery for carrying out these task would be adequately strengthened. To prove better focus to this important work it is felt that there is need to create a separate Department, to look after all matters relating to development and promotion of these systems of medicines.

DECISIONS IN REGARD TO MODIFICATIONS IN DRUG POLICY '86

22. In the above background the Government have decided to modify the Drug Policy, 1986 as follows:

22.1 LICENSING

22.1.1 Industrial Licensing for all bulk drugs cleared by Drug controller (India) and all their intermediates will be abolished, except in the cases of

(i) 5 identified bulk which are to continue to be exclusively reserved for the public sector as mentioned in Para 22.3 below.

(ii) bulk drugs produced by the use of recombinant DNA technology, and
(iii) bulk drugs requiring in-vivo use of nucleic acids as the active principles.

22.1.2 Conditions stipulating mandatory supply of a percentage of bulk drug production to Non-associated Formulators will be abolished.

22.1.3 Licensing shall be abolished for formulations except in cases of specific cell/tissue targetted formulations.

22.1.4 Ratio parameters linking bulk drugs and formulations production and limiting the use of imported bulk drugs will stand abolished.

22.1.5 Broad-bandbing, locational restrictions and grant of COB licenses will be in accordance with the Industrial Policy.

(The memorandum of information prescribed by the Department of industrial development shall include an Addendum, to meet the additional requirement of the Drugs & Pharmaceuticals Industry, as would be devised by the Department of Chemicals and Petrochemicals.)

22.2 BASIC STAGE PRODUCTION

For achieving manufacture from the basic stages and arresting the regression towards manufacturing from later stage intermediates/penultmates, the traffic mechanism, would be utilized. Imports of critical intermediates/penultmates may also be put in the negative list so as to arrest regression from basic stage manufacturing.

22.3 Review of items reserved for the public sector

Out of the fifteen drugs currently reserved, only five drugs namely Vitamins B1, Vitamin B2, Folic Acid, Tetracycline and Oxytetracycline shall continue to be reserved for public sector units. The position will be reviewed after a period of three years.

22.4 Foreign investment
22.4.1 Investment upto 51 percent will be permitted in the case of all bulk drugs, their intermediates and formulations.

22.4.2 Investment above 51 percent will be considered on a case by case basis in areas where investment is otherwise not forthcoming, particularly in the manufacture of bulk drugs from basic stages and their intermediates, and bulk drugs produced by the use of recombinant DNA technology as well as the specific cell/tissue targetted formulations.

22.5 Foreign technology agreements

Automatic approval for foreign technology agreements shall be given in the case of all bulk drugs, their intermediates and formulations excepts those produced by the use of recombinant DNA technology, for which the existing procedure would continue.

22.6 ENCOURAGEMENT TO RESEARCH & DEVELOPMENT (R&D) EFFORTS

22.6.1 A new drug which has not been produced elsewhere, if development through indigenous R&D would be put outside price control for a period of 10 years from the date of commercial production in favour of the company who undertook the R&D.

22.6.2 The Department of Chemical Petrochemicals would set up an Inter-Ministerial group to decide, within a set time frame, on measurers to give further impetus to R&D in the Drug sector.

22.7 PRICING

22.7.1 SINGLE LIST OF PRICE CONTROLLED DRUGS & “MAPE”

The system of price may be operated through a Single list of price controlled drugs and formulations based thereon with a MAPE of 100 percent.

22.7.2 SPAN OF CONTROL
(i) The criterion of including drugs under price control will be the minimum annual turnover of Rs. 400 lakhs.

(ii) Drugs of popular use, in which there is a monopoly situation will be kept under control. For this purpose if for any bulk drug, having an annual turnover of Rs. 100 lakhs or more there is a single formulator having 90% or more market share in the Retail Trade (as per ORG) a monopoly situation would be considered as existing.

(iii) Drugs in which there is sufficient market competition viz. at least 5 bulk producers and at least 10 formulators and none having more than the 40% market share in the Retail Trade (as per ORG) may be kept outside the price control. However, a strict watch would be kept on the movement of prices as it is expected that their prices would be kept in check by the forces of market competition. The Government may determine the ceiling levels beyond which increase in prices would not be permissible.

(iv) Government will keep a close watch on the prices of medicines which are taken out of price control. In case, the prices of these medicines rise unreasonably, the Government would take appropriate measures including reclamping of price control.

(v) For applying the above criteria, to start with, the basis would be the data upto 31st March 1990 collected for the exercise of the Review of the drug policy. The updating of the data will be done by the National Pharmaceutical pricing authority as detailed in para 22.7.4 (i)

(vi) Genetically engineered drugs produced by recombinant DNA technology and specific cell/tissue targetted drug formulations will not be under price control for 5 years from the date of manufacture in India.
22.7.3 Ceiling Prices

Ceiling prices would be fixed for commonly marketed standard pack sizes of price-controlled formulations and it would be obligatory for all, including small units, to follow the price so fixed.

22.7.4 SIMPLIFIED PROCEDURE

(i) An independent body of exports, to be called the National Pharmaceutical Pricing Authority, will be entrusted with the task of price-fixation/revision and other related matters such as updating the list of drugs under price control by inclusion and exclusion on the basis of the established criteria/guidelines and would be empowered to take final decisions. The Government would have the power of review. It would also monitor the prices of decontrolled drugs and formulations and oversee the implementation of the provisions of the Drugs (Prices Control) order.

(II) The time-frame for granting price approvals will be 2 months for formulations and 4 months for bulk drugs from the date of receipt of the complete prescribed information.

(III) 22.7 ENCOURAGEMENT TO PRODUCTION FROM BASIC STAGE

The rate of return in case of basic manufacture would be higher by 4 percent over the existing 14 percent on net worth or 22 percent on capital employed.

22.8 SETTING UP OF NATIONAL DRUG AUTHORITY

22.8.1 A national drug authority would be set up by an Act of the Parliament to be steered by the Ministry of Health and Family Welfare, to look after the Quality Control aspects, Rational use of drugs and related matters as outlines in Paras 16-19 above.
22.8.2 For strengthening the drugs control system including GMP and for encouraging R&D, a cess of 1% would be levied on production of drugs and pharmaceuticals thorough legislation, details of which would be worked out by the Ministry of Health and Family Welfare.

22.9 COORDINATION BETWEEN MINISTERS

A coordination committee consisting of secretaries of the Ministries/Departments of Commerce, Revenue Health, Bio technology and Industrial Development And Chairman, Bureau of industrial costs and Prices will be set up under the chairmanship of Secretary (Chemical and Petrochemicals) for monitoring the areas of key concern every quarter and for taking effective and timely action. The chairman of the proposed National Pharmaceutical Pricing Authority would also be co-opted on this committee as and when it is constituted.

22.10 OTHER MATTERS

The various aspects relating to promotion of Ayurvedic, Unani, Sidha, Homeopathic and traditional systems of medicines would be actively pursued and the machinery for carrying out these tasks would be adequately strengthened. To provide better focus to this important work, a separate Department, to look after all matters relating to development and promotion of these systems of medicines, would be created.
THE RATIONAL USE OF DRUGS: REVIEW OF MAJOR ISSUES

Drugs and health for all by the year 2000

1. One of the main aims in Health for all by the years 2000 is an equitable distribution of resources for health. Equity certainly not a characteristics feature of existing drug situation in the world. The most urgent need regarding drugs at this stage is to make it possible for the vast majority of the world's people who lives in the developing countries to have access at a cost they can afford to those 30 to 40 drugs that are vital to them as part of their primary health care, and to ensure that these drugs are used rationally.

2. In the industrialized counties there are thousands and even tens of thousands of drugs on the market, many of them identical or highly similar but sold under different names and many of them incorporating a variety of active ingredients. Moreover, the commercial exploitation of herbal and other remedies adds to the plethora of products on the market. In the developing counties while the situation in the towns may resemble that in the industrialized world, the vast majority of people who live in the rural areas have little or no systematic access to allopathic drugs. They rely mainly on traditional medicines, and to obtain modern medicines they often have to travel far and pay prices that are far beyond their reach.

3. In the developed countries, there is no shortage of doctors. Doctors there face the problem of selecting the most appropriate preparation for each patient from the multitude of drugs available and the enormous amount of information available. When selecting drugs, they are thus liable to become influence by drug promotion of various kinds, not all of which is based on complete and unbiased information. The role of pharmacists, too, has changes
radically, and thanks to developed transport and communication systems, drugs now reach even those in the most remote areas. They make up few medicines nowadays, but rather sell ready-made drugs, both those for which prescriptions by a doctor are required and those which are available to the public without prescription. To fulfil that function properly, they too require access to complete and unbiased information.

4. In developing counties, particularly outside the main towns, the situation is vastly different. Doctors are few and far between and mostly concentrated in the cities. There they face the same problems as those of doctors in developed countries. In other areas rely for health care mainly on other categories of health workers such as, in some instances, nurses and pharmacists, but more usually non professional health workers with limited training or traditional practitioners. There are few; if any, pharmacies outside the town, whether private or government-owned, and other arrangement have to be made to ensure the availability of drugs, in places such as hospital outpatient department, drugs corners in health centres, village drug cooperatives, and small village shops. The inadequacy of the health infrastructure and the weakness of distribution, transport and communication systems make it more difficult than ever drugs to reach those who need them; and when they do reach them, people usually cannot afford to pay for them.

5. In both developing and developed countries, a comprehensive national drug policy forming an integral part of a well defined national health policy is the exception rather than the rule.
Criteria For Rational Drug Use

6. The above describe in a nutshell the irrationality of the drug situation in the contemporary world. Sometimes the most appropriate therapy does not include drugs. When it does the rational use of drugs demands that the appropriate drugs be prescribed that it be available at the right time at a price people can afford, it be dispensed correctly, and that it be taken in the right dose at the right intervals and for the right length of time. The appropriate drug must effective, and of acceptable quality and safety.

National Drug Policies

7. The formulations and implementation by governments of a national drug policy are fundamental to ensure rational drug use. In 1982 the Thirty -fifth world health It is first necessary assembly to identify therapeutic needs. Endorsed the measure to select essential drugs components of such a policy accordingly and to estimate the qualities needed for each of them. A drug supply system has to be devised or strengthened, including procurement, storage, inventory control, distribution, logistic support and related training of personnel. Proper use of drugs has to be promoted by such measures as providing different categories of prescribers with objective information and training them to use it properly, as well as informing and educating the public. The technical and economic feasibility of local formulation and production of drugs has to be considered. Quality control has to be ensured. Provision has to be made for monitoring adverse reactions. Appropriate legislation may have to be introduced and existing legislation brought up to date. Manpower requirements to conceive and implement the national drug policy have to be decided on and appropriate training provided. Measures have to be adopted to ensure the co-ordinated
action of all sectors involved, such as health, education, planning, finance, industry, trade and communication. Monitoring and evaluation procedures have to be adopted. And finally, a financial master plan has to be worked out for all such activities.

Information, education, and rational prescribing

8. To prescribe rationally, it is necessary not only to have speedy access to objective information of drug efficacy, safety and quality but also to use that information correctly. Prescribers, therefore, have to be capable first of judging if the information available to them is objective, then of selecting an appropriate drug in the right dosage form in the light of that information. They also have to be aware of the prices of drugs since, if their patients or the public health service cannot afford them, they will not be bought. In addition, they have to be aware of adverse effects and how to deal with them, as well as of the danger of drug dependence. They have to know when not to resort to drugs and how to convince their patients on those occasions that it is in their best interest to abstain from drugs.

9. To facilitate rational prescribing, therefore, prescribers have to be trained accordingly. This is a major responsibility of schools of medicine, pharmacy, nursing and other categories of health personnel. Training is particularly important for non-professional community health workers in developing countries, who require guidance, supervision, and continued in-service training, particularly from the first referral level.

10. It is the duty of manufacturers and the regulatory authorities to generate and make available the drug information required for rational drug use. To do so manufacturers have to provide regulatory authorities with full information on
their products; an regulatory authorities have to be sure that sufficient data are available to permit the products to be marketed and that objective information on each registered products is available to prescribers. This is particularly difficult within countries that have no or only rudimentary drug regulatory authorities. For them international cooperation and support are required, and WHO has major responsibility to provide it.

**Dispensing and consumption practices**

11. Even when drugs are available and can be afforded, other factors in their rational use have to be considered. Pharmacists have to dispense the right drug and should be able to advise patient on how to use it correctly. They have to be properly trained for this his and an easy access to complete and objective information-difficult enough in developed countries but a major obstacle in most developing countries. Since in most of the latter there are very few pharmacists outside the main towns, pragmatic solutions have to be adopted for dispensing drugs by others, with all the risks attached to the performance of this function by inadequately trained people. Patients have to understand the purpose and effects of the drugs they are taking, how to comply with the instructions for use and how to recognize and report adverse reactions. Non-observance of these requirements is a major source of error in drug use.

12. Pharmacists, nurses and other providers of health care have to dispense the right drugs at the right times and recognize and report adverse reactions. Throughout the world mistakes in dispensing to patients abound. To remedy this requires proper understanding of the use of drugs by those who dispense and administer them as well as strict managerial control.
DRUG DEVELOPMENT

13. To ensure the availability of drugs, a country has to either manufacture them or import them. But they first have to be discovered, developed and approved.

14. To discover and develop drugs requires large research and development. For each new drug as many as 10,000 compounds may have to be tested. Screening these requires laboratory studies including pharmacological and toxicological testing, as well as clinical trials, over a time scale of 8-10 years and at a reputed cost of up to US$ 100 million. Most of this research and development is undertaken by the pharmaceutical industry. The research-based industries consequently tend to develop new drugs for an existing profitable market, paying less attention to such problems as tropical diseases for which the potential market is less attractive. Recent international efforts, however, have stimulated research into new vaccines and new drugs for tropical diseases. The need to develop drugs for which there is no commercial incentive is evident in government initiatives in some countries to promote the development of “orphan drugs”.

15. Control over the safety, efficacy and quality of drugs is not only the responsibility of drug manufacturers but has also subjected to regulation by governments, a burdensome responsibility for even the most affluent administrative system. Countries that do not develop their own drugs that imports all their drugs (even if they manufacture some and) also need to institute some form of regulatory control. Counterfeiting of drugs also has to be taken into account. A drug registration system is necessary as a basis for such control, but is still lacking or only rudimentary in many developing countries. Helping them to establish drug control systems is another area for international co-operation and support, particularly by WHO.
Drug Manufacturing

16. Once drugs are approved they can be manufacture for also. Good manufacturing practices should be observed. The technology of large-scale drug manufacturing from raw materials to finished products has become highly sophisticated. Modern drug manufacturing is mostly carried out by automated equipment, and robotized control of the process is beginning to be introduced. Moreover, new drug production processes involving sophisticated biotechnology are already gaining grounds and will grow in importance. Under these circumstances the gap is growing between the capacity of the industrialized countries and that of developing countries to manufacture drugs of consistent high quality at an acceptable cost. Not withstanding their legitimate desire for self-reliance in drug manufacturing, developing counties are having to take situation this into consideration.

Dosage forms, packing and labelling

17. The same drug is often required in different dosage forms for different indication, different age-groups, and different degrees of severity of the conditions for which it is needed. There is a need for appropriate packing for different requirements, including extremes of temperature and humidity. Drugs also to be clearly labelled and accompanied by data sheets containing relevant information on the pharmacology if the drug, indications for its, use contraindications, warnings, precautions, adverse reactions etc.
Drug distribution

18. Once drugs are manufactured or imported and controlled for quality they have to be properly stored and distributed, either through the public health service or through private channels. Storage and distribution demand attention to proper conditions of temperature, for example the cold chain for vaccines. In the public sector in many developing countries there is a need to improve the management and logistics of distribution including inventory control. Weakness in the, those coupled with the weakness of the health infrastructure, hampers the availability of drugs, particularly for primary health care in rural communities. Drugs channelled through intermediate health institutions such as hospitals often do not reach their destination because these institutions too are short of drugs and need them. Often, too, drugs for the public sector infiltrate into the private sector. The improvement of distribution systems in developing countries is, therefore, major imperative for a more rational use of drugs. Moreover, in some countries unscrupulous dealings occurs between the initial procurement of drugs and their final sale to the public, adding considerably to the price to the consumer, and placing them beyond the means of many who need them. In private sector in market economy countries, drugs are distributed through a network of middlemen before reach retailers, obviously adding to their price.

Drug Promotion

19. It is not easy for prescribers to select drugs properly and use them wisely when they face a bewildering amount and variety of information and consumers believe that there is “a wonder pill for every ill”. To inform and influence prescribers and the public, manufacturers and distributors resort to various forms of promotions such as advertising, offering samples, using sales representatives, sponsoring
symposia and even providing financial and other incentives. Some of this conforms to acceptable ethical standards; some does not.

20. Drug promotion by the pharmaceutical industry has been the subject of much criticism because of its alleged aggressivity and bias, and there is wide agreement on the need recognized norms, even if the nature of such norms and ways of enforcing them have net with less nature of such norms and ways of enforcing them have met with less consensus. The multinational industry, through the International Federation of Pharmaceutical Manufacturers Associations, has issued own voluntary code of marketing practices. Nevertheless, there has been a vigorous compaign for international action to curb the unethical promotion of drugs, particularly those being sold to developing countries. Whatever the nature of such action, it is abundantly clear that no international body has supranational powers permitting it to infringe on national sovereignty. Governments are responsible for the control of drugs and their promotion in their country, although that responsibility has to be shared by the pharmaceutical industry, prescribers, and consumers.

Costs and prices

21. The rise in drug cost and the consequent increase in their price to consumers are a source of worry in many industrialised counties and a very serious impediment to the purchase of drugs in most developing countries. Two interrelated aspects have to be considered—the cost to society as a whole and the price to the individual. A number of government are attempting to control the cost to society by educing the number of drugs available in the health service, requiring evidence that a proposed new product fulfils a perceived medical need, limiting distribution costs, restricting manufacturers profit margin, and promoting
the use of generic drugs wherever possible. The price of drugs is influenced by the cost of research and development for brand products, which research based industries have to recoup through profits accruing during each drug’s patent life. Profits are also required by these industries to enable them to pursue research on and the development of new drugs. Branded generic drugs, for which there are only limited research and development costs, are frequently sold at significantly lower prices than new drugs, and other products sold under a nonproprietary name, either by tender or directly, are frequently sold at even lower prices than branded generics.

22. The cost of drugs for developing countries gives rise to deep concern. In addition to lacking financial resources in general, these countries have severely limited amounts of convertible currency for drug procurement. Recent experience with international tenders for generic drugs in developing countries has been very encouraging: thanks to purchasing larger quantities required for a longer period of time and thus benefiting from the economies of scale, as well as to international market forces, good-quality drugs have been obtained at lower prices than ever before. But greater efforts are required to help developing countries overcome their convertible currency problems as they relate to drug imports.
National Drug Legislation:

To control the distribution and marketing of drugs, national legislation is required in most countries relating to such matters as: the registration of drugs; the sale of brand and generic products; labelling and packaging; pricing; the right to prescribe, distribute, and sell drugs; promotion, including advertising and the use of sales representatives; post-marketing surveillance; and, last but not least, measures to ensure the enforcement of laws and regulations. For legislation to be effective it has to be appropriate to local circumstance, accessible, understood, and acceptable to all concerned - another formidable task requiring heavy investment in professional and public education. One particular bone of contention is regulation of the export of drugs that have not been approved for domestic use, with the rare but important exception of drugs that are required and requested by the importing country but not used in the exporting country, for example drugs for tropical diseases. If these are difficult issues to handle in developed countries, they are infinitely more so in developing countries. This is a further area for international co-operation and support, to which governments and WHO should pay particular attention.

WHO's initiatives

24. In response to the above situation, WHO has taken many initiatives, of which those in the paragraphs that follow are the most important.

25. The organization is promoting and coordinating research, mainly through voluntary contributions, into the development of badly needed new drugs for tropical diseases and new vaccines.

26. To introduce rationality into the naming of drug substances, the organization assigns internationally recognized generic names, or International Nonproprietary Names (INNs). It has established an International Drug Monitoring Scheme on
the adverse effects of drugs. It provides specifications in the International Pharmacopoeia for assuring the quality of drug substances. It promulgates standards for good pharmaceutical manufacturing practices as embodied within the Certification Scheme for the Quality of Pharmaceutical Products Moving in International Commerce. It plans and co-sponsors the biennial International Conferences of Drug Regulatory Authorities (ICDRA). Through a network of national information officers it disseminates details of restrictive national regulatory decisions taken in respect of marketed drugs, when necessary by telex. It provides evaluated information on national regulatory decisions through the WHO Drug information bulletin, and work is in hand to produce a WHO model formulary based on the model list of essential drugs. WHO has also developed a simplified system of drug quality control that could be applied by countries with even the most limited resources.

27. As a result, several countries have now disestablished their nomenclature commissions and automatically accept all recommended INNs; and, where other national commissions still exist, each has come to accept a common set of conventions for devising generic names, with the result that nationally assigned names now rarely differ from INNs. The International Conferences of Drug Regulatory Authorities are proving to be a useful mechanism for intergovernmental exchange of information on drug regulation, and there is a welcome increase in the number of developing countries participating. As part of its responsibility for disseminating information, WHO has developed a therapeutic classification of drugs and a comprehensive dictionary of adverse drug reactions within the context of its international drug monitoring scheme. The International Pharmacopoeia is now being radically revised with a view to bringing an effective
measure of quality control within the grasp of virtually every country. In establishing global standard for good practices in the manufacture and quality control of drugs, which are now recognized by 110 Member States, WHO has created a basis for extending mutual recognition of inspection procedures to all countries. This is the essence of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce.

28. The WHO certification scheme deserves special attention. This scheme provides a simple administrative mechanism whereby importing countries can -

(1) ascertain whether a given product has been registered for marketing in the exporting country and, when appropriate, request an explanation of the reason why registration has not been accorded;

(2) obtain assurance that the manufacturing plant in which the product is produced is subject to periodic inspection and conforms to requirements for good practices in the manufacture and quality control of drugs as recommended by WHO’ and

(3) obtain details of the inspection and control procedures exercised by the authority in the exporting country and request relevant inquiries to be instituted by the exporting authority should a certified product be found to be of unacceptable quality.

29. Although not a WHO initiative, WHO collaborates with the Secretary-General of the United Nations to implement United Nations resolution GA 37/137 which aims at ensuring that products banned from domestic consumption and/or sale on grounds of safety are sold abroad only upon the request of the importing country or when the consumption of such products is officially permitted in the importing country, and that full information is provided to the importing country on products that are either
severely restricted or not approved for domestic consumption and/or sale. This collaboration includes the provision of information on drugs that have been banned, withdrawn, severely restricted or not approved by governments.

30. In 1968 the Twenty first world Health Assembly, in resolution WHA24.41, adopted ethical and scientific criteria for pharmaceutical advertising. These include the need for all advertising to be truthful and reliable, without incorrect statements, half-truths or unverifiable assertion, stress should be laid on facts, and statements should be supported by adequate scientific evidence. It is stipulated that promotional material should not be exaggerated or misleading and should maintain a fair balance between effectiveness on the one hand and adverse reactions and contraindications on the other. It should provide a full designation of the nature and content of active ingredient (s) per dose using generic or nonproprietary names; action and uses, dosage, form of administration and mode of application; side-effects and adverse reactions; precautions and contraindications; treatment in case of poisoning; and references to the scientific or professional literature. It is further stipulated that advertisements to the public should not be permitted not be for prescription drugs, for the conditions which can be treated only by a doctor, or in a form that could provoke fear or distress or that claims infallibility or suggests that the drug is recommended by members of the medical profession.

31. To answer the pressing question of which basic drugs are necessary for the health needs of a population, a WHO expert committee meeting in 1977 reached the conclusion that about 220 drugs and vaccines - “essential drugs” - are sufficient to deal with the vast majority of health problems. The committee established a WHO model list of essential drugs which is periodically updated. This model list does not imply no drugs are useful but simply that, in a given situation, these drugs are those most needed for the health care of the majority of the population and those, therefore, that should be available at all times in adequate amounts and in the proper dosage forms. The number of countries with lists of essential drugs or national formularies containing chiefly essential drugs now exceeds 80.
32. A WHO Action Programme on Essential Drugs was formally established in 1981 as an operational programme to support countries in the establishment of essential drug policies. Its aim is to help ensure the regular availability of essential drugs of good quality and at the lowest possible price. In 1981 WHO also joined forces with UNICEF to support the provision of essential drugs for primary health care in developing countries. This includes supporting these countries to procure drugs at the lowest possible prices, through open international tenders and through the UNICEF Packing and Assembly Centre (UNIPAC).

33. In 1982 the Thirty-fifth World Health Assembly endorsed the principles of the WHO Action Programme on Essential Drugs and adopted a plan of action for the programme. The plan of action includes the major components of a national drugs policy outlined in paragraph 7 above.

34. According to this plan of action WHO has two mutually supportive roles, coordination and technical co-operation. The organization directly or indirectly coordinates international efforts in support of country programmes. It is also active in advocating the concept of essential drugs, which is gaining ever-increasing recognition. WHO co-operates with countries and a number of bilateral agencies in setting up essential drugs programmes in line with the above mentioned health Assembly decisions.

35. WHO’s Member States therefore have at their disposal an effective array of measures for improving their drug situation, that have been initiated by their organization. If they apply them properly, they could have better access to objective information on drugs, improve their manufacturing practices and quality control measures, ensure that the drugs they import conform to the standard of the exporting country, introduce sound drug policies and country-wide programmes to give effect to them with a view to ensuring that all their people have regular access to the essential drugs they need, and reduce the costs of importing drugs and the price to the consumer. In short, they could take significant steps towards a rational use of drugs.

THE RATIONAL USE OF DRUGS: ISSUES SUGGESTED FOR CONSIDERATION
1. The world drug situation could be improved by properly applying the existing array of measures available. Nevertheless, a number of issues that follow are suggested for particular consideration in view of their potential capacity to increase rationality in the use of drugs.

**National drug policies:**

2. Governments that have not already done so could formulate and implement a national drug policy. Drug information and education and training for rational drug use:

3. The following are some possible ways of rendering drug information more objective, less biased and more accessible to prescribers and consumers.

4. Governments might consider setting up national consensus groups to monitor the objectivity and completeness of drug information disseminated by governments, industry, or consumer organizations. Such groups might be composed of members from governments, industry, the academic community, drug prescribers, professional nongovernmental organizations, and consumer organizations, and would conform with the information in approved product monographs issued by the regulatory authority. WHO should support Member States on request in setting up such mechanisms.

5. Governments that have not already done so may find it useful to prepare national drug formularies or at least national drug data sheets.

6. WHO should intensify its preparation and dissemination of drug data sheets for essential drugs for medical practitioners, pharmacists, nurses and non-professional health workers. Agreement on the information in such data sheets could be reached by, for example, using the Delphi method among panels of experts for different therapeutic categories. WHO should also actively support governments in preparing drug formularies or data sheets based on the model list of essential drugs.

7. Better use should be made of professional journals for the dissemination of complete and unbiased information on drugs. Editors should assume responsibility for ensuring that the information conforms with approved product monographs. Professional journals could also use information from national or
WHO drug bulletins, the latter being translated into local languages; governments should be ready to assist journals in covering the costs involved.

8. In developed countries computerized drug information systems could be made easily accessible to prescribers and dispensers, the information content being controlled in the manner described in paragraph 4 above to ensure that it is complete and unbiased.

9. Pharmacists could assume a greater role in ensuring the provision of complete and unbiased information. Financial and other incentives could be given to them in some countries to encourage them to assume such a role.

10. Governments, non-governmental organizations, and consumer groups should take measures to improve the quality of the information provided to the public. Thus they could supply information that conforms with approved product monographs in an attractive form. They could do this using modern communication techniques through the mass media, government-sponsored programmes, publications of consumer groups, and inclusion of the subject in general education in schools and universities.

11. Existing national and international measures should be reviewed for ensuring information on the long-term effects of drugs, particularly for chronic conditions, as well as the dissemination to health care providers and the public of information on adverse reactions and on withdrawals for whatever reason.

12. National drug regulatory authorities could consider what additional measures they need to take to make their decisions more widely known both domestically and internationally through WHO. For example, they might:

12.1 Publish the reasons for regulatory decisions in extenso, including restrictive and negative reasons, making sure that any information that has to be kept confidential for any reason is reduced to the legal minimum;

12.2 Formally designate a WHO liaison (or information) officer with a defined responsibility to ensure effective transfer and utilization of information in accordance with relevant world health assembly resolutions;

12.3 Ensure that WHO is notified of the voluntary withdrawal of products by manufacturers when such action is taken for reasons of safety;
12.4 Provide information to WHO, in compliance with United Nations General Assembly resolution 37/137, on drugs manufactured domestically that are available for export but have not been approved for use on the domestic market;

12.5 Ensure that developing countries have ready access to independently validated information both through the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce and through the distribution of national compendia containing approved information on drugs to other regulatory authorities.

13. WHO could take the following additional measures to ensure the international availability of complete and unbiased information.

13.1 It might publish the drug information bulletin more frequently and extend its scope by including more information on the determinants of national regulatory decisions, on teaching and learning materials, and on economic and financial aspects, and by incorporating a questions and answers section and book reviews.

13.2 It could give more active support to countries wishing to draw up national formularies by publishing monographs on selected therapeutic categories based on broad consultation with those interested, including governments, industry, the academic world, drug prescribers, and consumer organizations.

WHO could organize meetings of the parties concerned to seek agreement on important issues, in addition to presenting the different viewpoints as it now does in the Drug information bulletin.

14. National regulatory authorities with limited resources might consider to what extent existing international collaborative mechanisms provide a basis for drug assessment, thereby releasing national resources for the screening and adaptation of information that will determine the subsequent use of the drugs registered.

15. Since efficient international communication on drugs is dependent on a globally accepted system for designating international nonproprietary names (INNs), and is compromised unless all countries are legally entitled to refuse applications for trademarks that are similar to INNs, countries that have not already done so might consider instituting this safeguard and creating effective liaison between the
national drug regulatory authority and the office responsible for the registration of trademarks.

16. Governments, universities, and non-governmental organizations - both national and international - could reconsider their responsibility for improving the training of different categories of health workers in the rational use of drugs. In developing countries, further measures should be taken to ensure that non-professional primary health care workers are properly trained in the use of drugs. For example, each country might work out its own training programme; learning material already prepared in other countries could be a useful starting point; and support could be provided by first referral level personnel; WHO should actively support the above endeavours by making available appropriate learning material and helping countries to use it.

17. Improvements in training in the use of drugs might include making the information more assimilable and using modern educational technology. Emphasis might be placed on the main principles of drug action and drug use, the study of important representative drugs in each therapeutic category, methods of selecting from among similar preparations, taking account of social and economic factors, methods of evaluating published claims of efficacy and safety, and the concept of essential drugs.

Drug Marketing:

18. The following are some possible ways of improving drug marketing.

19. Governments that have not already done so should assume responsibility for ensuring that the drugs available in the country are of acceptable quality, safety, and efficacy, using for that purpose such means as; registration or licensing, the WHO certification scheme on the quality of pharmaceutical products moving in international commerce, and information provided by major national drug control authorities concerning the approval or non-approval of drugs.

20. Developing countries unable to establish comprehensive drug registration systems could at least create simple administrative procedures for the identification and listing of marketed drugs so as to be able to monitor and control their marketing. A basic multipurpose model system for smaller developing countries might be developed, complementary to the WHO certification scheme for the quality of
pharmaceutical products moving in international commerce and providing for the identification of priority needs, the rationalization of procurement, the assurance of quality, and the establishment of information standards with which all promotional activities must comply.

21. Who should provide member states on request with the information they need to decide on the regulatory option most suitable for them, depending for example on whether they have research-based pharmaceutical companies or not, rely entirely on imports, or produce certain drugs but rely mainly on imports. It should utilize its lead role in the International Conference of Drug Regulatory Authorities to ensure the maximum exchange of information on drug regulation and encourage member states that do not already do so to participate in the meetings.

22. The feasibility should be studied of establishing international norms for labelling drugs, including a study of appropriate ways of combining clarity with comprehensiveness. WHO should assume responsibility for such a study.

23. Governments could consider the most appropriate measures to ensure that drugs cost as little as possible consistent with acceptable quality and ensured availability. This could be achieved for example through free market forces, government intervention, a Keynesian combination of free market forces and government intervention, the fixation of a reasonable margin of profit for the public and private domestic sectors with respect to “drug research and development countries” and “non drug research and development countries”, fixation of a reasonable margin of profit from import through wholesale to retail, fixation of norms for the costs of distribution in the public and private domestic sector, bulk purchase and related packaging within individual countries or for a number of countries taking account of overhead costs, and the control of transfer pricing of raw materials and finished products.

24. To procure drugs internationally at the lowest possible cost for the public sector, governments could make more extensive use of open competitive tenders for generic drugs with accompanying quality control, as part of a national essential drugs programme. WHO and UNICEF should give active support.

25. Governments could consider measures to recover in whole or in part the costs of drugs in the public sector as part of their overall arrangements for financing health
care. Consonant with the country’s budgeting and financing practices and people’s capacity to pay, this might include for example recovery of costs as part of health insurance schemes, drug insurance schemes, community drug cooperatives or taxation.

26. Governments that have not already done so should decide who should have the right to prescribe, distribute, and sell drugs. For example, in addition to the right or medical practitioners to prescribe, dentists could be authorized to prescribe specified drugs used in dentistry; in some countries pharmacists and nurses in the public sector could be authorized to prescribe specified drugs in the absence of a qualified medical practitioner, and non-professional primary health care workers to prescribe from a short list of drugs made available in the community. Governments could ensure that drug distribution is directed and supervised by a responsible person possessing the necessary managerial capacity. Some governments may find it necessary to authorize the sale of drugs not only by licensed pharmacists but also by other vendors in rural areas, for example village shops or community co-operatives, possibly under the guidance and supervision of the first referral level. National and international non-governmental organizations could be more active in ensuring that their members abide by the regulations in force concerning the right to prescribe, distribute, and sell drugs.

27. Governments that have not already done so could establish lists of drugs authorized for sale over the counter without prescription and define who, if anyone, in addition to pharmacists should be permitted to sell them.

28. Any legal measures that governments take concerning the right to prescribe, distribute, and sell drugs should be based on a balance between the need on the one hand or people throughout the country to have access to drugs, and on the other for responsible prescribing, distribution, and selling.

29. WHO should provide member states with information on experience in other countries in the above domains and co-operate with them on request in deciding on and introducing the necessary measures.

30. Governments could review the role of sales representatives with a view to deciding to what extent they have a rightful place in drug marketing. If they are
considered acceptable, ethical standards could be defined for their conduct and they should be properly trained.

31. Up-to-date ethical norms for drug advertising could be established by governments, starting with those defined by the Twenty-first World Health Assembly in resolution WHA21.41 (see page 149). National consensus groups of the kind mentioned in paragraph 4 above, could monitor adherence to these norms. The norms could for example include; the obligation to use for both prescription drugs to professional journals; legislative sanction to facilitate compliance with the norms; and the use of the mass media for public education and to give publicity both to those complying with the norms and to those infringing them. Advertisements to the public should not be permitted for prescription drugs, for the treatment of conditions which can be treated only by a doctor, or in a form that could provoke fear or distress or that claims infallibility or suggests that the drug is recommended by members of the medical profession.

32. Ethical norms for promotion could also include those for the control of drug samples, permitting them, for example, only at the request of a prescriber and establishing limitations on the quantity supplied. Norms applied to symposia sponsored by industry should ensure that they are genuinely educational and not used for unethical drug promotion. Among possible requirements are prior approval by the postgraduate education committee or similar body, screening of the lecture material, obligatory attendance of competent staff from the pharmaceutical company concerned, participation of one or more independent medical specialists, separation of promotional material from the educational content, and limitation of sponsoring to the provision of light refreshments and printing of the programme.

33. The pharmaceutical industry, both national and multinational, should assume the major responsibility for complying with established drug promotional norms and avoiding double standards in different countries. However, governments could assume responsibility for supervising compliance; the health professions could insist on being provided only with information that has been properly screened; and the public could, as individuals, and through consumer groups and its elected representatives, demand compliance with the agreed norms and draw the attention
of the health authorities to suspected infringements. The governments concerned could be more active in denouncing infringements of drug promotional ethics.

34. Governments that have not already done so might review their legislation on drug marketing practices. They might also consider how far such legislation can be enforced, particularly if supervision of a highly technical nature is required. Legislation has to be made known to those who need to know it, for example regulatory agencies, industry, importers, prescribers, professional organizations, patients and the general public. Governments might consider both formal ways of making the legislation known, as through official publications, and informal ways, as through consumer organisations and the mass media.

35. WHO should support governments that wish to adopt or update their legislation on drug marketing. This it could do through the dissemination of information on national legislation and the WHO certification Scheme, monographs on specific issues, the preparation of guiding principles for formulating legislation, and cooperation with countries on request in formulating legislation.

Prescription practices:

36. The following are some possible ways of rendering prescription practices more rational.

37. With a view to improving prescribing practices, governments, non-governmental organizations, and industry could collaborate to ensure that prescribers, particularly those outside hospitals, have trustworthy information on the therapeutic indications and the criteria for the selection of drugs from among a variety in the same therapeutic category. One means of ensuring this is the incorporation of relevant drug information in the continuing education of health care providers.

38. As better information alone does not necessarily ensure better prescribing practices, additional measures could be taken. Governments and professional organizations could be responsible for ensuring that health care providers meet acceptable prescribing standards.

39. The education of consumers could be undertaken through the mass media, including popular journals, to help people understand the need to follow the instructions for the use of drugs so that they take the right dose at the right
intervals and for the right length of time. Governments, non-governmental organizations, and consumer groups could share the responsibility for such measures.

40. In order to obtain a better understanding of drug use, governments might promote relevant behavioural and field research on prescribing practices in different settings in both developed and developing countries. WHO could collate and analyse the results of such research on an international basis with a view to improving the impact of drug information.

**Distribution systems:**

41. The following are some possible ways of improving distribution systems:

42. To ensure acceptable drug distribution governments have to identify needs and estimate quantities required for all sections of the population. They may have to adopt political measures to ensure equity in the distribution of drugs, for example to overcome preferential distribution to the urban elite. They may also consider providing incentives to ensure equitable distribution.

43. The governments of developing countries could take measures to improve the physical conditions of importation, storage, inventory control and distribution, for example by diminishing spoilage through reducing the length of customs clearance and through proper storage in warehouses, by the control of distribution through authorized sources, by the control of pilfering, by ensuring proper conditions of transport and by ensuring proper storage conditions in pharmacies and particularly in other drug outlets.

44. Governments of developing countries could introduce additional measures to improve distribution, for example direct distribution from central warehouses to community health centres, short-circuiting intermediate hospitals, the proper use of middlemen, both public and private; and the setting up of adequate logistic and information systems, with an information feedback on the quantities required and the stocks remaining.

45. Governments, particularly those of developing countries, might note that limitation of the number of drugs through an essential drugs list, quite apart from its other advantages, would simplify the drug distribution situation.
National essential drugs programmes:

46. The following are some possible ways of accelerating the development and implementation of national essential drugs programmes.

47. Governments might review their existing drug policies and programmes, institute effective registration procedures, and consider establishing or reinforcing essential drugs programmes along the lines adopted by the Thirty-fifth World Health Assembly.

48. Governments might take steps to convince health workers and the general public that the rational use of essential drugs is good medical practice. Non-governmental organizations and associations of doctors, nurses and pharmacists might be encouraged to participate in essential drugs programmes. Teaching institutions might introduce the concept and principles of essential drugs in the training of health personnel. Consumer groups could add their influence.

49. WHO should accelerate the promotion of national essential drugs programmes, at the policy level through its governing bodies, in particular providing them with periodic reports on progress and effectiveness, and at the technical level through direct support to countries and guiding principles on such aspects of the programme as methods of selecting appropriate drugs and quantifying requirements.

50. Bilateral agencies could increase their support to the essential drugs programmes of developing countries as part of their strategies for health for all through primary health care.

51. To ensure the availability of good quality low priced drugs for the vast numbers of people in the public sector of developing countries ("medicines for the masses"), pharmaceutical manufacturers might agree to mass produce essential drugs and market them at prices that people in those countries can afford. This applies to national and multinational companies, and the research based industry as well as generic manufacturers. Since industry cannot be expected to sell at a loss, governments might consider fiscal measures favouring low prices for the consumer, for example exemption from import taxes, relief on company turnover taxes, and price discrimination in favour of essential drugs.
52. Governments might control expenditure on drugs by applying essential drugs policies appropriate to the country. They might better align budgeting and financial systems for procurement. Bilateral and multilateral agencies and development banks investigate ways of alleviating foreign currency problems related to drug imports by developing countries. Some developed countries might be able to help in that respect as part of broader economic relationships with developing countries.

53. In addition to the funding of drug research from profits on patented drugs, otherways should be sought to generate funds for research to develop badly needed new or improved drugs in neglected fields. WHO has been a pioneer in this field by funding research through voluntary contributions for the development of new drugs for example to control human reproduction and to treat tropical diseases. Some governments have introduced schemes foster the development of "orphan drugs". Such funding, not necessarily through WHO, could be expanded to cover research in other priority health fields.

54. Developing countries wishing to attain the long term goal of national self-reliance in drug production should consider carefully technical and economic feasibly and desirability, as advocated by the Thirty-fifth World Health Assembly. Developing countries accordingly might become more actively involved in technical and economic cooperation among themselves, taking into account the need to ensure that they produce drugs they really require rather the more easily manufactured products of less relevance. WHO could support them in establishing lists of drugs suitable for local manufacture and in calculating the quantities that could be sold in the light of present and future trends.

WHO Certification Scheme

55. The following improvement in the use of the WHO certification scheme could be considered.

56. The following recommendations of the Third International Conference of Drug Regulatory Authorities might be considered:

- The WHO certification scheme should be extended, by formal agreement if necessary, to include provision of product information approved in the country of origin:
• The scheme should be complemented both by more systematic exchange of information on the results of formal reviews of marketed drugs undertaken by national regulatory of drugs that have been reviewed by each national authority and on those that are pending for assessment.

57. To ensure quality control developing countries might consider:

• The utilization of a portion of their country programme budget allocations from WHO for this purpose;

• The merit and feasibility of establishing a small national quality control laboratory where it does not at present exist as recommended by the WHO Expert Committee on Specification for Pharmaceutical. Preparations (WHO Technical Report Series, No. 704);

• The possibility of increased technical cooperation among developing countries, those with a larger national laboratory assuming service and training responsibilities on a regional or subregional level.

58. WHO should continue to collaborate closely with the Secretary-General of the United Nations. In implementation of United Nations General Assembly resolution 37/137 on the dissemination of information of countries on drugs that have been banned, withdrawn, severely restricted or not approved by governments.

59. Government should take necessary action to prevent drug counterfeiting. WHO should investigate with other international agencies and nongovernmental organizations the feasibility of creating a clearing-house to collect data and inform governments on the nature and extent of counterfeiting.
SOURCES, TYPES AND AVAILABILITY OF INFORMATION CONCERNING THE USE OF DRUGS

THE NEED FOR OBJECTIVE GUIDANCE ON PRESCRIBING PRACTICES

1. Whereas the cumulative rate of expansion of the scientific medical literature is prodigious and much of this is related to drug therapy, little of this output directly influences the prescribing practices of doctors. The original literature is largely inaccessible to the busy generalist and over the past two decades an appreciation has developed that greater efforts are needed to provided prescribers with readily assimilated, independent and objective information that will keep them adequately informed of changes in therapeutic practice throughout their professional careers.

2. The problems is evident in both developed and developing countries. It is a product of the current and unparalleled rate of therapeutic innovation, and it is exacerbated in market economy countries by the consequential promotional activities of competing pharmaceutical manufactures. This, in turn, has resulted in varying measures of governmental and self-imposed control over the content and presentation of advertising material by pharmaceutical manufacturers. It has also stimulated governments and the medical profession to take a variety of initiatives in the supply of independent prescribing information.

3. An account of the available sources and channels of information on drugs is given perspective by a short account of the manner and sequence in which technical data are generated on a new product before and after its registration for marketing.
THE GENERATION OF DATA ON THE SAFETY AND EFFICACY OF DRUGS

National drug regulatory authorities as assessors of information

4. To an important extent the prescriber's need for information on drug products has been alleviated by the institution of national drug regulatory authorities, particularly in those industrialized countries where drug innovation is largely concentrated, since their influence has resulted in the elaboration of independent and authoritative standard of quality, safety and efficacy in marketed products. It is beyond the capacity and the competence of prescribers to assess at first hand the potential risks and benefits of the drugs that they use. Thus, the necessity of creating independent multidisciplinary bodies at national level to adjudicate the acceptability of new products for general marketing, and to subjected existing products to systemic review, would ultimately have become apparent without the emotive stimulus of the thalidomide tragedy.

5. Regulatory authorities in market economy countries are not, however, constituted to, develop as primary sources of drug information. Although several authorities are becoming more active in this regard their terms of reference typically invest the license holder-usually the drug manufacturer- with the prerogative and responsibility of informing and advising prescribers on the use of the relevant product. The informational role of the regulatory authority limited, in these circumstances, to ensuring that the product is advertised in a manner that is consonant with the terms of the product license.

6. Whereas such control is instituted for new products, the control of those available before requirements were introduced demands a comprehensive national review of all products. In many cases it also demands the generation of new data to allow their assessment according to contemporary standards. This is a task that many national regulatory authorities have yet to complete, but it is not applicable, of course, to countries where drug requirements are centrally planned, and where manufacture, advertising and provision of prescribing information are, largely or totally, dependent upon the government's own commitment to support health programmes.
Exchange of information between regulatory authorities

7. Countries that have yet to introduce comprehensive provisions for drug regulation can draw from a diversity of national systems in determining their own requirements. Nonetheless, problems in establishing drug control in developing countries have, too often, resulted from the adoption of legislative provisions successful elsewhere, but of a complexity that precludes their effective implementation on the available resources.

8. As an alternative to adopting regulatory systems devised for countries with different economic, commercial and social circumstances, scope exists for developing countries to consider whether statutory recognition might be accorded to existing international systems for exchange of information. The full implementation of an essential drugs policy, for instance, as embodied in the various WHO reports on the Model List of Essential Drugs, is dependent upon the translation of an analogous list into national policy through an appropriate system of drug registration. Similarly, the regulatory capacity of a drug-importing country is enhanced if it takes advantage of the WHO Certification Scheme of the Quality of Pharmaceutical Products Moving in International Commerce and the WHO sponsored network of formally designated national drug information officers to establish the status and labelling of imported products in their countries of origin.

9. More extensive exchange of technical information between regulatory authorities could result, not only in more effective use of available data, but also in a basic reorientation of drug regulation in countries that are primarily dependent upon importation of pharmaceutical products. A regulatory authority that is relieved of the necessity of undertaking an independent technical review of every product to establish its acceptability
